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EQUITABLE LAND USE FOR ASIAN INFRASTRUCTURE

Edited by Piyush Tiwari, Grant B. Stillman, and Naoyuki Yoshino

ASIAN DEVELOPMENT BANK INSTITUTE

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Abbreviations

AD	autonomous district (India)
ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
ADC	autonomous district council
AIC	Akaike information criterion
ALC	Agricultural Land Consolidation (Japan)
BBMP	Bruhat Bengaluru Mahanagara Palike (India)
BDP 2100	Bangladesh Delta Plan 2100
BMIC	Bangalore–Mysore Infrastructure Corridor
BMICAPA	Bangalore–Mysore Infrastructure Corridor Area Planning Authority
BPJT	Badan Pengatur Jalan Tol
BPN	Badan Pertanahan Nasional (Indonesia)
CA	compulsory acquisition
CADT	Certificate of Ancestral Domain Title (Philippines)
CARP	Comprehensive Agrarian Reform Program (Philippines)
CDC	Council for Development of Cambodia
CLMA	Customary Land Management Act (Vanuatu)
CLT	community land trust
CREIS	China Real Estate Index System
CSS	country safeguard system (Sri Lanka)
DG-Agraria	Directorate General Agraria (Indonesia)
DID	difference-in-difference
DIY	Daerah Istimewa Yogyakarta (Indonesia)
ELC	economic land concession
FAR	floor area ratio
FP	final plot
FPIC	free, prior, informed consent
GDP	gross domestic product
GTPUDA	Gujarat Town Planning and Urban Development Act
HQ	Hannan–Quinn
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social, and Cultural Rights
IDCPI	Indonesian Consumer Price Index
IFI	international financial institution
ILO	International Labour Organization

IP	indigenous peoples
IPRA	Indigenous Peoples Rights Act (Philippines)
IR	involuntary resettlement
IRR	internal rate of return
KIAD	Karnataka Industrial Areas Development
KIADB	Karnataka Industrial Areas Development Board
LARC	Land Acquisition and Resettlement Committee
LARR	Land Acquisition, Rehabilitation, and Resettlement Act (India)
LMAP	Land Management and Administration Project (Cambodia)
LR	land readjustment
LRA	Land Reform Act (Vanuatu)
LT	land trust
LTP	land trust plus (Bangladesh)
MFI	microfinance institution
MLMUPC	Ministry of Land Management, Urban Planning, and Construction (Cambodia)
NCIP	National Commission on Indigenous Peoples (Philippines)
NGO	nongovernment organization
NHSP	National Highway Sector Project (Sri Lanka)
NHSP–AF	National Highway Sector Project–Additional Financing (Sri Lanka)
NLTA	Native Land Trust Act (Fiji)
NOC	no-objection certificate (India)
NPV	net present value
NYIA	New Yogyakarta International Airport (Indonesia)
OLS	ordinary least squares
OP	original plot
PAPA	project affected people's association (India)
PNG	Papua New Guinea
PPP	public–private partnership
PRC	People's Republic of China
REIT	real estate investment trust (Thailand)
RIP	resettlement implementation plan
RLCL	Rural Land Contracting Law (PRC)
RM	REIT manager (Thailand)
RP	resettlement plan
SABL	Special Agriculture and Business Lease (Papua New Guinea)
SASAC	State-Owned Assets Supervision and Administration Commission

SC	scheduled caste
SDG	Sustainable Development Goal
SEC	Securities and Exchange Commission (Thailand)
SEZ	special economic zone
SLC	social land concession
SLM	sustainable land management
SLR	systematic land registration
SOE	state-owned enterprise
SPI	*Standar Penilaian Indonesia* or Indonesian Assessment Standard
SPS	Safeguard Policy Statement
ST	scheduled tribe
SZMC	Shenzhen Metro Corporation
TOD	transit-oriented development
TP	town planning
TPO	town planning officer
UK	United Kingdom
ULR	urban land readjustment
UN	United Nations
US	United States
VCF	value capture financing
VEC	vector error correction
WTT	Wahana Tri Tunggal (Indonesia)

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Preface

By the end of 2040, Asia will contribute more than half of global gross domestic product (in terms of purchasing power parity) and will account for 40% of the world's consumption. Asia is expected to lead the direction and flow of capital, innovation, trade, and talent. This shift in axis of growth requires that bottlenecks—strained infrastructure, housing shortages, and deteriorating urban services—be overcome so that the full potential of Asian economies can be realized. In 2016, the Asian Development Bank estimated that in developing Asia an annual investment of $1.7 trillion will be required from 2016 to 2030 to meet the infrastructure gap if the growth momentum is to be sustained.

Developing Asia's demand for high-quality, integrated infrastructure requires a steady but equitable supply of land. However, obtaining rights over land for infrastructure development can be complicated by hurdles imposed by geography, settlement patterns, conflicting cultures, sociopolitical factors, complexity of land rights, poor land records and cadastre, and land use problems unique to each country. This book addresses the question of equitable land management for infrastructure in Asia.

Leading authors from academia and practice have addressed this question and have identified interventions and policies that can balance the rights and interests of first nation peoples, informal settlers, and landowners against the development imperatives of land procurement for the greater public good. The book provides instructive case studies of the state of land procurement practices, challenges, and innovations in land management in Asia. While the book does not subscribe to a particular land management practice, it does provide a framework through which land use management can be approached, which on the one hand is equitable to all those who have direct or indirect rights on land, and on the other hand enables the development of infrastructure that is necessary for growth and well-being.

In this vein, while at the Asian Development Bank Institute I explored with colleagues whether the idea of land trusts as used in Japan could be applied for land procurement for infrastructure in Asian countries. Japan has used a land trust model extensively for the construction of commercial and apartment buildings. This special land trust model requires cooperation between infrastructure developers and landowners to achieve a win–win outcome. Under the structure of a land trust, landowners transfer their land use rights to infrastructure

developers through the trust banks and retain ownership interests in the land instead of selling the land outright or immediately. Between landowners and infrastructure companies, the trust bank is the experienced intermediary that smooths and monitors the process and pays rent to landowners based on project revenues.

From the perspective of infrastructure developers, the land trust scheme would dramatically reduce the initial cost of the project by replacing the land purchase cost with a much lower land rent, which improves the viability of the project. Landowners are ensured that their rights in land are protected and they receive a constant stream of income. It is also possible to complement the land trust model by sharing part of the additional spillover tax revenue from infrastructure projects with infrastructure developers, to improve financial return from the project and attract private investment.

With the passage in 2018 of the Bill on Trust for Private Asset Management in Thailand, once enacted, the model provides an attractive alternative to conventional ways of procurement of land for infrastructure. The idea is being actively considered in other jurisdictions.

Another issue is the evaluation of land value. In Asia, land prices are often negotiated one by one without clear disclosure. Japan has set up a land evaluator system, where evaluators have to pass a national examination to evaluate land value. Furthermore, nationwide land prices are disclosed on the internet by the Ministry of Land and Development. A similar system can be adopted in Asian countries.

It is my hope that this volume will be of interest to policy makers, practitioners, academics, and students and will provide a comprehensive review of current practices on land use management in Asia.

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An Introduction to Equitable Land Use for Asian Infrastructure

Grant B. Stillman and Piyush Tiwari

The overall aim of this book is to set forth debate on alternative practices for land use management in urban development and public infrastructure projects in Asia. Land use laws are the most powerful tools that governments have to implement public projects with large social and economic gains. While there are numerous books that have examined specific methods of land assembly for development and financing of public infrastructure, there is a gap in the literature on a comprehensive treatise that looks at the whole range of methods from their institutional context, suitability for purpose, and equity considerations. It is hoped that this volume will go some way toward filling that gap by presenting the basis and approaches for land use management that have been used in Asia, and suggesting key principles and components of equitable land use management practices for development and financing of infrastructure. It may be emphasized here that this volume does not examine the expropriation or confiscation of inherited and private property for land reform or other social transformative purposes, which while important, are out of scope of this book.

Land is a critical resource for infrastructure development. It is a necessary input in an infrastructure project and can also be used to finance infrastructure by unlocking the value of land through the sale of publicly held land or other assets. Infrastructure projects require large and often contiguous land parcels, procured in a time-bound manner. Scale economies associated with the provisioning of infrastructure services, particularly those operating in concentrated geographical areas, make it difficult for competitive markets to provide many infrastructure services, leading to market failure. From time to time privately held land is required for public purposes, such as for infrastructure development or other public goods. In countries that favor private property rights, procuring land for public infrastructure through a market process is challenging. The functioning of land markets is constrained by infrequent transactions, information asymmetries, and lumpiness of investment. The situation is further exacerbated in the case of land for infrastructure as on the buy

side of the land market there is frequently only one large buyer of land, which often is the state or its agencies. On the sell side of the land market there are numerous landowners who exercise different degrees of power, cooperation, and sophistication in the land market depending on the size of their landholding, their personal situation, and ability to hold out.

In Western liberal economies, it has for long been accepted that private rights should give way on occasion to the wider public interest. In theory, the loss to the individual is offset by the gain to the wider community of which the individual is a part. To avoid projects with public purpose being delayed and to ensure that private rights give way when required, legislative bodies across the world have conferred powers of compulsory acquisition over private land. Public authorities such as central and local governments and a host of others have been able to rely on powers of compulsory purchase to acquire private rights to land, including the creation of new rights falling short of ownership without the willing consent of its owner or occupant to ensure that public purposes are achieved. In practice, the process of land acquisition through compulsion has been cumbersome. One of the main reasons cited for delays in the completion of infrastructure projects is the delay in land procurement. Private owners whose land is compulsorily acquired are generally dissatisfied with the compensation that they receive as well as with the process of acquisition and often resort to resisting, using drawn-out processes of courts or occasionally direct action.

Within this context, *Equitable Land Use for Asian Infrastructure* investigates the following core issues in the context of Asia.

(i) Alternative land procurement models (other than compulsory acquisition) for urban development and public infrastructure projects in Asia.
(ii) The processes and practices involved in large-scale land acquisition, i.e., strategies, alienation, valuation, and compensation in Asian countries.
(iii) The impact that land use management strategies in Asian countries can have on weaker or marginalized segments of societies and the approaches that could best support them in attaining equitable and sustainable development.
(iv) Alternative models of land-based financing and their success in infrastructure development.

The genesis for this book emanated from a workshop on Land Management in Asia: Achieving the Sustainable Development Goals (SDGs) held at the Asian Development Bank Institute (ADBI) in Tokyo from 10 to 11 December 2018, which was organized by Naoyuki Yoshino, then ADBI dean, and Saumik Paul of the Research Department. Most of the chapters were first presented at the workshop and benefited

from peer review and commentators led by the current editors. During the course of 2019, through the involvement of Professor Yoshino and ADBI in the Think20 task force on infrastructure—as well as observing the rescheduling or delays of more projects such as Indonesia's and California's high-speed railway projects—it became apparent that the question of land use for infrastructure projects has become critical and needs to be addressed academically. Therefore, it was decided to undertake a comprehensive study on how to achieve equitable, efficient, and lasting solutions to the resumption of land for public purposes in developing countries of the region. To complement the work presented by the authors in December 2018, a number of further studies were commissioned, and a multidisciplinary approach was adopted that involved political scientists, social impact specialists, economists, urban planners, legal scholars, and practitioners. In this way the book grew to become the concluding volume in ADBI's flagship series of major infrastructure treatises.

In view of Asia's enormous untapped economic potential and recurring global economic crises, the challenge identified over a decade ago by scholars at ADBI, in concurrence with the World Bank and emerging economies like the People's Republic of China, was to build efficient and seamless connections across Asia and to the rest of the world to foster a more competitive, prosperous, and integrated region. *Infrastructure for a Seamless Asia* (ADB and ADBI 2009) was the first study to address major challenges in developing regional infrastructure—both hard and soft—in Asia, specifically exploring the costs and benefits, financing requirements, and infrastructure priorities in the region. The purpose of *Financing Infrastructure in Asia and the Pacific: Capturing Impacts and New Sources* (ADBI 2018) was to provide the latest scientific evidence on building infrastructure and the spillover benefits of investment to the wider society, including new ideas on how to finance infrastructure by tapping private sector investors with securitization so as to close the growing infrastructure gap previously identified. *Principles of Infrastructure* (ADBI 2019) draws on lessons and case studies from Asia and worldwide, covering broad and long-term infrastructure megaprojects. It describes the principles of developing high-quality infrastructure and focuses on the various steps of a project—from design, planning, and construction to operation and management. It also discusses overseas development assistance, taking examples from Asian Development Bank and World Bank projects. The present volume completes the series that has become an important reference tool for policy makers in Asia who are planning and implementing large-scale public infrastructure.

A comprehensive land management strategy encompasses the assembly of land, the financing of land procurement, the re-parceling of that land to make it apposite for the proposed development, the provision

of infrastructure and other public facilities, the distribution of building plots to end users and/or investors to build on, and the management and ownership of the retained part of the land after the construction of infrastructure. The conceptualization of land management strategies differs in literature, causing confusion and making it difficult for cross referencing across different countries. Therefore, immediately following this introduction, van der Krabben, Tiwari, and Shukla provide an overview of strategies and tools used for land management by grouping these models and tools, known with different names across disciplines and countries, into partial and comprehensive land management strategies along an urban development continuum. The objective is to streamline the discussion that follows on land management strategies based on core objectives and principles on which models and tools work rather than their nomenclature.

This book is organized in four parts to present a comprehensive treatise on the subject.

PART I: Bases of Land Ownership and Land Use Rights and Management

Challenges associated with compulsory acquisition of land using statutory powers of state have led to the development and use of alternative models of land assembly in some countries. A universal model of land assembly for public purposes that is suitable for all jurisdictions is a distant dream. However, there are possibilities of identifying core principles on which land should be procured that are equitable to all parties involved and lead to outcomes that are Pareto efficient. Starting with a discussion on the conceptualization of land management strategies using land that is managed for infrastructure projects, Part I delves into the philosophical bases of land, as the practices for land procurement that have evolved are embedded in the ideological positioning of land in a society and laws that govern land and rights associated with land. This is a basic aspect of development that is often overlooked and misunderstood by economists and project practitioners.

Land assembly is the core component of land management and is the most contested stage. In Chapter 1, Shukla categorizes land assembling strategies into two broad groups of participatory and non-participatory processes (where compulsory acquisition belongs to the latter category) depending on the level of participation of the original landowners in the process. She argues that the approach adopted by a country is strongly influenced by the historical attitude of the polity and society toward private property rights. Countries with liberal ideology such as British and American societies place strong emphasis

on individual interests associated with private property rights, which necessitates the use of coercion and compulsory acquisition in case land is required for public purposes. On the contrary, the communitarian foundations of modern Germany and Japan have set the stage for the acknowledgment of public and/or social function of private property, which in turn induces compliance among original landowners for the contribution of their land for public projects through participatory methods such as land pooling or land readjustment. Emphasizing that the ideological difference in the interpretation of private property rights among communitarian and liberal societies influences the approach to land assembling for public projects, Shukla argues that liberal societies have been relying on a coercive approach toward land assembly, while historically communitarian societies have preferred participatory methods of land pooling and land trust, among others. Shukla concludes that historical private property institutions would continue to have a long-term impact on the contemporary treatment to private property rights by society, polity, and the law and would therefore be a crucial determinant of the approach to land assembling, especially in developing and emerging economies.

Taking the discussion forward to include the rights to land for indigenous peoples, in Chapter 2, Perera explains how international law has steadily evolved to protect indigenous peoples, upending forms of discrimination that were imposed and extending to them a legal framework for recognizing and protecting their rights. The framework underscores the "territorial" and "cultural" aspects of their indigeneity. International development projects provide a forum for examining how the rights extended to indigenous peoples under international law are applied as these projects create a space where international legal instruments can be applied within a member state's jurisdiction—even where national laws differ from international norms. The tension between international and national laws manifests itself particularly where territorial rights bestowed to the state and indigenous peoples are in conflict and where cultural rights afforded to indigenous peoples have to be operationalized within local legal frameworks, frequently in opposition to the interests of powerful elites and big business. This balancing of different rights remains a work in progress for international law and in turn its patchy incorporation into national legal systems.

Perera's chapter also examines the land rights of indigenous peoples in the context of their attachment to and dependence on land, and how these generate deeper (frequently spiritual) interests and rights that distinguish them from usually understood property rights and often defy placing a monetary value as compensation. The chapter also discusses recent developments in international law and social and environmental safeguard policies of international financial institutions that have

strengthened the rights of indigenous peoples vis-à-vis "others" or the rest. Perera argues that such laws and development policies are needed to protect the status quo of indigenous peoples. Finally, the chapter examines the adequacy of such international policy and legal safeguards to lessen the harm of development projects on indigenous peoples and maximize development benefits accruing to them in the context of the example of a hydroelectric power generation project in rural Assam in India. This instructive case study explores the intricate relationship between the state and tribal peoples, and how the relationship defines their identity, access to land, and even the right to food security, and the gaps between policy and laws and their practice.

Part I concludes with a comparative survey by Price in Chapter 3 on the status of land regulations in representative countries in three distinct subregions: Southeast Asia, North Asia, and the South Pacific. Each of these regions' history, culture, geography, economy, and government style has resulted in a unique development path for land rights for local peoples. In many Pacific island nations, most of the land is held as customary land tenure, and governments in these countries have set up regulations to enable the leasing of these lands to third parties. This has benefited third parties and the national economies but has caused disruption and sometimes displacement for indigenous peoples. In Southeast Asia, there has been a long history of governments limiting land rights for local people often to the benefit of large landholders and foreign investors. Currently there are ongoing and significant land conflicts between indigenous people and developers who wish to extract resources, develop agribusiness opportunities and/or develop infrastructure projects in these regions. In North Asia, the People's Republic of China (PRC) and Mongolia have been separately transitioning from a collectively owned property holding system to a more privately held property holding system. For example, Mongolia's citizens have gone so far as to legally entitle all citizens the right to claim land as a one-time opportunity. The PRC, on the other hand, has taken a much slower privatization approach of providing rural people more land use rights on utilized land with some success, but has used broadly eminent domain powers to displace residents for public and private property development.

Overall, Price observes some successes but a lot of failures of governments to protect indigenous peoples' or poor and small landholders' land rights in many of these regions. Very often, governments have leased indigenous lands to third parties for resource extraction, agribusiness, and infrastructure projects without the consent or proper compensation to indigenous peoples or subsistence farmers in possession. Although there are success stories, as it is typically the stated government policy to develop these regions, it is hard to see the trends

changing soon to benefit indigenous peoples who are being deprived of their native land. In the author's opinion there are clear paths forward to help countries develop stronger indigenous land rights, but it will take willing and persistent national and local government partners to make significant progress.

PART II: Current Challenges for Land Use Management

Part II examines land management strategies and tools in more detail particularly in the context of the country in which each of these have been used. The focus of Part II is on improvements and innovations in compulsory acquisition that Asian countries have been adopting to overcome challenges and also on other strategies that have been used for land management (which go beyond mere land assembly) that are more participatory and overall equitable to those affected than compulsory acquisition.

As a form of participatory land management strategy, De Souza and Koizumi explain in Chapter 4 the process of land readjustment which has been used in a number of Asian developing countries—mainly sponsored by the Japanese government—and has been one of the most significant international collaborations in urban planning in the 20th century. When such processes succeed, they can replace old approaches and herald significant changes within the planning cultures. By reviewing such changes, it is possible to understand how the long-term implementation of the planning instruments influence countries' institutions and cities' environment. In view of the Sustainable Development Goals, this chapter highlights an important contribution of land readjustment: that is, landowners have an incentive to provide a land contribution to increase public spaces without compromising on the asset value as the net land value likely increases after the replotting process is complete with better infrastructure and amenities.

In the context of Denpasar, Indonesia, De Souza and Koizumi analyze the changes in land prices more than 30 years after the first land readjustment pilot project was initiated. They analyze land prices within and outside the land readjustment project areas. Their results from the difference-in-differences estimator indicate an increase in land prices of up to 49% in land readjusted areas when compared with areas urbanized without the planning instrument. The concentration of higher land prices in land readjustment areas represents a strong argument in favor of land readjustment, as the projects generated more social benefits than costs. However, such concentration might be a problem if projects are fully subsidized by the Indonesian government. De Souza and Koizumi

also raise the concern that in a context of increased land price inflation and overlapping externalities, the causality between land readjustment and land prices may be uncertain.

In Chapter 5, Jain continues the comparison among land management strategies by considering a specific land assembly and town planning mechanism common in India against lessons distilled from land readjustment as practiced in Japan. While there is a conceptual similarity between the approaches used in the two countries, there are differences in the extent to which these are used in each country. In India, the Town Planning Scheme was institutionalized more than 100 years ago, but legal, institutional, and financial challenges have resulted in patchy implementation, with successful cases being mostly concentrated in the state of Gujarat. Japan has been far more successful in implementing the scheme, developing one-third of its urbanized land through the land readjustment mechanism. The experience of continuously implementing many land readjustment projects in Japan has made the Japanese system mature in terms of the approval process, land replotting techniques, and financing, contributing to quicker and smoother implementation. Jain argues that the way forward for India could also be to scale-up the use of the Town Planning Scheme by gathering skilled resources and drafting a competent financial framework for executing projects, learning from success stories, and self-evolving through continuous implementation.

In contrast to most other Asian countries where land ownership is private, in the PRC the government owns urban land and supplies the land use rights for a specified period to land users mainly through several types of auctions. In Chapter 6, Wu and Yang focus on the urban land market in the PRC and investigate the preference of the PRC's government for different types of land auctions and land-using companies as well as the impact these choices have on land allocation. They found that the local governments prefer to use two-stage auctions to English auctions and favor state-owned enterprises (SOEs) as bidders over non-SOE bidders to succeed in land auctions. Their results indicate that two-stage auctions account for about 80% of the urban land allocation and SOE bidders acquire more land in two-stage auctions at significantly lower prices than non-SOEs in urban areas of the PRC.

PART III: Innovations in Planning and Land Use Management Strategies

Part III expands the discussion of the previous section by exploring other approaches through which land use management strategies could be made equitable with examples from four Asian countries. Using rigorous analysis, the chapters in this section discuss the practical ways

in which land could be procured and managed for infrastructure that not only will improve availability but will also reduce discontent among affected landowners.

In Chapter 7, Shukla argues that over the years, the process of compulsory acquisition has evolved to better compensate the affected landowners, to the extent of paying additional monetary compensation or solatium. Using examples of recent amendments to land acquisition acts in India, Shukla argues that the amendments are polity and law's indirect acknowledgment that fair compensation extends beyond the market value of land. With reference to an existing body of literature discussed in this chapter, she argues the value of land as a cumulative value of usefulness (or functionings) for its owner, of which the monetary value is only one of the functionings. While there are many nonmonetary functions to land, which deserve compensation, Shukla's discussion is limited to measurable monetary losses associated with land.

Advancing the discussion on adequate monetary compensation for the affected landowners, Shukla argues that compensation extends beyond the market value of land to include other forms of financial losses that compulsory acquisition imposes, such as (i) the loss of financial benefits accruing from improvement in land use in the infinite future (or the "hope value" of land), which ranged between 39% and 527% in the case of the Bangalore–Mysore Infrastructure Corridor (BMIC) project; and (ii) the reduction in land value after the issuance of a notice to acquire, which amounted to approximately 31% in the case of the BMIC project. In addition to these objective losses, which are common across all landowners, there are person-specific characteristics that influence the market value of land. For example, Shukla's research has found that the landowners' lower caste negatively affected the value of land around the BMIC project. This reduction could be a joint outcome of the legal protection of ownership rights of scheduled castes/scheduled tribes (SC/STs) (which curtails purchase by non-SC/STs) and the lack of bargaining power due to the lower social status of SC/ST landowners. The findings suggest that a fair compensation model definitely extends beyond the market value of land and should take account of the comprehensive value of land to its specific owner, and it is possible to derive this as a joint function of personal and land characteristics.

Brugman, in Chapter 8, examines whether the urban poor with formal title to property fare better than those without formal title, to state- and market-driven displacement. Analyzing an informal but thriving settlement in Phnom Penh, Cambodia, subject to titling under a systematic land registration program since 2009, this chapter discusses the complexities around land titling programs in guaranteeing land tenure security and the well-being of urban poor residents in environments of political instability and rapid rates of economic and urban growth. The

findings show that title and private ownership do not automatically guarantee security of tenure and the well-being of urban poor citizens, and, without careful consideration of social and political dimensions, power inequality, and the impacts of land and housing financialization in cities, land administration systems can make the urban poor vulnerable to state and market-driven displacement. Based on these findings, the chapter proposes policy recommendations and additional steps to complement land titling programs for more effective implementation and outcomes in line with the Sustainable Development Goals.

Transit-oriented development (TOD), aiming to optimize the use of improved accessibility of public transport nodes, has proved to be a successful strategy around the world, adding to more sustainable and resilient urban development. In Chapter 9, Wang, van der Krabben, and Samsura show that in order to be effective, TOD policies will usually benefit from more integrated decision making with regard to land use planning, land policy, and transport planning. However, issues of governance and financial complexity often hinder integrated TOD decision making and investment strategies in rapidly growing cities in the PRC. The authors analyze the effectiveness of two innovative but informal local TOD land management policies recently introduced in two cities in the PRC: the "rail plus property" strategy (in Shenzhen) and the "land reserve" strategy (of Wuhan). These policies are not part of formal regulations for the rest of the PRC's cities. They also examine the institutional barriers that prevent the wider use and the formalization of these strategies.

The chapter highlights that the need for urban transformation in relation to TOD will continue, and this will add new policy challenges. In order to broaden financial sources of infrastructure development, privatization of urban infrastructure financing has become more common in the PRC, since a series of policies were rolled out in 2001. Among these policies, integrated transport and land use development are encouraged as one alternative way to alleviate fiscal constraint of public transport. Depending on the institutional context and the right instruments, (part of) the increment value can be captured or recycled by financial instruments to co-finance transport. Informal TOD land management policies examined here provide a promising way to overcome challenges that formal regulations pose in land procurement and financing of infrastructure.

PART IV: Toward Equitable Land Use for Infrastructure

As the final part of the book, an alternative land use management strategy called land trust is put forward as a management strategy for infrastructure projects. This special land trust model separates

ownership of land from use through a trust structure comprising entruster (original owner of the property), entrustee (or the land trustee), and the beneficiary (or the lessee of land). The model, arguably, provides enhanced financial incentives for the hesitant or disorganized owners to participate in infrastructure development projects.

In Chapter 10, Guild presents a qualitative case study of two land acquisition cases highlighting the empirical effect of legal reforms on land use policy over time in Indonesia. Under the Suharto regime, land acquisition in the public interest was often coercive, with the government determining one-sided compensation with no recourse to appeal. The legal basis for this process was Presidential Decree 55/1993, which gave the provincial governor the ultimate authority to rule on the evaluation and eviction.

A new legal framework for land acquisition that the government enacted in 2012 redefined a fairer basis on which the state could acquire land in the national interest. It imposed clear administrative procedures and deadlines on dispute resolution and land procurement, including a legitimate legal appeal process. Outcomes can still vary widely according to many variables, particularly the capacity of district court judges, but this comparative analysis suggests that the law is moving Indonesia toward a more equitable policy framework.

In Chapter 11, Hossain and Yoshino evaluate how their land trust method could be applied to ensure more productive and sustainable land management in Bangladesh. The authors argue that a special land trust can be applied to manage agricultural land, *khas* land, real estate, and a delta in a sustainable manner. According to them, the benefits of a land trust include containing the spiral of land prices, the effective use of land, and ensuring a higher return from land. The main challenges for implementing land trusts in Bangladesh include the lack of a legal and regulatory framework, lack of definition and scope of land trust, and weaknesses in land governance. The authors also argue that Bangladesh could broaden the scope of a traditional land trust to overcome financing bottlenecks of infrastructure investments. In these contexts, the chapter introduces various methods of land trusts, and challenges and opportunities of their implementation with some empirical evidence.

The need for an appropriate legal framework within which to set up a land trust is also echoed by Piewthongngam in Chapter 12. The author explains that Thailand adopted trust law much later than other Asian countries such as Japan, the Republic of Korea, and the PRC. The first Thai trust law was solely for transactions in capital markets and did not include private asset management. Moreover, the Thai Civil and Commercial Code strictly prohibits the creation of a trust whether directly or indirectly by will or by juristic act unless it is created by virtue of the provisions of the law solely for the creation

of trust, which currently does not exist. However, a new Bill on Trust for Private Asset Management, which allows the creation of a trust for private asset management, was approved by the Thai Cabinet in 2018. This bill is under an enactment process to become an enforceable law in the near future. She concludes with observations as a practitioner on the prospects of its utility for land use, property management, and megaprojects in Thailand.

In Chapter 13, Jayasooriya argues that for major infrastructure development projects affecting land ownership, properly planned safeguard measures are essential from the sustainable development perspective for the economic development in developing countries. Safeguard measures also ameliorate losses of affected groups over the long term. Jayasooriya identifies the potential impact of social safeguard policies within the National Highway Sector Project in Sri Lanka.

The chapter provides pragmatic evidence on sustainable infrastructure development strategies in terms of social safeguards, measuring the outcomes and impacts of the road rehabilitation on affected people. From a household survey carried out along the road sections of the National Highway Sector Project, including affected and non-affected groups, the empirical analysis entailed quasi-experimental evaluation of difference-in-difference estimation while measuring the impact of safeguard measures on the improvement of livelihoods and living standards.

The results revealed that the income level for the treated and control groups was not significant, but further analysis highlighted that the estimated result for the income level in the difference-in-difference approach is significant. This suggests that the safeguard policies over time for the members of the treated group are effective and efficient in the restoration of their income sources and increase people's income significantly. According to the author, leads to the implication that the safeguard policies increase the sustainability of the affected persons' livelihood and living standards.

Qualitatively, the lessons learned through the impact evaluation study are that ADB's policy principles on consultation, disclosure, and grievance redressal mechanisms including compensation in the form of land for land do work and address wider social dimensions for sustainable infrastructure development. Further, the country safeguard system achieves sustainability in social safeguards for involuntary resettlement equivalent to the involuntary resettlement country safeguard system with ADB's Safeguards Policy Statement, acceptability of implementation readiness, reaching the affected poor and vulnerable, and livelihood programs.

As a conclusion to the discussion in the book, in Chapter 14, Tiwari and Stillman highlight that given the differences in ideological and legal

approaches to land and the multitude of rights associated with land, a dominant land use management strategy for infrastructure projects is presently impossible. The chapters, however, identify key aspects of land use management strategies that make these strategies equitable. Tiwari and Stillman summarize these promising aspects as involvement and participation of stakeholders in projects at all stages, adequate compensation that recognizes losses beyond the asset value, separate ownership and use rights so that alienation from land is minimized, sharing the gains from infrastructure equitably, protecting the rights of first nation people and of those with informal titles, and leveraging land to finance the project and benefit those whose land is taken for the greater public good. They conclude by offering a useful list of possible resolves for the guidance of project sponsors, host governments, and other stakeholders.

In a postface essay, one of the book editors, Grant Stillman, reflects as a practitioner on the real-world challenges of achieving among stakeholders sufficient levels of trust, cooperation, and guaranteed accountability to successfully transfer land for megaproject uses, especially in developing and emerging country contexts.

Volumes in the ADBI Infrastructure Series

Volume 1
Asian Development Bank (ADB) and Asian Development Bank Institute (ADBI). 2009. *Infrastructure for a Seamless Asia*. Manila and Tokyo: ADB and ADBI.

Volume 2
Tiwari, P., G. B. Stillman, and N. Yoshino, eds. 2020. *Equitable Land Use for Asian Infrastructure*. Tokyo: ADBI.

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Land Use Management Strategies for Equitable Infrastructure and Urban Development: Overview of Strategies and Tools

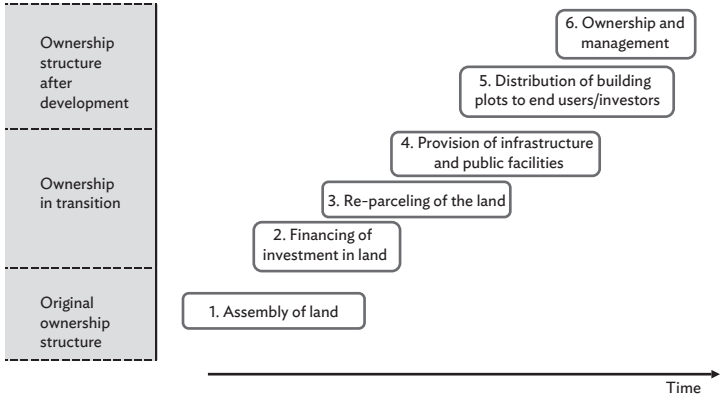
Erwin van der Krabben, Piyush Tiwari, and Jyoti Shukla

1 Introduction

To enable a proposed urban development, including its attendant infrastructure and feeder transportation, one needs to possess at least the user rights over the land on which the development is supposed to take place. That urban development can be a brownfield or greenfield development, and it may consist of, for instance, infrastructure, residential, commercial, industrial, mixed-use development, or redevelopment. Depending on the scale of the development and the present ownership structure, the promoter–sponsor–developer (be it public, private, or some combination) must acquire one or more plots in a process that is called land assembly. After land assembly, further steps must be taken to make the location suitable for development. We refer to that whole process as part of the administration function of land management.

Land management is a much broader term which, according to the United Nations Economic Commission for Europe (1996) comprises the process by which natural and built resources of land are put into good effect. Enemark (2005) defines a land management paradigm that includes land policies, land administration functions, and a land information system. Land administration functions, which are the operational part of land management, ensure proper management of land tenure, land value, land use, and its planning and development. The administration functions of land operate within the land policies and are facilitated by the information system (Enemark 2005). Land development is the strategic part of land administration that constitutes

Figure 1: Land Management Strategy for Urban Development



Source: Authors.

a series of steps that are taken to achieve long-term goals. For the rest of the discussion, we refer to the strategic part of land administration as the land management strategy.

A land management strategy for urban development usually encompasses the assembly of land (through securing and transferring land rights), financing of the investment in buying or leasing land, re-parceling of that land into a new grid to make it suitable for the proposed development, the provision of infrastructure and other public facilities, distribution of building plots to end users and/or investors (that want to buy the land to build on), and the management and ownership of (part of) that land after the construction of the building(s) (Figure 1).

Although (public) land management strategies are often part of a more comprehensive planning process and the (private) development of land also often makes up part of integrated land and real estate development projects, it is still useful to consider a land management strategy separately from the broader planning process and real estate development. There are at least four good reasons to do so.

First, land markets must be considered as markets with their own characteristics and price mechanism (as separate from the real estate market, which requires land as an input for property development, while there are other uses of land that do not require building on it, such as agriculture or mining or parks). A land management strategy should enable public and private stakeholders to act in the market in an

efficient way. Second, but closely related to the first argument—public (and private) stakeholders in most countries have developed policies and tools aimed at the land market. A land management strategy can be regarded as the operationalization of a land policy and should provide the framework for the use of land policy rules and guidelines. Third, the assembly of land that rezones or reassigns property rights interferes with existing individual property rights over land and raises many legal debates over, for instance, expropriation, the protection of individual property rights, and compensation that must be paid for the compulsory acquisition of land. Fourth, since David Ricardo introduced his theory on land rent (Ricardo 1817) and Henry George published his famous work *Progress and Poverty*, in which he argued in favor of the nationalization of land (George 1881), political debates have questioned the so-called unearned increment in land values due to government interventions. Land policy in most countries is influenced by that debate and is often used as an instrument to cream off part of that unearned increment.

This chapter does not aim to go into the details of these different debates and arguments, but has a more modest and pragmatic objective: to provide an international, state-of-the-art overview of land management strategies used by local governments (and private stakeholders) in countries around the world aiming for an efficient and fair urban development process. Although we refer to literature that critically reviews the working of these models, we do not have the intention to evaluate (the outcomes of) the models in terms of, for instance, effectiveness, efficiency, and/or social equity. This chapter in particular presents the characteristics of each of these models and distinguishes them from each other. This also implies that the chapter is concerned only with the land management strategies that are used for infrastructure, public spaces, and urban development projects, and a complete study of land management is out of the scope.[1]

2 Overview of Land Management Strategies

The overview of land management strategies in this chapter is mainly based on a literature review, discussions at the Asian Development Bank Institute's seminar on land management in Asia (Tokyo, December 2018), and the authors' personal expertise. Land management strategies have not been conceptualized concisely in literature and the scope differs

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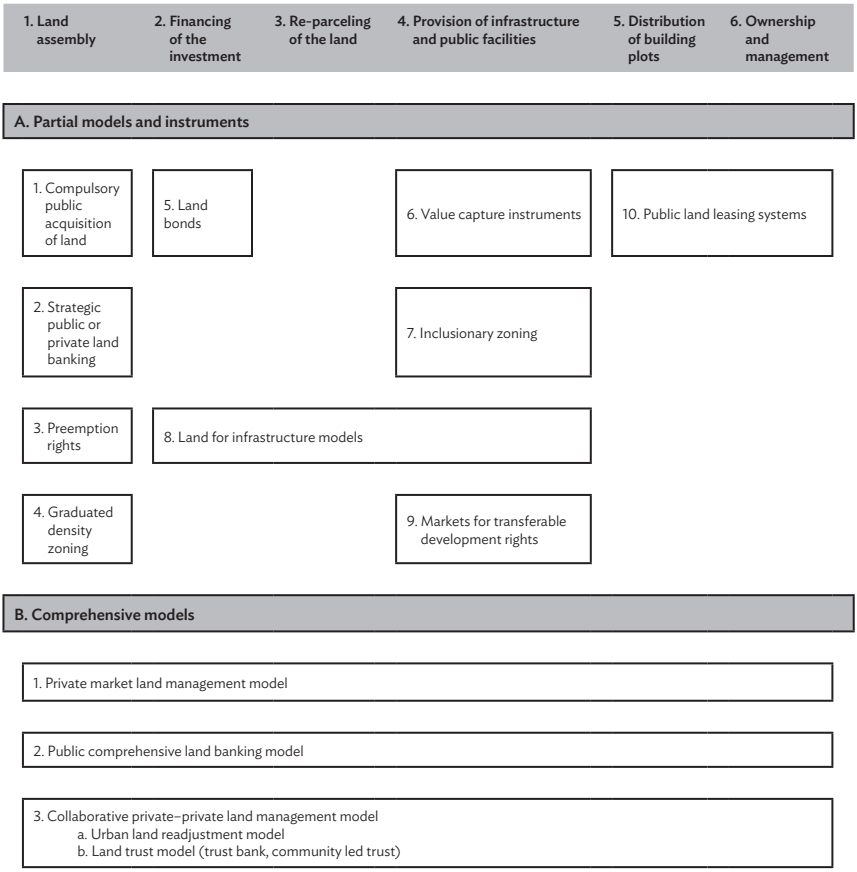
[1] Land management for urban and peri-urban development obviously affects rural land markets as well, when former rural land is turned into urban. However, the chapter's focus is on the strategies and instruments to make land available for urban development (buildings, infrastructure, green space).

between countries and disciplines (Louw 2008). Some studies use the term "land assembly" to indicate the entire process of making land available for urban development. Golland (2003), for instance, defines land assembly as the acquisition of land; land preparation; planning of the built form, streets, open spaces, and main services; subdivision of land for buildings; and delivery of the planned form. According to Louw (2008) a crucial aspect of land assembly encompasses changes in land ownership by acquiring required land parcels to facilitate property development and infrastructure provisions. Therefore land assembly is considered as a specific stage in the property development process. In line with van der Krabben and Jacobs (2013), we prefer to speak of land management strategies.

According to van der Krabben and Jacobs (2013), land management strategies have three objectives. Firstly, land must be made available for a proposed and desired (or mandated by government) development. Changes in the social and economic conditions over time necessitate urban redevelopment, as the landownership that currently exists is a response to past requirements (Louw 2008). Landowners themselves may not undertake redevelopment or cooperate with it due to various constraints that they face or a preference for the status quo. Such situations require a form of land assembly—land transfers from passive to active ownership. Second, a land management strategy requires that the costs of the public works are fully or partially recovered. This could be achieved through a positive balance between the value increment from new development and the costs incurred in development. A third main objective, although politically contentious (Alterman 2009), is to capture part of the unearned increment in the land value resulting from the change in land use in the development area and to use it for public purposes. We may add here a fourth objective: to offer an instrument to (re)distribute land-based wealth in a fair way among landowners, land users, property developers and investors, and the public.

To achieve these objectives, different land management strategies can be applied. We distinguish between partial land management strategies and comprehensive land management strategies (Figure 2). Partial land management strategies deal with certain aspects of a land management strategy, while comprehensive models offer an inclusive approach covering all aspects of the process of land management. We are aware that the division that we make here is artificial to a certain extent, since the tools and instruments that are being discussed here as partial land management strategies often are part of the comprehensive land management strategies as well. Nevertheless, we think that the distinction is useful: it follows the academic literature on land policy; moreover, it relates to current policy debates in some countries on how inclusive or comprehensive land management strategies should be.

Figure 2: Land Management Strategies and Tools



Source: Authors.

The (potential) use of the strategies and the (legal) tools and instruments are obviously contextually defined. In countries where land is state owned, land management strategies follow a completely different path from countries with private ownership of land. The strategy also depends on whether the process is participative (involving landowners) or non-participative, as discussed by Shukla (Chapter 1 of this volume). The use of certain legal instruments and tools is constrained by planning and land laws. Institutional capacity problems may weaken local governments' positions in relation to land markets. In some countries,

investment strategies for local governments in land markets are legally restricted. Finally, local land and real estate market conditions influence the effectiveness of both public and private sector land management strategies (respectively, for instance, in terms of scarcity of land, market power by big developers, and land prices, and in terms of real estate prices, vacancy rates, and demand for real estate). The overview of land management strategies in this chapter, however, does not take these context-related variations into consideration.

3 Partial Land Management Strategies

Possibly the most commonly applied development strategy for urban development is the situation in which a private real estate developer or end user is in charge of (or has been commissioned to) a real estate development, from land acquisition to completion of the buildings, after which the public space that is part of the development is often transferred to a public authority. Local governments may decide to support this strategy with a variety of partial land management strategies and instruments.

Based on the literature, we distinguish 10 types of partial land management strategy: 1) compulsory public acquisition of land; 2) strategic public or private land banking; 3) preemption rights; 4) graduated density zoning; 5) land bonds; 6) value capture instruments; 7) inclusionary zoning; 8) land for infrastructure models; 9) markets for transferable development rights; and 10) public land leasing systems (Figure 2).

3.1 Compulsory Public Acquisition of Land

Land transfer from passive to active ownership sometimes requires compulsory public acquisition of land (also referred to as eminent domain, compulsory purchase, eviction, expropriation, or resumption). Compulsory acquisition is simply defined as the power of the sovereign to compulsorily acquire private land for public purposes such as building dams, roads, railways, hospitals, schools, and other public infrastructure. The most popular justification for the grant and exercise of this power to and by the government has been social welfare maximization (Benson 2008). There is a strong argument to support that individuals' rights to property should give way to the social function of the property (Heller 2000) and priority should be given to the cumulative welfare of the society at large, over and above the personal interests of the affected landowners (Hong 2007). Of course, it would be more efficient and

less confrontational if, in original planning, certain plots or easements (slivers of land for rights of way expansion that cannot be built over outstanding subterranean sewering or services) for public building purposes could be reserved, as was done for school zones or public squares in the United States (US) in the 18th and 19th centuries.

There is a large body of literature related to the topic. Some of that literature discusses legal aspects, particularly the conditions under which local governments are authorized to make use of compulsory public acquisition of land (Stoebuck 1972, Munch 1976, Sagalyn 2007, Jacobs 2008) and social conflicts arising from governments' use of expropriation powers (Guo 2001, Cohen 2005, Labbé 2011). While compulsory acquisition in most countries concerns both ownership and user rights, in countries with state ownership of land (e.g., the People's Republic of China, Viet Nam), the acquisition concerns the user rights only. Other literature discusses the compensation that must be paid to the landowners when their land has been expropriated by the state (Miceli 1991; Zuhui and Hui 2002; Sluysmans, Verbist, and Waring 2015; Holzman-Gazit 2007). What is considered "just" compensation differs largely among countries, ranging from compensation for the loss of the land based on the value of its original use to full compensation based on the economic value of the land (which may be influenced by expectations of a planned change in land use) and loss of income. We can at a minimum agree with the settled international law standard of prompt, adequate, equitable, and effective compensation in the broadest terms (although whether these are fully meaningful concepts for original owners' and indigenous peoples' relationship to the land is another question entirely and is a dominant theme taken up in other parts of this book).

Price (Chapter 3) explains the impact of the history of property institutions on the constitutional status of private property rights in a country and the level of involvement of the original owners in land procurement processes, which is almost absent in the compulsory acquisition process. Price also explains how British and American roots in liberalism and individualism have created strong reliance on the coercive mechanism of compulsory acquisition. Allen (2000) writes at length on the widespread adoption of compulsory acquisition practices across commonwealth countries with a colonial history and strong borrowing from English land laws. Laws of land and compulsory acquisition in England have a very long history and are highly complex, involving legislation and case law (Cox 2018). In the United States, compulsory acquisition is viewed as an attribute of sovereignty and does not require special legislation (Sullivan 2018). That said, there is special legislation in place to define the limits of use of this power (Sullivan 2018). Australia's legislation does not mandate that compulsory acquisition be

associated with public benefits, but the power is generally exercised for the same (Searle 2018). There is a growing trend across a number of countries toward more exceptional use of compulsory acquisition and/or more favorable treatment of landowners (Searle 2018). Searle explains that when the legislation does not mandate public purpose for compulsory acquisition of land, as observed in the United States and Australia, then the underlying objective of social welfare maximization is put at risk, and assessment of whether the benefits of compulsory acquisition outweigh the costs is left to the courts to determine on a case-by-case basis.

The use of compulsory acquisition is less popular in countries that have communitarian roots and recognize the social function of private property, such as in Germany; the Netherlands; Singapore; and Hong Kong, China. Alternative methods of land procurement such as land pooling and other cooperative models are more popular in these countries, which have limitations (be they legal or customary) on recourse to compulsory acquisition. For example, in Germany, there are strict constitutional requirements of the use of expropriation, thus limiting its use and entailing considerable effort and legal risks (Albrecht 2018), while Japan has avoided relying on its powers through cultural caution and historical controversies (see Box 25.3 in Stillman and Bharule 2020).

Holtslag-Broekhof et al. (2018) explain the hierarchy of land procurement instruments used in the Netherlands based on their impact on private property rights. Given the emphasis on collaborative planning practices, the Dutch system positions compulsory acquisition at the bottom of the hierarchy as the least preferred option, because of its high negative impact on private property rights, strong interventionist approach, and high procedural costs (Holtslag-Broekhof, Hartmann, and Spit 2018). At the top of the hierarchy are those instruments which rely on the willful participation of the original landowners, such as voluntary land readjustment and voluntary land acquisition. Between the two extremes of voluntary and coercive instruments are intermediate methods of preemption and land consolidation (see Section 3.3 below) (Holtslag-Broekhof, Hartmann, and Spit 2018).

In Singapore, "land can be acquired for any public purpose by any person, corporation or statutory board, for any work or an undertaking which, in the opinion of the Minister, is of public benefit or of public utility or in the public interest; or for any residential, commercial or industrial purposes, the President may, by notification published in the Gazette, declare the land to be required for the purpose specified in the notification" (Christudason 2018, pp. 127–128). The government is the deciding body on what is to be considered a public purpose, and

in Section 5(3), a declaration by the President is conclusive that land is required for such a purpose. The process of compulsory acquisition is finally implemented by the Singapore Land Authority.

In Hong Kong, China, freehold interest in all land is owned by the government, which assigns leasehold interest in the form of private property rights (Hastings and Adams 2005). The power of compulsory acquisition of private property is allowed under resumption rights of the Crown and/or specific ordinances of government and statutory authorities to acquire land for public purposes (Ng 2002). On resumption of property, the leaseholder is offered monetary compensation that is calculated using a definitive formula. There is also the possibility of a reverse compulsory acquisition to be initiated by the leaseholder under certain circumstances when the property is blighted or reduced in value or use due to a change in zoning, planning regulations, and other actions by the government. The leaseholder may appeal to the chief executive-in-council to acquire the property on payment of compensation.

For properties with multiple owners, these rights are equally accessible to all co-owners who hold an undivided share in the property. Regarding the compulsory acquisition of properties under multiple ownership, the Land (Compulsory Sale for Redevelopment) Ordinance Cap 545 was mooted in 1999 to facilitate land assembly by the private sector. The objective was to overcome constraints in assembling land under the system of common property ownership by allowing "the majority owner" of the undivided shares in a lot to make an application to the Lands Tribunal for an order of sale of all the undivided shares. Subject to the satisfaction of all necessary conditions in the ordinance, the property can be publicly auctioned, and the proceeds divided proportionately among the co-owners. Amid existing controversies over the subsequent disposal of compulsorily acquired land by public agencies to private developers, the institutional arrangement under the ordinance that facilitates private compulsory acquisitions has further invited resistance from landowners (Hastings and Adams 2005).

3.2 Strategic Public or Private Land Banking

While only a few countries make use of what we refer to as public comprehensive land banking strategies (see Section 4.2 below), the use of strategic public land banking is a much more common phenomenon.

In the words of Alexander (2005), a land bank is an entity that assembles and banks land for short- or long-term strategic purposes. Public land banking is the mechanism for the government to assemble land parcels, usually on the periphery of an urban center, with a view to developing or selling them for development at a future date (Stoebuck

1986). These developments may range from creating new towns to renewal of degenerated inner-city suburbs, and construction of large irrigation projects, future parks, or public buildings (Alexander 2005). In the view of Fishman and Gross (1972, cited in Alexander 2005, p.143), public land banks are public bodies that acquire land in future urban growth areas to protect it from unplanned speculative development. Such interventions are necessary to regulate the pace and direction of growth (Fishman and Gross 1972). Depending on the laws that govern them or the jurisdictions that establish them, land banks differ in the kinds of properties that they hold. Despite these differences, one thing that is usually common among land banks is their focus of abandoned or vacant properties (van der Krabben and Jacobs 2013).

The concept of land banking emerged in the United States as a planning instrument in the latter part of the 20th century to create municipal land reserves for short- and long-term control over urban planning. The earliest program was introduced in 1971 by the St. Louis Land Reutilization Authority (the St. Louis Land Bank), and by 2004 it was expanded to four other metropolitan areas of Cleveland, Louisville, Atlanta, and Flint (Alexander 2005).

During the 1950s and 1960s, urban areas were sprawling in an unregulated fashion, and inner-city suburbs were declining (Alexander 2005). There was a need for the local government to take control of land, check urban sprawl, and regenerate inner cities (Alexander 2005). The concept of land banking was proposed with the intention of creating large-scale land assemblies that could facilitate these objectives. Over the years, the close relationship between urban sprawl and regeneration of inner-city neighborhoods became evident, and the use of land banking was narrowed down to assembling vacant, abandoned, and usually tax-delinquent parcels of land in the inner city for urban redevelopment opportunities in the future (Alexander 2005). The underlying principle of the contemporary land banking model is that blighted properties in urban areas that are not reclaimed and redeveloped by market forces should be redeveloped and converted into assets for the community.

Land banking as a land use planning tool can be used to shape and control the development of suburban communities. Land banking requires occasional exercise of powers of eminent domain and is therefore implemented by either a government agency or a corporation chartered by the government (Alexander 2005). Given the differences in the socio-economic configuration of cities which require contextual solutions, land banks vary significantly in their legal (and departmental) structure and function. Thus, land banks are government entities which have no fixed form or function. This has also caused legal problems for the courts, which have reluctantly accepted the “public purpose” of

large-scale land banking for community development (Stoebuck 1986). In summary, despite attracting the attention of planners at inception, land banking has failed to gain wider acceptance in the United States for reasons found in the realms of public opinion, politics, and economics (for further information, see Stoebuck 1986).

Outside the United States, land banking has been used in Canada in the provinces of Alberta and Saskatchewan. Large-scale land banking programs have also been implemented in Australia; Denmark; Germany; the United Kingdom; Hong Kong, China; Israel; the Netherlands; Norway; Finland; and Sweden. In the Netherlands, Finland, and Sweden, land banking is a successful strategy that has grown over the years, with an increasing amount of land under government possession (Valtonen, Falkenbach, and van der Krabben 2017). The bank acquires land by negotiation or, if necessary, compulsory purchase. In the Netherlands, land banking is usually part of a public comprehensive land banking model, with a broader purpose than just the banking of land. Usually, land is disposed of through outright sale, but in some cases long-term leasing is preferred. Linking the discussion back to Price (Chapter 3), land banking resonates with the communitarian ideology of public ownership of resources, which is well understood by the Dutch and Swedish polity and society and is contrary to American liberalism and individualism (Stoebuck 1986).

It is understandable that land banking requires the upfront cost of land to be incurred by the government. However, with the increase in value of the land during the holding period, significant profits can be made through the sale of land for market-intensive uses, and that can cause the original, less sophisticated landholders to lose trust in the integrity of the process, especially in developing countries with corruption and conflict of interest challenges. This opportunity to make profit from land sales may at times contradict the social welfare objectives of the government. "Considering the costs and benefits of land banking to all of society, the question of whether, in strictly economic terms, benefits would exceed costs is unclear" (Stoebuck 1986, p. 606). To counteract this, in the Netherlands, the profits made from land sales are generally used to cover costs of public amenities and to subsidize other loss-making development projects.

Apart from public land banking, strategic or speculative land acquisition or land grabbing by private sector companies is a common phenomenon in most countries around the world due to the specific nature of land markets. Huge gains may arise through the rezoning of land, which may be legitimate and transparent or corruptly decided, as well as the construction of new infrastructure and improved accessibility. Although strategic land acquisitions can be a smart investment strategy

from the perspective of a real estate developer who wants to use that land in the future for urban development, most literature addresses the problems caused by speculative private sector acquisitions and land grabbing. While the major part of that literature refers to land grabbing problems in the Global South (Firmans 2000, 2004; von Braun and Meinzan-Dick 2009; Hall, Hirsch, and Li 2011; McCarthy, Jacqueline, and Afiff 2012; McMichael 2012; Shatkin 2016; Steel, Van Noorloos, and Klaufus 2017), speculative land acquisitions and corrupt planning and land use management cause problems in other parts of the developed world as well (see, for example, Adams and Tiesdell 2012; and, most recently, Los Angeles city planning and land use management indictments in July 2020).

3.3 Preemption (or Right of First Refusal)

Preemption is the right that a landowner gives the state or local government to buy property first at the market value before other parties (Zevenbergen, Ferlan, and Mattsson 2007). It comprises a formal instrument that entitles the public authority to the first option to buy a property under certain conditions (Holtslag-Broekhof, Hartmann, and Spit 2018). In the Netherlands, the Municipal Preemption Right Act gives the municipality the right to declare its interest in areas proposed for urban renewal and expansion (Zevenbergen, Ferlan, and Mattsson 2007). As and when the owner is ready to sell land over which municipal preemption has been imposed, the land is first offered to the municipality (Zevenbergen, Ferlan, and Mattsson 2007). The market value at which the municipality would purchase land is determined using the same rules as in expropriation law (Zevenbergen, Ferlan, and Mattsson 2007). Based on the estimated price, the municipality may decide either to buy the land or decline the sale. Also, the owner has the choice of either accepting the estimated price or deciding not to sell at all. No appeal is possible for negotiation on price. If the municipality decides not to buy the property, the owner is free to sell in the open market within the next 3 years. These rights are registrable in the Netherlands and are used to ensure that public interests are protected (Zevenbergen, Ferlan, and Mattsson 2007). Preemption rights are prevalent in other countries as well. In France, certain zones identified for future development by the government are declared Zones d'Aménagement Différé (zones of deferred development) (World Bank 2020). In these zones, the government has the right of first refusal for any land transaction within a set timeframe. As a process, property owners who want to sell their land are required to declare their intent to sell. Within a set time frame

(usually around 2 months), the government will either accept the owner's requested price or, in the case of a dispute over price, agree to a negotiated settlement. Alternatively, the government may approach the court to determine price, which is set at the market rate 2 years before the declaration of the right of preemption. This instrument enables the government to avoid the kind of land speculation that may follow notification on changes to the urban development plans (World Bank 2020). Preemption rights were used in the US alongside settlers' rights to purchase public land. These have been part of the Land Act of 1804, the Desert Act, and the Homestead Act in the US. In Australia, preemption rights are not imposed by statute, although, as a matter of contract law, parties can grant preemption rights or first right of refusal in relation to the sale of real estate. In Islamic jurisprudence, the use of preemption rights called *shu'fa* is prevalent, and it provides a right of first refusal over the sale of a given land or property to its direct neighbors.

3.4 Graduated Density Zoning

Often it is difficult to encourage redevelopment at a higher density within the city due to challenges involved in assembling land from multiple small landowners and the typical problem of holdout. Shoup's (2008) model of land assembling relies on voluntary assembly of land by the original owners through zoning incentives. For example, if a city needs to increase density around a rail transit line, it may adopt the strategy of allowing, for example, a multifamily housing development of up to 50 units on all plots greater than 1 acre. If the value of land for 50 units significantly exceeds the existing value, there is a strong incentive for landowners to come together voluntarily and pool land to at least 1 acre and allow redevelopment. Shoup (2008) further explains that if graduated density zoning is applied to an area that is large enough to allow multiple collections of owners whose assembled land would trigger high density development, the competition among landowners would reduce the power of holdout and induce the fear of being left out. That said, graduated density zoning cannot fully eliminate the incentive to hold out, which would result in isolated sites that cannot be combined with other contiguous parcels. Nevertheless, cooperation among the original owners combined with competition among developers may shift and improve capital gains for the original owners.

The model has been practically executed in Simi Valley, a suburb of Los Angeles (Shoup 2008). The condition of having at least 13 acres of land for high density development in Simi Valley increased the incentive

for the original owners to assemble and develop land voluntarily. As observed in this project, graduated density zoning demotivates strategic holdouts, thus increasing the probability of a redevelopment that generates returns for the original owners, developers, and cities (Shoup 2008).

3.5 Land Bonds

Land bonds are financial bonds used by municipalities in many countries to provide funding for investment in the acquisition of land for (future) urban development (Temel 2001, Cullingworth 1994). Municipal land or infrastructure bonds are considered by many as attractive financing constructs for developing countries in Asia (Leigland and Thomas 1997, Platz 2009). Rehabilitation bonds are constantly evolving in the United States, particularly in California and other areas with large redevelopment needs (Yoshino and Stillman 2017).

3.6 Value Capture Instruments

Land value capture refers to the "creaming off" of increases in land value by a public body from the landowner, where the increased land value is the result of rezoning the land or public infrastructure provision. A large body of literature discusses the legal right of a state body to take part of the landowner's development gain and use it for public purposes (for an overview of that literature, see Alterman 2012; Muñoz-Gielen and van der Krabben 2019). Perhaps the most documented dispute over taxing land value increase took place in the 1940s in the United Kingdom after publication of the Uthwatt report in 1942. The Uthwatt Committee discussed, among other things, the introduction of a betterment levy to capture the planning gain. A 100% betterment levy was introduced in the 1947 Town and Country Planning Act, and any development required a payment to the Central Land Board. Sale of land in private ownership to developers attracted a levy. However, the political controversy about the new regulation became clear soon after when the subsequent Conservative government immediately decided to abolish it in the 1954 Planning Act (Muñoz-Gielen and van der Krabben 2019).

Other literature discusses the instruments that can be used for land value capture (for an overview of that literature, see Alterman 2012, Muñoz-Gielen and van der Krabben 2019). An often-made distinction is between direct and indirect value capture mechanisms. According to Alterman (2009, p. 199):

> Direct value capture mechanisms refer to an increase in the value of land of private owners through actions undertaken by public authorities or by the general community. The rationale for value capture is thus the fact that the increase in value was not caused personally by an individual and hence should be shared with a broader community.

A classic example would be where services are supplied to an off-grid rural or peri-urban property, such as sewer pipes, and the homeowner readily pays the local government a contribution toward the costs of the connection to the mains and its ongoing maintenance by way of a sewer betterment fee or charge, as it replaces the old septic tank and the chore of having it emptied. Often, however, the betterment is not compensated or charged to the benefitting homeowners, such as where a new stop for a train or bus line is added, increasing access to the private property.

These types of direct value capture mechanisms are often referred to as betterments, (unearned) increments, or windfalls. Based on an international review of value capture mechanisms, Muñoz-Gielen and van der Krabben (2019, p. 6) claim that indirect value capture instruments are now more commonly used: "(n)ext to proposals of land value capture based on a direct rationale (the community is the rightful owner of all or part of the increased value and should therefore capture it), other proposals have come forward that are based on different, 'indirect' rationales, of which the internalization of negative externalities of urban development is the most common one. These proposals do not challenge fundamental ideological principles and do not always require a detailed regulation, which make them easier to introduce." Typical examples of indirect value capture instruments include developer obligations, infrastructure levies, impact fees, and agreements with developers, often to supply public goods and services, such as playgrounds, greenbelts, or low-rent, affordable housing (see Section 3.7).

3.7 Inclusionary Zoning

Inclusionary zoning, also known as inclusionary housing, can be considered as a special kind of value capture mechanism. Alongside "regular" zoning ordinances, there are inclusionary zoning programs which require private developers who undertake residential development to contribute a portion of their units toward affordable housing for those who are crowded out in the upscaling residential market (Calavita and Mallach 2009). Although mainly applied by local governments in the

United States (Ellickson 1981; Calavita, Grimes, and Mallach 1997), some have suggested the use of inclusionary zoning as an instrument in (Asian) developing countries as well (Meda 2010, Turk and Altes 2011, Mukhija et al. 2015, Mishra and Mohanty 2017).

3.8 Land for Infrastructure Models

Based on the idea that both road and public transport infrastructure investments—adding to improved locational accessibility—lead to higher land and real estate prices, many countries have implemented policies for integrated transit-oriented development (TOD) projects. These policies aim to integrate land and real estate development with transport infrastructure investments in different ways. We consider these policies as partial land management strategies, since they may contribute to the financing of investment in land and also serve as a value capture mechanism. Next to many more studies of how land value can be captured to finance TOD (including Cervero et al. 2004; Cervero and Murakami 2009; Ingram and Hong 2012; Murakami and Gregory 2012; Li 2013; Medda 2012; Sun et al. 2017), Suzuki, Jin, and Hong (2015) provide a good overview for developing countries in Asia and elsewhere of how land value capture instruments can be used to optimize and finance TOD strategies.

In other contexts, many (developing) countries make use of different types of land for infrastructure models. Public–private partnerships have been used as successful funding mechanism for the construction of major infrastructure projects in many developing countries in Asia (ADB 2008). The most common public–private partnership model is the build–operate–transfer model. Less familiar is the build–transfer model, which can be considered a land value capture tool. Land for infrastructure models can be seen as a specification of the build–transfer model. Investors are offered "sweetheart" price discounts or attractive rights to develop the land as compensation for constructing the infrastructure. The advantage of these models is that the authorities are able to develop economic infrastructure without having to incur expenditure through public funds. Investors generate their returns from the commercialization of acquired land. The possible downside of the land-for-infrastructure mechanism lies in the public sector's weak position to negotiate the terms of the concession contract as public agencies aim to balance their urban planning objectives with motives for value capture. Frequently the original owners feel cheated when they see they were bought out at low market prices and the benefit of the value added is reaped by wealthy private developers who gain political advantage from their public sector partners.

3.9 Establishment of Markets for Transferable Development Rights

In some countries such as Brazil, India, the Netherlands, and the US, markets for transferable development rights have been established to support land development. For this, usually two interventions are needed: first, the development right over land must be separated from the ownership right over land; second, a market must be created where trading of development rights can take place. The establishment of a market for transferable development rights may serve two different purposes. First, in some countries, governments decide to create a market for development rights, enabling them to raise an income from selling these rights. The income generated from selling the development rights can be used to finance the costs of urban transformation projects and/or public infrastructure (Sandroni 2010; Smolka 2013; Suzuki, Jin, and Hong 2015). Second, transferable development rights are sometimes offered as non-financial compensation to landowners. The transfer of development rights is based on the ability to transfer additional value from one development to the other. This compensates for losses by those whose planning and development rights are reduced due to a government (planning) intervention (van der Veen, Spaans, and Janssen-Jansen 2010; Alterman 2012).

3.10 Public Land Lease Systems

In countries with state ownership of land, after the development, the land remains state-owned and user rights over that land are leased to the leaseholder for a certain time period. In Asia, the best-known example is the People's Republic of China's (PRC) land lease system (see, generally, Wu and Yang, Chapter 6). For urban development, local governments in the PRC would usually first expropriate rural land and service that land with a basic infrastructure. Then the local government would sell the user rights of the serviced land to a user for a pre-specified use. The land concession fee is determined either by negotiated agreement or (predominantly) by competitive tendering or auction. Land leasing is the common way for local governments to capture land value in the PRC. The revenue generated as extra-budgetary revenue is used to pay for local public infrastructure development, but there is usually no direct link between the lease on a plot of land and the infrastructure provided on the plot (Ingram and Hong 2012). Land finance in the PRC is a significant type of fiscal revenue strategy for local governments to raise revenue through land leasing and land tax in the PRC (Wang et al. 2012). Other examples of public land lease systems can be found in

Viet Nam (Labbé and Musil 2013) and, in a very different context, the Netherlands (Ploeger and Bounjouh 2017, Korthals Altes 2019).

4 Comprehensive Land Management Strategies

We distinguish three types of comprehensive land management strategy: a private market land management strategy, a public comprehensive land banking strategy, and a collaborative private–private land management strategy.

4.1 Private Market Land Management Strategy

Fully private market land management strategies, in which a private land developer acquires land, puts in the infrastructure, and services the land with the intention to sell building plots to other developers or end users, are not common. Private sector developers usually prefer to invest in real estate development (land and property development) and not in land development alone. Exceptions are public–private partnership land development agencies, which develop, for instance, industrial estates. As stated above, when private developers invest in real estate development, they often take care of at least part of the land management activities, in which state bodies' partial land management strategies and instruments may support them.

4.2 Public Comprehensive Land Banking Strategy

In a public comprehensive land banking model, a public authority acts as a land developer that takes control over all aspects of the land development process, from the acquisition of the land to be developed to the ownership and management of the public space after ready-to-build-on building plots have been sold to private developers and/or end users (van der Krabben and Jacobs 2013; Valtonen, Falkenbach, and van der Krabben 2017). With such a comprehensive public land development model, local authorities are not only able to support a planned urban development (by offering building plots and public facilities), but they can achieve broader planning goals as well (e.g., reserve land for affordable housing and greenbelts, provide higher-quality public facilities, or use profits from the sale of building plots in a greenfield development to subsidize the development of a brownfield development). A crucial aspect of this development strategy is that local authorities can use the net income from buying (usually farm) land and selling building plots to pay for all the necessary public facilities for the development area. This public comprehensive land banking model

differs from public strategic land banking because of its objectives: while strategic land banking is mainly used to secure land for future urban development and to transfer it from passive to active ownership when the time is right, the aims of the comprehensive model are to develop the whole location, except for the buildings, and to achieve these broader planning goals. Apart from the supposed planning-related benefits, several authors warn of the financial risks for municipalities relying on this development model without a serious risk management strategy (Buitelaar 2010; van der Krabben and Jacobs 2013; Valtonen, Falkenbach, and van der Krabben 2017), due to the effects of changing housing market conditions on demand for and price of building plots. Others have discussed the effectiveness and efficiency of this model (Hartmann and Spit 2015), and the degree of discretional power municipalities have to apply this model and how they make use of that (Woestenburg, Spit, and van der Krabben 2018). We are aware of only a few countries making use of this development model. In Europe, extensive use of the development model seems to be limited to Finland (Viitanen et al. 2003; Valtonen, Falkenbach, and van der Krabben 2017), Sweden (Caesar 2016), and the Netherlands (Needham 1992; van der Krabben and Jacobs 2013; Buitelaar and Bregman 2016). We are not aware of the use of a similar development model in Asia. The PRC's land development model, based on its state ownership of land, has similarities but differs in comprehensiveness: cities in the PRC would usually lease un-serviced land to private developers, requiring the developers to install the public facilities.

4.3 Collaborative Private–Private Land Management Strategy

Collaborative private–private land management models have sometimes been termed "sleeping beauty"—potentially interesting but rarely useful in practice (Alterman 2012). We distinguish them into urban land readjustment models (also referred to as land consolidation and land pooling) and land trust models (distinguished into bank trusts and community land trusts). Urban land readjustment models have been promoted for a long time by international development organizations such as UN-HABITAT, the World Bank, the Lincoln Institute for Land Policy, and the Japan International Cooperation Agency, while the Asian Development Bank has successfully introduced land trust models in several Asian countries (Kanda 2016, Yoshino et al. 2018) for the self-financing of infrastructure costs and the fair distribution of development gain offered by these models. A private trust law has been approved by the Cabinet in Thailand and is being reviewed by the Council of State, which will facilitate the introduction of a land trust (Urapeepatanapong et al. 2016, Piewthongngam, Chapter 12).

4.3.1 Urban Land Readjustment

As a mechanism for land consolidation, urban land readjustment (ULR)—also known as land pooling, replotting, land reassembly, re-parceling, repartition, *kukaku seiri* (in Japan) and *umlegung* (in Germany)—assembles and re-parcels land by possible swapping of land positions among landowners without the need for any transaction, so that part of the land can be used for public services and infrastructure that benefits existing landowners as well as the city. Land readjustment is also used for planned development of urban fringe land. A government agency assembles (often irregular) land parcels and then subdivides them into a planned grid layout of streets, open spaces, and serviced lots. Some of the plots are retained for cost recovery, while the remaining plots (slightly reduced in area) are transferred back to the landowners for development or sale (Archer 1992). The process is most popularly used when land parcels are fragmented and existing boundaries are in conflict with proposed planning outlines. The mechanism supports land-based financing of the proposed development plan in the sense that in addition to land required for infrastructure development, a portion of land is retained by the public agency for commercial sale in the market to recover the cost of development. The underlying assumption of ULR is that all necessary public infrastructure costs will be paid from the development gain that results from the proposed development. Re-parceling of land results in higher land values for participating landowners as well. Urban land readjustment also differs from alternative development strategies because all individual land and property owners in an urban land readjustment project share the development gain (and the risks) of the (re)development of the area equally (van der Krabben and Lenferink 2018).

Compared to the compulsory acquisition of land, which requires huge upfront costs, land readjustment is financially less burdensome for public agencies, particularly for developing economies. Unlike in the case of compulsory acquisition, where landowners at times lose all their land in return for monetary compensation, under land readjustment they receive a new parcel of land, proportional in size or value to the original land parcel, that offers them the opportunity to benefit from the new development. The size of land received after readjustment is smaller, but the value is raised due to infrastructure improvements and other developments caused by the project. As much care as possible is taken to minimize displacement by allocating the new land parcel near to each owner's original parcel.

Land assembly and development through land readjustment generates desirable outcomes for all stakeholders by creating planned development patterns, increasing land values, and limiting displacements. This is not to say that the process is free of challenges.

Often it is difficult to get landowners on board when they do not recognize the social function of property, or distrust the motives, commitment, and abilities of the government and sponsors, and are consequently less motivated to contribute a portion of land for public amenities (Hong and Brain 2012). Also, the lack of representation of original landowners in the planning process, unclear or unrecognized land titles, and poor ownership records make it logistically difficult to implement the process (Hong and Brain 2012, Price, Chapter 3).

ULR has been used in many European Union countries, but not in the United Kingdom and Ireland. While Germany, Finland, the Netherlands, Italy, Denmark, France, Spain, and Norway have long traditions in using ULR (although in some of these countries the instrument has indeed appeared a sleeping beauty), other countries in Europe (Albania, Armenia, Croatia, Georgia, Kosovo, Moldova, Montenegro, Serbia, and the Russian Federation) have also used forms of land consolidation. The Netherlands has a more than 100-year tradition of agricultural land readjustment, but until recently lacked regulation for urban land readjustment (van der Krabben and Needham 2008). With the introduction of a new planning law in 2018, however, ULR regulation has now been introduced here as well (van der Krabben and Lenferink 2018).

Globally, different forms of land readjustment can be found in Asia (the PRC; India; Indonesia; Japan; Nepal; the Democratic People's Republic of Korea; the Republic of Korea; Taipei,China; Thailand; Turkey; and Pakistan), in Africa (Egypt, Kenya, Morocco, and Zimbabwe), in North America (Canada, Mexico, and the United States), in South America (Chile and Colombia), in the Middle East (Israel, Lebanon), and in Australia (Home 2007; Demetriou, Stillwell, and See 2012). Particularly, in Japan (Sorensen 2000), the Republic of Korea (Kresse et al. 2020), and Taipei,China (Lin 2005), ULR has proven to be very successful in transforming traditional places in modern cities. Different countries have used different models for land readjustment, although the underlying principles have been the same.

In general, an urban land readjustment scheme has the following characteristics (van der Krabben and Lenferink 2018, p. 116):

> All property owners are invited to temporarily transfer their property rights to a third party to allow the reparcelling of the land.... The land readjustment scheme can only be implemented when all property owners participate or can be enforced to participate.... After a decision has been taken, the third party will reparcel the land into building plots that match the layout of the new development plan for the

> location. Consequently, all owners are assigned a building plot to build on, equal to their original share, either in value or in size (if not, compensation takes place). The value increase of the land as a result of the land readjustment will first be used to cover the costs of the process and to make land available for necessary public facilities related to the new development. The remaining will go to the owners. In some countries, also the costs for the realization of public facilities are paid out of the value increase.

The participation of landowners is necessary for ULR to materialize, and different authorities have different regulations around this. Some require the voluntary participation of all; others require majority participation (the rest could be without consent); and some are compulsory.

In Japan, land readjustment has been well used, in place of compulsory acquisition, to provide land for roads, parks, and riverway improvements (Shultz and Schnidman 1990). Land readjustment in Japan is executed under the Land Readjustment Act. In some cases where land readjustment has been used, public utility projects (such as sewers and gas mains) have also been included, although not mandated under the Land Readjustment Act. The infrastructure and public facilities are financed through the sale of financial resource land, which is retailed by the project authority executing land readjustment. For projects which require a larger outlay, the cost of public facilities is shared by the national, prefectural, and local governments. An agreement by two-thirds of the affected households provides an automatic legal mandate for land readjustment to proceed. However, in practice, very rarely is this mandate used to force the remaining one-third of households to participate against their will. Project authorities make serious and patient attempts to obtain a consensus among all the households, which results in drawn-out implementation and deal-breaking delays. Taipei,China and the Republic of Korea have followed similar processes for land consolidation to Japan. In countries such as Malaysia and Thailand, where the Japan International Cooperation Agency is providing technical assistance for land consolidation, the procedures used are similar to land readjustment in Japan. However, these countries also have provision for, and occasional recourse to, compulsory acquisition of land under the Land Acquisition Act (Agrawal 1999). Land readjustment in Indonesia requires agreement by at least 85% of landowners covering at least 85% of the area as a basis to implement the project. Once the agreement of 85% of landowners is achieved, land from the remaining 15% of households is acquired

compulsorily. Legal provisions for compensation in cases of compulsory acquisition in Indonesia are frequently inadequate. This has resulted in the pressured participation of even those who do not initially consent to land readjustment (Guild, Chapter 10).

Lin (2005) analyzed the Neihu land readjustment project in Taipei,China. The land use prior to the project in this area was agriculture. The city required industrial sites to relocate scattered illegal factories and land to augment the housing supply. These objectives were achieved through a land readjustment project. Lin (2005) argued that land readjustment has not solved the problem of co-ownership. The readjusted land that had a single owner was bought by developers, but land under co-ownership saw few transactions, and was largely bought by speculators. For a land readjustment project to succeed, it is important that the readjusted sites and developable land can be marketed effectively.

In the Republic of Korea, land readjustment serves broader social goals beyond the provision of urban services, including for low-income housing (Shultz and Schnidman 1990). Western areas of Germany use compulsory land readjustment primarily in peripheral areas for town expansion and renewal projects that are implemented by the local government (Shultz and Schnidman 1990). These projects do not require landowner consent (Shultz and Schnidman 1990). With local authority approval, land readjustment projects can also be undertaken by owners or developers. Due to the compulsory nature of land readjustment in Germany, it takes 1 to 3 years for replatting and 2 years or less for the installation of services, compared to 5 to 10 years in other countries. A significant part of the project cost (as much as 90%) for the provision of roads and open space is borne by landowners (Shultz and Schnidman 1990). In Germany, unlike other countries with land readjustment programs, contributions from landowners to the cost of public projects usually take the form of cash rather than land to be sold to recover costs. There is, however, an upper limit of 30% of the market value of the land, or the land itself, that can be taken from landowners by the local authority for public use. Land readjustment, called land pooling in Australia, is used only in the one state of Western Australia (Shultz and Schnidman 1990) where financing and transforming privately owned land into planned, serviced building sites has been attempted.

Another variant of ULR has been used in Lebanon in its reconstruction of the war-torn Beirut central district. In this model, the redevelopment of the Beirut central district was handed over to a private company, Solidere. Instead of re-parceling the land to previous owners, landowners were allocated equity shares in the development company in proportion to their land contribution. The company also issued shares

in the open market, which allowed it to raise cash from investors for development purposes. An enabling legislation locked property owners in a compulsory association with investors and the shares replaced the deeds. The right to occupation or return for property owners was extinguished (Home 2007).

Li and Li (2007) discuss the case of vertical land readjustment in Hong Kong, China, as a high-rise high-density city with limited opportunities for traditional horizontal land readjustment. Most crucial is the demand for residential buildings, for which the government often relies on the redevelopment of old urban residential buildings to increased height and density. While absolute ownership of all land rests with the government, the leasehold ownership of land is distributed among apartment owners as an undivided share. This is popularly known as the tenancy-in-common system, where tenancy implies leasehold (and not rental tenant) ownership held in common by the owners rather than by a single owner (Li and Li 2007). Using the case study of Lai Sing Court, Li and Li (2007) explain the concept of vertical land readjustment, which means the redevelopment of an existing residential site in a way such that the original owners receive back a proportionate share of housing in the new development that has more units than in the previously existing building. The process requires the cooperation and participation of the original owners, as well as of the developer and authority. Land readjustment in this case reduces the risks for the developer, as the requirement to secure upfront financial commitment to buy property rights from the owners is not there. The gain from the project for developers is through the sale of extra floor area after completion of the project. The original owners have the flexibility to sell their strata contracts in the open market (Li and Li 2007). The original owners, on the other hand, work together under dedicated leadership provided by the chairperson of the owners' association. In summary, a joint coordinated effort from all stakeholders and fair distribution of benefits of redevelopment have underpinned the success of this model (Li and Li 2007).

A perceived major drawback of land readjustment is the long gestation period for project execution and fulfillment (Shultz and Schnidman 1990). Japanese land readjustment projects, for instance, often face numerous administrative appeals filed by property owners who object to the property redistribution scheme. Resolving the conflicting interests of numerous owners in a large infrastructure project can take more than 1 decade. Another drawback of land readjustment programs is that they lead to speculation in real estate and a rise in land prices, as a result of which objectives such as providing low- and moderate-income housing become untenable.

In another criticism, Hong (2007) argues that the use of state power to take private property should only be for valid public purposes with just compensation. When the boundaries of private properties are readjusted to facilitate private redevelopment, the purpose can no longer be justified as purely public. As per the Constitution, Hong (2007) contends that the basis for a land readjustment agency to assemble and transfer private use rights for private development is unlawful. Not without reason, opponents have accused public authorities of using these public powers for private or unacceptably mixed public–private gains.

Using the German land readjustment system as an example, Davy (2007) analyzes the legal issues associated with land readjustment. He argues that in 2001, the First Chamber of the German Constitutional Court ruled that compulsory land readjustment does not equate to compulsory acquisition. Rather, land readjustment "would only use the legislative power to determine the content and scope of property," which is within the legal right of federal and state governments according to Article 14 of the German Constitution. The court also ruled that since the acquisition of land is temporarily and largely for private use, the constitutional provision that governs the reasonableness of compulsory acquisition could not be applied in cases of compulsory land readjustment. This ruling has enabled the use of compulsory land readjustment for assembling land for redevelopment projects in Germany. However, treating compulsory land readjustment as a service to private landowners has constrained the government's ability to procure land from property owners for public purposes or for land value capture to finance local infrastructure (Davy 2007).

We observe that land readjustment can be a time-consuming process, as its implementation requires that land is assembled through consensus rather than coercion. Coercion is only the last resort when all attempts for consensus have been exhausted. Consequently, land readjustment, although preferable for its voluntariness and acceptance, takes much longer than other planning instruments for assembling land.

In terms of acceptability and applicability of land readjustment, small lots and lots with suboptimal shapes have a larger tendency to be redeveloped. Regarding ownership, lots occupied by the city are more likely to be assembled, while private owner–occupation reduces the likelihood of assembly (Lindenthal, Eichholtz, and Geltner 2017). Lindenthal, Eichholtz, and Geltner also argue that the likelihood of joint redevelopment increases when landowners have the same occupation and/or the same sociopolitical beliefs and religion. A similar mechanism has been used in the case of Japan, where there has been wide application of land readjustment. It has been argued that Japanese society, where

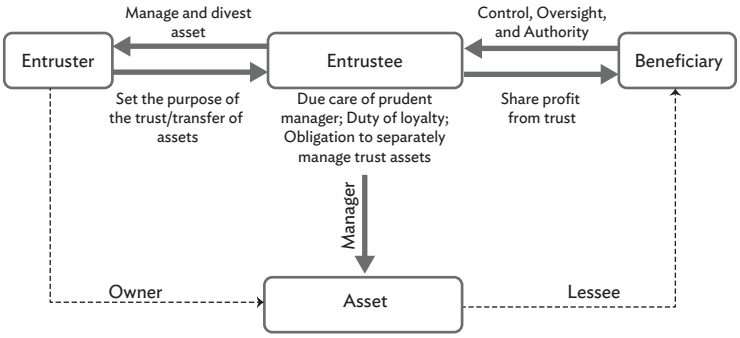
the working culture is organized in groups, instills collaborative and consensual decision making that facilitates the implementation structure of land readjustment. Within this organizational framework, it may be asserted that in Western cultures, which underscore the importance of individual freedom and self-expression over collective or state control, land readjustment projects like in Japan would be difficult to propose and implement. Sorensen (2007) disagrees with this characterization, contending that proposals for the readjustment of land in Japan have been just as contentious and fiercely contested as in other countries.

4.3.2 Land Trusts

A land trust model combines individual ownership rights with collective landownership by separating the ownership of land and structures on the land (Fujii 2016). The entrustee, which can be either a trust bank or a cooperative, acquires ownership of land from the original landowners in a certain area and manages and develops that land on behalf of the entrusters (the original landowners). By entrusting their land to the trust bank or community land trust, the entrusters can benefit from the entrustee's efforts to pool all land and invest in the development of that land in a more effective way. In Yoshino et al. (2018), we find the example of a real estate trust. Residents living in small landed houses may increase the efficiency of their land use by consolidating the land and building apartments or office blocks on it. The mechanism used is that land owners entrust their land to the trust bank, and the trust bank builds a large building on the consolidated land to effectively utilize the land. Landowners who contributed land receive apartments in the building and part of the profit generated from commercial leasing of space in the building as dividends from the trust bank (Yoshino et al. 2018). Similar to the land readjustment mechanism, the consolidation of land results in more profitable development and the original owners can share in these profits. In a land readjustment scheme, the original landowners will receive full ownership of land and properties again after the readjustment has been completed; in a land trust model, the original landowners receive user rights, while ownership of the land remains with the entrustee. In the latter case, the original landowners will additionally receive part of the profits as dividends from the trust bank.

A simplified model of a land trust is presented in Figure 3. The entruster may decide not to give away the property immediately and instead leave it with the entrustee after defining certain conditions for the beneficiary to receive the profit (Yoshino et al. 2018). The land trust (or entrustee) receives trusts of real property or land from the entrusters and takes on the brokerage and appraisal of entrusted properties to the beneficiaries (Yoshino et al. 2018).

Figure 3: A Model of Land-Lease Arrangement Organized by a Land Trust Bank



Source: Authors' adaptation of Yoshino et al. (2018, p. 7).

The application of the above model has been explained by Yoshino et al. (2018) in the context of the densely populated city of Tokyo, where small landed houses are common. The original landowners may maximize the use of their property by consolidating land through a land trust that can then construct a high-rise residential building to actualize the development potential of the land. The original owners may benefit by securing a bigger apartment unit in the new development, while also receiving part of the development profit as dividends from the trust bank.

Yoshino et al. (2018) advocate the land trust model as an inclusive method of land assembly where the original landowner can be party to development returns (see Hossain and Yoshino, Chapter 11). Also, there are financial incentives for those investing privately in infrastructure projects that are otherwise unfeasible for the government, particularly in developing countries. However, this method has been rarely used outside Japan, and therefore its practical challenges in developing Asia are yet to be examined.

5 Conclusion

We aimed with this chapter to prepare an overview of land use management strategies and instruments encountered in different parts of the world. We by no means had the intention to assess the effectiveness, efficiency, and/or social equity of the different strategies,

but rather wanted to describe their basic features and how and where they are applied. For further reading of studies that have assessed the working of these strategies and instruments, we refer to many of the references used in this overview chapter. We conclude with a warning to the reader. Although some of these strategies and instruments may seem attractive to countries in which they are missing or not used, international transfer of policies and instruments is not without problems. Attention to (differences in) institutional contexts, cultural expectations, legal procedures, and market conditions is essential when considering in one country the use of strategies and instruments that have been successfully applied in another.

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PART I

Bases of Land Ownership and Land Use Rights and Management

1

Property Institutions and Their Impact on Land Assembling Strategies

Jyoti Shukla

Even though compulsory acquisition (CA) of land has been a popular instrument for land assembling in many parts of the world, the process is marred with many challenges related to unfair compensation and coercion, so countries are trying to reduce the dependency on CA. This chapter categorizes land assembling strategies into two broad groups of participatory and non-participatory processes (where CA belongs to the latter category) depending on the level of participation of the original landowners in the process and argues that the approach adopted by a country is strongly influenced by the historical attitude of the polity and society toward private property rights. For example, the liberal ideology of British and American society has put a strong emphasis on individual interests associated with private property rights, thus necessitating the use of coercion and compulsory acquisition. On the contrary, the communitarian foundations of modern Germany and Japan have set the stage for the acknowledgment of public and/or social function of private property, which in turn induces compliance among original landowners for the contribution of their land for public projects through participatory methods such as land pooling. In summary, the ideological difference in the interpretation of private property rights among communitarian and liberal societies influences the approach to land assembling for public projects wherein liberal societies have been relying on the coercive approach of CA while historically communitarian societies prefer the participatory methods of land pooling, land trust, and the like. Historical private property institutions will continue to have a long-term impact on the contemporary treatment of private property rights by society, polity, and law and would therefore be a crucial determinant of the approach to land assembling.

1.1 Introduction

Alongside the compulsory acquisition of land, there has been a growing popularity of alternative models of land procurement[1] for public infrastructure projects, such as land pooling (de Wolff 2002, Larsson 1993, Doebele 1982, Larsson 1997), land trust (Yoshino et al. 2018), joint venture (Adams et al. 2001), and land banking (Strong 1979). Literature in law and economics has addressed a number of issues concerning the compulsory acquisition of private land for public purposes, including the economic justification for the exercise of the power of compulsory acquisition; the definition of public purpose; the meaning of just compensation; and the implication of compulsory acquisition for the affected landowners (Miceli and Segerson 1999). There has been continuing discussion on making the compulsory acquisition process fair for the original owners. A recent theoretical contribution in the area is by Rao (2018), who argues that a fair mechanism of compulsory acquisition would mean a combination of both: a fair process (that adheres to the principles of procedural fairness) and fair compensation (for losses incurred by the affected landowners). Rao (2018) uses Sen's (1987) theory of capability to explain that loss of land extends beyond its monetary value and that a fair mechanism of land procurement should satisfactorily reconstruct or replace all valuable functionings (or usefulness), both monetary and nonmonetary, that land offers to its owner. Nevertheless, theoretical solutions for compulsory acquisition are a long way from taking shape while innovations in alternative strategies have been surging.

While considering the importance of the power of compulsory acquisition as the last resort, governments across the globe are exploring the possibility of alternative methods that can encourage greater involvement and cooperation of the original owners. However, traditional and contemporary property institutions have a long-term impact on land management strategies of a country and are strong determinants to the success or failure of these alternative models of land procurement. This chapter explains how different types of property institutions have resulted in two distinct systems of land procurement, that is, compulsory acquisition versus voluntary cooperation between landowners (such as through land pooling) (Home 2007). An understanding of the relationship

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1 The term "land procurement" is used interchangeably with "land assembly." Louw (2008) explains land assembly as a stage in the property development process which involves "changes in (private) land ownership through acquisition of the necessary parcels of land to make property development and infrastructure provisions possible" (p. 70).

between property institutions and land procurement systems would be useful in examining why certain models have greater acceptability in a jurisdiction and how they can be improved further.

Understanding the concept of the human self and its relationship with society is crucial to interpreting constitutional rights to private property for the dual purpose of personal and social welfare (Alexander 2003). This chapter does not attempt to revitalize the debate on libertarian[2] versus communitarian[3] views on the definition of the human "self" and property rights. Instead, the chapter touches on the philosophy of ownership and public versus private rights to explain how property, as a privately owned commodity, serves the dual purpose of personal and social welfare, and is thus practically not treated as an exclusive commodity for personal enjoyment. This dual role of property for its owner and society at large has received constitutional acknowledgment in all democracies. This chapter explains how countries are balancing these dual claims of the individual and society on property and asks, what role does the communitarian and libertarian past play in the interpretation of constitutional rights to private property in modern democracies? What is the influence of the libertarian and/or communitarian past on the present approaches to land procurement? Answers to these questions contain justification for the popular use of a certain type of land procurement technique in a jurisdiction, such as compulsory acquisition in the United Kingdom and land pooling in Germany. This chapter is a preliminary attempt to disentangle these relationships, which warrant further investigation. Future research in this area could be useful in remodeling the existing instruments and designing new ones for land procurement for public projects that can improve acceptability (among the affected landowners and society at large) and the efficiency of the process.

Countries have adopted different types of institutional frameworks for private property rights that inform their strategy for land management, particularly their method of land assembly for public projects. Thus, it would be important to understand the history and tradition of property institutions in a country as a crucial explanatory variable for divergent land procurement strategies and their outcomes.

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2 Liberalism holds that human beings are in a natural "state of perfect Freedom to order their Actions...as they think fit...without asking leave, or depending on the Will of any other Man" (Locke 1960 [1689], p. 287).

3 As opposed to the atomistic definition of "self" by liberalism, "communitarians are more inclined to argue that individuals have a vital interest in leading decent communal lives, with the political implication that there may be a need to sustain and promote the communal attachments crucial to our sense of well-being" (Bell 2001).

Historical evolution of property right traditions and institutions has mostly been of interest to political scientists and economic historians and has only relatively recently caught the attention of planners such as Daniel Bromley, Philip Booth, and Barrie Needham (Sorensen 2010). Sorensen (2010) identifies land institutions to be slow changing and having a long-term impact on private property rights and subsequently on the choice of land procurement strategies. While there is ample work that documents the history of the evolution of private property rights in different jurisdictions, there is limited literature on how land procurement strategies (for public projects) have been evolving over time with changing political and constitutional treatment of private property rights (see, for example, Louw 2008).

Section 1.2 briefly explains the problem of resource (and land) allocation and different approaches suggested under the theories of distributive justice, which became the guide to political and property institutions. The conflict in personal and social welfare functions of property is discussed in Section 1.3. As a background to this discussion, Sections 1.4 and 1.5 explain the growing importance of liberalism and the meaning of private property rights. Sections 1.6, 1.7, and 1.8 explain how the United Kingdom, Germany, and Japan have acknowledged these functions in their constitutions and how their traditional and existing affiliations (with either liberalism or egalitarianism) have influenced the choice of land procurement mechanisms (that can be broadly categorized under coercive or participatory for the original owner). Section 1.9 presents a summary of the above discussions to improve the processes of land procurement through improving acceptability and the participation of the original owners.

1.2 Property Institutions

The assumption that property is a scarce resource (which Marx believed would fail someday) requires determining which, among the many competing claims on the resources available for use in the society, are to be satisfied, when, by whom, and under what conditions (Waldron 1990). There are serious disagreements over ways of allocation of scarce resources (such as property) that have resulted in different systems of rules, or institutions, to solve the problem (Waldron 1990). These are core problems for theories of distributive justice which are often affiliated with liberalism, egalitarianism, and utilitarianism. It is beyond the scope of this chapter to describe these theories as there exists an ample body of specialist literature on this topic, such as by Kolm (1996). In simple terms, liberalism and utilitarianism endorse private ownership of property, while egalitarianism is often associated

with communitarianism and non-private (or public) holding of property (Ellickson 1993).

Objectives set by these theories are achieved through the establishment of (social, political, and economic) institutions which, as per North (1990), are the formal and informal rules and norms that organize social, political, and economic relations so as to solve the above-mentioned problem of just "allocation" of scarce resources. Put another way, institutions are designed to facilitate the objectives of distributive justice to which a society ascribes.

In general, liberals and utilitarians point to private property institutions, while egalitarians endorse common property (Figure 1.1). To explain more, property institutions are often categorized under three types: private, state, and common property. Property institutions have been elaborately discussed under institutional literature on property (such as Waldron 1990, Heller 2000, and Ellickson 1993) and are beyond the scope of this chapter, which focuses on the impact of these institutions on land procurement strategies adopted by a country for public projects. These categories have shrunk over time due to the elimination of state property institutions consequential to the fall of socialist states and a rising global trend toward privatization (Heller 2000). Further to that, Oestereich (2000) writes that in contemporary society, private property has become universal by replacing the regime of common property.

Given the predominant acknowledgment of private (as opposed to public) property rights in modern democratic societies, this chapter discusses the difference in the approach to land procurement arising due to differential traditional affiliations of countries with either communitarian (e.g., Germany and Japan) or liberal philosophy (e.g., the United Kingdom and the United States). The underlying assumption is that the attitude of the judiciary, polity, and society toward private property rights is strongly guided by these longstanding traditional ideologies, and so is the approach adopted for land assembly for public projects. A detailed history of the institutional evolution of property rights is presented by North and Weingast (1989) and Bogart and Richardson (2011) for the United Kingdom (UK); Sorensen (2010) for Japan; Alexander (2003) for Germany; and Alexander (1997) for the United States (US). Given that change in property right institutions is a long-term process (Pierson 2011), the degree of protection to property rights and the overall treatment these rights receive from the contemporary judiciary and polity are impacted by their past attitudes. Thus, even though property rights are often established in written constitutions, countries exhibit a considerable difference in interpretation of and constraints to these rights depending on the momentum of past practices (Sorensen 2010). Thus, for a fuller understanding of causes of success

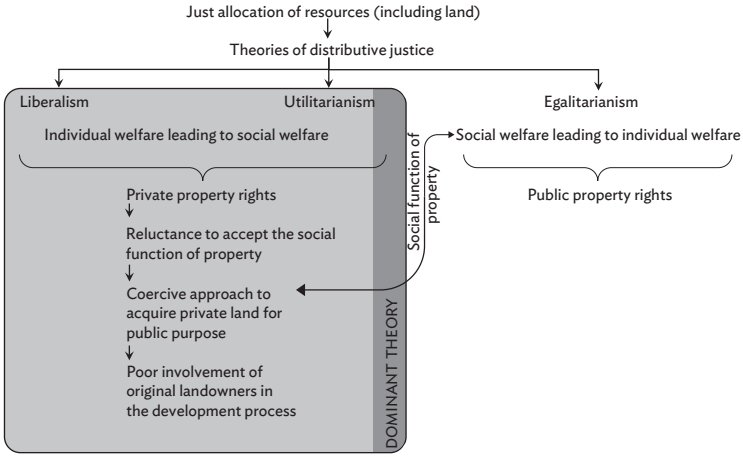
and failure of land management strategies adopted across countries, it is important to understand the historical treatment of private property rights and their present status in the jurisdiction.

1.3 Balancing Individual and Social Claims on Private Property

Property theorists like Heller (2000) have found this strict categorization of property (under private and public realms) to be insufficient in explaining the real-world plural roles of property that stretch across individuals, commune, and the state. On similar lines, Alexander (1997) has argued against the categorical separation of realms of property into private versus public ownership, individual versus social interests, and market versus state-led realms. While the former (i.e., private, individual, market realm of property) prioritizes individualistic preferences and demands freedom from government interventions, the latter is at the other extreme of social welfare and collective ownership of property. An avid reader may refer to Kivell and McKay (1988), who summarize arguments for and against public land ownership. These theorists argue that any actual regime of property is not confined to either of the three dominant types of institutions of property and would contain elements from all three (Ellickson 1993, Heller 2000).

This theoretical insufficiency of not having a paradigm of property that can sufficiently explain the plural roles of property has led to practical challenges. For example, in the context of liberal societies, the requirement of private land for public purposes challenges the landowners' individualistic attitude of safeguarding personal rights and liberties. The idea of giving away private property rights, partially or fully, for a public purpose, has received greater cooperation from landowners in societies having had a history of egalitarianism/communitarianism or a longstanding priority for social welfare over the individual. Figure 1.1 represents how the social function of property has been the priority of egalitarians, as opposed to the individual function that has been the central argument of libertarians. This explains the higher acceptance of land pooling and other methods of land procurement that rely on the collective action of original landowners in societies that have been guided by the egalitarian theory, such as Germany and Japan. On the other end, a strong emphasis on personal rights by traditional libertarian societies, such as the UK and the US, makes it difficult for the original landowners to come to terms with the idea of giving away private property rights, which then requires strong measures of compulsory acquisition of land.

Figure 1.1: Paradigm Categorization and Intersection of Personal and Social Functions of Property



Source: Author.

Figure 1.1 explains how over-emphasis on private property rights makes it difficult to integrate the social function of property endorsed by public projects, thus warranting a coercive approach to land assembling or compulsory acquisition of land. A stronger emphasis on private property rights has reflected deeper philosophical endorsement of individualism and self-interest.

The dual purpose of property, that is, personal and social welfare, warrants a balance between the constitutional rights of the individual and society (Lichfield 1980). Alexander (1997) proposed a "proprietarian" theory as the middle ground in which property is "the private basis for public good." The proprietarian concept favors an individual's right to property while also acknowledging the interdependencies of human beings and justifies the state's intervention (and legitimate coercion) when individuals fail to meet their social obligations. An integration of extremist arguments on liberalism and communitarianism create the theoretical justification for social functions of property alongside strong individual claims, as observed in the case of German constitutional rights to property (Brugger 2004). Alexander (2003) compares the definition and meaning of a "person" and "human dignity" in the German and US constitutional context and explains that the US constitutional rights

(including private property rights) take roots in Lockean liberalism, while the German rights are guided by a fusion of Kantian liberalism and civic republicanism, as propagated by the proprietarian theory.

1.4 Definition of Human Self and its Impact on Private Property Rights

From ancient to modern political philosophers, there has been longstanding support of private property rights as fundamental rights. Fundamental rights, as theoretically[4] defined by Ferrajoli (2001), are those "subjective rights[5] to which 'all' human beings are universally entitled by virtue of having the status of persons, or of citizens, or of persons capable of acting" (p. 1). The concept of fundamental rights is founded in "higher" laws such as the natural law[6] and divine law[7] that are endowed by Nature and the Creator as opposed to positive laws that are created by human institutions and may differ widely from one society to another (Thomas 2008, Malcolmson 2020). Although a legal sanction of fundamental rights is expected in contemporary societies, the importance of these rights is unaffected by their provision in the positive law in a given jurisdiction (Ferrajoli 2001). As per Ferrajoli (2001), their inclusion in the text of a constitution or statute is merely a guarantee that these rights will be respected by the ordinary legislator and does not affect the importance of these rights (Thomas 2008).

Motivated by the economic advantages of the free market, of which the property market is an integral part, governments in most parts of the world have acknowledged the importance of private property rights and granted them legal protection over time. In his paper on the history of ethics and economics, Karayiannis (1988) recognizes the

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4 "This definition is theoretical because, although it is stipulated in reference to the fundamental rights positively sanctioned by statutes and constitutions in contemporary democracies, it does not require that these rights be actually formulated in constitutions or in fundamental laws and even the fact that they be actually contained in norms of positive law" (Ferrajoli 2001, p. 2).

5 "'Subjective right' is any positive expectation (of services) or negative expectation (of non-infringement) ascribed to an actor by a legal norm" (Ferrajoli 2001, p. 1).

6 According to philosophers, natural law "is knowable through the use of reason alone, via the human ability to reflect on the nature of the world and on other people. Because nature is universal, natural law is universal. It therefore stands as a body of 'higher law' in relation to the laws made by human beings" (Malcolmson 2020).

7 "Divine law is that set down in religious teachings; it often strongly influences the laws made by human beings and is said to be knowable only through revelation" (Malcolmson 2020).

contribution of pre-Socratic Greek philosopher Democritus (born in about 460 BCE) as the real predecessor of many ideas of economics that were later developed by Socratic philosophers Xenophon, Plato, and Aristotle, including the social principle of private property (as opposed to common property) and associated economic efficiency. According to Democritus, as Gordon (1975, p. 14) mentions, "a society, organized in terms of private ownership of resources, will enjoy economic superiority (or efficiency) over one where communal ownership prevails. The possibility of private ownership lends a stronger incentive for productive activity." Following Democritus, Aristotle became a defender of private ownership (Karayiannis 1988). Even though Plato expressed opposite views in his early work *Republic,* in his later work *Laws*, he endorses the idea of private ownership to the extent it is necessary for producing necessities for life (Karayiannis 1988). Karayiannis (1988) also attributes to Democritus the origin of the subjective theory of value, which achieved scientific development in the hands of Aristotle.

1.5 Private Property

Blackstone (1799) implicitly defines ownership in his writing: "there is nothing which so generally strikes the imagination, and engages the attentions of mankind, as the right of property, or the sole and despotic dominion which one man claims and exercises over the external thing of the world, in total exclusion of the right of any other individual in the universe" (p. 2). The concept of ownership and private property is a highly debated topic in jurisprudence and political philosophy, and there is lack of a generally accepted account of what private property is and how is it different from alternative systems of property rules (Waldron 1990, Heller 2000). In legal terms, Honoré (1961) defines ownership as "the greatest possible interest in a thing which a mature system of law recognises." Honoré (1961) identifies standard incidents of absolute ownership or greatest possible interest in a thing that should be admitted by a mature legal system in a "liberal" society. These are a combination of 11 legal rights, duties, and other incidents as per Honoré (1961):

(i) The right to possess (to have exclusive physical control of a thing)
(ii) The right to use (personal use and enjoyment of the thing)
(iii) The right to manage (the right to decide how and by whom the thing can be used)
(iv) The right to the income of the thing (to derive an income from using a thing)

(v) The right to the capital (the right to alienate, dispose and transfer the thing)
(vi) The right to security (against expropriation and the right to hold ownership indefinitely)
(vii) The rights or incidents of indefinite transmissibility (to holder's successors)
(viii) Absence of term (of ownership)
(ix) The prohibition of harmful use (or the condition that uses harmful to other members of the society are forbidden)
(x) Liability to execution (that is the liability of owner's interest to be taken away for debt, insolvency and similar)
(xi) Incident of residuarity (owner as ultimate holder of residuary rights such as easement rights, tenancy leases, and other limited interests in the thing)

The above incidents include liabilities and obligations, thus forming a comprehensive definition of "ownership" beyond the "bundle of rights"[8] to include liabilities that implicitly endorse a few social functions of private property. However, the extent and nature of the above incidents would vary across jurisdictions. Thus, Waldron (1990) describes private property as an abstract concept "of which many different conceptions are possible, and that in each society the detailed incidents of ownership amount to a particular concrete conception of this abstract concept" (p. 5). Private property systems describe the relationships between various types of property or the object of ownership (i.e., corporeal or incorporeal) and owners (i.e., a person, corporation, commune, the state). In terms of material property, it is a system of rules that govern access to and control over resources around the idea that each object is assigned to a specific owner (Waldron 1990). On this line of argument, the term "ownership" is explained as a substratum on which we can hang various combinations of legal relations between the property and its owner.

Private ownership of land has been strongly defended by liberalists on the grounds that it promotes individual liberty, political stability, and economic prosperity (Ellickson 1993). Liberal political theory intimately intertwines property and liberty to say that "liberty and property … have usually been understood as complementary values: deprive or deny one, and the other is instantly in jeopardy" (Kammen 1986, p. 5). "By contrast, communists like Marx and Engels argued that the creation

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8 The earliest use of the term bundle of rights is associated with John Lewis (1909) in his work, *A Treatise on the Law of Eminent Domain in the United States*.

of private property in land is a fount of evils, particularly inequality in wealth and the splintering of more organic communities into atomized, untrusting social environments of individual competition" (Ellickson 1993, pp. 1317–8).

Given the popular acceptance of the private property rights regime in contemporary democracies, Alexander (1997) revitalizes the debate on the personal and social purposes of private property and explains how it is often mistaken to serve a single purpose of satisfying an individual's preferences, free from government or external interferences. This preference-satisfying concept of property, or what Alexander (1997) calls the commodity theory, serves as the foundation for the categorical separation of the realms of private and public, individual and collective, the market and the polity (Alexander 1997). In addition to the commodity concept, property as propriety serves as "the material foundation for creating and maintaining the proper social order, the private basis for the public good" (Alexander 1997, p. 1). Alexander (1997) links the proprietarian concept of property with the Aristotelian concept of human beings as socially dependent creatures who own obligations. Other property theorists like Heller (2000) also criticize the over-simplistic image of private property that acknowledges only one of the many faces (i.e., rights) of private property. This has given rise to stronger reluctance among landowners to acknowledging the social function of property in traditionally liberal societies.

These definitions of property and ownership have created different levels of expectations from landowners' rights on private property across different jurisdictions. These expectations influence the level of acceptance of social functions of property and landowners' levels of cooperation in public projects requiring private land. This chapter hypothesizes that countries with a history of liberal ideology that emphasizes personal preferences have mostly been relying on the power of compulsory acquisition for land procurement, while those with a background of communitarianism benefit from landowners' cooperative attitudes and opt for participatory processes such as land pooling.

1.6 Institutional History and Compulsory Acquisition of Land in the United Kingdom

Benson (2008) provides details on the origin of compulsory acquisition law in the United Kingdom's property law and its feudal underpinnings. While giving a detailed account of the evolution of property rights in England, Benson (2008) goes back to the 11th century when William the

Conqueror[9] seized all land in England and exercised absolute authority over the use and disposition of land. The king was recognized as the ultimate landowner who would grant rights to other landholders, who merely served as stewards and provided services to the king in exchange for land rights. However, the king maintained absolute ownership and the power to retrieve property anytime, without any compensation. The subsequent misuse of such power led to a series of baronial revolts that were often suppressed by the king with support from opposing groups of powerful landholders (barons). Such an environment strengthened the feudal property rights arrangements where the king granted fiefs of land in return for favors, mostly security services and tax. Nevertheless, the king had institutional constraints such as those implied by the Curia Regis, which was a powerful group of royal households, bishops, archbishops, and barons (Benson 2008). As an outcome of continuing strong revolt by barons, who demanded protection of their property against unjust confiscation, King John formally documented the laws governing barons. The resulting document, known as the Magna Carta, was released on 19 June 1215 and has special relevance for the evolution of laws of compulsory acquisition of land. Two important proclamations of the Magna Carta guaranteed security against the unlawful acquisition of privately owned land and compensation for any lawful acquisitions, thus creating precedence for modern laws of compulsory acquisition.

On the theoretical front, the position of philosophers who supported absolute monarchy has been represented in Robert Filmer's *Patriarcha*, published in 1680, which described the relationship between the monarch and subjects as being like that between a father and children. Such a relationship logically implies that all property belonged to the monarch, who could then grant or withdraw individual ownership, as was the case in the contemporary English society of that time. The property was believed to be exclusively created by the monarch until 1690 when English philosopher John Locke's *Two Treatises of the Government* first appeared and argued for the "natural right" of the common man to property. Locke's argument of natural right logically concluded that the position of the ruling class was that of a preserver or protector of individuals' rights, rather than as an absolute owner. As per Locke, the government was a trustee for its citizens, bounded by the Law of Nature, that should be overthrown for deviating from such laws. Through the Glorious Revolution of 1688, the designers of new institutions in the United Kingdom sought to control the arbitrary and confiscatory power of the Crown, thus

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9 William I was the first Norman King of England, reigning from 1066 until his death in 1087.

increasing the security for private rights (North and Weingast 1989). These institutional improvements confirmed the government's commitments to rules established in the Manga Carta through strong checks imposed by the Parliament.

North and Weingast (1989) and Bogart and Richardson (2011) discuss England's institutional evolution in detail and write that it was able to emerge as the greatest economic power in Europe because of institutional improvements that resulted in responsible governance and provided security to private property rights. Bogart and Richardson (2011) explain how private property rights in the preindustrial UK (until the early 1700s) were highly restrictive and granted very limited control to the owner. Landowners could not reallocate land for more productive uses and holders of equitable estates could not mortgage, lease, or sell much of the land under their control (Bogart and Richardson 2011). Bogart and Richardson (2011) find that the Parliament had been reorganizing property rights in response to people's demands for expansion of their control on the property. The reorganization involved the introduction of new acts between the early 1700s and the late 19th century that relaxed constraints on the use of land such as the estate, statutory authority, and enclosure acts; created new organizations such as the turnpike trust, and disbanded old entities like village councils and manorial courts (Bogart and Richardson 2011).

North and Weingast (1989) analyze political factors underpinning economic growth and find that a crucial factor is the degree to which the regime or sovereign is committed to the rules governing the private property market. The same set of rules has different, and rather opposite, implications on economic growth if subject to easy revision by the government. "The more likely it is that the sovereign will alter property rights for his or her own benefit, the lower the expected returns from investment and the lower, in turn, the incentive to invest" (North and Weingast 1989, p. 803). North and Weingast (1989) emphasize that for economic growth and development, the government must not merely establish a relevant set of private property rights, but must make a credible commitment to them. They further explain that there are two ways in which governments establish such commitment and credibility: first, by setting a precedent through continuous demonstration of commitment to a set of rules; and second, by establishing institutions, rules, and a statute that can curtail violations (by the government) (North and Weingast 1989). However, as per North and Weingast (1989), we seldom observe the first approach because governments tend to change rules to suit popular perceptions of the time, especially concerning economic advantages, as has been the case in the UK's history.

As mentioned earlier, the primary representative institution of the Curia Regis evolved to become a strong parliament in which these new sources of economic and political power could negotiate for land rights and privileges. The economic wealth was shifting from the Crown to the commercial sector and owners of personal property, and so was political power (North and Weingast 1989, Benson 2008). However, even though kings eventually lost power to the parliamentary forces, the power of seizing private property did not disappear, and rather it changed hands from the kings to the Parliament. Based on this deep-rooted history of acquisition practices in UK society, Benson (2008) argues that "public interest" justifications of compulsory acquisition under contemporary democratic arrangements (as in most parts of the world) must be viewed as "ex-post realizations rather than ex-ante explanations" (Benson 2008, p. 427).

The longstanding use of compulsory acquisition of private land as a mechanism for land assembly for public projects, as opposed to alternative approaches that rely on voluntary cooperation between landowners such as land pooling, has been an outcome of multiple institutional factors, including the historical attitude of the polity toward private property rights as explained throughout this section. Home (2007) writes that at the time when the UK's planning legislation was taking shape (1905–1920), there was interest in the German approach of land pooling that the UK had used successfully in Bombay, India (now Mumbai). However, the interest diminished with the growing hostility between Germany and the UK that led to war between 1914 and 1918. Home (2007) finds that "The post-Bismarck German governmental model, a strong state with social welfare powers, and strong municipal powers over land, might be suited to the colonial situation of British India, but was associated in Britain with autocracy and 'bureaucratic Germanism'" (p. 476). And it is probably due to the legal and institutional transfers of British systems across its colonies (such as through the establishment of the Privy Council) (Allen 2000) that land pooling is almost absent from English speaking countries of the United Kingdom, the United States, and elsewhere (Home 2007).

1.7 Institutional History and Land Pooling in Germany

Alexander (2003) cites the German constitutional court (Investment Aid Case of 1954) to explain that "the image of man in the Basic Law is not that of an isolated, sovereign individual; rather the Basic Law has decided in favor of a relationship between individual and community in the

sense of a person's dependence on and commitment to the community, without infringing upon a person's individual value" (p. 744). Thus, in the German context, individual human dignity exists in a social and economic context that is contrary to the classical individualism of the US. The US's individualistic outlook of a person resonates with classical liberalism, as per which social obligations might appear to intervene with an individual's rights and thus contradictory to "human dignity" (Alexander 2003). Alexander (1997) tries to correct the misconception about the meaning of property in the US law and writes that "Property, according to this mistaken view, has served one core purpose and has had a single constant meaning throughout the American history: to define in material terms the legal and political sphere within which individuals are free to pursue their own private agenda and satisfy their own preferences, free from governmental coercion or other forms of external interference. The property, according to this understanding, is the foundation for the categorical separation of the realms of the private and public, individual and collectivity, the market and the polity" (p. 1). The difference in individualist and socialistic definitions of human self has had an influence on the attitude toward their constitutional rights to be either negative or positive (Alexander 2003). To explain more, an individualistic outlook on constitutional protection for private property rights gives them a negative character such that allowance for the social function of property and state intervention appears to contradict the individual's rights (Alexander 2003).

From the German perspective, this is a false trade-off between individual and social welfare. The communitarian roots of German society allowed for a comfortable acknowledgment of societal rights alongside individual rights to property, thus granting the same rank and status to private property rights as to other fundamental rights. This is achieved through mention of social obligations alongside the personal right to property, under Article 14 of the German Constitution (or the Basic Law for the Federal Republic of Germany):

> Property and the right of inheritance shall be guaranteed. Their content and limits shall be defined by the laws.
>
> Property entails obligations. Its use shall also serve the public good.
>
> Expropriation shall only be permissible for the public good. It may only be ordered by or pursuant to a law that determines the nature and extent of compensation. Such compensation shall be determined by establishing an equitable balance

> between the public interest and the interests of those affected. In case of dispute concerning the amount of compensation, recourse may be had to the ordinary courts (Deutscher Bundestag 2019, p. 22).

Being concerned about the interference of the polity, executive, legislature, and even the judiciary with private property rights, and the degree of change permitted in the private property rights regime, Thomas (2008) asks, "what difference does it make whether property rights are fundamental rights or economic rights?" The answer to this question is founded in the earlier discussion by North and Weingast (1989) on a higher degree of commitment by the sovereign leading to efficient market operations and greater economic returns. Property rights, if equated to economic rights, may be readily altered, expanded, or contracted by the legislative and judicial processes (Thomas 2008). As fundamental rights, property rights are more immune to such institutional attacks and are altered only through constitutional amendments, or due to change in societal norms[10] over time (Thomas 2008). By mentioning property rights and obligations alongside each other, the German constitution explicitly guarantees private property rights and grants them the status of fundamental personal rights equal to those of liberty of speech and religion (Alexander 2003). Put another way, by acknowledging the social function of property as a constitutional obligation, the German constitution could guarantee the right to private property without government interference (Alexander 2003). Such a response has been an outcome of a mixed recovery approach (of socialistic and liberal ideologies) adopted in postwar Germany, as discussed next.

Shortly after Germany's surrender at the end of World War II, the region was split into East and West Germany (Doyle 1992). In East Germany or the Soviet Occupied Zone, which later became the German Democratic Republic, the Soviet military administration confiscated property belonging to the German government, the German military command, the Nazi party or its members, and all citizens of countries that allied with Germany in the war, or any other person identified by the Soviet Command (Doyle 1992). These assets were later nationalized by specific legislation or administrative decree by the governments of the individual East German federal states (or *Länder*), although

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10 For example, fundamental property rights of the Middle Ages in the United Kingdom included feudal dues and multiple prerogatives of manorial lords. These rights eventually became obsolete and were later officially removed by the legislature (Thomas 2008).

without any compensation to the original owners (Doyle 1992). Further, under the "land reform" of 1945, the Soviet military administration directed the *Länder* to carry out a targeted expropriation program of all agricultural holdings exceeding 100 hectares (approximately 250 acres). Consequently, the excess land holdings of thousands of property owners were acquired without compensation and the ownership was transferred to manual laborers, displaced persons, craftsmen, and similar other landless parties who barely had the expertise or knowledge to farm these estates at a profit (Doyle 1992). Poor financial performance of these new, amateur owners was used as a justification to collectivize agricultural estates and form agricultural production communes (Doyle 1992). Even after the 1949 establishment of the German Democratic Republic's constitution, which clearly required payment of a fair compensation against any government expropriation (Article 23), the practice of outright confiscations without compensation continued until at least 1952 (Doyle 1992). Over the years, these confiscations translated into voluntary sales by citizens to the state. The state-controlled economy of East Germany hastened to decline in the early 1990s, and it became inevitable for East Germany to transition to a market economy to which private property rights were a fundamental prerequisite (Doyle 1992).

On the other hand, the Federal Republic of Germany, or West Germany, adopted a social market economy that included the right to own private property in an approach to postwar recovery under the leadership of Ludwig Erhard (Nicholls 1994). Contrary to the centrally-planned socialist economic approach of the East that strictly prohibited the private ownership of property, the theory of the social market economy in the West included the right to own private property, and this right was given legal protection under the Basic Law[11] (*Grundgesetz*) (Thomerson 1991). As a midway between collectivism and liberalism, the "social market" model rejected strict controls of the state and also contradicted the traditional "laissez-faire" liberalism model (Nicholls 1994). A detailed discussion of the meaning and origin of the theory of the social market economy and its influence on German politics is presented by Nicholls (1994).

The miraculous economic recovery of West Germany, which is popularly attributed to Erhard's social market economic policy, together with the steep decline of the East German economy led to the natural absorption of the East into the West (Nicholls 1994). This led to a gradual transformation of socialist governmental ownership of property of the East to a social market system with private ownership (Thomerson

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[11] Klein (1983) discusses the Basic Law in detail.

1991). A first legal step toward this transformation was a constitutional amendment in 1990 that repealed restrictions on private ownership of property (Thomerson 1991).

Having said that, the German government has always been intricately involved in land market operations to bring forward private land into the market and incentivize development activities. Like in many other countries, government interventions in Germany are often a combination of compulsory acquisition and voluntary undertakings by original owners through land readjustment, with a more popular adaptation of the latter (Falk 2018). For example, land readjustment in Germany (or *Umlegung*) is achieved either through voluntary participation of the original landowners or by compulsory acquisition if a voluntary agreement cannot be reached (Falk 2018). For example, the municipality uses urban development measures (*Städtebauliche Entwicklungsmaßnahme*) to compulsorily assemble land for development (on payment of compensation) and sell at a higher value after preparing it for improved uses (Falk 2018). However, the original owner has the opportunity to prevent compulsory acquisition on demonstration of the ability to undertake the proposed development themselves (Falk 2018). Falk (2018) calls this the "use it or lose it" model, where the government's power of compulsory acquisition is a driver for landowners to avoid underutilization of land. In summary, the legal processes of land assembly in Germany give due acknowledgment to private property rights by offering the "first call" to the original landowners to improve the use of land.

As discussed earlier, land institutions from the past influence the future for a long time (Sorensen 2010). Accordingly, the German constitution continues to put equal emphasis on personal and social functions of land, much in line with the traditional midway approach between communitarianism and liberalism. These institutions together have given way to land assembly processes involving willful participation of the original landowners over forceful acquisitions, which are observably more popular in liberal societies discussed earlier.

1.8 Institutional History and Land Readjustment in Japan

Taking inspiration from the German model of participatory land assembly, Japanese planning relies on persuasion and consent by landowners as opposed to forceful regulations, and this perhaps explains the government's preference for "land readjustment" over the "compulsory acquisition" model of land assembly for public projects (Sorensen 2007). Sorensen (2010) identifies land and property rights

institutions to be slow changing processes due to the long-lasting influence of previous institutions. Therefore, the allegiance of Japanese landowners has had a parallel existence to private property rights in contemporary democratic society. To explain more, Japan has had a long history of imperialism that was characterized by feudalism until the Edo era (1603–1868). While the political structure remained unchanged in the following Meiji era (1868–1912), this era marked the beginning of private property rights institutions in Japan that continued to have a strong influence on modern institutions of property rights. For example, Article 27 of the pre-war Meiji constitution granted inviolable private property rights without government infringement. Strategic efforts were taken by the Japanese government to maintain this inviolable feature in the post-occupation era of legal and institutional reforms. For example, even though the English version of the post-occupation constitution of 1946 by General MacArthur endorses the US idea of "eminent domain" and states that "private property may be taken for public use upon just compensation," the Japanese version continues to safeguard individuals' rights (as in the Meiji era) by a subtle shift in choice of words to mean that landowners can use their private property for public use upon just compensation (Inoue 1991). However, this emphasis on private property rights did not come in the way of community participation expected when pooling land for public projects. Land readjustment continues to be the most popular method of land assembly in Japan and reliance on the compulsory acquisition power has been limited. Innovative methods like land trusts have furthered the importance of property rights of the original owners (readers may refer to Yoshino et al. 2018 for more details on the land trust model).

1.9 Conclusion

This chapter explains how the choice of mechanism for land assemblies, such as compulsory acquisition and land pooling, is guided by the institutional history of the country. In other words, depending on the level of protection to the individualistic right to property that in turn depends on the historical treatment of property, countries have adopted different approaches to land procurement for public projects. While there are multiple mechanisms for land assembling, these can be broadly categorized under compulsory acquisition and voluntary cooperation between landowners (such as land pooling and land trust). Irrespective of these choices, the method of compulsory acquisition is most popular, probably because it gives strong power to the public agency with less scope of interference by the original owners, who can at best argue for fair compensation.

This chapter hypothesizes that a stronger affiliation with liberalism and private property rights has resulted in wider disapproval of social functions by landowners, thus demanding the need for a coercive measure of land procurement for public purposes. This could explain the popularity of compulsory acquisition of land over other alternative methods of land assembly in the United States, the United Kingdom, and other countries which affiliate with liberalistic ideology. On the contrary, communitarian and/or socialistic roots of Germany, Japan, and other countries have paved the way for simultaneous acknowledgment of private and social functions of property. Thus, there is an expectation of landowners' cooperation in the land procurement process that has probably encouraged the use of land pooling and similar other participatory mechanisms for land assembly.

Given that property can serve conflicting functions of social and personal welfare, knowing ideological differences across countries is particularly useful in understanding the constitutional status of private property in democratic countries with liberal and communitarian history. The attitude of individual members of society toward the social welfare function of private property is strongly influenced by the individualistic or socialistic definition of a person and their obligations toward the society (Alexander 2003). This discussion warrants further inquiry to the role of traditional and existing property institutions on land procurement strategies adopted for public projects. This knowledge would be useful in identifying areas for improvement in the existing mechanisms and in designing new methods that gain greater acceptability and/or cooperation of the original owners of land.

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2

Achieving Balance for the Land Rights of Indigenous Peoples

Jayantha Perera

2.1 Introduction

This chapter examines collective land rights of indigenous peoples[1] in the context of their attachment to and dependence on their ancestral lands[2] and how such attachment and dependence define and distinguish them from others such as titleholders and informal settlers. The chapter also discusses how international law and social and environmental safeguards policies of international financial institutions (IFIs) have attempted to strengthen and protect their collective land claims vis-à-vis other groups. Finally, the chapter briefly examines the adequacy of such legal and policy safeguards to lessen the harm of development projects and maximize benefits accruing to indigenous peoples in a case study in rural Assam in India. The case study focuses on the relationship between the state and tribal peoples, and how this relationship defines their identity, their relationship with ancestral domains, and their right to food security.

Indigenous peoples are culturally distinct groups living within the borders of independent states who claim that they inhabited the region before colonization and subsequent establishment of postcolonial

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1 Indigenous peoples and tribal peoples are used interchangeably as some countries use the first, while others, the second.

2 Chief Seattle's speech in 1854 in the United States highlights indigenous peoples' deep-rooted belief that "the earth does not belong to us. We belong to the earth." Rights and interests over ancestral domain arise from the belief that as much as indigenous peoples own the ancestral domain, the domain owns them giving them an identity, continuity, and sustenance. This is one reason why such land cannot be handed over to others.

states (Rodriguez-Pinero 2005). Most indigenous populations live in independent new states. The constitutions of new states recognize their distinctiveness as territorial and cultural groups and ascribe them exclusive rights. An example is Schedules V and VI of the Indian Constitution. The two schedules exclusively deal with interests and rights of tribal groups based on their geographical location, the length of time that they have possessed the land, and the strength of their claim over it as their ancestral domains. Their attachment to and dependence on collective land in a particular geographical area determine their status as tribes.

2.2 Indigenous Communities and their Rights

Until the mid-20th century, colonial administrators used a classificatory system to ascribe collective identities to groups of people, collate group cultural traits, and judge their capabilities to manage land and natural resources. The first category of the classificatory system is primitive, and the final category is civilized. International organizations such as the International Labour Organization relabeled the primitive as indigenous peoples or tribal peoples. International law and laws of post-colonial states defined specific characteristics, interests, and rights of such groups through conventions and declarations. In international law, a critical question is, who are indigenous peoples? UNECOSOC (1983, Chapter 5) provides a useful description of indigenous peoples:

> Indigenous communities, peoples, and nations are those who, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and they are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions, and legal systems.

The above identifies three temporal spaces for ancestral lands of indigenous peoples. The first is the active link with their past ancestral domain, which sometimes goes back to the pre-colonial time. The second is the current ancestral domain that overlaps with their past ancestral land or at least, with a part of it. The third is the ancestral domain or

territory that they aspire to transmit to their future generations. Hence, indigenous peoples are those who lived, continue to live, and wish to live in the future in a defined territory maintaining a secure attachment to it (Gilbert 2006). The economic, social, and cultural attachments of an indigenous group to a particular territory are the crucial elements of its indigeneity. International law and international human rights law focus on protecting such critical attachments to ancestral land as a fundamental right of indigenous people (UN 2000). By "legal system", UNECOSOC (1983) refers to customary, traditional, and informal legal systems. They are not precise systems. "There are exceptions to the general synonymy of indigenous with customary, which in part reflect the fluidity of and problems associated with defining indigenous" (Perry 2011, p. 77).

International law has, over the years, protected indigenous peoples by minimizing historical forms of discrimination, nullifying the doctrine of terra nullius[3] that excluded them from owning their ancestral domain and by extending to them legal frameworks such as the right to self-determination that recognize and help protect their interests and rights (Gilbert 2006, Xanthaki 2007, Perera 2015). The legal frameworks mostly focus on their territorial and cultural rights, which give rise to their right over natural resources in ancestral domains. Land rights combine territorial, cultural, and natural resources rights. Land rights have become their principal right framework for interpreting their indigeneity, control over ancestral land, and cultural uniqueness. Land rights are "the socially sanctioned actions that individuals and social groups are permitted to undertake in a given space and associated resources. They are not reducible to ownership, tenure, or usufruct. Land rights are defined by the norms set by a given political community and enforced by its authorities. They carry social obligations. Access to land and natural resources is regulated by various authorities, but also by various forms of institutional and personalized power, any of which might also entail violence" (Delville 2018, p. 1). In the case of indigenous peoples, their culture and traditions regulate collective or communal lands that constitute their ancestral domains. An individual can claim access to such land only as a member of the collective group.

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[3] In 1975, the International Court of Justice ruled in the Western Sahara case that the doctrine of terra nullius had been erroneously and invalidly applied because indigenous tribes inhabited the territory at the time of arrival of new settlers. The High Court of Australia arrived at a similar decision in 1992 in Mabo v Queensland.

2.3 International Law and Indigenous Land Rights

The United Nations (UN) brought in a new era in international law soon after the Second World War. The main currents in the postwar era are decolonization in Asia and Africa; the spread of universal concepts such as equality, justice, and equity; and anti-racist consciousness. They created an environment to widen the scope of international law to facilitate indigenous or tribal groups in claiming ancestral land and protecting their cultural systems. It has been a long process and the UN spearheaded the process by introducing several conventions, declarations, and covenants.[4] The key principle of such international legal instruments is the principle of self-determination. The legal framework for self-determination has taken different forms and over time it has dropped secession (Perera 2015). However, international law during the past half century has improved legal validity of customary land claims of indigenous peoples that includes control over natural resources. It has also led IFIs in developing indigenous peoples' safeguard policies as internal laws to apply to projects that they support and to get mandatory compliance.

The recognition of indigenous rights in international law has evolved from human rights and minority rights instruments of the UN. Human rights have had an equalizing character that bypasses narrow frontiers between differently labeled groups of people such as indigenous peoples and minorities. The growth of international human rights and minority rights legal instruments from the 1945 Universal Declaration on Human Rights is impressive (Gilbert 2006). UN conventions, declarations, and covenants pertaining to indigenous peoples in fact catalog their rights and interests. Thus, they show the standards in current international law in relation to indigenous peoples (Xanthaki 2007).

Nation states have not shown much interest in the growth of human rights-focused international legal instruments. The reluctance among IFIs to pay attention to human rights of project-affected persons contributes to this poor interest in human rights. Indigenous peoples

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4 A convention is a binding agreement between states; it is used synonymously with treaty and covenant. Conventions are stronger than declarations because they are legally binding for governments that have ratified them. When the UN General Assembly adopts a convention, it also generates a set of international norms and standards. The UN can censure the governments that violate the norms and standards set forth in a convention. Conventions, declarations, and covenants are components of international law.

and their representatives know that nation states are not willing to give up their claim to territories and their resources. As a result, indigenous groups from the beginning of the UN, and especially from the mid-1970s, supported the UN to bring out declarations, conventions, and covenants because they believed such legal instruments would be an "important political weapon when faced with the inactivity of the state towards the protection of their rights" (Xanthaki 2007, p. 7).

Indigenous and Tribal Populations Convention, 1957

The Indigenous and Tribal Populations Convention (ILO 1957) aimed to integrate indigenous or tribal peoples into modern states as citizens who are equal before the law. It provides a framework for the process of acculturation of indigenous groups into mainstream society. The rationale was that given their political vulnerability and economic and social marginality, indigenous peoples would fail to enjoy their citizenry and equality with others without the state's protection and support. Article 2 states that "governments shall have the primary responsibility for developing co-ordinated and systematic action for the protection of the populations concerned...."

The convention attempted to strike a balance between the protection of indigenous rights and the integration of indigenous peoples into the national society. Protection of indigenous rights focused on their collective land ownership right. In fact, the convention recognized the importance of collective land ownership in ancestral domains. The process of integration took the form of inclusion of indigenous peoples to enjoy the principle of nondiscrimination in employment and education. But the convention placed too much emphasis on cultural survival of indigenous peoples, thereby giving room for different interpretation of integration, which is a vague concept. The paternalistic approach of the convention fails to include indigenous peoples in decision making about their future and matters that affect them (Xanthaki 2007).

After the 1960s, the need to protect indigenous peoples without assimilating them into mainstream society got well entrenched in international law. The UN emphasized equality and self-determination as the basic rights of all peoples in two key covenants of 1966. The common first article of the International Covenant on Economic, Social, and Cultural Rights (ICESCR), and the International Covenant on Civil and Political Rights (ICCPR) states that "All people have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social, and cultural development." This broad, enabling legal framework

discourages the assimilation of indigenous groups into the mainstream society and bestows on them the rights to use land that they occupy, to get recognized as equal with "others," and to preserve their cultural uniqueness. The International Labour Organization's (ILO) Indigenous and Tribal Peoples Convention of 1989 addressed these issues that have been identified in the ICESCR and the ICCPR.

Indigenous and Tribal Peoples Convention, 1989

The Indigenous and Tribal Peoples Convention (ILO 1989) introduced indigenous peoples' rights as human rights, thereby expanding their scope and linking them with international human rights law.[5] The convention recognizes indigenous groups as "peoples" and takes a firm stand on the "collective" nature of indigenous rights. The recognition of these two characteristics opens an arena for identifying and recognizing a variety of rights of indigenous peoples. Such rights are identified through vigorous consultations with and participation of indigenous peoples in national and regional dialogues. Thus, consultation and participation have also become primary mechanisms through which indigenous peoples interact with the state and other groups. Article 6 of the convention says governments shall consult "the peoples concerned, through appropriate procedures and in particular through their representative institutions, whenever consideration is being given to legislative or administrative measures which may affect them directly." Article 15 states that "the rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded." This is to be done, as ILO actions indicate, by developing technical cooperation programs and projects that will directly benefit the peoples concerned, addressing the severe poverty and unemployment affecting them.[6]

As with the fading of the right to self-determination as the key demand of indigenous peoples, limited autonomy of indigenous peoples has taken a firm ground. Limited autonomy comprises land rights, rights over natural resources in their ancestral domains, and ownership of cultural knowledge. Article 14(1) of the convention recognizes ownership rights of indigenous peoples over the land that

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5 In 2019, 30 years after the declaration, only 23 countries have ratified the convention, of which 18 are developing countries mostly in South America.

6 Such programs are to be financed by the regular budget of the ILO and by multi- and bilateral sources that are coordinated by the ILO. This role has now been largely usurped by international financial institutions such as the World Bank, the Asian Development Bank, and the International Finance Corporation.

they traditionally occupied. It also requires states to take steps to identify these lands and to "guarantee effective protection of their rights of ownership and possession" (Article 14(2)). It further elaborates on the state's responsibility by expecting it to prosecute those who make "unauthorized intrusion upon, or use of, the lands of the peoples concerned" (Article 18). Article 15 affirms indigenous peoples' rights over natural resources in their territories and procedural safeguards to "ascertain whether and to what degree their interests would be prejudiced... before undertaking subsurface resource exploitation or exploitation in indigenous territories" (Article 15(1) and (2)).

For this chapter, what is critically important is the bold assumption of the convention that indigenous peoples have a territory—a total environment that they occupy or otherwise use (Article 13(2)). Article 13(1) emphasizes "the special importance for the cultures and spiritual values of [indigenous] people or their relationship with the land." "The notion of 'territory' and the values associated with it ('culture') place the affirmation of indigenous rights over the land and its resources in an entirely new framework, which connects with the state's general obligation to preserve the integrity of indigenous cultures" (Rodriguez-Pinero 2005, p. 325). Thus, the convention provides a comprehensive legal framework to accommodate international customary legal norms that set basic standards for the treatment of indigenous peoples under international law (Anaya 1991). Several states ratified the convention as a "symbolic way of sealing a new relationship with indigenous peoples, in line with the principles of the modern international regime on indigenous rights" (Rodriguez-Pinero 2005, p. 326).

The ILO Convention of 1989 (Convention 169) advances the ILO Convention of 1957 (Convention 107) in many ways. It contributes importantly to both indigenous rights as well as international human rights through its multicultural outlook and in insisting on viewing indigenous peoples as equal partners regarding the development and evolution of a national society. The convention is particularly successful concerning the strengthening of land rights, the introduction of the issue of natural resources, the establishment of the principle of self-determination, and many references to collective rights.

Declaration on the Rights of Indigenous Peoples, 2007

The Declaration on the Rights of Indigenous Peoples (UN 2007) forged a new form of association between indigenous peoples and the state highlighting the complexity of indigenous customary legal systems. Moreover, it is the first human rights instrument negotiated directly between modern states and the rights-holders (indigenous peoples)

(Davis 2008). It thematically arranged different types of rights of indigenous peoples, and among them are collective land rights and the right to access natural resources.

The recognition of indigenous peoples' customary land ownership rights, rights over natural resources, and cultural rights by international law prompts and enables a modern state to provide a consolidated distinct bundle of rights to them as a proxy to the right to self-determination. The redefinition of the concept of self-determination within a narrow scope encourages states to interpret the right to self-determination of indigenous people as a right to a better life with opportunities to improve social and economic conditions of individuals, households, and groups, while maintaining their cultural distinctiveness. Indigenous peoples, at the same time, emphasize "their cultural independence as a separate population which owns ancestral lands, preserves indigenous knowledge, and controls natural resources on such land" (Perera 2015, p. 148). Both approaches to self-determination generate sufficient room for developing a robust legal framework for indigenous land rights based on collective land and local autonomy. The application of such approaches, however, encounters the snag that the declaration is not legally binding, although supportive for the protection of indigenous land rights.

Trade and Investment Agreements

The UN Declaration on the Rights of Indigenous Peoples (2007) supports indigenous peoples' participation in negotiations of international trade and investment agreements and such participation is consistent with international law (Schwartz 2017). Participation in the process of signing such agreements is mainly focused on commercial development of cultural resources and knowledge of indigenous peoples, their physical displacement from customary land, and commercial development of natural resources within customary land. However, investment agreements often fail to address the affected indigenous peoples' human rights. As a result, there is a risk that investor protection could be enforced to overwrite indigenous protection. The rate of indigenous peoples' participation in drafting, negotiating, approving of agreements, and in settling agreement-related disputes has been poor. The tool that could be used to ascertain whether indigenous peoples have given their consent to such agreements is free, prior, informed consent (FPIC) methodology. Its application to projects and agreements has been sporadic, although international law and IFI safeguards recognize its value in finding out whether the proposed development activities have broad community support of the affected communities (Perera 2015).

2.4 Collective Land and Local Autonomy

Collective land rights claimed by an indigenous group over a limited, specified region within a state's territory and the degree of the state's willingness to accept and accommodate such territorial claims define the identity of the indigenous group and the possibility of their survival as a distinct social and cultural group. In recent decades, international law and international human rights law have acknowledged the multifaceted relationship between indigenous peoples and their ancestral land as crucial to their existence and well-being. Article 13 of Convention 169 states that in applying the provisions of "the Convention governments shall respect the special importance for the cultures and spiritual values of the peoples concerned of their relationship with the lands or territories, or both as applicable, which they occupy or otherwise use, and in particular the collective aspects of this relationship."

A modern state may find it difficult to maintain a multilayered land tenure system that would also accommodate indigenous peoples' land claims. Although a state would like to have standardized property relations open for all citizens through land titling and land reform programs, the resistance and opposition of indigenous people to such streamlining of land tenure systems are a stumbling block in such endeavors. Land reforms and land titling programs bring the state and its administrative apparatus to the realm of indigenous ancestral domain. Indigenous groups often suspect the state's motives of land titling and land reforms as such actions can erode their customary land rights that are the hallmark of them from which they gain their status, culture, and subsistence (Lehavi 2010).

In the Solomon Islands, tribes who live in the Tina River basin are concerned about the state's land titling and registration program under the Customary Land Recording Act of 1996.[7] They consider the act and the land titling work as the precursor to acquisition of land by the state to distribute among private companies. However, according to the act, any customary land holding group[8] can request the Land Record Office to record such primary rights and interests and the boundaries of such customary land. If the chief of the area and the state agree, such claim will be certified under the Customary Land Recording Act of 1996 and the Land and Titles Act of 1968 bestowing the customary land holding group all rights to use, occupy, enjoy, and dispose of such

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7 Based on the author's fieldwork in 2016.

8 A customary land holding group means a tribe, clan, or a community customarily recognized as entitled to own or exercise primary rights over the customary land.

land in accordance with current customary use. Boundary disputes are to be settled by negotiation and in case no agreement or settlement is reached, the final and conclusive decision belongs to the traditional chiefs, and no longer to the government. However, the determination of the chiefs is still subject to judicial review by the High Court and, on appeal, by the Court of Appeal. The Customary Land Recording Act of 1996 stresses more on negotiations among customary land holding groups to determine the land rights and boundaries than on taking a judicial path to resolve them.

A state using its territorial sovereignty can challenge the recognized or claimed collective territorial rights of indigenous peoples.[9] This ability of the state, in a broad sense, accepts that indigenous peoples do claim rights over their land and such claims are not an insurrection against the state. In this sense, the state has to provide an enabling environment for them to negotiate with it boundaries of ancestral territory, limited autonomy associated with it, and the support that they can expect from the state to maintain their collective rights. A state's willingness to negotiate with indigenous peoples also indicates that their claims to the ancestral domain, its natural resources, and collective rights over indigenous knowledge are not mere aspirations, but are recognized rights and interests of indigenous peoples. The state's willingness to negotiate such rights with indigenous peoples, and their participation in and meaningful consultations with state-initiated dialogues, legitimize their engagement in such critical dialogues and make them equal partners at the negotiation table.

Territorial collective land rights highlight the importance of land management, natural resources management, and participatory enjoyment of land rights (Gilbert 2006). The right to manage collective land emanates from the ICCPR and the ICESCR. The second paragraph of the common Article 1 of the two conventions says that "all people may, for their ends, freely dispose of their natural wealth and resources without prejudice to any obligation arising out of international economic co-operation, and based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its means of subsistence." This article legitimizes the right of indigenous peoples to access and use ancestral land as a collective group. In this framework, individual rights are subsumed under collective rights, although individual access to and use of such land and natural resources are balanced by duties that mutually benefit each other and satisfy international law. Such balancing brings participatory and consultative

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9 See the case study from Assam, India, below on this issue.

elements of negotiation and cultural uniqueness of indigenous peoples into the forefront. The participatory and consultative aspects of land rights focus on taking part in decisions that affect their lands, livelihoods, and cultural uniqueness (Gilbert 2006). In addition to balancing individual rights and collective rights, it is necessary to balance the collective rights of indigenous peoples and the rights of the state.

In international law, a state represents a nation, and the state controls national wealth. "The governments are in charge of ensuring the 'best' utilization of the natural resources that represent the 'common heritage of the nation'" (Gilbert 2006, p. 210). Modern states usually do not leave the claimed territories of indigenous peoples for themselves to manage and develop. Instead, they interfere with the management of such lands and natural resources on behalf of the nation, desiring to develop or use the land and natural resources as part of national development, so that indigenous peoples *and* other citizens can also benefit from such endeavors. In this context, the state and its development partners may find resistance from indigenous peoples. The state and development partners label such resistance as a development problem. The resolution of the development problem is a vital role of the state and therefore, the state inevitably has to interfere with the management of indigenous peoples' land (Gilbert 2006).

2.5 Access to Natural Resources

An unresolved issue in international law is indigenous peoples' claims over natural resources in their ancestral domains (Xanthaki 2007). Some indigenous territories are known for mineral, timber, and other forest resources. Such resources have still not been fully tapped either by commercial enterprises or by indigenous peoples. However, large-scale enterprises interested in hydropower generation and mineral extraction occupy thousands of hectares of such territories with the blessings of state agencies. In this context, a key question is: who owns and controls natural resources in indigenous territories? The ILO Conventions 107 and 169 and the Declaration on the Rights of Indigenous Peoples of 2007 have only partially addressed this key issue.

Article 15(2) of the Convention Concerning Indigenous and Tribal Peoples in Independent Countries (ILO 1989) recognizes that "the states retain the ownership of minerals or sub-surface resources or rights to other resources pertaining to lands... governments shall establish or maintain procedures through which they shall consult these [indigenous] peoples, with a view to ascertaining whether and to what degree their interests would be prejudiced. The peoples concerned shall wherever possible participate in the benefits of such activities, and shall

receive fair compensation for any damages which they may sustain as a result of such activities." Article 15(2) provides the best bundle of rights that indigenous peoples can get from international law regarding natural resources in their ancestral lands. In the Solomon Islands, for example, when the World Bank did a preliminary ground exploration for the Tina River Hydropower Project, several clans in the potential project area demanded a fee from outsiders before entering into their ancestral domain for exploration[10] (Perera 2016).

Article 26.2 of the Declaration on the Rights of Indigenous Peoples (2007) takes a broad approach to this issue by putting notions of ownership, possession, and use together. "Indigenous peoples have the right to own, use, develop and control the lands, territories, and resources that they possess because of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired." This article reiterates collective rights, not individual rights over natural resources. The collective rights take more of the form of social rights than economic and legal rights.

A compelling argument of the state to keep its control over natural resources in indigenous peoples' land is that it must protect the environment. Environmental degradation has implications not only for the present generation but also for future generations (UN 1972).[11] Therefore, a state should control natural resources and that control should extend to the customary domain of indigenous peoples. As discussed below, Assam State in India, for example, prohibited *jhum* (shifting) cultivation on dry land in tribal areas of Assam on the grounds that it would destroy the land, especially its soil, and fail to produce sufficient food to raise the tribal peoples from poverty, hunger, and vulnerability. Such interventions or persuasion contradict the protection of customary

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10 In 2011, the Solomon Islands government signed a Land Access Agreement with 27 tribes in the Ngalimbiu-Tina River area to physically access the lands that were claimed by the 27 tribes as their customary lands. The agreement allowed the government to conduct investigative drilling, and environmental and social impact studies. But it did not give the government the right of way to such land. What is bought is access to land, not the right of way, which is a customary right of a community over another's land. The government deposited SI$100,000 in each participating tribal landowner council as a goodwill payment. These funds were disbursed among the landowning tribal members based on an undisclosed formula (World Bank 2016).

11 Principle 1 of the Declaration of the United Nations Conference on Human Environment (UN 1972) states that humans bear "a solemn responsibility to protect and improve the environment for present and future generations." Principle 2 states, "the natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate."

use of biological resources for traditional cultural practices found in the Convention of Biological Diversity (Article 10(c)). Para 22 of the 1992 Declaration on Environment and Development (Rio Declaration) maintains that "Indigenous peoples and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture, and interests and enable their effective participation in the achievement of sustainable development." This policy reiterates that traditional versus modern dichotomy with regard to land use is untenable. What matters is to combine tradition or customary practices with modern techniques and skills to bring better life chances to indigenous peoples and others.

Human rights law emphasizes that indigenous peoples should have access to natural resources on their ancestral lands. The right to access natural resources is more important than the right to own them, as the access often determines indigenous peoples' rights to livelihood and the right to food security. Associated with the right to food security is the right to health. In this context, the state's obligation to protect the environment is paramount, as without a sustainable environment, indigenous peoples cannot continue to live on their lands. In this sense, indigenous peoples' land rights are part of the broader debate on the link between environmental protection and human rights.

In Mabo v Queensland,[12] the Australian High Court recognized in 1992 common law property rights of aboriginals in their territories. It established that native title is a communal land right that arises from customary land laws. The court premised the native title of indigenous peoples on their perspective on and understanding of the human-environment relationship. Many countries gradually move toward the rejection of the colonial legal construct of terra nullius[13] and the gradual recognition of indigenous customary laws as part of human rights law, which advocates the integration of indigenous rights, especially their environmental rights, into national legal systems. During the 20th century, the land of tribal peoples progressed from terra nullius to the right to close down Uluru National Park for climbing by visitors, emphasizing their religious rights as part of cultural rights.

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12 [1992] 175175 C.L.R.

13 This means land is "deemed to be unoccupied or uninhabited." In Australia, the question of whether British colonizers had regarded the continent as terra nullius at the time of the original settlement, and, if so, whether this was a proper designation, was at the center of several important legal cases in the 20th and early 21st centuries. In Mabo, the High Court invalidated the concept and practice used for grabbing land from tribal people.

2.6 Development Practice and Customary Land Rights

As discussed above, in the 1970s and the 1980s, international law and human rights law developed a scheme of rights for indigenous peoples to strengthen their rights, especially land rights, access to natural resources, and cultural rights. IFIs such as the World Bank and the Asian Development Bank (ADB) picked up this scheme in the 1990s to develop their own environmental and social safeguard policies. IFIs approved their safeguard policies on indigenous peoples to protect them from adverse impacts of development projects that IFIs funded.

IFIs often support development projects, especially infrastructure, energy, and mineral extraction projects. Such projects are a key forum where the collective rights of indigenous peoples are debated and IFIs demand the application of indigenous peoples' safeguard policy requirements, which are a part of international law. Some of these requirements do not agree with national laws and regulations. The tension between international law and national laws comes to surface particularly where territorial rights of a state and indigenous peoples are in conflict and where the cultural rights of indigenous peoples are recognized and operationalized, curtailing the state's powers to exploit natural resources.

Safeguard policies of IFIs highlight indigenous peoples' vulnerability as compared with mainstream society and expect state agencies to create special arrangements to help realize their rights and interests. ADB's Safeguard Policy Statement of 2009 recognizes indigenous peoples' vulnerability and the possibility that they may not be able to assert their collective land rights and cultural rights without external assistance. It says that indigenous peoples are "a distinct, vulnerable, social and cultural group" (ADB 2009, p. 56). Among the characteristics that distinguish them from other groups are:

> Self-identification as members of a distinct indigenous cultural group and the recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society and culture; and a distinct language, often different from the official language of the country or region (ADB 2009, p. 56)

An additional special arrangement that applies to indigenous peoples' physical and intellectual property is the application of the FPIC tool premised on consultation and participation to ascertain their consent to allow others including the state to operate within their ancestral domains. For example, ADB's Safeguard Policy Statement identifies three types of project activities that are directly linked with their land rights, control over natural resources, and cultural uniqueness that require the application of the FPIC methodology. The FPIC methodology provides indigenous peoples a formal forum to express their views, negotiate, and decide on issues that could affect their identity and survival. The FPIC methodology thus gives them a sense of local autonomy. But the degree of local autonomy varies according to the state's willingness to accommodate its status in the national legal system. In the application of the FPIC methodology, indigenous peoples receive support from national and international nongovernment organizations and activist groups who have elaborated and fine-tuned FPIC processes. The involvement of nongovernment organizations gives them a voice and an ally in negotiating their claims over ancestral land, natural resources, and cultural distinctiveness.

In many IFI-assisted projects, safeguard policy requirements built into project plans and loan agreements are sometimes not observed. In many countries, a common strategy to avoid the consideration of indigenous rights is to claim that there are no indigenous peoples in the project area. Another strategy is to say that the national constitution does not mention indigenous peoples. Some project authorities declare that indigenous peoples are mainstreamed and therefore the project impacts on them would be the same as on other groups. In many countries indigenous peoples are categorized as ethnic minorities. The states claim that they are integrated with other groups and as a result, do not require special arrangements to safeguard their rights and interests. The outcome of such an approach to indigenous peoples' issues in development planning is that they are often kept out of receiving project benefits, as they have to compete with dominant groups for such benefits.

2.7 Interaction between Indigenous Land Rights and Eminent Domain: A Case Study

Modern states can use their eminent domain powers over any land in their territory. However, the application of eminent domain to tribal land within a state can encounter some limitations imposed by the national constitutions or IFI safeguard policy requirements regarding indigenous peoples. Such limitations and requirements affirm that

indigenous peoples can claim communal land rights over their ancestral domains and natural resources. In this context, one critical issue is whether the state can exploit an indigenous or tribal territory to bring benefits to the national population, when tribal groups depend on the territory for their sustenance, livelihood, and cultural identity. A related issue is how to strike a balance between indigenous peoples' rights to their territories and national development projects. The following case study addresses these two issues.

A tribal area in India was selected as the case study area. In India, the Constitution introduced a detailed legal framework in 1950 to protect vulnerable and marginalized tribal peoples from external forces including the state. This arrangement became effective well before ILO Convention 107 was introduced. The legal framework and implementation procedures outlined in Schedules V and VI of India's Constitution provide an unparalleled and exclusive example of (i) how indigenous rights are recognized and protected by law, (ii) the extent to which these peoples can enjoy their rights without external interference, and (iii) what safeguards are there to protect their rights from usurpation by others.

2.7.1 The Case Study Area

The Lower Kopili Hydroelectric Project area in rural Assam is selected as the case study for several reasons. In the case of Assam, India's Constitution and laws have bestowed territorial rights and administrative rights to autonomous districts (ADs). An AD represents a number of tribes who share convivial–custodial governance over a specific territorial area. Each AD has a council to govern the district and these districts have been in operation for over 60 years. They have accumulated a vast range of experience that throws light on how well indigenous safeguards are applied under the guarantees of the Constitution and on their outcomes such as social security, income improvement, and room for participation in democratic frameworks.

The case study illustrates multifaceted relationships that exist between tribes and Assam State, and how well the state protects their rights, cultural uniqueness, and survival strategies. It also highlights the differences between the precept—land policies and laws introduced explicitly to protect and benefit tribes—and the practice—how the implementation of such safeguards affects their identity, income sources, survival strategies, and cultural uniqueness.

The Kopili River, on which a 120-megawatt Lower Kopili Hydroelectric Project will be built, is a tributary of the Brahmaputra River. The project is a part of the initiative of Assam State to upgrade hydropower generation and distribution systems. It also aims to

promote economic growth and create employment opportunities for locals by providing reliable electricity to the growing industrial sector. The reservoir of the project will impound a vast area of Dima Hasao district and a small portion of Karbi Anglong district. The two districts are among the hilliest, remotest, and most unpopulated districts in Assam. The peoples who live in these districts are scheduled tribes.

Tribes in Dima Hasao and Karbi Anglong districts have an unbroken history of 300 years. Each tribe has several clans, and a clan is a social space where clan members interact. Clan leaders are the custodians of traditions, culture, tribal knowledge, and ancestral land. During the first phase of British colonial rule in India (18th and 19th centuries), tribal communities were, at least notionally, a part of the unknown frontier, that is, outside the jurisdiction of the British state administration. In the second phase that began in the 1850s, the British annexed Dima Hasao and Karbi Anglong tribal areas and declared them as scheduled districts. The Scheduled District Act of 1874, the Government of India Act of 1919, and the Government of India Act of 1935 classified remote tribal areas, especially the hill areas in the northeast of India, as excluded and partially excluded areas, where the provincial administration and the judiciary did not wield much authority or jurisdiction. The act also recognized customary traditions and practices among tribal communities as laws that apply to them. Sometimes the British rulers labeled them as wild and unruly tribes.

In 1946, the Constituent Assembly of India in charge of formulating a national constitution for independent India appointed an advisory committee to examine fundamental rights of tribal peoples. The committee found in tribal communities self-governing democratic institutions that are sensitive to their rights to ancestral land, access rights to forests, their unique lifestyle, and traditional justice systems. Therefore, the committee recommended special safeguards to protect them and also to preserve their culture, lifestyle, and traditional legal systems. These recommendations formed the basis of Schedule V and Schedule VI of India's Constitution, formulated under Article 244 of the Constitution, for the benefit of tribal groups.

The President of India identifies a contiguous physical area as a scheduled area under the Constitution when it has the following characteristics: (i) preponderance of tribal population in the area; (ii) compactness and reasonable size of the area; (iii) area marked as an undeveloped area; and (iv) the presence of high disparity in economic standards between the people who live in the area and in its surrounding areas.

According to Article 366 of India's Constitution, scheduled tribes are the tribal communities listed under Schedule V or Schedule VI.

They are a separate population, who according to the 2011 Census, comprise 8.6% of India's population. The purpose of such listing is to give weak and vulnerable tribes eligibility to receive state special socioeconomic assistance to overcome their vulnerability. Article 342 of the Constitution describes scheduled tribes as having five significant characteristics—primitive traits, geographical isolation, a distinct culture, "shyness of contact" with the community at large, and economic backwardness. The two schedules are the most enigmatic segment of the Constitution as they directly deal with the identity, economy, and cultural survival of the most vulnerable tribes in India.

2.7.2 Autonomous District Council

An autonomous district established under Schedules V and VI of the Constitution is referred to as a "state in miniature" with legislative, executive, and judicial powers. It has the autonomy to legislate and administer land, revenue, primary education, irrigation and drainage, and customary laws recognized by the schedules. Schedule VI established autonomous districts in Assam, Meghalaya, Tripura, and Mizoram states. It gave them legislative and executive powers to govern themselves independently from the rest of India and to protect their collective land, language, and culture. In Assam, Schedule VI applies to three districts—Dima Hasao Autonomous District, Karbi Anglong Autonomous District, and the Bodoland Territorial Area District. The focus of this case study is on Dima Hasao and Karbi Anglong autonomous districts.

Each autonomous district has an elected council (ADC), which provides an administrative structure to safeguard tribal peoples' interests in customary land, customs, and traditional ways of living. Each ADC provides a political framework for self-government and an economic framework to generate opportunities for them to participate in economic and social development. Section 3 of Schedule VI provides a detailed account of an ADC's areas of power, which include land, revenue, transport, public works, primary education, customary laws, fisheries, forests, development planning and development, marketing, and other subjects listed in the schedule. No state or national law or regulation applies to an autonomous district unless the governor of the State of Assam specifically adopts it as applicable to an autonomous district. A deputy commissioner, a civil servant of the Government of India, appointed by the state governor, runs the civil administration and maintains law and order in each autonomous district. The citizens of an autonomous district elect the members of the legislative council of the ADC by secret ballot. Several ministers elected from among the legislative council members of the ADC are

in charge of the ADC's development policies, finances, law and order, and land administration.

An ADC can decide whether state or union legislation on matters under the ADC should apply to its territory. Certain types of criminal and civil cases are also settled by the judicial powers transferred to village councils and courts by the ADCs. The micro-governance of ADCs and their collective representation at the *Lok Sabha* (National Parliament) are an interesting example of grassroots level and state-level democratic arrangements to protect marginalized and vulnerable tribes in a volatile and violent region in India.

ADCs share several characteristics of international law that are applicable to indigenous peoples. An ADC fits into the limited self-determination framework that has evolved in international law under ILO Conventions 107 and 169 and the UN Declaration on the Rights of Indigenous Peoples of 2007. The prominent features common to Schedule VI and the conventions and the declaration are: (i) the recognition of indigenous peoples' right to be consulted and participate in matters that affect them, (ii) emphasis on their cultural uniqueness, (iii) recognition of indigenous institutions, and (iv) wide land rights. In the political arena, ADCs are subject to the control of the state government and the union government. National laws and state laws apply to ADCs with the state governor's permission. As much as Convention 169 and Declaration 2007 are nonbinding on the state, ADCs' laws and regulations also have loopholes where the state government and the union government can overrule them.

India has formulated a legal framework and procedures for adjudicating the claims of tribal (indigenous) rights' holders. Often the procedures are not well implemented. As a result, national level civil servants can intervene in the application of tribal laws to ADCs and usurp the privileges and special concessions that the legal frameworks provide for tribal peoples. This could generate a vast gap between de facto power holders and those who are affected by such powers within the special legal frameworks. The civil servants are keen to establish national norms and legal frameworks in tribal areas undermining the collective rights of tribal people.

2.7.3 Land Acquisition for the Project

The key legal instrument that is applicable to the two ADCs is Schedule VI of India's Constitution. In addition, the Government of India has introduced progressive legislation to develop and empower scheduled tribes. The Constitution provides a framework for a four-pronged strategy to improve the socioeconomic status of scheduled tribes:

- proactive arrangements to enforce equality among all citizens, punish any transgression on their land, and eliminate practices that perpetuate inequality among them. The Panchayats (Extension to the Scheduled Areas) Act 1996 and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 are two such pieces of key legislation that try to achieve this objective;
- compensatory discrimination known as reservations provides favorable and preferential treatment to tribal peoples in the allotment of employment and access to higher education as a means to accelerate their development with the mainstream society;
- each state in India provides special economic assistance programs to eradicate poverty among vulnerable and backward tribal communities including scheduled tribes; and,
- each state enacts a composite legislation regarding the acquisition of tribal land, compensation payment, and relocation and rehabilitation of the affected tribal communities. Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (Act 2013) addresses these issues in detail.

2.7.4 Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013

The scope of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 covers tribal areas, scheduled tribal areas, and non-cadastral lands.[14] It has consolidated laws, regulations, guidelines, and international best practices on involuntary resettlement and tribal peoples. By the orders of the governor of Assam State on 31 July 2015, the Government of Assam issued the rules to apply the Act of 2013 in its entirety in the State of Assam.[15] The Dima Hasao and Karbi Anglong ADCs fall within the ambit of the act. The act has the following specific tribal entitlements. They meet international best practices found in the IFIs' safeguard policies on tribal peoples. Some of the sections of the act are outlined below with a note on whether or not they meet the best practices.

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14 Unmapped and unregistered land.

15 Government of Assam, Orders by the Governor, Revenue and Disaster Management (Department Notification of 1 August 2015) (*Assam Gazette Extraordinary*).

- No land acquisition is permitted in scheduled areas. If such acquisition is required, it will be done only as a last resort (Sections 41(1) and (2)). This best practice tallies with that of ADB's Policy on Involuntary Resettlement (IR) and ADB's Policy on Indigenous Peoples (IP) in ADB's Safeguard Policy Statement (2009), and in general, with international law.
- In acquiring or transferring land in scheduled areas, the FPIC methodology of the concerned *gram sabha* (village council) or *panchayats* (divisional council) or the ADC is to be obtained. Such consent seeking is similar to FPIC requirements of ADB's IP policy and the practice acknowledged in international law.
- If a project acquires tribal land involving the displacement of scheduled tribal or caste households, a development plan must be formulated by laying down the details of the procedure for settling of land rights (Section 41(4)). This entitlement meets ADB's involuntary resettlement and indigenous peoples' safeguard policy requirements.
- The development plan shall also contain a program for the development of alternate fuel, fodder, or non-timber forest produce resources on non-forest lands within 5 years, sufficient to meet the requirements of tribal communities (Section 4(5)). This entitlement, in a sense, goes beyond ADB's indigenous peoples' safeguard policy requirements and fully meets international law requirements.
- Where land is acquired from members of scheduled tribes or castes, at least one-third of the compensation is paid to each affected household as the first installment of compensation, and the rest is paid after taking over the possession of the land (Section 41(6)). This entitlement deviates from the best practice in ADB's Safeguard Policy Statement regarding the payment of compensation in full before the land is acquired. However, the Government of Assam has already handed over full compensation for the acquired land for the project to Dima Hasao and Karbi Anglong ADCs to distribute among the affected households. Thus, the project meets the international best practice of paying compensation in full before physical and economic displacement found in ADB's safeguard policies and international law.
- The affected scheduled tribal households will be resettled preferably in the same scheduled area in a compact block so that they can retain their ethnic, linguistic, and cultural identity (Section 41(7)). This entitlement meets ADB's IR and IP safeguard policy requirements.

- The resettlement site will have free land for community use and social gatherings free of charge (Section 41(8)). This entitlement matches the IR and IP policy requirements of ADB.
- Any transfer of tribal lands in disregard of the laws and regulations for the time being in force shall be treated as null and void, and in the case of acquisition of such lands, the rehabilitation and resettlement benefits shall be made available to the original tribal landowners (Section 41(9)). This entitlement meets ADB's IR and IP safeguard policy requirements and agrees with international law and international environmental law.
- The affected scheduled tribes will have fishing rights in a river or pond or reservoir in the affected project area (Section 41(10)). This entitlement also meets and goes beyond ADB's IR and IP safeguard policy requirements.
- Where the affected households belonging to the scheduled tribes are relocated outside the district, they get an additional 25% of rehabilitation and resettlement benefits with a one-time entitlement of Rs50,000 (Section 41(11)). This entitlement meets ADB's IR and IP safeguard requirements and certainly goes beyond their remit.
- All benefits including the reservation of employment benefits that are available in the affected tribal areas will continue in the resettlement area (Section 42(1)). This entitlement meets ADB's IR and IP safeguard policy requirements.
- Whenever the affected scheduled tribal households are relocated outside their tribal areas, they receive all the safeguards, entitlements, and benefits under the Act regardless of whether the resettlement area is a scheduled area or not (Section 42(2)). This entitlement meets ADB's IR and IP safeguard policy requirements.
- Where community rights have been settled under the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, the same shall be quantified in monetary amount and be paid to the individual concerned who has been displaced due to the acquisition of land in proportion to his share in such community rights (Section 42 (3)). This best practice meets, and in fact, goes beyond ADB's IR and IP safeguard policy requirements.

As the above discussion shows, the legal frameworks to safeguard tribal rights and privileges are adequate and they certainly meet the requirements of international law and safeguard policy requirements

of IFIs. Overall, most indigenous peoples' claims are consistent with current international law and with IFI safeguard policies. Where such claims are not clear they tend to be compatible with the spirit of international law (Xanthaki 2007). But when indigenous peoples try to benefit from such international best practices, they often find it difficult to do so because of the intervention of the state and its agents at various levels, who are poised to usurp the powers (and sometimes constitutional powers) and privileges of the indigenous peoples.

India's legal framework for scheduled tribal land rights and their rights over natural resources is compatible with international law and indigenous peoples' best safeguard practices developed by IFIs. However, in implementing them, as mentioned earlier, Assam has gradually taken over the powers of ADCs and directs them how to comply with its policies and action programs. In practice, as a result, ADCs do not enjoy the limited autonomy that they got from the Constitution and its Schedule VI. For those directly affected people of development projects, as in the case of the Lower Kopili Hydroelectric Project, the end effect remains that implementing procedures are heavily tilted to exploit indigenous peoples in the name of protecting them and balancing their rights with others.

2.7.5 Tribal Land Use Practices

Tribes in Dima Hasao and Karbi Anglong districts have struggled during the past 2 centuries to retain their internal autonomy, culture, and traditions, and now are concerned with building a new society and economy based on their original identity and land resources. But they are vulnerable, although self-reliant. They mainly depend on *jhum* cultivation on their ancestral land for subsistence. *Jhum* cultivation is a traditional method of dry land farming. The hill tribal populations of Karbi Anglong and Dima Hasao ADCs engage in *jhum* cultivation as their primary occupation. Villagers clear forestland and burn uprooted trees and vegetation, and then cultivate the land for a few years under rain-fed conditions. After a few years, the land is abandoned for 10 to 20 years to allow the natural forest to grow back and the soil to regain its fertility. The cycle of cultivation, the fallow period, and returning to it for crop cultivation is called the *jhum* cycle.

The Assam government discourages *jhum* cultivation and encourages farmers to leave traditional land cultivation as their main livelihood and to gain skills to find nonagricultural employment. It has plans to introduce terraced agricultural schemes with lift irrigation facilities, powered by the electricity generated by the hydropower plant. Such schemes, the government believes, would encourage farmers to abandon *jhum*

cultivation and their current practice of moving from place to place in search of new land for *jhum* cultivation. The local tribal peoples are aware of the importance of settled agricultural life. They expect the government to provide them with lift irrigation programs to cultivate terraced land with paddy and other field crops. They argue that *jhum* cultivation is the best method of land cultivation given the scarcity of water and the quality of land. But they do not have any sentimental connection with *jhum* cultivation or consider it as a manifestation of their cultural identity or sustainability. Instead, it is a pure economic necessity.

The tradition is that one tribe occupies one village. A household's rights to cultivate a piece of land and to hold a homestead emanate from its membership in the village community. The *gaon bura* (village headman) appointed by the ADC determines the village membership and eligibility of a household to use collective land. The ADC keeps a record of the villagers, area of land cultivated, and the number of dwellings with the help of the *gaon bura*. They, on behalf of the ADC, supervise land allocation and use of village resources by the community.

Dima Hasao and Karbi Anglong ADCs are in non-cadastral areas. The *gaon bura* maintains information on land parcels on lease to village members. Individuals or households do not own land in a village; they have only land user rights allotted to them by the *gaon bura*. In the Dima Hasao ADC area, 88% of households engage in *jhum* cultivation on land parcels obtained from the ADC on the lease as non-*patta* (unregistered) land and others cultivate rice under rain-fed conditions and diverting water from the river. In each year, the land is allocated to each household to practice *jhum* cultivation or paddy cultivation. For this arrangement, each household pays a nominal tax to the *gaon bura*. No outsider is allowed to cultivate a piece of land or to build a house on tribal land without the ADC's permission.

An observation in the project area is that tribal people cultivated rice wherever possible using lift irrigation or canal irrigation. Where they find resources such as water and power supply, they diversify their agricultural activities and become industrious and profit-oriented. Those villagers who can afford electric or diesel water pumps use them to irrigate their land and cultivate cash crops. This means that they resort to *jhum* cultivation as the last resort to earn their minimum substance when no external support is forthcoming. Another observation is that those who cultivate rice and other cash crops are private farmers who hold long-term or permanent tenure over their lands, whereas the ADCs through the *gaon buras* at the village level control the collective rights of villagers over *jhum* and other land.

The widespread use of *jhum* cultivation in the lower Kopili region supports the fact that they collectively own the land. But they need

external assistance to use such land to generate decent incomes, which would help them to rise above their current poverty and vulnerability. The *jhum* cultivators demonstrate that the romantic view that tribal people want to live in their own environment with collective land rights driven by their unique culture without external interference is a misperception.

2.7.6 Tribal Land Acquisition Process

The Government of Assam can supersede the ADC's laws and regulations about land distribution, occupation, and use. It can acquire any land, whether occupied or not for a public purpose (Section 3(a) of Schedule VI). Land acquisition for a public purpose is a detailed process to be followed by the ADC and the state government in scheduled tribal lands where such lands are considered as communal land which cannot be transferred or sold to non-scheduled tribes. The process has a number of complicated steps:

(i) In acquiring land in a scheduled tribal area, the agency that requires land for a public purpose has to obtain a no-objection certificate (NOC) from the relevant ADC. Land is acquired from a scheduled area only as the last resort (Section 41 of the Act of 2013). The two ADCs have issued NOCs having considered the value of having a hydropower plant in their area.

(ii) The revenue officer of the ADC (a state official) and *gaon bura* (ADC official) issue notices on the public purpose. Once noticed, the revenue officer, the *gaon bura*, the agency, and current land users or occupiers of land or their representatives meet at each village for a joint spot verification of the land. During the joint spot verification, the revenue officer identifies and records the land area and its landholding patterns, users, boundaries, trees, crops, buildings, and other assets on it. Such information will form the basis for compensation determination.

(iii) Soon after that, the *gaon bura* issues a NOC to each household to hold land in the village. The revenue officer then officially allocates the cultivated land area and homestead that each household holds. Thus, the land user becomes an interested party to the land, thereby becoming eligible to receive a compensation package for the loss of interest in the communal land for a public purpose.

(iv) The project authorities, ADC representatives, the revenue officer, and the *gaon bura* hold consultations with the

affected households or their representatives to arrive at a fair compensation package for each affected piece of land. A compensation package has two components. One is the payment to the ADC for the overall stewardship over tribal land in its jurisdiction. The payment is known as a premium. The premium is about one-third of the total cash compensation paid. The other is the compensation paid to each eligible household.

(v) The revenue officer obtains the consent of the villagers in writing in the presence of the *gaon bura* to take over their land parcels for the public purpose.

(vi) The revenue officer with the help of the land records officer of the ADC drafts the bill of compensation based on the joint spot verification, land measurements, and individual consent to hand over the land parcel, the estimates of land values as per the rates approved by the ADC and the Public Works Department of the Assam government.

(vii) The revenue officer finalizes the bills of compensation and submits them to the competent authority—the executive member of revenue and the deputy commissioner of the ADC—for approval.

(viii) The executive member of revenue and the deputy commissioner, after a thorough scrutiny of the bills of compensation, forward them to the Assam government's Revenue and Disaster Management Department for approval. The department approves the amount and obtains the required funds from the land requiring agency and deposits the funds in the account of the deputy commissioner of the ADC.

(ix) The deputy commissioner through the *gaon bura* pays compensation to each land user by an account payee check. The department pays the premium portion of compensation directly to the ADC's account.

The land acquisition procedures upgrade ordinary land users to the status of landowners, thereby qualifying them to receive cash compensation, relocation assistance, and support for livelihood restoration and improvement through corporate responsibility initiatives.

2.7.7 ADC Administration and Tribal Rights

Although established to be representatives of tribal groups and to protect them from external inroads, ADCs have been unwilling to

share their limited autonomy with tribal masses. ADC officials and elected representatives consider themselves as the bottom-level state administration. They keep tribal peoples as leaseholders and control their free movement and ancestral domains. Consultations conducted by the two ADCs to disclose the state government's land acquisition plan did not amount to meaningful consultations, as information sharing took place only after the state government decided to acquire the land. Decisions are passed down from the union state to Assam State to the Dima Hasao ADC.[16]

The two senior civil servants—the deputy commissioner and the revenue officer—appointed by the state government from outside to manage administration and financial affairs of the ADCs have veto powers against any decision of the ADCs. The tribal peoples do not think that they are the collective owners of the ancestral land. Instead, they solely depend on the ADCs and their representatives at the village level—*gaon buras*—to obtain a piece of land for 1 to 5 years on lease to cultivate. They opposed the distribution of cash compensation through the ADC. They feared that the ADC would deduct money from their cash compensation, and wanted the Assam government to pay compensation to them directly. Such fears and difficulties of tribal peoples in the two ADCs illustrate the gap between policy and laws and their practice, and how it disadvantages them in enjoying their ancestral domain and associated natural resources.

The formation of project affected people's associations (PAPAs) at the ADC level in Dima Hasao and Karbi Anglong ADCs to counteract national, state, and ADC level actions shows the degree of alienation of tribal people from their ADCs. The leaders of PAPAs directly negotiated with Assam State the compensation rates and the payment procedures. They oppose the practice of sending compensation funds to ADCs to distribute because that they believe that ADCs would retain a significant amount of money without distributing among the project-affected persons. They also oppose the decision of the Assam government and the project authority to allocate about one-third of total compensation as a premium to the ADCs. PAPA leaders argue that such premiums should not be deducted from the affected persons' compensation.

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16 During my fieldwork in Dima Hasao ADC in 2018, tribal peoples and their leaders stressed this factor. They lamented that ADCs do not respect their cultural identity and collective rights over the land, and would try to deceive them.

2.8 Conclusion

UN agencies, regional and national advocacy groups and institutions, and governments have helped to bring indigenous peoples and their demands to the global arena through conventions, declarations, constitutional guarantees, and legal frameworks (Anaya 2004). These have had a strong influence on states to recognize the socioeconomic and cultural characteristics of indigenous peoples and their desire to live with other communities.

International law accepts indigenous peoples' rights to their territory and the environment as a bundle of human rights. However, there are three challenges to be addressed. First, the land rights of indigenous peoples are labelled as collective rights, and states are reluctant to recognize these (Sanders 1991). Second, their land rights easily fit into conventional categories of rights, such as political rights or economic or social rights or cultural rights, as they represent a variety of interests and rights, which are indivisible, interdependent, and cultural. Third, such land rights threaten territorial sovereignty. Land rights touch upon the issue of territoriality, and state territorial sovereignty is an area in which states are most reluctant to allow encroachment. The territorial rights of indigenous peoples also incorporate self-rule rights or elements of self-determination. Therefore, it is ironic that international law has as its crucial task the protection of the territoriality of a state and also of indigenous peoples' land (Perera 2009).

It is possible to identify important patterns from recent developments in international law and, in parallel, national laws regarding the land rights of indigenous peoples. First is the judiciary's willingness to view human–environment relationships from a tribal point of view. In addition, the judiciary is willing to treat indigenous peoples' interests and rights in land and natural resources as two separate tribal rights. Second, courts often do not impose rigorous evidential standards when determining environmental rights and interests of indigenous people. For example, courts sometimes accept oral traditions as sufficient evidence of indigenous peoples' access interests to a forest or its products. Third, the judiciary now accepts that it has powers to acknowledge the sovereign duty of a state to preserve tribal interests in the face of threats to indigenous peoples. However, courts are at times reluctant to interfere with the executive decisions of the state on national development. As in India, the pattern that has evolved is to ensure that affected indigenous peoples are well informed, their consent has been obtained, they have been offered sufficient compensation, and that relocation facilities are provided to them before physical or

economic displacement to accommodate a development project. In this way, efforts should be made to balance the land and environmental rights of indigenous peoples and national development requirements.

Before balancing their rights with others, indigenous peoples have to get the support of the state to accommodate international law, human rights law, and international best practices in local regulatory frameworks to determine their rights. Otherwise, even though a national constitution (as in India) guarantees that indigenous peoples can freely own, use and develop their ancestral land and natural resources, the implementing procedures are heavily tilted toward exploiting indigenous peoples in the name of protecting them and balancing their rights with others.

In 2013, the tribal peoples of Dima Hasao and Karbi Anglong ADCs agitated through the Joint Action Committee for Autonomous State for establishing of an autonomous state as per the provisions of Article 244(A) of the Constitution of India. Clamoring for a separate independent state has been a demand of the peoples of the two districts for some decades. Their demand arises from their conviction that only an independent state can solve their deep-rooted poverty, marginality, and underdevelopment. According to them, Schedule VI cannot protect their rights adequately, and it has failed to improve their socioeconomic and political status over 60 years. The Joint Action Committee for Autonomous State has already formulated a Plan of Autonomous State in consultation with the representatives of the two districts. It has also prepared a draft constitution for the proposed new state. After 70 years of operation of Schedule VI, it is clear that although it has bestowed limited self-determination on them, the interference of the state government and its usurpation of implementation procedures of Schedule VI and Act 2013 have deprived them of controlling their collective rights over their ancestral land and sustaining their cultural uniqueness.

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3

The Status of Title to Land in Representative Jurisdictions of Asia and the Pacific

John Price

3.1 Introduction

Land rights in major Asian economies have become a contentious matter due to this region being home to vulnerable customary peoples living in regions with geographical significance and abundant natural resources. This is due in major part to private development and public infrastructure projects encroaching on undeveloped rural land use and habitation (Pravitasari 2015). While some of these conflicts occur in major urban areas as they expand into suburban and peri-urban zones, often these diverging uses of land occur in border areas of the country away from the major cities (TMP Systems 2017).

Governments often incentivize companies to invest in and develop these regions by providing special economic inducements, such as creating special economic zones where low taxes and other incentives attract domestic and foreign investment. As these land use conflicts result in the unwanted displacement of local peoples of these regions, local populations often resort to direct action, occasionally violent but always dilatory, with whatever tools are at their disposal. Some countries in the region have attempted some reform of property regulations and administrative restrictions to provide rights to local peoples over their traditional ancestral lands.

This chapter provides an overview of the status of land right developments in specific regions in Asia (Southeast Asia, North Asia, and the Pacific) and how effective they have been in protecting local land rights.

3.2 Southeast Asia[1]

3.2.1 Malaysia

Malaysia is a federal constitutional monarchy in Southeast Asia consisting of 13 states and 3 federal territories separated into two regions, Peninsular Malaysia and Borneo's East Malaysia. About half the population is Malay, with large minorities of Chinese, Indians, and indigenous peoples.

Property law in Malaysia is governed by the National Land Code 1965 (Act 56 of 1965), the National Land Code (Penang and Malacca Titles) Act 1963, the Sarawak Land Code, and the Sabah Land Ordinance. The National Land Code 1965 is only applicable to Peninsular Malaysia.

Tenure of land in Peninsular Malaysia falls mainly into three categories: freehold, leasehold (land owned by the state that can be leased for up to 99 years), and Malay Reserve Land. Malay Reserve Land can typically only be owned, leased, or sold by native Malay people, although regulations differ per jurisdiction. Sarawak and Sabah have specialized land regulations regarding native customary land as well.

Sarawak

Approximately two-thirds of the population of Sarawak is indigenous and 20% of state land in Sarawak is classified as native customary rights, although very little is surveyed and titled. Traditional land tenure is defined as the land in which native customary rights may be created through the felling of virgin jungle and the occupation of the land thereby cleared; the planting of land with fruit trees; the occupation or cultivation of land; the use of land for a burial ground or shrine; and the use of land of any class for rights of way or if created before the Sarawak Land Code came into force in 1958.[2] It also could be the result of a designated reserve or on interior land pursuant by government permit. The Sarawak Land Code also significantly restricts purchase of property in Sarawak by foreigners and even non-Sarawak resident Malaysian citizens.[3]

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1 Southeast Asia is generally considered to comprise the countries of Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

2 See section 5(2) of the Sarawak Land Code.

3 See sections 13A, 13B, and 13E(2) of the Sarawak Land Code.

Sabah

Sabah is more than 60% indigenous and has a complex system for classifying native customary rights land into different categories: native title, field register, country lease, and provisional lease. These categories restrict the type and time period of leases that can be entered into with other parties on these lands. These restrictions are designed to protect native land. In any case, these limited rights are not absolute as these titles can be obtained by the government for cash compensation via eminent domain.

In both Sarawak and Sabah, indigenous people's way of life is imperiled due to resource extraction damaging or destroying their customary lands, difficulty providing proof of property records, lack of effective notification of government property claims of native lands, the ability of the state to define or negate customary landownership practices, and power advantage of companies obtaining leases from poor illiterate indigenous people. As there are powerful interests seeking to extract resources and local governments profit from these businesses, it is difficult for indigenous people to prevent encroachment and destruction of their native lands.

Malaysian Torrens Land Registration System

Property administration in Malaysia is based on the Torrens system except in the state of Sabah.[4] Under this system, property ownership is via registered titles, which establish and certify the ownership of an indefeasible interest to land.

Malaysia, except for Sabah, has successfully adopted the Torrens land registration system that operates on the principle that all land transactions must be registered in order to be effective. They adopted a cadaster (an official register of the quantity, value, and ownership of real estate used in apportioning taxes) and both qualified and final land titles. In 2017, the Federal Territory of Kuala Lumpur introduced an information communication technology system, e-Tanah, which is an integrated land administration system for private land searches and payment of land taxes online. This system also enables integration between various land-related agencies including the Survey and Mapping Development Department and Malaysia Geospatial Data Infrastructure.

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[4] A special feature of the Sabah Land Ordinance is that it does not have provisions on indefeasibility of title as in most Torrens land registration systems. The purpose of this feature is to protect natives' rights in Sabah.

3.2.2 Indonesia

Indonesia is an island country consisting of more than 17,000 islands including Sumatra, Borneo, Sulawesi, and Java. It is the world's largest island country and the world's fourth most populous country. Indonesia's population consists of hundreds of distinct native ethnic and linguistic groups, with the largest one being the Javanese.

The Law of the Republic of Indonesia Number 5 of 1960 regarding the Basic Provisions Concerning Fundamentals of Agrarian Affairs (the Agrarian Law) is the fundamental law governing land titles in Indonesia.

Article 16 Paragraph (1) of the Agrarian Law stipulates several types of land titles and rights: the Right of Ownership (Hak Milik), the Right to Cultivate (Hak Guna Usaha), the Right to Build (Hak Guna Bangunan), the Right to Use (Hak Pakai), Leasehold Right (Hak Sewa), the Right of Land Clearing (Hak Membuka Tanah), and the Right to Collect Forest Products (Hak Memungut Hasil Hutan).

The Right of Ownership is a freehold title that can only be obtained by an Indonesian citizen. The Right to Cultivate is limited to the right to cultivate specific state-owned property. The Right to Build is the right to build on another's property or state-owned property for a limited term. The Right to Use is the right to use or collect products from another's property or state-owned property. Leasehold Right is a right to use land under a lease agreement. The Right of Land Clearing and Right to Collect Forest Products are rights under customary law (hukum adat), which gives the right to clear and collect resources without providing title to the property. While adat or customary law is declared binding with regard to property, it is simultaneously subjected to all restrictions of the basic Indonesian land law.

Although property rights exist in Indonesia, the country's legal framework for enforcement of property rights needs to be improved. The land rights of unregistered owners lack security, women's rights are typically not registered, and property registration is expensive. As a matter of practice in Indonesia, ambiguities between state and customary law tend to be interpreted by governments to undermine the land rights of customary people. Second, the property registration system is inefficient, complex, and ambiguous.[5] Also, rural landlessness has reduced opportunity and is a deterrent to economic growth in Indonesia. Even small-scale land reform that provided a small amount of land to allow people to live and grow crops and livestock for their own consumption could greatly improve their lives.

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[5] Indonesia has not adopted a Torrens property registration system.

The basic insecurity of land tenure in Indonesia has been made worse by a complex land registration system with unclear procedures for registering customary land rights and expropriation processes. For example, in Indonesia, indigenous communities are not entitled to reject the imposition of logging or other forms of state-sanctioned land use on their territory, even though such activities have catastrophic effects on their lives. In Kalimantan, significant logging, mining, and oil extraction is being conducted mainly by transmigrants, resulting in the relocation of indigenous peoples into the mountains of Borneo. This is despite a ban on the export of raw logs and the introduction of a National Forestry Action program designed to prevent illegal logging. Consequently, land disputes among tribal peoples, the state, and private logging interests have become frequent and intense (Clarke 2001).

Another example is of an Indonesian who did not receive the required amount of land due to him after joining a transmigration program that relocates people from the overpopulated regions to a less populated region of Indonesia. This farmer agreed to leave Yogyakarta and move to Southeast Sulawesi in 2011 based on the promise that he would receive 2 hectares of land to use for farming in Sulawesi. Under the agreement, he should have received his land 4 years after relocation. However, in 2015, he lost a portion of his promised grant of land to a palm oil company claiming 30 hectares of farmland in his village even after he had planted vegetables and fruit on it. In Indonesia, there are often delays that occur because approval requires multiple government agency approvals. Further, local government agencies are not always empowered to issue land registrations until they receive permission from federal authorities, causing further delays.

3.2.3 Philippines

The Philippines is an archipelagic country in Southeast Asia, home to over 100 million people and consisting of 7,641 islands (about 2,000 of which are inhabited) with an area of 300,000 square kilometers. Due to its geography and long colonial history, it is home to peoples with multiple ethnicities, cultures, and religions. The Philippines is an emerging market and a newly industrialized country with an economy transitioning from agriculture to services and manufacturing with the agricultural sector employing around 24.3% and the industrial sector employing around 19%, while the service sector employs 57% as of 2018.

Despite a growing economy and significant land reforms, an increasing number of rural people in the Philippines remain landless with large numbers of people dwelling in improvised settlements. While

a significant amount of land has been reallocated through various land reforms in the 20th century, the most fertile and productive farmland in the Philippines has remained in the hands of wealthy private landowners. Landless families represent roughly 40% of the agricultural population and 10% of the total population (Moreno and Leones 2011). The inability of large parts of the population to access resources and land is a key factor to poverty and a significant deterrent to economic growth in the Philippines.

Land reform was initiated in the Philippines in 1934 under President Quezon to promote social justice and to build the foundation of broad-based growth and sustainable development (Moreno and Leones 2011). However, in the period from 1935 to 1969 less than 1% of agricultural land was distributed. As the public office holders in the Philippines were typically private landowners, land reform programs focused on distributing and settling public land.

In the 1970s, President Marcos passed land reform laws such as the Agricultural Land Reform Code (Republic Act 3844), but this effort was largely unsuccessful due to administration delays to the multistep title transfer process and resistance from landholders who Marcos needed for political support but who did not want to comply with the reforms. Only when President Aquino passed the 1988 Comprehensive Agrarian Reform Law (Republic Act 6657), which implemented the Comprehensive Agrarian Reform Program (CARP), did serious land reform ultimately occur. After 12 years of implementation, roughly 90% of the 8.169 million hectares of land ultimately targeted by the CARP had been distributed (Kaisahan 2008).

Even though this program was the most successful land reform in Philippine history and distributed 8.169 million hectares to 4.5 million beneficiaries, it produced mixed results. Although there are success stories, the limitations on the total amount of land targeted by the CARP, the amount of land transferred per transaction, the ability of landowners to hold on to much of the most productive agricultural land, and limited government support for farm operations often made it difficult for the newly landed farmers to succeed. As these limitations were included by compromising with landowning public officials during the legislative process to pass the existing legislation, there would need to be newly found public and political pressure to improve the program. The current Duterte administration has distributed significantly less land under the CARP compared to previous administrations (Mayuga 2019).

Customary Land Titles in the Philippines

During the American colonial period, the 1902 Land Registration Act declared that the acquisition of a Torrens title was required as proof of

land ownership. Then, the Public Land Act of 1905 declared all lands without a registered Torrens title be considered public land. As most indigenous peoples in the Philippines were unfamiliar with the new land registration regime, property rights over their communal lands were often not recognized.

In an attempt to address this need, the government introduced reforms to recognize customary people's land rights in the Philippines. In 1987, the parliament amended the Constitution to include Art. II, Sec. 22, which states: "The State recognizes and promotes the rights of Indigenous Cultural Communities/Indigenous Peoples within the framework of national unity and development." Further, in July 1997, the Indigenous Peoples Rights Act (IPRA) was passed to legally enforce the 1987 constitutional recognition of customary people. The IPRA states: "...ancestral land rights and its commitment to uphold international obligations. The IPRA recognizes, protects and promotes the rights of indigenous peoples, creates a National Commission on Indigenous Peoples (NCIP), establishes implementing mechanisms, appropriating funds for other purposes." Essentially, the goal of the IPRA was to recognize that the ancestral domains are protected community property of the customary family clan that cannot be alienated or destroyed. The law also created a designated government agency, the NCIP, that handles the registration process for customary people to reclaim title to their ancestral lands.

Essentially, the NCIP is responsible for taking the necessary steps to identify and distribute land that indigenous peoples traditionally occupy and guarantee effective protection of their rights to ownership and possession. After all requirements are processed, the NCIP will issue a Certificate of Ancestral Domain Title (CADT), which formally recognizes the rights of possession and ownership by indigenous peoples. As of 10 December 2019, 247 CADTs have been approved for a total land area of 5.7 million out of the 7.7 million hectares occupied by the indigenous peoples (Carbayas 2020).

While many indigenous people hoped that the IPRA would provide strong legal protections for the indigenous peoples' customary land, indigenous peoples' groups have found it difficult to avail of the IPRA-promised claims. First, the CADT approval process is arduous for indigenous people to complete with all forms in English and requiring approval to pass through many stages at the NCIP and other implementing government offices. As a result, the CADT approval process takes many years to complete and only 54 of the 247 approved CADTs have been registered as title. Therefore, significantly less land than the CADT-approved 5.7 million hectares has been titled to indigenous peoples. Indigenous peoples have also claimed that there

have been significant encroachments of their land by mining concessions and other indigenous peoples (Salamat 2011).

3.3 North Asia

3.3.1 The People's Republic of China

The People's Republic of China (PRC) is the world's most populous country and fourth largest country in terms of land area. The PRC has transformed from a centrally planned economy to a market-oriented economy, which is ranked the second largest by nominal gross domestic product. The PRC has the world's fastest growing major economy with growth rates averaging 10% over 30 years.

During this time, the PRC has transformed from a completely collective/state-owned land system to a semi-private system that provides restricted individual land rights. The fundamental property regulations are found in the PRC's 1982 Constitution and the Land Administration Law (the Land Law) of the PRC. The Land Law kept the existing land titling system in place, which allowed only two types of land ownership: state ownership and collective ownership.

According to the Constitution, all land in urban areas is owned by the state and is called state-owned land (*guoyou tudi*) (Constitution Chapter 1, Art. 10) as uncultivated land in mountainous and other remote areas, such as deserts. In contrast, rural land and homesteads in suburban areas and rural areas are collectively owned by rural collectives and called collective land (*jiti tudi*) (Constitution Chapter 1, Art. 10). Forest land in the PRC can be either state-owned or collectively owned. The PRC law allows leases but prohibits the actual transfer of state-owned land.

Urban Land

For land in urban areas, the 1990 Urban Land Regulations and the 1994 Urban Real Estate Law authorize local land bureaus at county and municipal levels to grant long-term land-use rights (*churang tudi shiyongquan*) to local and foreign land users. However, this grant is only for state-owned land and does not apply to collectively owned land. The maximum term of a land grant ranges from 40 years for commercial use to 70 years for residential use.

Rural Land

The PRC has been slowly reforming property rights of agricultural land for over 40 years. Following the pooling of farmers' private land into rural cooperatives after the founding of the PRC and the introduction of the household registration management system (*hukou*) in the mid-1950s,

the household responsibility system was introduced in agricultural areas in 1978 and officially established in 1982. The household responsibility system gives households the responsibility for the profits and losses of an enterprise and provides the PRC's farmers with an individualized land use right, although the right to transfer land was prohibited initially. This was the beginning of the rural de-collectivization.

This collective land has been allocated to individual households (*hukou*) for fixed year terms first starting with 5-year periods and extended to 15-year (1984) and 30-year (1993) periods. More recently, at the 19th Communist Party of China National Congress in 2017, Xi Jinping, general secretary of the central committee, pledged that the current round of contracts for land use rights will be "extended for another 30 years upon expiration." As a result, rural land use rights were effectively allocated to rural households for 60 years.

Land use restrictions were loosened especially with the advent of the Rural Land Contracting Law of 2002 (2002 RLCL), which increased land use rights. The 2002 RLCL provided the right to possess, use, manage, receive income, capital, security, and a limited right to transfer land use rights. The 2019 revised RLCL (2019 RLCL) provided even more flexibility in leasing property to outside business entities and allowed mortgages and guarantees of contracted land as collateral. Essentially, the RLCL allows for property marketability.

Overall, the introduction of the 2002 RLCL benefitted productive farmers as it provided new legal protections for leasing agricultural land and allowed for freer exchange of land leases between farming households. Since the passage of the 2002 RLCL regulation, one study showed a 10% increase in land rental activity among rural households and a 7% increase in the aggregate productivity of land (Rural Property Rights and Agricultural Productivity 2018) post-enactment of the 2002 RLCL. This corresponds with the basic economic theory that less restricted transfers of land will increase productivity by allocating more land to more productive farmers. This seems especially important during a time when significant rural populations are moving to urban areas and leaving land idle. These changes to the rural property land use laws are a welcomed sign of increased protection and prosperity for rural farmers in the PRC.

Eminent Domain

While property rights have increased, the PRC has maintained broad powers of eminent domain. Although eminent domain cannot be exercised unless there is a need based on "public interest," public interest has never been challenged for any taking (Liu 2008). In fact, most of the PRC's eminent domain laws tend to expand the definition by

providing further examples that fall within the scope of public interest. As a result, the government has taken privately owned homes back by eminent domain and given them to private developers based on the idea it would provide public interest for further economic expansion (Liu 2008).

Takings in the PRC are on a vast scale resulting in significant population displacement. Since the 1970s, as many as 40 million people have been displaced to make way for various economic development projects and 1 million were displaced to make way for construction related to the 2008 Beijing Olympics (Somin 2014). Although the PRC government began to recognize semi-private property rights in the 2000s, people are easily displaced under the government's broad eminent domain powers. As locally appointed political leaders are under pressure to achieve high economic growth, local government leaders use their broad eminent domain to force evictions and displace people to facilitate local commercial development (Zhen 2017). Although compensation is provided, it is at relatively low compensation rates despite the central government issuing notices to local governments to raise the compensation rates (*Xinhuanet* 2003).

3.3.2 Mongolia

Mongolia is a landlocked country in north Asia. It is the most sparsely populated sovereign state in the world. It is the 18th largest country in the world with a population of only 3.3 million; less than 1% of the land can grow crops. As much of the country is covered by grassy steppes, with mountains in the north and west and the Gobi Desert in the south, much of the population is concentrated in major cities, with Ulaanbaatar, the capital and largest city, containing 45% of the country's population. Mongolia also has a large nomadic herding population: 30% of the country's population is nomadic or seminomadic.

There is an increasing trend of many rural Mongolians leaving the traditional nomadic way of life and migrating to cities in search of better job opportunities. These migrants are mainly moving to Mongolia' s major cities—Ulaanbaatar, Erdenet, and Darkhan—where they either settle in *ger* (also known as yurt) areas on the outskirts of cities or in peri-urban rangeland areas, often creating informal settlements outside these major cities. With little available arable land and population being concentrated near major metropolitan areas, the demand for land has increased.

In the 1990s, Mongolia began transitioning from a planned economy, based on a socialist model of state-owned property, to a more capitalist-based economy based on a mixed private and state-owned property system.

The 1992 Mongolian Constitution recognized both public and private property (Art. 5.2), and the right of the government to exercise eminent domain with compensation when justified by a special public need (Art. 6.4). The main laws allowing privatization of land in Mongolia, Law of Land and the Law on Allocation of Land to Mongolian Citizens for Ownership, were passed by the Great Khural in 2002 and came into force in 2003 (the 2003 Law of Land was an update of the 1994 Law of Land and has since been regularly updated). Under the Law of Land, only Mongolian citizens can own land, excluding pastureland, land for common tenure, and land for special government use (Art. 5.2 Law of Land). Land not given to Mongolian citizens remained the property of the state (Art. 5.1 Law of Land) and land that was privatized but not used for 2 years could revert to state ownership. Even in the case of private ownership, only the surface land can be privately owned. Essentially only the surface use rights can be owned; the subsoil, forests, water resources, and fauna remain state property.

Under the Law on Allocation of Land to Mongolian Citizens for Ownership, any Mongolian citizen could one time, free of charge, claim and own private land. The one-time free privatization, for locally registered households, had to be originally completed within 2 years.[6] The size of the land parcels allocated for family ownership varied depending on location. Initially, as many people previously held land under "land possession rights," they simply upgraded to full ownership. For example, in Ulaanbaatar, individuals were allowed 0.07 hectares for land possession rights, so many Mongolians simply upgraded their current land possession allocation to private ownership under this program. This owned land could be bought, sold, or leased freely, but not to foreigners.

Mongolian citizens and legal entities can obtain possession rights over land for 15–60 years (with discretionary lease extensions) and foreign entities and residents can be granted land use rights for specific purposes under the Land Law. The 2013 Law on Investment (Article 12.1.1) allows 60 plus 40 years of land possession and use, which is also available to foreign entities under certain conditions.

In practice, the use of the tenure distinction between "possession" and "ownership" has created confusion and uncertainty as both afford holders similar rights. Firms and other legal entities cannot own land and must obtain these possession rights, which are subject to discretionary renewals and can be terminated after only 15 years. This creates uncertainty and can distort investment decisions in land due to perceptions that the certificates will not be renewed.

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6 Amendments to the current law will allow Mongolian citizens to acquire land ownership for family needs once until 2028.

Land administration in Mongolia is fragmented among multiple government land administrative organizations. There are numerous city and national government organizations involved in land administration, which makes it complex, costly, and time-consuming for people and businesses to register and use property. First, an applicant must go through a two-step process of first obtaining a land possession rights certificate, then applying for ownership of the parcel. The privatization process can be time-consuming, as privatization of a land plot involves nine government organizations and takes on average 113 days to complete (World Bank 2015). Also, some registration procedures are duplicated by multiple government agencies, increasing time and cost for the land user and the government agency. This complex process can create undesirable outcomes for applicants due to lack of understanding of the process (World Bank 2015).

The lack of a more centralized, transparent organization with unified standard causes results in difficulties obtaining and proving land tenure in Mongolia. Different land offices provide different quality of service levels and procedural clarity. Also, land allocation procedures give government officials wide discretion that can be misused (World Bank 2015).

3.4 The Pacific

3.4.1 Papua New Guinea

Papua New Guinea (PNG) is one of the most populous countries in the Pacific (second only to Australia) and is culturally diverse with over 800 indigenous languages spread over 600 islands. It contains the third largest rainforest in the world, which is home to endangered wildlife, plants, and diverse groups of indigenous people.

PNG is also one of the most rural, undeveloped countries in the world. Only 18% of its citizens live in urban cities. Most of its almost 9 million people live in customary villages. Also, like in many countries of the Pacific islands, customary land, land which has been ancestral property of clans, remains the dominant land tenure form. About 97% of land is in customary land tenure.[7] The PNG Constitution and other PNG laws protect customary land rights and set self-reliance, sovereignty,

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[7] Customary land is commonly defined as land owned by indigenous communities and administered in accordance with their customs, as opposed to statutory tenure usually introduced during the colonial periods.

and sustainable management of natural resources as overarching legal principles for the country.

Special Agriculture and Business Leases Program and Logging

Despite these legal protections and institutions, customary land in PNG is endangered. Under the Special Agriculture and Business Leases (SABLs) program in the 2000s, 12% of the country, about 5.5 million hectares, has been leased to foreign corporations (Oakland Institute 2013). Combined with 8.5 million hectares already granted before the SABL program was implemented, PNG has leased nearly one third of the 46 million hectares of land in PNG, mainly for logging. As a result, PNG is now the second largest exporter of tropical logs in the world, after Malaysia, and exports more than 3 million cubic meters of logs every year, mainly to the PRC (Oakland Institute 2013).

Customary land is also seriously endangered due to mining and oil gas extraction in PNG. Mining and oil and gas extraction are governed by the Mining Act 2020 and Oil and Gas Act 2020, respectively (both updated in June 2020). Essentially, the two acts state that minerals and oil and gas are under state ownership and prohibit making any allowance for the value of the minerals or petroleum known or supposed to be in, on, or under the land. Further, the Mining Act (but not the Oil and Gas Act) also states that no compensation shall be payable for permitting entry onto the land for exploration or mining purposes. Having said that, in practice, all mining and oil extraction projects in PNG have executed a compensation agreement between the developer and affected landholders (Filer, Henton, and Jackson 2000).

Under the Mining Act and Oil and Gas Act, landholders only possess "surface rights," which can be obtained with compensation. Under these laws, compensation is only paid to landholders when they are deprived of possession of the land, in cases of damage to the natural surface of the land, in cases of loss from denying access to the land, or in cases of damage to the adjoining land. There is also compensation for loss of earnings for land under cultivation by customary landholders.

However, at independence, PNG adopted a constitution that retained and applied existing law immediately before independence (such as the Mining Act) but also states that customary laws and rights to property, including customary ownership of land, are an integral part of the law of the land. This provided a justification for the claim that the customary landholders have mineral rights and other land rights based on the Constitution which cannot divested under the

Mining Act or any other regulations. This has been a justification for significant property conflicts between local peoples and mining concessionaires in PNG.[8]

In 2011, the PNG government established a commission of inquiry into SABLs that confirmed dire facts about these recent foreign land leases. The findings showed a widespread lack of free, prior, and informed consent of the local people; failure by government agencies to perform their caretaker duties; and fraud, misconduct, and lack of adherence to proper procedures.

Although the PNG government agreed that the findings revealed corruption and mismanagement, the government has found it difficult to take action to end the logging, cancel fraudulently obtained land deals, or return land to traditional owners. The new administration, led by currently by James Marape, has stated that he wishes to transform PNG from a resource extraction-based economy to a more agricultural-based economy, creating a "food bowl for Asia" (Marape 2019). It is too soon to tell if there has been a significant change in practices.

3.4.2 Vanuatu

Like PNG, Vanuatu is a land of great diversity with over 105 languages spoken, although there are only three official languages: Bislama, English, and French. It has an estimated population of 304,500 people spread across 82 relatively small islands (although only 65 are inhabited). It is one of the most linguistically and culturally diverse countries in the world, especially given its small land area. More than 80% of the land in Vanuatu is under indigenous customary ownership, with ownership held by extended families (Scott et al. 2012).

Under the Vanuatu Constitution, only indigenous citizens who have acquired their land in accordance with custom can have perpetual ownership of land (Constitution, Art. 75). Except for public land held by the government, all land in Vanuatu belongs to its indigenous customary owners. As only indigenous citizens who have acquired their land in accordance with Vanuatu customary practices are entitled to perpetual ownership, the main method for third parties to acquire land tenure is by lease. The maximum duration for a lease is 75 years (Land Leases Act 1983, S. 32).

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8 One example is the Panguna landowners' revolt and sabotage of mining activity at the Bougainville Copper Mine at Panguna. The perceived unfair distribution of profits from the mine between the local landowners and the mining company is considered the main reason for the violent revolt and eventual shutdown of the mine.

Fueled by speculative land dealings since independence in 1980, significant portions of Vanuatu's customary land holdings have been leased by government authorities to third parties without consent of their customary landholders. In 2010, 9.5% of the country has been leased to third parties (Scott et al. 2012). On the main island of Efate, 69.5% of urban areas and 43.6% of rural areas are under lease to third parties (Scott et al. 2012).

A significant factor in this alienation of customary land holdings has been the improper granting of land leases by the Minister of Lands. Under the previous Land Reform Act, §8(2), the minister had the authority to "conduct transactions in respect of the land including the granting of leases in the interest of and behalf of the custom owners" where ownership was disputed or occupied by an alienator. The main purpose of this grant was to enable the minister to resolve land right issues with respect to land alienated prior to Vanuatu independence where ownership was disputed. Even though the minister's powers were only to be used with respect to these types of disputes, there were instances where the minister improperly leased properties to third parties without consent even though ownership was not disputed. A former Minister of Lands was reported granting leases of land to his wife, son, friends, and associates for inadequate rentals and in disregard of the recommendations of the departmental advisory committee (Ombudsman of Vanuatu 1999a, 1999b).

In the first 30 years since independence, 20% of the rural leases in Vanuatu were signed by the minister. This figure may underestimate the number of leases granted by the ministry as another 29% of rural leases do not specify any lessor (Justice for the Poor 2012).

Things may have improved in 2011, as the new Minister of Lands, Ralph Regenvanu, stated that "new applications for registration of land leases of customary land w[ould now] require consent from an entire landowner clan, not just individuals" (Radio New Zealand International 2011). It appears that this was a step to avoid the practice of below market price leasing by the wrong landowner.

In 2014, new land laws were enacted to improve customary land protection: a new Customary Land Management Act (CLMA) and amendments to the existing Land Reform Act (LRA), with accompanying changes to the Vanuatu Constitution.

First, the changes to Article 30 of the Vanuatu Constitution require Parliament to consult with the Malvatumauri (the Vanuatu National Council of Chiefs) about any changes to the land law in Vanuatu, which essentially gives the Malvatumauri an advisory role to influence parliamentary decisions on indigenous customary land rights.

Second, a newly drafted Article 78 of the Constitution empowers custom courts rather than formal state courts to determine the customary landowners.

The CLMA was enacted to outline the process for custom ownership of land to be determined and formally recorded. Once a determination of customary ownership has been filed with the National Coordinator of Land Dispute Management, the determination becomes a recorded interest in land and cannot be challenged except on the grounds of improper process or fraud (CLMA 2013 §§§19(2), 27, and 40).

Reforms to the LRA removed the power of the Minister of Lands to sign on behalf of disputing customary owner groups without the consent of the disputing parties. The reformed LRA also removed the power of the minister to create leases over state land without the approval of the Council of Ministers and other relevant government authorities. This should better protect customary land as customary land held by customary peoples has often been leased to third parties by government authorities without the consent of local communities.

The enactment of the 2014 CLMA and LRA was the result of the interaction of many collaborative factors. First, there was the creation of the Land and Justice Party in 2010 by Ralph Regenvanu. The Land and Justice Party platform was to resist foreign ownership of land and businesses and make greater use of customary courts for property disputes. Regenvanu was then appointed the Minister for Lands in 2012 with the goal to enact laws based on the resolutions of the 2006 National Land Summit. This summit concluded that there was an increasing trend in land alienation in Vanuatu.

Second, there was local media attention resulting from an Australian lawyer's work advocating to revoke a dubious lease on behalf of customary owners, who then assisted the minister in drafting the CLMA and LRA.

Third, negative publicity of an Australian-funded initiative entitled "Mama Graon" raised concerns in the press and the public that this organization was trying to covertly facilitate the sales of Vanuatu land to foreigners.

Finally, media exposure of a significant amount of litigation coming before the courts revealed continuing abuses of power by various previous ministers for land who had improperly granted leases, and disputes over the premiums payable on existing leases. Due to all these factors, the public was made aware of the situation regarding land alienation. On that basis, Ralph Regenvanu's party was able to obtain popular support for the legal changes embodied in the CLMA and LRA to better protect indigenous customary land titles in Vanuatu.

3.4.3 Fiji

Fiji is another archipelagic country in the South Pacific. It is located south and east of Vanuatu and consists of more than 330 islands—of which 110 are permanently inhabited (FAO 2016). The inhabitants of the two major islands, Viti Levu and Vanua Levi, constitute 87% of the total population of the country. In Fiji, 87% of the land is owned by indigenous Fijians, the state holds 6%, and the remaining 7% is held under freehold title (FAO 2016).

In many countries of the South Pacific, governments have typically instituted a combination of local customary processes and principles of English common law and equity to regulate customary landownership. However, there has been a significant outlier: Fiji. In 1940, the British-led Fiji colonial administration enacted a law, The Native Land Trust Ordinance, which later became the Native Land Trust Act, Cap 134 (NLTA). The NLTA removed all powers of control and management from the customary landowners and placed them in the hands of a statutorily authorized land management board called the Native Land Trust Board (NLTB). The board has the sole authority to administer all lands held by customary title for the benefit of Fijian owners. The Board of Trustees of the NLTB comprises the President of Fiji, the Minister for Fijian Affairs, and another 10 members, of whom at least eight must be indigenous Fijians, with five of them being chosen by the Great Council of Chiefs (NLTA §3.(1)). This board has essentially complete authority over granting property leases in Fiji.

The customary landowners do not have any significant authority over the board. For example, there is not any direct representation by landowners on this board. The board is also not required by law to obtain consent or even consult with landowners as to the use of their land. The board is only required to ensure that the actual owners have enough land for their use, maintenance, and support (NLTA §9). Later legislation supplementing the NTLA provided a distribution of the revenue from the productive use of the land to stakeholders: up to 25% allocated to the board for administrative costs, 25% to be paid to Fijian chiefs, and the remainder of the revenue allocated to the customary landowners. This centralized land management policy in Fiji has been largely beneficial to the overall economy as it has enabled the leasing of a significant amount of arable land to produce sugarcane, which is one of the country's main exports.

This government-controlled property leasing system was devised during the British colonial period in 1940 to ensure that as much land as possible was made available for leasing to others, particularly to produce

sugarcane. Prior to 1940, many Fijian landowners had been reluctant to lease their land, especially for sugarcane farms, which were mainly worked by Indians, and had delayed doing so or insisted on onerous terms (Paterson 2001). The government-controlled leasing system resolved that by essentially taking away control from landowners. Likely, Fijian landholders were not as aware of, or at least not as willing to assert, their property rights in the late 1930s as they would be now under a self-governing democracy.

While Fijian landowners benefit from the forced leasing structure, there have been complaints regarding the board's land management. For example, there have been complaints that excessive amounts of land have been leased without leaving sufficient land for use by and support of customary landowners. There are also complaints stating that lease rental rates are below fair market value, payments are occasionally delayed, and the wishes of the landowners have not been fully considered. On a positive note, there have been very few charges of corruption, embezzlement, or misuse of funds by the board.

3.5 Conclusion

Based on a review of the land title systems in major economies in Southeast Asia, North Asia, and the Pacific, there appears to be significant alienation of the rural poor, including customary peoples, due to powerful corporate interests extracting rent and resources from their landholdings. For example, there is systematic exploitation of customary peoples' land rights and natural resources in PNG, where nearly one-third of the customary land is being logged by foreign companies for tropical wood destined for other countries. Also, there are proven and suspected abuses of Malaysian, Indonesian, and Philippine land rights resulting in the displacement of indigenous people—usually without any effective means of redress for the displaced.

However, there are some success stories in the region. For example, in Vanuatu, after years of disregarding customary peoples' land rights, the new government administration appears to be focused on providing greater transparency of processes and ending corrupt or unfair land leasing practices by government officials. In the PRC, there is also the advent of a partially privatized property system allowing farmers to use property to transfer land more freely and secure loans, which has increased the productivity of the PRC's farmers. There is also the unique example of Fiji, where land rights of the indigenous landowners are significantly curtailed and would be difficult to implement in other countries but provide the local people with a share of the land

rent payment for the government-controlled leasing of their land to agribusinesses—mainly for sugarcane farming.

While the PRC has made great strides in terms of providing more property rights to urban and rural citizens, there is still a lot more that can be done to protect the PRC's property owners from forced displacement and abrupt evictions via eminent domain. As real estate in the PRC has become more valuable, takings are extremely unpopular with property-owning citizens. A possible change that could be implemented to provide more certainty to landowners would be to narrow the scope of eminent domain only to specific public interest needs. This would provide additional security to property-owning citizens that their property will not be taken for private property development but would require buy-in by the government.

The situation in PNG clearly shows that even when a country has a legal and administrative apparatus designed to support property rights, if the government is focused on making such land available to foreign business enterprises, these systems will not always protect landowners from government-sponsored land rezoning if not outright land grabbing. Even in this case, properly incentivizing the government to protect land rights (perhaps through finance projects) and moving away from the dependence on resource extraction to low-scale agribusinesses (with perhaps some compensation scheme that allows local people to share in the rewards) could be a possible way forward.

In contrast to PNG, the Vanuatu administration seems to have the political will to implement laws that protect customary lands and, most importantly, appoint accountable ministers that will implement these regulations to prevent improper land transfers. In contrast with PNG, even though both countries have a regulatory framework to protect customary land, the key difference is government-supported policies to protect their land via the appointment of competent administrators that will implement the existing regulations to protect indigenous land rights.

There are also situations like in Mongolia, which is rapidly privatizing a previously state-owned property tenure system and running into difficulties resulting from an inefficient and inadequate government property registration system. This under-funded system is causing unnecessary costs, time, and possibly unfair property registration outcomes. Third-party funding of a unified, digital property record system in places like Mongolia and other jurisdictions could likely improve security of property holdings of people using the new property registration systems.

If international financial institutions and project financiers want to

help customary peoples and local landowners in countries where land rights and titles are being disregarded if not abused, it is time to act in a decisive manner. The success in Vanuatu should be made an example and perhaps incentivized as a roadmap for countries to replicate to improve customary peoples' land rights and security of title.

Overall, for success to occur in these regions, it seems that you need two main ingredients—an administrative and legal structure that supports individual and customary property rights, and most importantly, a government administration willing to help the most disadvantaged and marginalized of their citizens.

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PART II
Current Challenges for Land Use Management

4

Land Readjustment in Indonesia: Effects in Denpasar on Land Management, the Spatial Distribution of Land Prices, and the Sustainable Development Goals

Felipe Francisco De Souza and Hideki Koizumi

4.1 Introduction

4.1.1 Land Readjustment

After World War II and the following decades in which colonialism and colonial processes came to an end, a new agenda for the diffusion of ideas and models took place and international cooperation agencies became the main drivers to support the developing world in turning new projects into reality. Among different ideas and models, land readjustment has been practiced and transferred for more than 100 years, and recent decades have seen an unprecedented interest in this planning instrument. Perhaps this is due to its significant benefit to rights holders, as it is focused on community-based decision making, and its expressive outcomes in countries like Japan, the Republic of Korea, and Germany. Land readjustment is a public–private partnership instrument that relies on the distribution of costs and benefits in urbanization processes by requiring that all property owners contribute a share of their property for public spaces, seeking, in principle, the maintenance of property titles after project completion. This planning instrument is mainly based on a contribution ratio in exchange for

the provision of infrastructure, land registration, certification, and social facilities. Subsequently, land-related problems—especially those that are common in developing countries—can be solved during the development process. These include irregularly shaped lots, the scattered distribution of housing, the unfair advantage accruing to adjacent landowners resulting from the development of nearby lots, and the lack of recording and registration of land. Irregular lots are rearranged through a replotting exercise—changing the location, format, and area of several land plots—into well arranged, productive, and regular shaped lots, thereby alleviating physical and environmental problems suffered by the affected owners.

In addition, property owners contribute with land to sell to pay back the costs of improved facilities. Landowners bear the costs of urbanization at the time of development, and they have the incentive to do this, among other reasons, because their net land price likely increases after the urbanization process (Acharya 1988, Home 2007, Sorensen 2007). In other words, through land readjustment projects, the main contribution is in the form of land that will improve the public realm—roads, parks, sidewalks, and other public sites—and, consequently, increase private land prices. As purchasing land for public facilities can be prohibitively expensive, through the win–win potential of land readjustment and the sale of cost recovery land, it is possible to finance projects that would not be achievable through other means (Sorensen 2009). On the negative side, in practice, land readjustment is not easy to adapt and implement; it faces numerous challenges, including existing path dependent planning policies, the correction of coordination failures, and necessary institutional improvements and reconfigurations. As many collective actions are needed, the application of land readjustment gets more complex and complicated; in addition, inversely, that application may not serve the same goals in different economic and social contexts, under the penalty of misplaced ideas (Schwarz 1981). On the positive side, land readjustment has enormous potential to achieve fundamental democratic principles, such as (i) the just powers of government based on the consent of the governed; (ii) political equality through the fair distribution of costs and benefits of the urban development; and (iii) transparent decision-making processes, including fair elections of the representatives in charge of implementing the project (De Souza 2018). However, the scale and quality of achievements related to land readjustment differ considerably from one city to another, especially when it comes to the initial stage and actual development conditions of the planning system of the "recipient" city.

4.1.2 Case Study: Denpasar, Indonesia

When the debate on land readjustment arose internationally in 1979 (Doebele 2007), Indonesia was already experiencing several problems related to a massive growth rate of the urban population of 5% per year (Harun 1998). These problems included a shortage of urbanized land, informal and scattered building development, and the delayed and inadequate provision of network infrastructure. The adaptation process of land readjustment in Indonesia—known as *konsolidasi tanah*, or land consolidation—began when the head of Badung Regency together with other Indonesian government officials went to Taipei,China for training at the Land Reform Training Institute (Morita 1990). In Taoyuan, these officials also studied the Japanese *kukaku seiri* experience. Unlike in other countries, land consolidation began in Indonesia for land administrative purposes because the main task of the Directorate General Agraria (DG-Agraria) of the former Ministry of Home Affairs at that time was to carry out land management and administration (Harun 1998). DG-Agraria wanted to implement land consolidation as a way to change the method of land ownership and certification from the traditional and customary adat law to newly established laws and regulations.

The term adat law comes from an Arabic word meaning custom and refers to a social organization classified into distinct types of independent legal community (Gluckman 1949). Different ethnic groups are meant to be governed according to their own diverse laws and customs. In Indonesia, some similarities between these groups can be found, including a distinction between earned property and inherited property. The earner may freely dispose of the former but not the latter, as inherited property becomes family property. Also, a community chief can reduce the usage period of the earned land and take over individuals' unused land for redistribution to the landless (Ter Haar 1948, Arens 1949). All members of the community shall have access to some arable land as part of the community's obligations. By working on a piece of land, the individual creates a legal relationship termed the "native right of possession," which is quite different from the rights that, in developed systems of laws, are termed "usufruct" and "use." Land holding in adat law is "held in the hierarchical organization of the society, and an estate-holder has a duty to allot land within his estate to his dependents who have a corresponding right to claim land from him" (Gluckman 1949, p. 64). Primary holders allot secondary estates of holding to secondary holders, who allot tertiary estates of holding to tertiary holders, and so on. All these estates may

exist on the same parcel of land at the same time. Therefore, adat law has conflicting implications and, in some situations, becomes the trigger for certain kinds of problems. Complications include the ritual and metaphysical sides related to land holding and land transactions, to alterations of status, and to settlements of land-related injuries (Takano 2009).

Over the past decades, the Indonesian government has intensified efforts to recognize customary land rights by formalizing them through land consolidation. Formalization can help establish the legal validity of entitlements to land, thereby providing rights holders with legal certainty (Simarmata 2019). In this context, the staff in charge of the Province of Bali selected a project area to implement the first land consolidation project in the country. The project area was located in the Renon area, which included the Sumerta Kelod village and the Renon and Panjer villages. These areas, previously satellite areas of the city of Denpasar and well known for producing rice, were to be converted into a settlement facing the buildings of the newly established provincial government (Putra 1993). Therefore, the idea of readjusting land for the first time in Indonesia could combine the legal validity of entitlements to land and the desire to safeguard the new regional administrative area from growing in a disorderly manner (Kusumadewa 1985). Initially, there was no expectation of a significant increase in land price above the value of landowners' contribution that would justify the initial required contribution of 27% for public facilities (and reserve land). The community did not approve this ratio and the consolidation plan came to a halt, which required a newly formed project team to conduct intensive guidance directed to the affected community. Subsequently, a covenant was finally achieved due to a lower contribution ratio of 18%, followed by a jointly signed declaration by the landowners (Kusumadewa 1985).

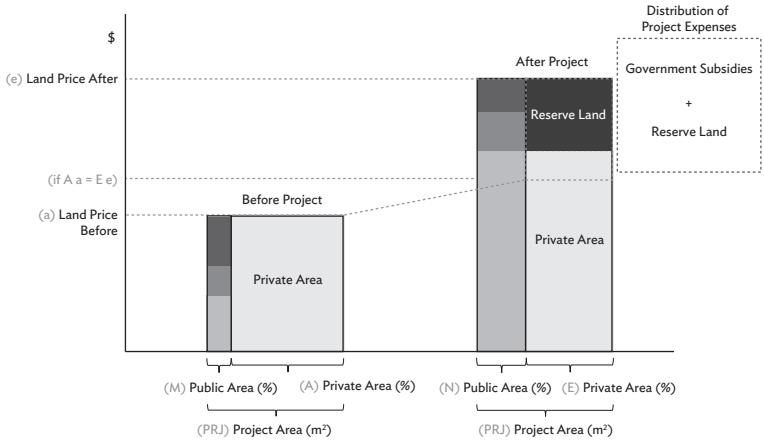
The Renon project, which started in 1982 and ended in 1985, did not include the installation of network infrastructure such as roads, sewage, etc., although it created a planned layout for the roads. The project "provided land for roads and some other purposes at no cost to the government; provided road access for each parcel while regularizing its shape; and, more importantly (from the viewpoint of DG-Agraria), provided to landowners registered title for their new parcel" (Harun 1998, p. 6). According to Nishiyama (1989), even if there was enough knowledge to forecast a further increase in land prices, the contribution of part of the earned or inherited property for reserve land—or cost recovery land—was legally impossible back when the Renon project was first planned. As a result, the government decided to implement land

consolidation, paying the implementation costs afterward. Reserve land was only made possible after the implementation of the Regulation of the Head of National Land Agency, No. 4 of the Year 1991, Concerning Land Consolidation, which approved three sources of funding: the national state budget, the local state budget, and community self-finance through the sale of reserve land. Such state budgets should fund all steps of land consolidation until the stage of land registration. In addition, the development of infrastructure such as roads should be funded by public work agencies.

Thus, the early land consolidation model implemented by the Government of Bali was fully subsidized without the sale of cost recovery land, which ultimately created a path dependent situation (Sorensen 2015) that has not been possible to change in Denpasar so far. Such an approach is different from the Japanese model (Figures 4.1 and 4.2). Back in the 1980s, there was no legislation enabling cost recovery land and ensuring that landowners would get the investment back, and it became a more delicate problem since the implementers were government officials (Dharmawan 1989). Although national regulation has made the use of cost recovery land possible since 1991, and the increase in land price returned to the landowners would allow them to give up more land area and still receive a good gain in land price, the majority of landowners still oppose it. Apparently, some landowners attach more importance to their land area than to its market value, despite the fact that the land consolidation pilot project in Renon dramatically pushed up the price of land after its implementation (Kusumadewa 1985, Putra 1993). Such a benefit also became apparent in subsequent projects, but it was still not possible to convince landowners to contribute to reserve land. Landowners whose plots of land have to be used for public facilities will have to accept a replacement with other plots that are sometimes situated far away from their original and ancestral places. Reserve land makes the scenario even more complicated due to this locational gap and the psychological relationship between the plot of land and everyone who was entitled to the said plot (Kusumadewa 1985, Tarigan 1992). Even with an already established adat land swapping practice that makes the ongoing international advocacy on land readjustment make sense, landowners in Denpasar—especially in marginal agricultural communities—prefer simple types of land consolidation schemes that require small land reduction with fewer changes and less infrastructure provision (Harun 1998).

Nevertheless, in the early days of land consolidation implementation in Indonesia, the goal of DG-Agraria to expedite

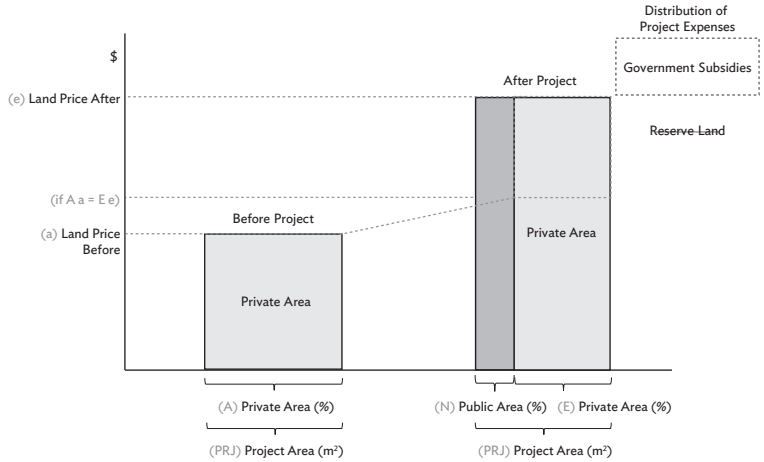
Figure 4.1: Land Readjustment in Japan (*kukaku seiri*)



m^2 = square meter.

Source: Authors, based on Yanase's (1996) theory of replotting.

Figure 4.2: Land Readjustment in Denpasar, Indonesia (*konsolidasi tanah*)



m^2 = square meter.

Note: Comparison between the Japanese land readjustment model (*kukaku seiri*), which relies on reserve land, and the land readjustment model (*konsolidasi tanah*), as applied in Denpasar, Indonesia.

Source: Authors.

land ownership and certification was achieved, leaving some project areas countrywide not fully developed. Subsequently, DG-Agraria was reorganized as the National Land Agency (*Badan Pertanahan Nasional*, or BPN) and, from 1989 to 2002, six Japanese experts were dispatched to support land consolidation improvement and nationalization. Even after the continuous influence of the Japanese, and after the status of DG-Agraria was lifted to the ministerial level, land consolidation practices did not change: they are still, and even more strongly, focused on land titling objectives. Part of the reason for that is that "land consolidation projects enabled the National Land Agency to implement a planned subdivision layout in the absence of a land subdivision control law and regulations, and to confirm and record land ownership in a situation where many landowners do not have registered title to their land" (Harun 1998, p. 6). These are valuable benefits, and the latter is especially welcomed by landowners, motivating their participation in the projects.

4.1.3 The Problem Being Addressed

One of the concerns of the present study centers on an aspect attributed to land readjustment: landowners have the incentive to provide land contributions to increase public spaces because the net land price may increase after the urbanization process. Many models seek to understand land price formation through enhancements by individual landowners or as a result of public policies, both of which consolidate urbanization processes. Based on derivations and standard assumptions, recent literature shows that the rise in the price of land is largely the result of public expenditure based on factors such as accessibility, infrastructure, and environmental conservation, among others (Nilsson 2013). However, there is the difficulty of consistently and accurately measuring that portion of increased land price that was due to public actions, and by which public actions, as opposed to private efforts such as capital improvements or effective management.

In the context of Denpasar, land prices have been skyrocketing for a considerable time, alongside land consolidation projects (Simamora, Subiyanto, and Hani'ah 2012). Other factors that play a role include foreign investments. Funds to buy property in Denpasar are coming from overseas, and although foreigners cannot own freehold titled land, several have bought large tracts of land with ownership limited for up to 80 years. Investment in property and real estate businesses in Denpasar is substantially financed by different forms of offshore funding, and the contrasting differences in land prices between Denpasar and investors' cities make it attractive for long-term investment (Silas

1993, Ramantha 2004). Aiming to compete for more investments, the Indonesian government also offers economic possibilities and simplicity in procedures, besides various comparative advantages such as deregulation, tax breaks, cheap labor, and abundant natural resources. Such practices have influenced the rise in property values, making it harder to evaluate the impact of land consolidation projects alone. When international agencies and government departments publish data on land prices from land readjustment projects, they usually publish data before and after projects' execution, without any update related to inflation or other external factors (Table 4.1). This affords the incorrect understanding that the whole increase in land prices is down to projects' execution. In other words, many reports have promoted an increase in land prices without additional data, such as updating past land prices according to inflation (net present value, NPV), or data for land prices in other areas with no land readjustment implementation, to provide a more precise comparison and evaluation of the increase in land prices.

The Indonesian government historically maintains high interest rates attractive to foreign investors looking for high rates of return. The combination of government incentives and high economic growth due to tourism activities supports a sharp increase in urban land prices in Denpasar since the 1990s. During the Asian financial crisis of 1997, the country suffered a loss of confidence and inflows of funds, experiencing a devaluation of its currency that led to high inflation. Therefore, understanding the Indonesian economy's history points to a concern that in the context of increased inflation, speculation, and overlapping externalities, the real increase in land prices after land consolidation projects is unknown. In order to approach this concern, the following sections will present an assessment of the central districts of Denpasar and six land consolidation projects to evaluate changes in land prices, comparing variation throughout time through an analysis of the econometric estimator of difference-in-differences.

Table 4.1: Land Consolidation Implementation in Denpasar since 1982 (as of 2000)

Project Site	Area (ha)	No. of Participants	Period of Implementation	Before Project, Average Land Price (Rp/m²) (year)	After Project, Average Land Price (Rp/m²) (as of 2000)
Renon	77.258	395	1982–1985	30,000 (1982)	600,000
Lumintang	95.8096	511	1985–1986	25,000 (1985)	250,000
Nongkatohpati	95.05	587	1986–1987	10,000 (1986)	300,000
Yangbatu	29.3207	275	1986–1987	30,000 (1986)	750,000
Kantor Pos	34.7935	223	1989–1990	30,000 (1989)	450,000
Ubung Tukad Mati	200	847	1990–1991	20,000 (1990)	500,000
Padang Sambian Kaja	100	413	1991–1992	20,000 (1991)	100,000
Sumerta Klod Kedaton	74	428	1992–1993	30,000 (1992)	350,000
Panjer	50	395	1993–1994	25,000 (1993)	600,000
Renon Panjer Sidakarya	158	832	1994–1995	60,000 (1994)	500,000
Pemecutan Klod Semila	50	371	1994–1995	50,000 (1994)	400,000
Ubung Cargo	90.03	439	1995–1996	35,000 (1995)	400,000
Padang Sambian Kerobokan	16.58	76	1992–1993	60,000 (1992)	100,000
Total	1,070.842	5,792			

ha = hectare, Rp/m² = rupiah per square meter.

Source: Denpasar Municipality Government and National Land Agency (2000).

4.2 Methodology

4.2.1 Research Design: Difference-in-Differences Estimator

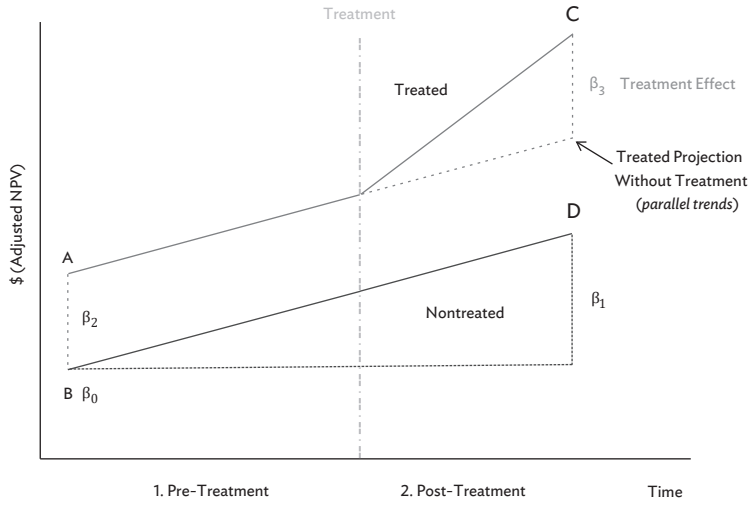
An objective of the present study is to use the difference-in-differences estimator to evaluate land price changes over time, inside and outside the land consolidation project areas. The goal is to understand if land price disparities can be found by comparing land consolidation project areas with areas urbanized without land consolidation yet with similar characteristics, such as the same urbanization period, the same distance from the central business district, and so on. Difference-in-differences is a statistical model that attempts to mimic an experimental research design using observational data. It is used to isolate the effect of interest—in this case, the urbanized land price per square meter—by comparing it with a control group. Thus, two groups are evidenced: (i) the control group, or nontreatment group areas, whose landowners were not the target of the urban planning tool to be evaluated; and (ii) the treatment group, whose landowners were targets of land consolidation projects.

The difference-in-differences estimator calculates the effect of a treatment on an outcome by comparing the average change over time in the outcome variable for the treatment group compared to the average change over time for the control group. The assessment of the impact on the chosen variable—urbanized land price—is based on the data of both groups, before and after the application of land consolidation and the execution of the projects. Although it is intended to mitigate the effects of extraneous factors and selection bias, the methodology uses as an assumption the parallel trend hypothesis, which might still be subject to certain biases (e.g., mean regression, reverse causality, or omitted variable bias). The parallel trend hypothesis contends that had the land consolidation project not existed, two similar areas would have had identical trajectories on an outcome over the same period. The benefit of using difference-in-differences relies on not needing other control covariates—such as income and schooling—to obtain results. Only four observations are necessary for an estimated regression: (i) the model constant, (ii) the year variable, (iii) the treatment dummy, and (iv) the dummy composed by treatment multiplied by time:

$$Y = \beta 0 + \beta 1 * [\text{Time}] + \beta 2 * [\text{Intervention}] + \beta 3 * [\text{Time} * \text{Intervention}] + \varepsilon$$

where $\beta 0$ is baseline average (B), $\beta 1$ is time trend in nontreated group (D−B), $\beta 2$ is difference pre-intervention (A−B), and $\beta 3$ is difference in changes over time (C−A)−(D−B) (Figure 4.3).

Figure 4.3: Analytical Model for Difference-in-Differences Estimator



NPV = net present value.

Note: Difference-in-differences is implemented as an interaction term between time and treatment group dummy variables in a regression model.

Source: Authors, based on Card and Krueger (1994).

4.2.2 Data Collection Procedures, Sampling, and Randomization

The methodology related to this research relies on primary and secondary data collection and analysis. Secondary data were collected from a master's degree thesis and Denpasar government reports from the 1990s that provided substantial, but limited, data related to land prices. The main goal of the thesis was to explain land price formation at that time, looking at independent variables such as the width of the roads facing the properties, the pavement condition of the road system, and the uniformity of the land plots (Haryoto 1997). Primary data were collected by an extensive survey in 2017, including 1,711 households, or 0.62% of the total number of households of Denpasar (as of 2017) with the support of the University of Udayana. For this population size (275,766 households) and the quantity of samples (1,711 questionnaires), there is a margin of error of +/–2.36% at a 95% confidence level, or two standard deviations

(reasonably accurate, given that the percentage of the samples within the range is 95%). For the sake of the present work, the focus will be on samples gathered in the central districts of Denpasar and six land consolidation projects, considering primary and secondary data collection.

As mentioned, for primary data acquisition in 2017, a survey was conducted. Before starting the survey, a sampling plan strategy was used to provide potential randomization. The sampling plan strategy used was the random clustered (Smith, Goodchild, and Longley 2015). In this strategy, the target area is divided into larger segments based on the number of sampling units required to fulfill the research objectives (Figure 4.4a). Within each segment, a single point is randomly distributed (Figure 4.4b). Such a strategy is best compared to regular sampling and random sampling. Regular sampling presents problems because: (i) the sampling interval may coincide with some periodicity of the data in the study, resulting in considerable bias; and (ii) the set of distances of the samples being fixed can result in a loss of information on distance-related effects. Random sampling is also problematic, because some important areas may be left out of the study. To overcome such problems, random clustered sampling was therefore attempted, combining the benefits of the regular and random sampling methods. After establishing the proper strategy, randomization was conducted throughout Denpasar using geographic information system (GIS) software (Figure 4.4c).

As a general rule for this randomization process, public areas such as ring roads, parks, and major government facilities were left out, which is why some gaps can be found in the points distribution. With the list of tentative geographical points, the surveyors addressed households with a questionnaire asking the following questions: "What is the actual number of family members in the household? What is the estimated area in square meters of your land and your property? What is the actual transaction price (market value) of your land and your property, in your opinion?" In addition, to acquire past data, the following questions were asked: "When did you buy your property and for how much? Did you buy it just as land?" Ultimately, a dataset was built for land prices in three different years: 1978, 1982, and 2017. As mentioned previously, Indonesia in 1997 was severely exposed to the Asian financial crisis; thus, the country started to invest less in infrastructure, reducing the supply of urbanized land in a scenario of broad migration and demand. Imported components used in civil construction, such as machinery, became more expensive, leading the producer to incorporate this increase into the final price to the consumer. Within this context, due to macroeconomic externalities and inflation fluctuation of the Indonesian currency (rupiah, Rp), all the collected prices were updated to the present value as of 2017 using the Indonesian Consumer Price Index (IDCPI, 1969, *Badan Pusat Statistik*).

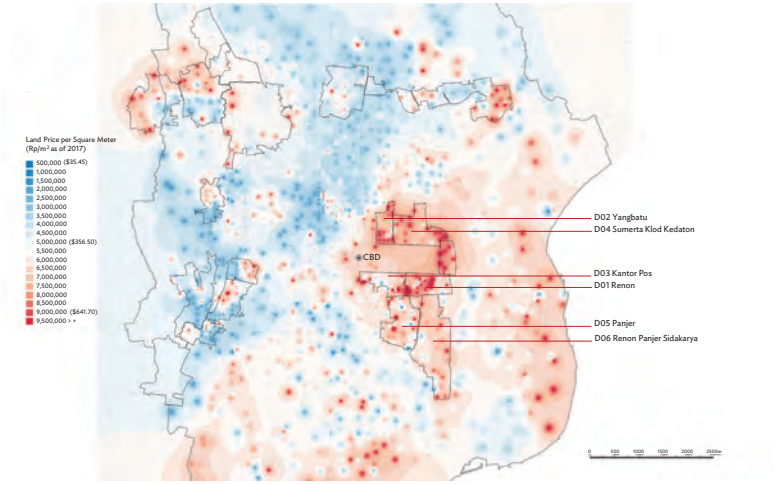
**Figures 4.4a: Clusters with Centroids,
4.4b: Randomization within Clusters, 4.4c: All Sampling Points**

Note: Denpasar sampling process. Darker shade areas represent land consolidation project areas (the treatment group). By comparing before and after the project implementation, utilizing the difference-in-differences estimator, it is possible to evaluate regional disparities related to land prices inside and outside project areas.

Source: Authors.

Last, to properly evaluate the reliability of the answers collected in the survey, considering the literature related to problems with self-reported data and its limitations (Northrup 1996), the research also made use of real estate websites, as well as land and property sale prices in 2017, to be used as a control variable estimator. The problem related to self-report questionnaires, when the interviewee declares values, is that the quality of the answers can be doubtful (Walsh 1987). That does not mean that incorrect answers are given intentionally, but it may mean respondents may not have full and accurate knowledge of the requested information. Even in a context such as Denpasar, where the real estate market is widely debated and printed in local newspapers due to its high value, not every citizen will precisely know land and property prices. In other words, a control estimator was necessary to evaluate under- or over-estimations provided by the questionnaire respondents and, after a hypothesis test for the difference between the two means (data collected through survey and collected through real estate websites), enough statistical ground was found to attest they are the same population (means show a considerable overlap besides variance). The outcome from the survey was also declared accurate when compared with previous interviews with real estate developers and with Denpasar scholars when asked about valuable areas in the city (Figure 4.5).

Figure 4.5: Distribution of Land Price per Square Meter in Denpasar, Indonesia



Note: Distribution of 1,711 samples according to the survey conducted in 2017, and the interpolation taken from the results of land price per square meter. Interpolation method was inverse distance weighting using geographic information system (GIS) software. CBD refers to the central business district, and dashed areas refer to land consolidation project areas. According to real estate developers and scholars from Denpasar, (i) in the eastern part, the land price is high because it is a tourism location; (ii) in the downtown part, the land price is high because it is the city center and government area; (iii) the southern part is also a tourism area and very densely populated; and (iv) in the northwestern part, the land price is high because it borders the Badung Regency (Padangsambian Kerobokan area), which is the most developed area in that regency.

Source: Authors.

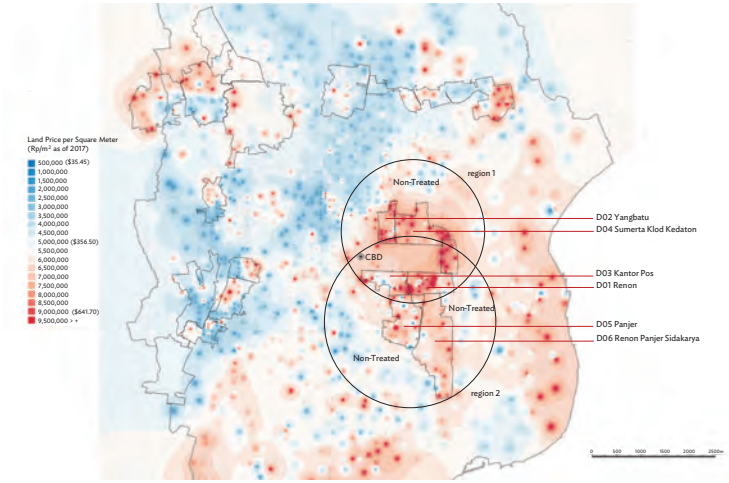
4.3 Discussion

4.3.1 Research Results

Within the context of the methodology proposed, the difference-in-differences estimator was used to calculate the effect of land consolidation treatment on land prices compared to the average change over time for the nontreated group areas. The estimator was used to isolate the effect of interest, excluding increased inflation and overlapping externalities as much as possible. Therefore, it focused on effects such as better planned roads than other areas, and consequently

the concentration of businesses and better services, among others. Two circular regions were selected for this evaluation. In region 1, the treatment group consisted of Yangbatu and Sumerta Klod land consolidation projects, and the control group consisted of Denpasar Wards of Timur No. 1, No. 2, No. 6, No. 7, and No. 8. In region 2, the treatment group consisted of Renon, Kantor Pos, Panjer, and Sidakarya land consolidation projects, and the control group consisted of Denpasar Wards of Timur No. 1 and No. 2, and Selatan No. 6 and No. 7 (Figure 4.6). The nontreated (control) group areas were selected using the same variables and conditions as the land consolidation treatment group areas (variables such as time of urbanization, distance from the central business district, existence of basic infrastructure, etc.), except for land consolidation projects, as much as possible.

Figure 4.6: Selected Treatment and Nontreatment (Control) Group Areas (Circle Regions 1 and 2)



Note: In region 1, the treatment group consists of Yangbatu and Sumerta Klod land consolidation projects, and the control group (nontreated) consists of Denpasar Wards of Timur No. 1, No. 2, No. 6, No. 7, and No. 8. In region 2, the treatment group consists of Renon, Kantor Pos, Panjer, and Sidakarya land consolidation projects, and the control group (nontreated) consists of Denpasar Wards of Timur No. 1 and No. 2, and Selatan No. 6 and No. 7.

Source: Authors.

The analysis related to land prices using the difference-in-differences estimator in the first circular region was statically significant and treatment areas from 1982 to 2017 ($p<0.01$) performed, on average, 48.80% better than control areas (urbanized without land consolidation, yet with similar characteristics) (R-squared: 0.79) (Chart 4.1). The parallel trend assumption held from 1978 to 1982 ($p<0.1$), as there was no evidence that there was a significant difference-in-differences over time before projects started. During that time, the difference-in-differences was not zero but small, at about Rp51,275 or $3.64 per square meter (as of 2017) (Chart 4.2). It was possible to find, therefore, a maximum treatment effect related to land consolidation in the first circular region on average of Rp2,876,317 or $204.22 per square meter (as of 2017) (Chart 4.1 and Figure 4.7).

The second circular region was also statically significant and from 1982 to 2017 ($p<0.01$), treatment areas performed, on average, 39.59% better than the control areas (urbanized without land consolidation, yet with similar characteristics) (R-squared: 0.56) (Chart 4.3). The parallel trend assumption held from 1978 to 1982 ($p<0.1$), as there was no evidence that there was a significant difference-in-differences over time before projects started. During that time, the difference-in-differences was not zero but small, at about Rp47,703 or $3.38 per square meter (as of 2017) (Chart 4.4). It was possible to find, therefore, an expressive treatment effect related to land consolidation in the second circular region on average of Rp1,986,739 or $140.86 per square meter (as of 2017) (Chart 4.3 and Figure 4.8).

Some conclusions are possible from the research results. First, on the basis of results from the difference-in-differences estimator, some initial findings suggest evidence of the land consolidation treatment effect. Indeed, the maximum effect on the increase in land prices reaches about 49% when compared with areas urbanized without the planning instrument. In particular, the concentration of higher land prices represents a strong argument in favor of land readjustment, which means that the projects generated more social benefits than costs. Second, even controlling for inflation, and bringing past prices to NPV (as of 2017), the prices for the first difference—before the project implementation—are low and seem to have a small effect on the second difference. In addition, when testing if the parallel trend assumption holds or not, the effect was not zero, but a really small effect of around $3.50 was found. Therefore, past data helped to ensure validity of difference-in-differences in this research.

Chart 4.1: Difference-in-Differences 1982–2017

Number of observations in the DIFF-IN-DIFF: 157

	Before	After	
Control:	21	56	77
Treated:	22	58	80
	43	114	

Outcome var.	Land_~e	S. Err.	|t|	P>|t|
Before				
Control	439,065			
Treated	534,557			
Diff (T–C)	95,492	5.6e+05	0.17	0.865
After				
Control	6,332,692			
Treated				
Diff (T–C)	9,304,501	3.5e+05	8.61	0.000***
Diff-in-Diff	2,876,317	6.6e+05	4.36	0.000***

R-square: 0.79
Inference: *** p<0.01; ** p<0.05; * p<0.1

Chart 4.2: Parallel Trend 1978–1982

Number of observations in the DIFF-IN-DIFF: 157

	Before	After	
Control:	56	21	77
Treated:	58	22	80
	114	43	

Outcome var.	Land_~e	S. Err.	|t|	P>|t|
Before				
Control	178,628			
Treated	222,845			
Diff (T–C)	44,217	1.6e+04	2.80	0.006***
After				
Control	439,065			
Treated	534,557			
Diff (T–C)	95,492	2.6e+04	3.68	0.000***
Diff-in-Diff	51,275	3.0e+04	1.67	0.097*

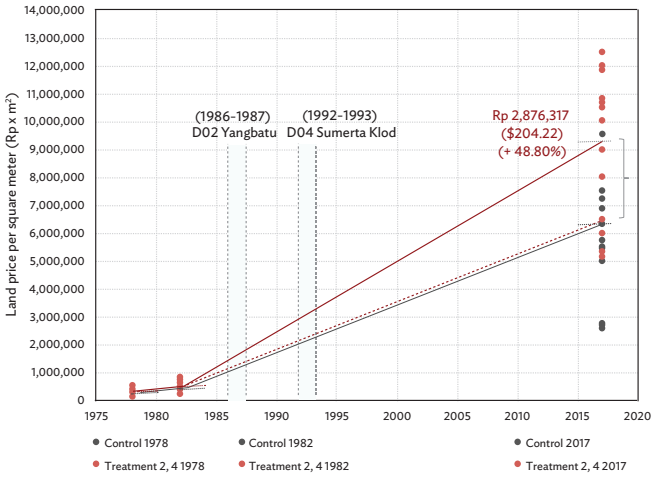
R-square: 0.71
Inference: *** p<0.01; ** p<0.05; * p<0.1

NPV = net present value.

Note: Chart 4.1: Land price per square meter in Denpasar, evaluated through difference-in-differences estimator 1982–2017 (adjusted NPV 2017). Chart 4.2: Parallel trend for land price per square meter in Denpasar, evaluated through difference-in-differences estimator 1978–1982 (adjusted NPV 2017).

Source: Authors.

Figure 4.7: Difference-in-Differences Estimator (Region 1) (1982–2017) (Adjusted NPV 2017)



NPV = net present value.

Note: Treatment: Yangbatu and Sumerta Klod land consolidation projects (2, 4); Control: Denpasar Wards Timur (1, 2, 6, 7, 8). Adjusting prices from 1982 to 2017: inflation over the period was 1,987.89% using the Indonesian Consumer Price Index (IDCPI 1969, *Badan Pusat Statistik*); Initial Index: 6.69, End Index: 139.58.

Source: Authors.

Chart 4.3: Difference-in-Differences 1982–2017

Number of observations in the DIFF-IN-DIFF: 252

	Before	After	
Control:	39	59	98
Treated:	40	114	154
	79	173	

Outcome var.	Land_~e	S. Err.	|t|	P>|t|
Before				
Control	454,576			
Treated	539,059			
Diff (T–C)	84,483	6.1e+05	0.14	0.890
After				
Control	5,472,302			
Treated	7,543,524			
Diff (T–C)	2,071,222	4.4e+05	4.74	0.000***
Diff-in-Diff	1,986,739	7.5e+05	2.64	0.009***

R-square: 0.56

Inference: *** p<0.01; ** p<0.05; * p<0.1

Chart 4.4: Parallel Trend 1978–1982

Number of observations in the DIFF-IN-DIFF: 252

	Before	After	
Control:	59	39	98
Treated:	114	40	154
	173	79	

Outcome var.	Land_~e	S. Err.	|t|	P>|t|
Before				
Control	301,093			
Treated	337,873			
Diff (T–C)	36,780	1.7e+04	2.22	0.028**
After				
Control	454,576			
Treated	539,059			
Diff (T–C)	84,483	2.3e+04	3.63	0.000***
Diff-in-Diff	47,703	2.9e+04	1.67	0.097*

R-square: 0.40

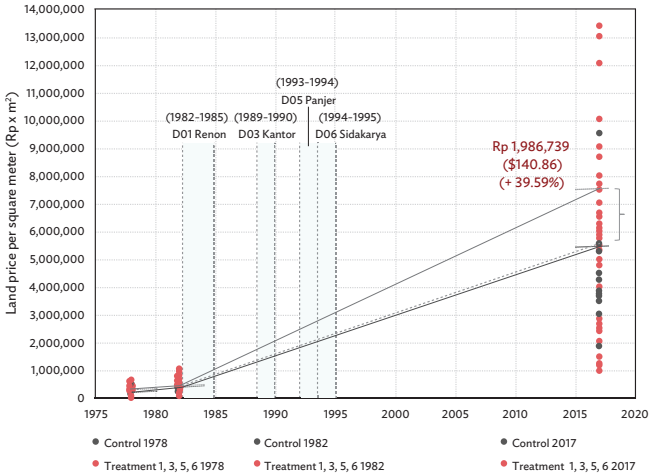
Inference: *** p<0.01; ** p<0.05; * p<0.1

NPV = net present value.

Note: Chart 4.3: Land price per square meter in Denpasar, evaluated through difference-in-differences estimator 1982–2017 (adjusted NPV 2017). Chart 4.4: Parallel trend for land price per square meter in Denpasar, evaluated through difference-in-differences estimator 1978–1982 (adjusted NPV 2017).

Source: Authors.

Figure 4.8: Difference-in-Differences Estimator (Region 2) (1982–2017) (Adjusted NPV 2017)



NPV = net present value.

Note: Treatment: Renon, Kantor Pos, Panjer, and Sidakarya land consolidation projects (1, 3, 5, 6); Control: Denpasar Wards Timur (1, 2), and Selatan (6, 7). Adjusting prices from 1982 to 2017: inflation over the period was 1,987.89% using the Indonesian Consumer Price Index (IDCPI 1969, *Badan Pusat Statistik*); Initial Index: 6.69, End Index: 139.58.

Source: Authors.

Additional analysis of the outcome of individual projects is necessary to understand the extra growth of almost 49% in prices, after 35 years of projects' implementation, in projects where the contribution was 20% of land on average. Such additional analysis will be made through the proportional ratio calculation. Proportional ratio is defined as the comparison between the previous and posterior land prices (a, e), and the previous and posterior area of the private properties (A, E), excluding reserve land (see Figure 4.1; if A * a = E * e, Pr = 1.000). Additionally, it is defined as the remaining ratio multiplied by the land price increase ratio (Pr = (1 – d) * y). For instance, if the contribution ratio (d) is 33.3%, the price per square meter is required to increase by 50% (land price increase ratio (y) = 1.5) to maintain the equal balance of values between previous total plot value and posterior total replot value. In this case, the proportional ratio (Pr) is 1, as follows:

$$Pr = (\text{if } A * a = E * e) = (1 - d) * y = (1 - 33.3\%) * 1.5 = 1.000$$

By way of explanation, in the case of Denpasar, 20% of land contribution requires a 25% increase in the price per square meter of the remaining land to maintain equal total replot value:

$$\text{Denpasar (Indonesia): } Pr = (1 - d) * y = (1 - 20\%) * 1.25 = 1.000$$

Note that the maximum treatment effect of almost 49% growth in prices refers to difference-in-differences, comparing areas urbanized with land consolidation with areas urbanized without land consolidation; it does not refer to the proportional ratio (see Table 4.2 for the proportional ratio calculation for all land consolidation projects selected for this work, which includes the proportional ratio calculation controlled by net present value [NPV] using the Indonesian Consumer Price Index [IDCPI 1969, *Badan Pusat Statistik*]).

On average, the proportional ratio for these projects ranged between 2 (2.159) and almost 4 (3.887), except for the Panjer project. That means that the growth in value of private properties after the implementation of projects was high, with an increase of around 100% to 300% measured just after their implementation. In addition, these areas also can reach a maximum value 49% higher than areas urbanized without land consolidation yet with similar characteristics after 35 years. Further research is necessary to explain differences across project areas and why the proportional ratio was different even though the projects were conducted similarly. However, even after the high increase in value of private properties just after the project implementation, the difference in prices might have decreased or increased over the decades when

Table 4.2: Proportional Ratio for Land Consolidation Implementation in Denpasar (Adjusted NPV)

	Project Site (Year of Implementation)	Area (ha)	(A) Before Project, Private Plots (m^2)	(E) After Project, Private Plots (m^2)	Before Project, Land Price (Rp/m^2) (year)	(a) Before Project, Land Price (Rp/m^2) (NPV year)	(e) After Project, Land Price (Rp/m^2) (NPV year)	Proportional Ratio (Pr = E e /A a)
1	Renon (1982–1985)	77.258	754,811	625,481	30,000 (1982)	38,900 (1985)	101,334 (1985)	2.159
2	Yangbatu (1986–1987)	29.3207	290,187	231,135	30,000 (1986)	35,500 (1988)	173,236 (1988)	3.887
3	Kantor Pos (1989–1990)	34.7935	346,891	277,513	30,000 (1989)	31,200 (1990)	127,539 (1990)	3.270
4	Sumerta Klod (1992–1993)	74	699,596	566,988	30,000 (1992)	32,300 (1993)	127,015 (1993)	3.187
5	Panjer (1993–1994)	78	764,868	611,910	25,000 (1993)	27,100 (1994)	238,231 (1994)	7.033
6	Sidakarya (1994–1995)	158	1,539,710	1,231,768	60,000 (1994)	72,900 (1996)	217,583 (1996)	2.388

ha = hectare, m^2= square meter, NPV = net present value, Pr = proportional ratio, Rp = rupiah.

Note: Inflation index: Indonesian Consumer Price Index (IDCPI 1969, *Badan Pusat Statistik*).

Source: Authors, compiling data from Morita (1990), Putra (1993), Denpasar Municipality Government and National Land Agency (2000), National Land Agency (2000), Sitorus (2009), and Suhesti (2015).

compared with other areas urbanized without land consolidation. It was not possible to attest if the maximum treatment effect of 49% in land prices due to land consolidation projects had decreased or increased over time. Perhaps the initial growth in land prices in land consolidation project areas is quite significant but, over the years, other areas might develop, and the difference might be reduced.

4.3.2 Research Limitations

Care must be taken in making inferences from these results, as the research described has some limitations. The first of these is the lack of other control variables. The price of land is essentially endogenous—its growth occurs at a rate determined by forces that are internal to the economic system; however, there are variables including economic crises or national policies, such as a policy of real estate credit in a given

period, which can significantly affect the price of land. Considering the lack of this type of information, the parallel trend assumption was adopted without a precise evaluation being made attesting to this tendency. This is an intrinsic problem when evaluating programs over more than 30 years without the possibility of isolating a series of factors to ensure that they do not influence the results. To overcome this problem, future care must be taken in the selection of nontreated (control) areas and by using a hedonic type of regression for treatment and nontreatment groups. What this means is that, besides the variables already used, it is necessary to add to the evaluation variables related to the characteristics of land and locations. Such variables might include as independent variables the shape of the land plot, distance from the central business district, tourist locations, social amenities, and selected infrastructures. In addition, this might solve difference-in-differences problems related to contamination and spillover effects.

Second, data availability in developing countries is a problem, and collecting primary data for research is a challenge. With so many places with difficult access, and considering several limitations on administering the survey questionnaires, only a limited number of answers could be collected exactly in those sampling points listed (Figure 4.4c). For example, some surveyors had to find neighbors when people in the chosen households did not answer (or refused to), or even when it was not possible to locate any household in the given sampling points. Thus, a perfect randomization process for data collection in urban areas is not possible. As land prices are not necessarily normally distributed and the sample size might not be large enough for the central limit theorem to have kicked in, it might be necessary to look at bootstrapping—random sampling with replacement—for future research.

4.3.3 Conclusions

This work seeks to understand the long-term implementation of *konsolidasi tanah* in Denpasar, Indonesia, and how it influenced its urban environment after many years. In order to do so, to begin with, it is possible to address possible reasons why land consolidation made its way into the Indonesian planning system and why it has been extensively used in Denpasar since the 1980s. First, an already established adat land swapping practice made the ongoing international advocacy on land readjustment make sense. Second, the titling program "imposed" on landowners to formalize ownership through land consolidation was well received; in other words, land ownership in Denpasar is complicated, and it was relatively easy to convince landowners to participate in the

projects, if the contribution ratio was low, as land consolidation was the only way to formally receive the title rights and certification. Third, despite the many years for the construction works to be completed, it became well-known to the Balinese society that the government was fully subsidizing construction work; thus, the rise of land prices after the implementation of land consolidation projects became an incentive for more projects' initiatives.

Reviewing the international literature, land readjustment has been praised for several benefits, predominantly (i) its potential to preserve social, cultural, and economic networks through original community maintenance; (ii) its potential to finance and promote projects that would not be possible by any other means; and (iii) its potential to equitably distribute costs and benefits in the urbanization process (Sorensen 2009). On the other hand, the outcomes from the cases studied demonstrate that the land readjustment in Denpasar could not entirely fulfill all its promised benefits. First, the adat law communities of Indonesia have long considered land to be an important way—if not the most important way—to represent their religious and cultural identities. However, the high increase in land prices just after the project implementation made it difficult to preserve social networks through the maintenance of the original community. In some cases, the majority of the long-term benefits of land consolidation are not going to the original landowners, but rather to the more affluent ones. Therefore, there is a concern that when land valuation in areas of land consolidation is excessive, it could favor the concentration of income in the project areas, expelling the original adat law communities and counteracting the notion of sustainable and inclusive development, a powerful argument in international development agencies.

Second, landowners have different attitudes toward the potential to finance and promote different kinds of infrastructure and living environments. The Balinese were ruled for centuries by a traditional and customary ownership system in which land was flexibly documented, presented, and sanctioned, but communally recognized and accepted. Despite that, the initial strength of this system gradually weakened, especially due to the ongoing land demand, and landowners became more attached to land title certificates and less sophisticated infrastructure provision, focusing only on access roads. Even though there was clear recognition that land consolidation projects dramatically pushed up the price of land after their completion, it was still not possible to convince landowners to contribute more—with part of the earned or inherited property—for reserve land to finance projects with better public facilities. Landowners whose plots of land have to be used

for public facilities will have to accept a replacement with other plots that are sometimes situated far away from their original and ancestral places. The prevalence is that landowners in Denpasar prefer simple types of land consolidation schemes that require small land reduction with fewer changes and less infrastructure provision. This tendency seems especially prevalent in marginal agricultural communities.

Third, projects might have not distributed the costs and benefits in the urbanization process equitably. Land price is an important signal that reflects a link between demand and supply, and social costs and benefits. Thus, it is an important variable to measure the performance and outcomes related to specific public policies and urban planning instruments. On the one hand, the growth in the value of private properties after the implementation of projects was high, as an increase of around 100% to 300% was measured just after their implementation; furthermore, from the difference-in-differences estimator, some initial findings suggest evidence of the land consolidation treatment effect even after 35 years. Indeed, the maximum effect on the increase in land prices reached about 49% when compared with areas urbanized without the planning instrument yet with similar characteristics. In particular, the concentration of higher land prices represents a strong argument in favor of land readjustment, which means the projects generated more social benefits than costs. On the other hand, such a concentration might be a problem if projects are fully subsidized by the Indonesian government without cost recovery land, and if the government is not properly collecting property taxes from project areas to redistribute surpluses to the society as a whole. In addition, the benefits related to the increase in land prices could have been captured by the government in the long run through the Land and Building Tax—levied at a single flat rate of 0.5% assessed on the capital value of land and improvements after the land consolidation project—if cadastral updates and properties' assessments were conducted by the government. Such assessments sometimes took years to happen due to limited human resources and restricted infrastructure for taxation management.

Finally, it is important to look at key lessons for policy makers seeking implementation of the Sustainable Development Goals through land readjustment. There are immense difficulties in the practical implementation of land readjustment through overcoming path dependent planning policies, correction of coordination failures, and institutional changes and improvement. Even after facing these challenges, it is important to recognize the limitations of land readjustment as implemented in Denpasar. Not a single park was constructed, and some other facilities, like public schools, were installed

years later, after the end of the project, without the support of any cost recovery land. Therefore, the case study for Denpasar demonstrates that without reserve land, rights holders are likely to absorb most of the project benefits, but without reserve land and consequently major and diversified public investments, the overall benefits after the implementation of projects might not be as high as expected, especially in the long run. Other infrastructure impacts property values in a much larger way than roads alone. That is a key lesson as to why land readjustment performs much better in some countries than in others.

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5

Examining the Town Planning Scheme of India and Lessons from Land Readjustment in Japan

Vibhu Jain

5.1 Introduction

5.1.1 Concept of Land Readjustment

The concept of land readjustment (LR) is not new and has been present since the late 19th century. The essence of this concept is to service the land with infrastructure and amenities in peri-urban areas, which are likely to grow haphazardly in the absence of any regulated plan. States undertake this by appropriating and consolidating a portion of land from the land rights holders for infrastructure development and returning the replotted, reshaped, and regularized parcels of serviced land. This helps in achieving multiple objectives—providing infrastructure and public facilities in an organized manner, increasing the use and value of land, and containing haphazard development through systematic land use planning.

While the basic spirit of land readjustment remains the same, it differs between countries in terms of its structuring, implementation and approval procedures, land value capture, and eligibility of the use of this mechanism. Japan mainstreamed the land readjustment approach in its urban development policy after Germany and the United Kingdom (UK) pioneered it. Japan has used the technique for more than a century, institutionalizing it in the early 19th century and later enacting it through the Land Readjustment Law in 1954 to address the post-World War II urban development challenges arising from

massive destruction. In India, people refer to it as land pooling or land consolidation, but most commonly the Town Planning (TP) Scheme. It follows the same basic concept of land readjustment as in Japan but differs in use; for example, India mostly applies it to peri-urban areas and uses it scantly for core area revitalization and post-disaster areas. Furthermore, only the designated public authority implements it, with no or limited involvement of the private sector.

The history of land readjustment procedures mostly lies in Europe. Nordic countries, such as Finland and Sweden, used some land readjustment procedures 1,000 years ago. However, the first few documented cases of land readjustment are from Germany. The UK promoted land readjustment policies and procedures in its colonies, such as India, Palestine, and Australia, under the influence of the British planners responsible for urban management. After World War II, the Republic of Korea; Spain; Taipei,China; Germany; and Israel updated their land readjustment mechanisms to fit the postwar context. Later, Turkey attempted to improve its land legislation and Asian countries such as Nepal, Thailand, Indonesia, the Philippines, and Malaysia, and Colombia in Latin America, introduced a land readjustment mechanism (De Souza, Ochi, and Hosono 2018).

5.1.2 Need for the Study

The growing urbanization caused by migration and economic development generates the need for controlling urban sprawl and providing infrastructure and services in a planned manner. According to the Organisation for Economic Co-operation and Development, nearly 70% of the world's population will be living in urban areas by 2050. This means that most of the resources and activities will be concentrated in cities. Today, cities occupy 0.5% of the world's surface but use 75% of its resources. With urbanization increasing at a rapid pace and on a global scale, city managers are facing pressing challenges—lack of infrastructure, environmental pollution, traffic congestion, waste disposal, and disaster response. Countries need to address these issues swiftly to ensure a better future, make cities and human settlements inclusive, safe, resilient, and sustainable, and achieve the Sustainable Development Goals (SDGs).

City planners and managers continuously endeavor to address urbanization issues, including providing serviced land, containing the haphazard urban sprawl and slum development, and facilitating adequate development opportunities. In this attempt, and with the realization that land is a scarce resource, land management becomes a critical aspect of urban development. It is a growing concern in

many countries that land acquisition may not be the most suitable mechanism for procuring land and servicing it. It tends to affect lives and livelihoods by displacing people, takes away land rights from landowners, and sometimes does not capture the land value appropriately, affecting compensation and thus possibly making it financially unlucrative for the landowners. This has resulted in a quest to examine alternative frameworks for land management, such as the land readjustment mechanism.

India has been experiencing an economic boom and subsequently a fast-paced urbanization process. McKinsey Global Institute projections show India's urban population soaring from 340 million in 2008 to 590 million in 2030. It took nearly 40 years (between 1971 and 2008) for the urban population in India to rise by nearly 230 million. It will take only half that time to add the next 250 million. The pace is likely to increase further until 2050 (Sankhe et al. 2010). To match the speed of urbanization the planning and development need to be swift, efficient, and inclusive in urban areas, including suburbs. Land acquisition has been a predominant tool for land purchasing and development in the Indian context. However, the enactment of the Land Acquisition, Rehabilitation, and Resettlement Act (LARR) in 2013 changed the scenario and the attitude toward the land acquisition mechanism. Under the LARR 2013, the state offers better compensation to rural area dwellers than to urban dwellers, making land acquisition from farmers for urbanization purposes a costly proposition for developing authorities. At the same time, this law has made the acquisition process time-consuming (Mahadevia, Pai, and Mahendra 2018). This has led to the need for stronger use of alternative land management frameworks, of which the TP Scheme is a promising one. The national government in India supports the scheme and intends to promote it among state governments. Recently, it conceptualized the Atal Mission for Rejuvenation and Urban Transformation, a national-level urban development program, as part of the Smart Cities Mission of the Ministry of Housing and Urban Affairs. One of its directives is to pilot the TP Scheme in 25 cities in India, with each city having from 50 to 500 hectares of area for development (Ministry of Housing and Urban Affairs, Government of India 2018).

Since the use of the TP Scheme is not widespread in India yet, it is imperative to examine the reasons for its underutilization and determine how the country can scale up its use. In this context, it is possible to analyze the success of Japan's LR Scheme to understand the provisions and procedures that India could adapt to its own context. The fact that Japan has been applying land readjustment as an alternate mechanism for more than 100 years and has developed one third of the urbanized land through the LR Scheme supports this.

5.1.3 Objectives

This chapter aims to answer the following research questions, which define the objectives of the study.

(i) What is the TP Scheme in India? What lessons can India learn from the success stories? What are the challenges in scaling up the scheme?
(ii) What is the LR Scheme in Japan? What are the success factors of LR in Japan?
(iii) How does Japan's LR Scheme compare with the TP Scheme in India?
(iv) What are the lessons from India and Japan that India could apply to scale up its TP Scheme?

5.1.4 Methodology and Scope of the Chapter

This chapter is based on a simple research methodology that involves two main components: (i) a literature review and (ii) expert interviews. References for the extensive literature study appear at the end of the chapter. Discussions and interviews with various experts, including town planners and consultants working on the TP Scheme in India, accompanied the literature review.

The chapter focuses on understanding the key reasons for the under-implementation of the TP Scheme in India, despite a perceivably sound institutional, legal, spatial, and financial framework for the scheme. It is inarguable that, while Japan and India differ in their geographical, political, and administrative frameworks, they are similar in terms of the presence of high-density areas, the scarcity of usable land, and the historical presence of the LR mechanism as a land management technique. This study aims to draw lessons from Japan's LR mechanism that could highlight the areas of intervention for scaling up the TP Scheme in India. It may not be possible to transpose the lessons from Japan directly to the Indian setting, but they can be adapted to suit the context. However, the chapter limits itself to the initial findings and recommendations and urges researchers to conduct a detailed examination and research for on-the-ground application.

5.2 The Town Planning Scheme of India

5.2.1 Introduction to the Town Planning Scheme and its Key Features

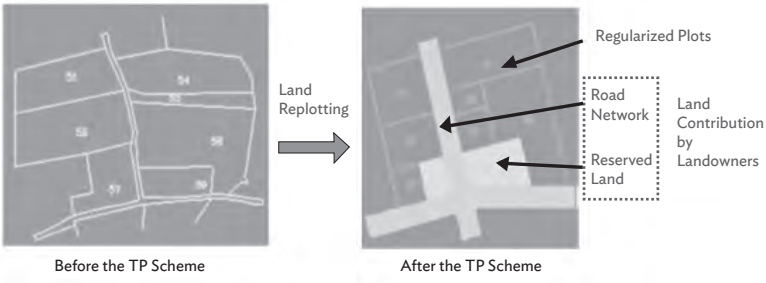
The basic concept of the TP Scheme is to pool together all the land (typically ranging from 100 to 200 hectares) under different ownership

and redistribute it in a properly reconstituted form after carving out the required land for open spaces, social infrastructure, services, housing for the economically weaker section of the population, and the road network. In this method, the public planning agency or development authority temporarily brings together a group of landowners for planning under the aegis of the state-level town or urban planning act. This process enables the development authority to develop land without fully acquiring it and gives it positive control over the design and the growth of the peri-urban area.

The size of the final plot (FP) is in proportion to the size of the original plot (OP), and its location is as close as possible to the original plot. Value capture financing (VCF) tools, such as betterment or development charges and the sale of reserved plots, can finance the provision of urban infrastructure and amenities under the TP Scheme. Development authorities levy betterment charges on landowners to offset the cost of infrastructure and service provision and sell the reserved plots on the open market to finance the overall project development cost. Figure 5.1 illustrates this land-pooling mechanism, showing irregular plots reconfigured into proper shapes by laying the road network and the contribution of a parcel of land to reserve for sale on the open market.

The TP Scheme consists of microlevel plans that the state designates under the larger city-level development plans. A landowner typically parts with up to 25%–40% (Practicing Urban Planner 2018) of their land and pays betterment charges for the development of the FP (with the provision of infrastructure and services), which is unique to the

Figure 5.1: Conceptual Land Pooling and Replotting under a Typical Town Planning Scheme



TP = town planning.

Source: Town Planning and Valuation Department, Government of Gujarat.

TP Scheme. The scheme is applicable for the planning and designing of greenfield projects or partially developed areas, such as new towns; infrastructure development through the consolidation of land, such as roads and public parks; and the revitalization of downtown areas. In some cases, the state has applied it for post-disaster rehabilitation, for example Bhuj in Gujarat following a strong earthquake in 2001. Local-level development authorities implement this scheme under the directives of the state government, and they do not engage private developers directly for implementation. Under this scheme, the development authority has the mandate to reserve land for housing for the economically weaker sections of society (5%–10%) (Balodia 2018), which it offers to low-income households, on the basis of the drawing of lots, at a subsidized value when construction is complete.

The commonly acknowledged merits of the TP Scheme in India are the following (Ballaney 2008):

- The process has had a historical presence since 1915, and since then the legislation has improved continuously to suit the changing context of development.
- The scheme is a "win–win" one in which landowners receive serviced land with incremented value and the development agency controls haphazard fringe development and promotes planned urban growth.
- The TP Scheme respects land rights. It does not displace landowners but gives them a regularized plot in the same parcel of land as close as possible to their original plot, unlike the land acquisition mechanism, which entails forced displacement.
- The extensive consultation process with the landowners makes them feel part of the planning process, which minimizes the potential resistance to development. The procedure gives ample opportunities to the owners to put forward their point of view to the authority and raise objections, if any.
- The process is transparent, follows a set procedure, and is fair, as all owners lose the same proportion of land.
- The landowners offset the development cost by contributing betterment charges and, through the sale of reserved land, making it a self-financing model, at least partially if not fully.
- It is mandatory for the TP Scheme to reserve some areas for the economically weaker sections of society, promoting equitable and inclusive social development.

There are some shortcomings of the TP Scheme's concept and procedures that impede the scalability of this tool (Ballaney 2008):

- The method is comprehensive and hence time-consuming. While the state governments typically allocate 2–4 years to planning

and implementing the TP Scheme from the time of notification or showing intent, the process usually takes longer than that given the amount of consultations and delays in the approval required at multiple stages. In some places in Gujarat, the TP Scheme has remained unfinished for more than 15–20 years (Balodia 2018).

- The complexity in executing the scheme requires established guidelines and trained planners and officials, and the developing authorities do not always have appropriate human resources. The success of the scheme is highly reliant on the role of the town planning officer (TPO), and, if this position holder is not a strong candidate, then the scheme becomes a challenge. In fact, the TPO should have the support of other skilled officers in managing the project, which is typically large enough to be under the leadership of just one person.
- An assessment of the betterment charges takes place at the beginning of the process, when the scheme is under preparation, to fund the infrastructure development cost. Due to the inordinate delays in finalizing schemes, the cost of infrastructure provision usually increases, creating a viability gap in meeting the project development cost.
- The TP Scheme discriminates against land leaseholders and renters by not allowing them to participate in the consultation processes during the planning, designing, and implementation of the scheme. Only registered landowners are engaged.

5.2.2 Historical Implementation of the Town Planning Scheme in India

Institutionalized for more than 100 years, the TP Scheme has been successful but not widely used in India. It has been predominant only in the states of Gujarat and Maharashtra, while a few other states are endeavoring to catch up with them. However, more than half of the Indian states have yet to initiate any practice for land pooling. In the last few years, the scheme has gained traction mostly because of the shortfalls of the LARR 2013, which had a compensation bias toward rural over urban land acquisition. This made acquiring lands from farmers an expensive proposition for the authorities, forcing them to look for alternative frameworks, such as land pooling. The states of India that are endeavoring to use the TP Scheme for urban land expansion include Karnataka, Andhra Pradesh, Madhya Pradesh, Chhattisgarh, and Odisha. Recently, the Tamil Nadu state government passed a bill to amend the Tamil Nadu Town and Country Planning Act, 1971, so that it can use the TP Scheme for its land management.

Among all the states, Gujarat has most prominently used the TP Scheme for almost 100 years. It has developed the largest city of the state, Ahmedabad (approximately 95% excluding the downtown area), using this land readjustment mechanism, and it is continuing to implement the TP Scheme for developing the outskirts or peri-urban areas of the city. As of 2010, Gujarat was implementing 1,126 cases of the TP Scheme, and 600 more were in the pipeline (Sharma 2015). With long-term application, the scheme has evolved through continuous improvements in the content of the proposals and the implementation strategies and procedures. The state of Maharashtra was a pioneer in India in the use of land readjustment for urban development and has gained some success in implementing the TP Scheme but not to the same extent as Gujarat. Owing to reasons such as procedural delays and greater emphasis on development plans, Maharashtra discontinued the use of the scheme in 1985 (Vaishampayan 2013).

Another push for the TP Scheme comes from the Government of India's Atal Mission for Rejuvenation and Urban Transformation policy, which directs the use of the TP Scheme for systematically developing greenfield sites located on the outskirts of the city, promoting planned urban expansion. In accordance with the directive, the ministry will monitor the physical and financial process of implementing the TP Scheme and train the city and state officials in carrying out the processes. While land and its development are a state subject, the central government is intervening for the first time to give a boost to this scheme and train the planners and practitioners in multiple states of India to scale up the TP Scheme.

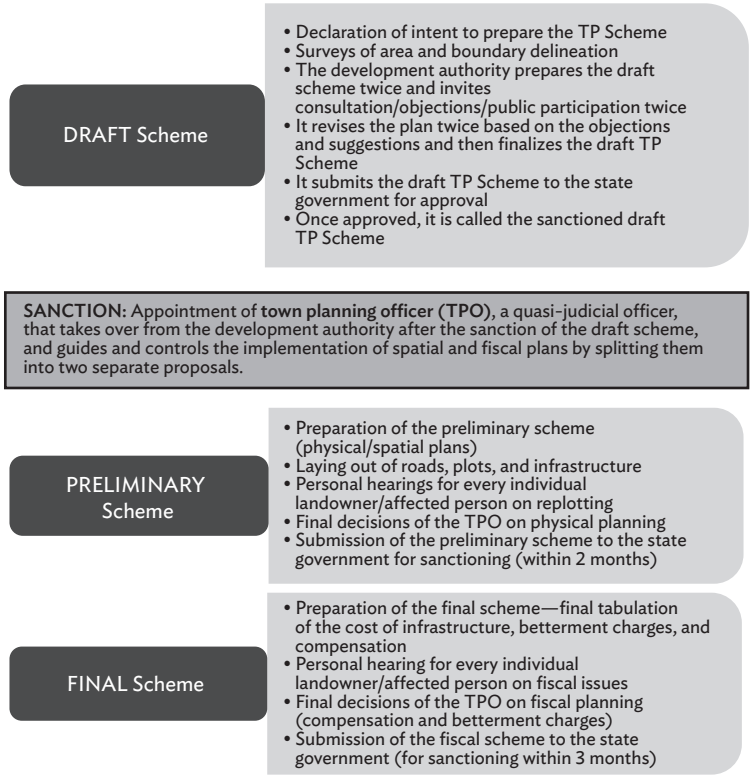
5.2.3 Town Planning Scheme Procedure

The process of planning and executing the TP scheme is comprehensive and long, involving many steps; for instance, it has 50 steps for Gujarat (Parekh 2018). It typically takes up to 4 years (Practicing Urban Planner 2018, Parekh 2018) to implement the scheme, and completion should ideally take place within the stipulated time, as the act of the state determines. It is a three-stage process for drafting plans and seeking approval—draft, preliminary, and final. Figure 5.2 shows the broad procedure that Gujarat follows.

Role of the TPO: The appointment of a quasi-judicial officer, the TPO, follows the approval of the draft TP Scheme. The TPO's task is to deal with each landowner on the following:

- the physical planning proposal—the shape and location of the final plot; and
- the financial proposal—the compensation and betterment issues.

Figure 5.2: Broad Procedure of the Town Planning Scheme (as adopted by the State of Gujarat, India)



TP = town planning.

Note: Author's understanding from the Gujarat Town Planning and Urban Development Act (GTPUDA), 1976, interviews with staff from the Town Planning and Valuation Department, Government of Gujarat, and book references.

Sources: Balodia (2018), Mahadevia, Pai, and Mahendra (2018).

Eventually, the TPO demarcates the final plot on the ground and hands it over to the owner. The TPO divides the sanctioned draft TP Scheme into two parts to enable better functioning: a preliminary TP Scheme to deal with the physical planning proposal and a final TP Scheme to deal with the financial proposal. The TPO hears the grievances and objections of each landowner on the physical and fiscal plans and revises the preliminary and the final scheme, respectively.

For the finalization of the preliminary scheme, the TPO can seek inputs from the state government, local authority, and development authority.

5.2.4 Legal and Institutional Framework

As a colony under British rule, India adopted many development concepts and laws from the UK, including the reorganization of land through the TP Scheme. The Bombay Town Planning Act, 1915, was one such piece of legislation, which it later amended with the New Bombay Town Planning Act, 1954. This act was instrumental in conceptualizing the town planning development and TP Scheme in India, and the present states of Maharashtra and Gujarat have applied it. This law empowered the local authorities to control the use of land and development through the instruments of zoning and building regulations, acquire land for public purposes, and recover betterment contributions with respect to land parcels benefiting from improvements. The downside of the Bombay Town Planning Act, regarding the TP Scheme, included the following: (i) the process of preparing the TP Scheme took a long time, as the physical planning proposals and the financial proposals were linked and the authorities had to pursue them simultaneously, and objections arising in any could delay or halt the entire implementation process; and (ii) the area of jurisdiction of the TP Scheme was limited to the city. With the increasing pace of urbanization and migration, pressure for development just outside the city limits began to arise. The periphery or the fringe began to experience unplanned development and could not remain unattended.

While the land-pooling mechanism had a historical background and presence, the enactment of the laws and policies underwent a hiatus during the period just before and after independence. This resulted in chaotic and haphazard growth of cities and towns and confusion over the sanctity and applicability of town planning laws and schemes in free India. Inspired by the erstwhile comprehensive planning system envisaged under the UK's Town and Country Planning Act, 1947, the Central Town and Country Planning Organization drafted the Model Town and Regional Planning and Development Law in 1962, revising it later in 1985, which formed the basis for various states to endorse town and country planning acts, with modifications to suit the local conditions. For instance, the State of Gujarat enacted the Gujarat Town Planning and Urban Development Act (GTPUDA) in 1976, and it became effective in 1978 (*Gujarat Government Gazette* 1976). It made amendments to this act several times—in 1995, 1999, and 2001—to keep up with the changing socioeconomic context. It is a far more comprehensive legislative act and responded to the local challenges

of growth. The drawbacks of the Bombay Town Planning Act were overcome by (i) unlinking the physical planning proposals and financial proposals in the TP Scheme and (ii) allowing the delineation of a large planning area, including the periphery of the local authority area. The process of preparing a TP Scheme takes place in three stages—the draft, preliminary, and final TP Scheme—to expedite the implementation and to seek landowners' satisfaction through consultations at each stage. This revised law mandated the state government's constitution of the State Regional and Town Planning Board to advise on the delineation of the region for the planned development. In this way, in a regional context, the government could designate more areas for development under the TP Scheme.

Box 5.1: Case Examples of the Town Planning Scheme in Gujarat

The table tabulates and compares three cases of the TP Scheme in Gujarat, with varying features, to help better understand the nuances of the TP Scheme. The case studies are from Mathur (2012).

	Case 1	Case 2	Case 3
Area of the TP Scheme (hectare)	209	181	300
Time of Scheme Notification	May-78	Dec-01	Apr-01
Status of Implementation	Completed in 2005	Sanctioned Draft TP Scheme as of 2012	Draft TP Scheme as of May 2009
Key Features of the TP Scheme	• Conversion of agricultural land into urban areas • Implemented before the 1999 amendment to the GTPUDA	• Conversion of agricultural land into urban areas • Implemented after the 1999 amendment to the GTPUDA	• While much urban development existed, it was still in the "rural" category • The final plot did not differ much from the original plot in terms of location, shape, and size • Implemented after the 1999 amendment to the GTPUDA
% of Average Land Deduction	25%	36%	15%

continued on next page

Box 5.1 *continued*

While cases 1 and 2 are typical of the TP Scheme in the conversion of agricultural land into urban areas, case 3 focuses more on improving the project area through betterment charges and streamlining the infrastructure and services in accordance with the development plan.

Typically, the betterment charge equals one half of the difference between the final plot (FP) and the original plot (OP) values. The ratio of the FP to the OP varies between 2 and 3 for the TP Scheme case studies. For example, the ratio is 2.6 for case 2, with an average OP value of $10/m^2 and an average FP value of $26/m^2.

The sale of the reserved land parcels covers the scheme costs that the state cannot recoup from the betterment charges. However, as the landowners must pay only half of the land value increase as betterment charges, they have less incentive to cede land and more incentive to pay higher betterment charges.

After the 1999 amendment to the GTPUDA, the net benefit to the property owner increases with the decrease in land deduction while the betterment charges increase; this was also the scenario for case 3.

The public agency can acquire land and begin developing roads and other priority projects after the sanctioned draft TP Scheme stage. Therefore, while road construction in case 1 (a pre–1999 amendment TP Scheme case) started 15 years after the notification date, the construction began within 4 years in case 2, and 80% of the construction of roads took place in the next 6 years. Once the state government had approved the draft TP Scheme in case 3, it expected a similar pace of infrastructure development.

However, clearly all three cases took many more than 4 years either to achieve completion or to arrive at an advanced stage in the process.

FP = final plot, GTPUDA = Gujarat Town Planning and Urban Development Act, OP = original plot, TP = town planning.

Source: Author.

5.2.5 Lessons from the Success of the TP Scheme

Some lessons from the success stories of the TP Scheme are based on continual legal evolvement, favorable institutional and financial conditions, and procedural advancements:

Institutional:

- Due to their self-financing nature and the high level of landowner satisfaction, the TP Scheme enjoys a high degree of political acceptability in Gujarat (Mathur 2012).
- Under the TP Scheme, the state appoints a quasi-judicial official, the TPO, who interacts with landowners and prepares physical and financial plans. A trained urban planner with no

influence from local authorities holds this position, which helps to ensure fair and independent decisions.
- The TPO conducts three rounds of grievance hearings and addresses landowners' concerns at various stages of the TP Scheme.

Legal:
- The GTPUDA underwent various amendments that helped in evolving the TP Scheme with the changing times.
- The 1999 amendments to the GTPUDA have allowed the timely provision of infrastructure, such as roads, for which construction can now begin soon after the state government's approval of a draft TP Scheme, unlike previously, when construction had to wait for the sanction. Roads make the land accessible, significantly increasing the property values.
- The TP Scheme delinks land ownership and disputes over it from scheme preparation and approval. The TP Scheme process does not settle land ownership disputes; rather, it transfers these disputes to the newly reconstituted plot.

Financial:
- Mostly, the scheme is self-financed through the betterment charges and the revenues from the sale of reserved land, but state-level subsidies are also available when needed.
- The land sale revenues also help the local governments to hedge against future increases in construction costs and fund other region- and city-level infrastructure.
- The TP Scheme in Gujarat adopts the mechanism of revolving funds whereby land sale proceeds from previous TP Scheme cases fund infrastructure and services in subsequent ones. This mechanism allows the local governments to capture significant land value gain and to employ that gain for urban development.

5.2.6 Challenges Limiting the Scaling Up of the Town Planning Scheme

The urban planning domain has institutionalized the TP Scheme for many decades, but it still does not have the traction that it deserves. The conceptual, legal, institutional, procedural, and financial frameworks of the scheme highlight the following reasons:

Conceptual

The scheme is conceptually sound and borrows the best framework worldwide, but there is scope for improvement. While the scheme

advocates public participation and the utmost transparency, the overall scheme-related decision-making processes do not represent landowners; the scheme only encourages their consultation regarding their individual plots. Leaseholders and tenants have no voice in planning and implementing the TP Scheme (Mahadevia, Pai, and Mahendra 2018).

It is observed that the TP Scheme is typically more challenging in small to medium-sized towns. In these suburban areas, the potential for urbanization in the short term is limited, impeding the expected land value increase (Mahadevia, Pai, and Mahendra 2018) and thereby reducing the overall financial benefits of the scheme. Therefore, urban planners need to make reasonable and practical assessments of where to use the TP Scheme for land management.

Legal

Land is not a central-level subject in India and is solely under the jurisdiction of state governments, meaning that the state makes all the decisions pertaining to land matters. Executing the TP Scheme requires the enactment of a state-level town and country planning act to support the scheme. Unfortunately, not many states have endorsed this act, limiting the use of the TP Scheme to only a few states. In addition, the central government could play an active role in pushing the states to enact the law and use the scheme more commonly.

Institutional

This tool is complex and needs trained planners and officials for efficient and timely execution. The local development authorities are responsible for implementing the scheme and usually have sufficient resources of skilled and accomplished officials who have the experience and capacity to handle the process. For the success of the scheme, capacity building of the landowners is necessary to help them make informed choices. While it is imperative to advocate the benefits and necessity of the scheme, except for the TPO, there is no team of technical experts to do so or any other provision in the system to build the capacity of land rights holders. This impedes buy-in from the landowners and causes temporary delays or complete failure of the scheme.

The scheme is further hindered by the time delays due to a lack of coordination among the stakeholders and the centralization of the approval processes at the state level. The success of the scheme requires coordination between the infrastructure-providing agencies, such as water, transport (roads and others), environment, and municipal and development authorities, which is not smoothly attainable and delays the planning and implementation process. In every step of the scheme, including the draft, preliminary, final, and other steps, state sanction is necessary, which in practice takes a long time to procure. States

should endeavor to reduce the length of time from scheme initiation to completion.

Procedural

While the concept of the scheme extends beyond new towns and urban sprawls, for example in post-disaster areas, urban complex infrastructure provision, and core area revitalization, it is not common in practice. This could be attributed to the nature of complexity and the lack of trained officials to undertake such projects. This is the most pressing need in India, given that small and medium-sized towns are burgeoning, demanding core area development before peripheral growth, and disasters, especially floods and fires, are becoming a common phenomenon.

Financial

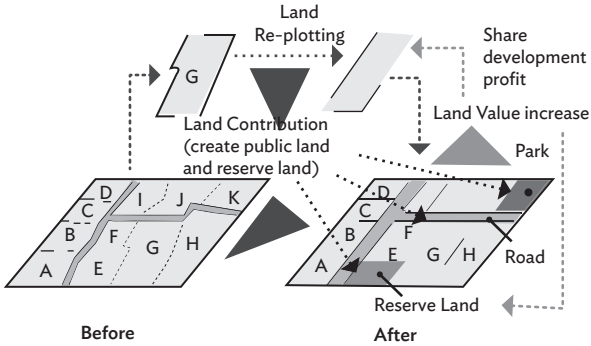
The financial process of the scheme is such that investments in development are necessary before the actual realization of payback from betterment charges or the sale of reserved land. This becomes an issue for development authorities that are already experiencing a fund deficit. This challenge also arises from city governments' inefficiency in collecting property and other taxes (Mahadevia, Pai, and Mahendra 2018). At the same time, there is no provision for central subsidies and there are limited state subsidies, leading to a lack of financing for project development.

5.3 Land Readjustment in Japan

The Land Readjustment (LR) Scheme in Japan is a popular urban development method based on which the country develops a large area of its urbanized land. Its fundamental objectives include (i) the development and improvement of public facilities and (ii) the enhancement of land usability. With these wide objectives in the background, Japan applies the LR Scheme to undertake certain functions such as land replotting to reorganize and reshape land plots, land contribution to create public spaces and reserve land to recover the development cost, the development of public facilities, and the promotion of public and private participation. Japan used this scheme extensively for reconstructing post-World War II areas and continues to apply it to the following development areas:

- new town development in peri-urban areas,
- post-disaster reconstruction,
- city center and station area redevelopment,
- improvement of congested and wooden residential areas,
- integrated LR with railway development, and
- small-scale LR for land consolidation in urbanized areas.

Figure 5.3: Conceptual Diagram of the Land Readjustment Scheme in Japan



Source: Case Study, Land Readjustment in Japan, World Bank Group.

Figure 5.3 presents an example of the typical implementation of the LR Scheme for land consolidation and urban expansion.

Most LR projects in Japan do not include new building development in their scope, which the land rights holders and the purchasers of reserve land undertake. However, there are some cases in which the development objective of LR projects includes building development (e.g., high-rise building development in underutilized areas and social housing development in large-scale new town developments).

5.3.1 History of the Land Readjustment Scheme and Related Laws

The origin of the LR Scheme in Japan dates back more than 100 years. The modern land management system and Agricultural Land Consolidation (ALC) were established in the late 19th century. ALC was an agricultural land development tool to reorganize agricultural land and develop passage and irrigation channels to improve agricultural productivity. In the early 20th century, Japan applied ALC to residential area development in large cities facing rapid population growth. Because ALC required landowners to pay cash for construction, it was difficult to involve poor landowners in the target area. To recover part of the project cost, the scheme sold "surplus land," which it could create from private lands under the provision of the ALC law, on the market. The idea of surplus land gave way to the "reserve land" of the LR Law, which

the country established in 1954. Before this, the Urban Planning Law from 1919 contained provisions for land readjustment and established the legal basis of the LR Scheme. The provisions of the ALC Law formed the implementation procedures of LR.

During the period from the 1920s to the 1950s, the central and local government mainly implemented the LR scheme and applied it to several cases, such as post-earthquake reconstruction in the Tokyo region, urban renovation in large cities, industrial city construction nationwide, and postwar reconstruction after World War II. Through those experiences, the government improved and refined the LR techniques. The agrarian reform[1] of 1947 to 1950 led to an increase in the number of landowners, which increased the need to use the LR mechanism (Matsui 2018).

In 1949, the government repealed the ALC Law and established the Land Improvement Law, focusing on agricultural land development. This resulted in a conflicting situation, as the LR Scheme followed the repealed ALC Law, even though the Land Improvement Law also covered the LR mechanism. To resolve the issue, the government established the LR Law in 1954. It aimed to foster the completion of the postwar LR projects as well as the implementation of large-scale LR projects for new town development in response to socioeconomic recovery and increased housing demand (Matsui 2018).

In the period of rapid economic growth from the 1950s to 1990s, the country implemented large-scale LR projects in the major metropolitan areas. Through the experiences of many LR projects, the LR system improved in terms of the approval process, land replotting techniques, and financing; these contributed to quicker and smoother implementation. After the collapse of the bubble economy in the early 1990s, the decreased housing demand contributed to financial issues in private LR projects that depended on sales of reserve lands. At the same time, the government changed its policy to promote land readjustment for urban renovation in city centers, areas around transit stations, and other urban areas. Although the number of ongoing LR projects has decreased, LR has played an important role in urban development in Japan by supporting various development purposes. Figures 5.4, 5.5, and 5.6 depict some case examples of LR in Japan (De Souza, Ochi, and Hosono 2018).

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[1] Between 1947 and 1949, the state purchased approximately 5,800,000 acres (23,000 km^2) of land (approximately 38% of Japan's cultivated land) from landlords under the reform program and resold it at extremely low prices (after inflation) to the farmers who worked the land. By 1950, 2 million peasants had acquired land, dismantling a power structure that the landlords had long dominated.

Figure 5.4: Land Readjustment for the Development of Agricultural Areas (Tokoyama Area 1994–2000, Aichi Prefecture)

Source: De Souza, Ochi, and Hosono (2018).

Figure 5.5: Land Readjustment for the Prevention of Unplanned Growth (Obu Hantsuki Area 1994–2002, Aichi Prefecture)

Source: De Souza, Ochi, and Hosono (2018).

Figure 5.6: Land Readjustment for the Development of New Towns (Kayata Area 1989–2005, Chiba Prefecture)

Source: De Souza, Ochi, and Hosono (2018).

5.3.2 Comparative Features of the Land Readjustment Scheme in Japan and India

Japan's LR mechanism has contributed to better-managed urbanization, achieving various objectives across the whole country. The urban planning system controls and promotes projects and various subsidies under the government's urban management policies. Table 5.1 summarizes the characteristics of Japan's LR Scheme that are specific to Japan and different from the TP Scheme in India (Matsui 2018). Some characteristics that are common to or similar in India's and Japan's LR mechanisms are:

- **Coordination with urban planning**. LR projects need to conform to the overall master plan of the area.
- **Sales of reserve land**. Reserve land is the most critical financial resource for LR projects, and the laws in both countries allow the recovery of the LR project cost by selling reserve land. However, in India's TP Scheme, land rights holders also pay betterment charges for the land development, which partly finance the scheme.
- **Subsidy and/or central government subsidy**. In India, state-level subsidies can provide technical and financial assistance for LR projects. In Japan, subsidies including a central government subsidy are available for the development of city roads and other purposes on the LR project site.
- **Restriction of building activity**. Building restriction in the LR project site area is enforceable during the planning and implementation stages.
- **Temporary relocation**. Supporting the construction activities during the implementation stage, landowners temporarily rent other houses and shop buildings while they are unable to use their own. The LR implementer compensates for the cost, including the rental fee and moving.
- **Adjustment payment**. The laws in both countries allow for an adjustment method through monetary payment to correct for differences between the calculated replotted area and the measured area after development. The implementing authority pays to or collects money from the land rights holders based on the final replotting plan.
- **Special treatment for small land parcels**. In the land replotting planning, small land parcels can receive special treatment, such as exchanging land for money.

Table 5.1: Comparative Differences between Japan's Land Readjustment Scheme and India's Town Planning Scheme

Characteristics	Japan's LR Scheme	India's TP Scheme
Multiple LR Implementers	The LR Law allows for three categories of public implementers—(i) local governments (prefecture and city), (ii) the central government, and (iii) government corporations—as well as three kinds of private implementers—(i) individuals (i.e., a landowner or a group of landowners containing several persons or entities), (ii) LR cooperatives,[a] and (iii) LR corporations.[b]	Government authorities solely implement LR projects.
Agreements from Land Rights Holders	Private implementers must collect land rights holders' agreement (100%) in the approval procedure, but there is no such requirement for government-led LR projects. However, in practice, the government also seeks the approval of the land rights holders.	Publicly implemented LR projects need agreement from at least two thirds of the land rights holders.
Government Technical and Financial Support for Private LR Projects	A private LR project can receive technical and financial support from the local government and subsidies from the central government.	The private sector is not directly engaged in the TP Scheme.
Tax Exemption for LR Implementers and Landowners	LR implementers are entitled to exemption from and reduction of taxation. The exemption is applicable to the real estate registration tax for replotting lands, sale of reserve lands, corporate tax, and income tax levied on the LR cooperative and corporations.[c] Landowners relinquishing their land receive a reduction in the income tax on the income that they earn from compensation and land expropriation.	No such incentive schemes are available to LR projects.
Dispute Resolution	The implementation activities (e.g., designation of replotting plan), defined as administrative disposition, are eligible for request for examination under the Administrative Complaint Investigation Law. Persons and legal entities can submit a request for examination to the prefectural governor or minister of the Ministry of Land, Infrastructure, Transport, and Tourism, depending on the type of the implementer.	In India, the TPO resolves disputes first and then escalates them to the state government. Finally, there is a Board of Appeal at the state level, which has the supreme decision-making power.

LR = land readjustment, TP = town planning, TPO = town planning official.

a Land rights holders organize LR cooperatives within the LR project site. To establish the LR cooperative, the applicant group (comprising seven or more land rights holders) needs to have the agreement of more than two thirds of the land rights holders. After the establishment of the cooperative, all the land rights holders are registered as cooperative members.

b LR corporations are a type of special purpose company that land rights holders and a private company organize. The government added this provision to the LR Law in 2005. To establish the LR corporation, land rights holders must invest more than 51% of the capital of the LR corporation.

c When the cooperative sells the reserve land, the sale income is tax exempt. Note: This exemption also applies to individual-implemented and corporation-implemented LR.

Source: Author.

5.3.3 Success Factors of the Land Readjustment Scheme in Japan

The long history of successfully concluding thousands of LR schemes highlights a few interesting lessons from which other countries can learn.

- There is an **established institutional responsibility**, which, coupled with Japan's culture of respect and obedience toward the government, successfully promotes LR as a tool to overcome historical difficulties of space constraints, natural disasters, and a lack of resources. This is a soft or intangible element but important for the success of the LR Scheme.
- Japan practices the LR Scheme **under the central-level law**, the Land Readjustment Law 1954, which defines the contours of the LR Scheme clearly and articulately. This helps in guiding all the implementers—public or private agencies—on the procedures, legalities, approval mechanism, and the financial framework of the LR mechanism.
- **The implementation of the LR Scheme in Japan is diversified.** It is not limited to new town development or controlling urban sprawl, but it is incorporated into almost all broader aspects of development, including postwar, post-disaster, core area revitalization, and the development of complex infrastructure. At the same time, six different types of implementing agencies can implement the LR Scheme, varying from public to private, expanding the scope and purpose of this scheme.
- In Japan's LR Scheme, the **representation of landowners and leaseholders** is always eminent in the planning and implementation process, irrespective of who is implementing the scheme—a private or a public agency. If it is a private-led implementation, then landowners and leaseholders are part of the cooperative or corporation formed to execute the scheme. If a government agency is implementing the scheme, then it forms a land readjustment council with landowners and leaseholders as representatives that the rights holders elect.
- **An administrative measure, the Administrative Complaint Reinvestigation Act, 1962, guides the LR mechanism in Japan.** This act allows the hearing of complaints, objections, or dissatisfaction of the landowners over their contribution ratio or plot placements and so on without halting or freezing the implementation process of the LR Scheme. In this way, one or a few people cannot risk the execution if the majority of people have reached a consensus to implement it (De Souza, Ochi, and Hosono 2018).

5.4 Preliminary Learnings and Conclusion

There is scope for all countries practicing land readjustment tools to learn from each other. The underlying concept of land readjustment remains the same across borders; however, some granular differences prevail, especially with regard to the procedures, approval mechanism, and financing. In Japan, the scale of the use of the land readjustment mechanism is far higher despite it being a much smaller country than India. With regular use of this tool, several project modalities have improved over the past century, transforming 10,909 projects covering 329,248 hectares (De Souza, Ochi, and Hosono 2018). There is an understanding that the success of the land readjustment mechanism is inevitable if the country continues to apply it constantly and use it as a planning mechanism. By **continuous implementation**, for small or large areas, the scheme self-evolves and people's trust in this mechanism of development increases, leading them to participate. Drawing lessons from Japan and showcasing successful case studies of Gujarat and Maharashtra, other states in India should adopt the TP Scheme too. The way forward for India could be to scale up the use of this tool by gathering resources and drafting an efficient financial framework for executing TP Scheme projects, learning from success stories, and eliminating the fear of failure. The preliminary learnings that India's TP Scheme could draw from Japan's LR Scheme are:

- **Private Sector Engagement for Financial and Technical Support**

India has the precedence of engaging the private sector in infrastructure development through public–private partnership models, which land management could replicate. Along similar lines to the system in Japan, it would be possible to engage private developers to invest in the TP Scheme, given that local development authorities lack the financial capacity to fund the upfront cost of infrastructure development and to mobilize resources. To incentivize private sector participation, the state could offer tax exemption on the sale of reserved land, a prominent feature of Japan's LR Scheme.

- **Capacity Building and Transparency in the Process**

Development authorities that are intending to use the scheme need to convince the landowners of the fairness of the process and benefits accrued. By constituting land readjustment councils, comprising elected representatives from the landowners and leaseholders, Japan's LR Scheme increases the transparency, participation, and trust of the rights holders in decision making and the overall implementation process. This council also discusses the potential benefits with each land rights holder individually and resolves any issues in the case of disagreement.

In India, the TPO is the sole authority for decision making, and a committee that the TPO leads could act as a substitute but with fair representation from landowners and perhaps LR experts too. This committee could also be responsible for advocacy to the landowners on their rights, benefits, and the clarity of the process, supporting capacity building that could help them to be less susceptible to private developers' land amassing, which may entail duping farmers, especially small farmers.

The country should develop central-level guidelines on implementing the TP Scheme for building the capacities of states with little or no experience of planning and executing the TP Scheme. However, the states in India are very different, and there is no one solution that fits all, so it would still be necessary for them to formulate their own town and country planning legislation and TP Scheme procedures. Adapting from Japan, there must also be a provision for seeking technical support in designing and implementing the TP Scheme from the state-level or central-level authorities.

- **TP Schemes for Build Back Better**

Japan has successfully applied the LR scheme to post-disaster reconstruction. This is an efficient mechanism for rehabilitating disaster-affected lands that need better reorganization of plots and an efficient infrastructure for future resiliency—Build Back Better. It is also applicable as a preferable mechanism for disaster-hit areas in India, promoting resilient and safe development. Landowners are vulnerable at the time of disasters, and this mechanism can help them to feel more secure and less exposed to eviction or loss of livelihood. Gujarat applied the TP Scheme to Bhuj following an earthquake in 2001, which was a success and can offer some lessons to other states. Similarly, Japan's post-earthquake recovery after 1995 (Hanshin-Awaji) and 2011 (Tohoku) are worth studying to gain a better understanding of the applicability of land readjustment to post-disaster reconstruction.

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6

Primary Urban Land Auctions and Land Allocation in the People's Republic of China

Shuping Wu and Zan Yang

6.1 Introduction

In the People's Republic of China (PRC), the state owns all the urban land. The central government exercises urban land ownership on behalf of the state, and local governments allocate the use rights of vacant land to land users in the local primary land market. The PRC's land management system features the central role of local governments and solid interaction between governments and land developers; thus, it offers a vital perspective to understand the PRC's land market. This is the objective of this study.

Since the PRC's land reform, the land market, including land allocation, has attracted the intensive attention of scholars and politicians. Researchers have studied well the role of governments in the land market (Huang and Du 2017) and its impact on cities' physical and urban development (Tian and Ma 2009) under the PRC's unique land system. They have paid particular attention to the impact of the fiscal revenue (Tao et al. 2010) and inter-city competitions that the economic reform of the land allocation has stimulated (Xu and Yeh 2009). They have also explored the correlations between the land supply and the government's and entrepreneurs' performance and officers' individual promotion opportunities (Chen and Kung 2018). These studies discovered how the objective of local governments to accumulate fiscal funds results in high prices of residential and commercial land (Wu, Deng, and Liu 2014; Yang et al. 2017) and why local governments offer preferential industrial land to attract foreign and domestic investments for local economic developments (Zhang, Zhang, and Chen 2016).

Fewer studies have considered the government behavior in land auctions and the impacts of these auctions on the land supply and prices (Cai, Henderson, and Zhang 2013; Yang et al. 2015). Some studies have also highlighted the preferred position of state-owned enterprises and princeling companies in land auctions in the PRC (Deng et al. 2014; Chen and Kung 2018). However, limited studies have connected government behavior, auctions, and land allocation to understand how land auctions act as a political mechanism in land allocation in the PRC.

This study is an attempt to fill that gap, and its structure is as follows. Section 6.2 provides the background regarding land auctions and the role of local governments and land developers in the PRC, Section 6.3 describes the data that the study uses and the analysis results, and Section 6.4 presents the conclusion and political implications.

6.2 Background

6.2.1 Land Auctions in Urban Areas of the People's Republic of China

Since the PRC's 1988 land reform, the right of urban land use has been transferable in accordance with certain legislation, although the land still belongs to the state. The state monopolizes the primary land market and distributes the land use right between the state and corporations or individuals. Before 2004, the government allocated use rights of land freely through administrative allocation (*xing zheng hua bo*) or through granting (*chu rang*) and leases (*zu lin*) for a charge. Since 2004, restrictions have meant that the granting of all profit-oriented land, including residential land, commercial land, industrial land, and tourism land, occurs through auctions. This requirement aims to create a fair, transparent, and market-orientated land transaction system. According to the 2017 China Land and Resources Statistical Yearbook (National Bureau of Statistics 2017), among all 153,984 urban land parcels supplied in 2016, granting accounted for 66.20% and administrative allocation, leases, and other methods provided 33.80%. In addition, land auctions accounted for 92.03% of land granting by area and 96.30% of land granting by revenue in 2016. Land auctions dominated the land allocation in the PRC. Since then, the PRC has gradually built a price mechanism for urban land leasehold.

There are three types of urban land auctions: English auctions (*paimai*), two-stage auctions (*guapai*), and sealed-bid auctions (*zhaobiao*). English auctions follow a standard English auction process, in which the bidder who offers the highest prices wins and pays the highest bidding price. Two-stage auctions, as their name suggests, contain two related stages. In the first stage, qualified bidders offer a

bid that is not less than the reserve price. The auctioneer publicizes the bidding prices to all the bidders immediately on submission but keeps the bidders' information secret in this stage. This first stage has a definite start date and deadline and can last for several working days or weeks. During this period, bidders are able to enter at any time and bid incrementally an unlimited number of times. If there is only one active bidder at the end of the first stage, the auctioneer assigns the land to that bidder at his or her final bidding price, but if more than one active bidder is competing for the land, all of them will enter the second stage of the auction on the spot. The second stage is an English auction, and the final winner is the one who bids the highest price. Thus, a two-stage auction proceeds by holding a "survival" auction before the standard English auction.

A sealed-bid auction is different from the above two auctions. In this auction, the bid evaluation committee scores each bid based on a comprehensive comparison of factors, such as the bidding price, payment conditions, proposed development plan, financial solvency of the bidder, and corporation's performance and reputation. It grants the land to the bidder who obtains the highest score for the combination of these factors. Thus, the bidder who offers the highest price may not always win the auction, although offering a higher price will contribute to a higher score within a certain range. Only certain cities, such as Beijing and Shanghai, apply this type of auction, and it accounts for a very limited share of the land market. According to the data from the China Real Estate Index System (CREIS), from 2000 to 2015, over 80.98% of land auctions in 35 major cities in the PRC[1] were two-stage auctions, 16.33% were English auctions, and only 2.69% were sealed-bid auctions. In this chapter, we do not analyze sealed-bid auctions.

Not only the PRC's government but also those of Hong Kong, China and Singapore use auctions to supply land. In Hong Kong, China, the government owns all the land (Chau et al. 2010). The government releases land sites for private development through five methods: government land auctions, government land tenders, private treaty grants, redevelopment, and Letters A/B. The first two methods are the most important, and land sites released through auctions and tenders contribute about one-third of the annual private supply of housing

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1 The 35 major PRC cities are Beijing, Chengdu, Dalian, Fuzhou, Guangzhou, Guiyang, Harbin, Haikou, Hangzhou, Hefei, Hohhot, Jinan, Kunming, Lanzhou, Nanchang, Nanjing, Nanning, Ningbo, Qingdao, Xiamen, Shanghai, Shenzhen, Shenyang, Shijiazhuang, Taiyuan, Tianjin, Urumchi, Wuhan, Xi'an, Xining, Yinchuan, Changchun, Changsha, Zhengzhou, and Chongqing.

units (Ching and Fu 2003). The government conducts land auctions[2] in the form of first-price open-cry English auctions, whereas the tender uses sealed bids, requires interested bidders to submit a development plan together with their bid, and selects the bidder who submits the best development plan at a reasonable bidding price, not necessarily the highest one, as the winner (Chau et al. 2010). In Singapore, the government owns a large part of developable vacant land and the private sector owns the other small part. The government supplies land to the market mostly through first-price sealed-bid auctions.[3] However, in some cases, open-bid land auctions or a mixture of sealed-bid tenders and open-bid auctions are observable, for example as Chiu, Chau, and Yau (2015) discuss.

As we can see, the governments of Hong Kong, China and Singapore mostly use sealed-bid tenders and occasionally hold open-bid English auctions to supply land. However, Hong Kong, China and Singapore do not use two-stage auctions, which are the dominant government land supply method in the PRC. That is, although governments in many countries and regions use tenders and auctions to supply land, they select different auction formats. That raises the following research question: why does the PRC government prefer unique two-stage auctions to supply land?

6.2.2 Local Governments and Enterprises

The PRC's land system sets out the central role of local governments in land allocation. As the agent of the central government, the local government acts as the sole statutory owner and supplier of land in the regional context. At the beginning of every year, the local government (to be exact, the local land resource bureau) publishes the land use plan for the year with a list of the land parcels that it will auction. The local government has the authorization to decide all the details related to the auction, such as the auction time, auction format, bidder qualification, and reserve prices. In the days leading up to the start of the land auction, the local government publicizes auction information on the specified auction rules and the land attributes in terms of location, size, land use, floor-to-area ratio, and certain requirements for land development. If it sells the land successfully, the winner pays a one-time charge for

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2 Chiu et al. (2015) provide a detailed introduction to the development of the land supply system through public auction in Hong Kong, China in the past 2 decades.

3 The government prefers sealed-bid auctions to open-bid auctions in Singapore because it believes that this reduces the probability of bidders' collusion. Ooi, Sirmans, and Turnbull (2011) provide a detailed introduction to the auction process.

70 years using the right for residential land, 40 years for commercial land, and 50 years for industrial land.

Unlike in some other countries, the PRC's local governments take on multiple interacting roles in their land supply decisions. In addition to the owner of urban land, the local government plays a key role in promoting local economic development, and the decentralization of administrative and fiscal powers from the central government to the local state has enhanced this role. Local governments under this circumstance have sufficient and strong incentives to raise budgetary and extra-budgetary revenues, and the land-leasing revenue has become an important source of local public financing (Tao et al. 2010). The profoundly accelerated land prices in the rapidly urbanizing PRC offer local governments a substantial financial source. In addition, the "Regulation of the Income and Expenses of State-Owned Land Conveyance" in the PRC classifies land revenue as a type of local fund that local governments budget, manage, and supervise without the intervention of the central government.

Moreover, the PRC local governments are the major shareholders in state-owned enterprises (SOEs). This entrepreneurial role of local governments binds their relationship with the SOEs, thus the land preference for SOEs reflects the natural interest of the government in SOEs (Wu, Deng, and Yang 2018). In addition, under the PRC's bureaucratic hierarchy political system, local government officials have personal interests in maximizing the land revenue. According to the cadre evaluation system of the PRC central state, economic growth and fiscal revenue are directly related to the political promotion of government officials. The multiple roles of local governments show that understanding the behavior of local governments requires an in-depth exploration of the role of land auctions as a political tool and the relationship between the government and land developers.

Enterprises, in particular property developers, are the bidders in the PRC's land auctions in most cases. Between 2004 and 2016, the government granted over 70% of 1,628,635 land parcels transacted in the PRC's primary land market to property developers, and private investors acquired the rest (Chen and Kung 2018). Private investors normally cannot afford the extremely high cost of land auctions. For example, in 2016, the average granting cost of a land parcel through an auction was RMB51,614,211, about $7,480,320 (National Bureau of Statistics 2017). In addition to the bidding prices, the bid cost, the search cost, and the opportunity cost are likely to be high in land auctions. Moreover, numerous legal, institutional, financial, and investment restrictions for individuals to develop the vacant land exclude most private investors from the auction.

In the PRC, SOEs are firms of which the ultimate controller is a state-owned agency. They have a long history and play a significant role in the whole economy. The market capitalism reform of SOEs has gradually changed the role of SOEs from a direct allocator and redistributor to a market regulator and broker. The size of SOEs has shrunk nationally from 12.19% of the total PRC enterprises in 2001 to 5.91% in 2004 and then 3.15% in 2008 (Deng et al. 2014). However, in the post-reform period, SOEs still play a central role in the PRC's economic and political system, especially in the real estate market. In 2008, the central government-controlled SOEs contributed 15% of the total value of residential land purchases, and this figure jumped to 33% in the first quarter of 2010.

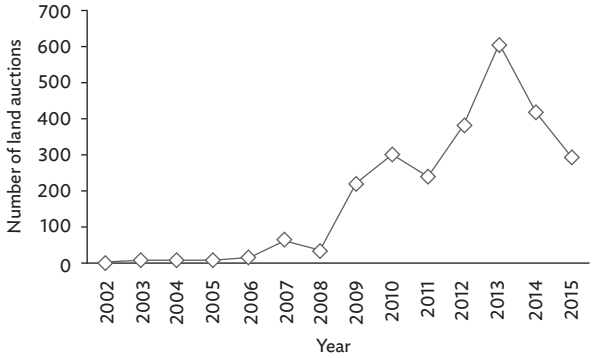
6.3 Land Allocation in the People's Republic of China: Statistical and Empirical Analysis

6.3.1 Method and Data

This study describes and analyzes land allocation in the PRC based on simple statistical descriptions and empirical tests. It uses summary statistics, geographic information system (GIS) mapping, and the regression method to investigate the land allocation in urban areas of the PRC.

The data used in this study are from the CREIS database. This contains the data of the number of land auctions that are won by the

Figure 6.1: Annual Number of Land Auctions



Source: China Real Estate Index System (CREIS).

listed real estate firms in the PRC 2002 to 2015. The sample covers 2,608 land auctions that 73 A-share listed real estate firms won during 2002 to 2015, covering 2,021 two-stage land auctions and 587 English land auctions. Figure 6.1 shows the annual number of land auctions. The auction volume began increasing in 2007 and reached its peak level in 2013. Before 2007, the annual number of land auctions was about 10 parcels. The volume increased to 66 parcels in 2007 and then dropped to 33 parcels in 2008 due to the global financial crisis. The highest market auction volume was 604 parcels in 2013.

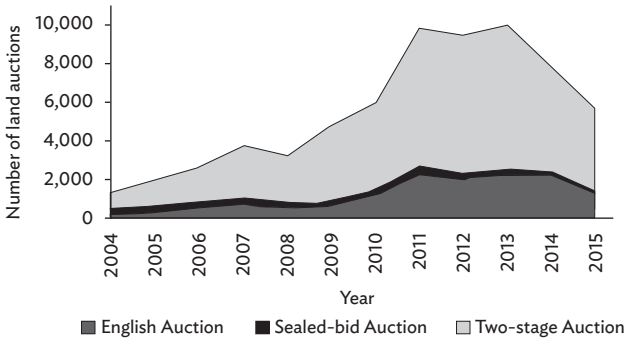
6.3.2 Land Allocation in the People's Republic of China

In this section, we present three findings regarding the land auction type and the role of SOEs in land auctions.

Finding 1: Two-stage auctions dominate the land auctions in the PRC.
In Figure 6.2, we show the distribution of three types of land allocation auctions in 35 cities in the PRC from 2004 to 2015. It is obvious that two-stage auctions dominate the land auctions in the PRC, particularly after 2008. The market share of two-stage auctions increased from 66% in 2004 to 85% in 2014. After that, a wavelike drop occurred, and the market share of two-stage auctions fell to 76% in 2015. Over the whole period under study, sealed-bid auctions had a stable and tiny share of the market.

The importance of two-stage auctions is also evident in parallel for winners as listed real estate firms.

Figure 6.2: Three Types of Land Auctions in 35 Cities in the People's Republic of China



Source: China Real Estate Index System (CREIS).

As we described above, a two-stage auction is likely to proceed by holding a "survival" auction before the standard English auction. The bidding normally has a longer duration in a two-stage auction, allowing bidders more opportunities to explore the land condition, observe rivals' behavior, and make a rational decision. On the other hand, it suggests that a two-stage auction provides room for local government corruption by "taking" their preferred developers, because the sequential entry allows the first bidder to deter other bidders from entering (Cai, Henderson, and Zhang 2013). Bidders who have a political connection with the local government, such as SOEs, can take this first-entry advantage.

We found indirect evidence of the first-entry advantage that politically connected bidders enjoy. According to our calculation based on Beijing two-stage auctions, auctions that politically connected bidders won were more likely to have a start-day bid. A start-day bid is a bid submitted on the first day of a two-stage land auction. Because a better-informed bidder is more likely to submit a start-day bid to exclude potential competitors from the first step, it suggests that information asymmetry is easy to breed in two-stage auctions and therefore leaves room for the government to favor connected bidders by offering them better information. That is one reason, as Cai, Henderson, and Zhang (2013) believe, behind local governments' preference for two-stage auctions in land allocation.

Finding 2: SOEs tend to have a larger market share than non-SOEs in land auctions in the PRC.

According to the CREIS, the government transferred 458,887 parcels of residential and industrial land through sealed-bid auctions, two-stage auctions, and English auctions between 2008 and 2017. Among them, SOEs acquired 57,991 (12.64%) land parcels and non-SOE firms acquired the other 400,896 (87.36%) land parcels. The market share for SOEs was slightly higher than 10%.

However, the number of SOEs is 9,640, while there were 261,995 non-SOEs. That means that, on average, each SOE obtained six land parcels and each non-SOE obtained only 1.53 land parcels, suggesting that SOEs have more market power than non-SOEs in the land market in urban areas of the PRC. Other literature has also supported the market power of SOEs. According to Chen and Kung (2018), "while the princeling firms make up a mere 0.81% of all the firms (437,776) that had ever purchased land in the primary market between 2004 and 2016, the value of their transactions in the overall land revenue is twice as much (1.71%)." A princeling firm is a firm linked to members of the PRC's supreme political elites. It is not an SOE strictly speaking, but it is a politically connected firm like an SOE.

Table 6.1: Amount of Land that State-Owned Enterprises and Non-State-Owned Enterprises Won in Each Province

	SOEs		Non-SOEs	
Province	**No.**	**%**	**No.**	**%**
Heilongjiang	34	100.00%	0	0.00%
Ningxia	14	100.00%	0	0.00%
Qinghai	28	100.00%	0	0.00%
Jiangxi	63	96.92%	2	3.08%
Jilin	54	96.43%	2	3.57%
Henan	52	94.55%	3	5.45%
Neimenggu	22	91.67%	2	8.33%
Guangdong	323	91.50%	30	8.50%
Yunnan	81	91.01%	8	8.99%
Beijing	243	90.33%	26	9.67%
Gansu	55	87.30%	8	12.70%
Shanxi (Taiyuan)	20	86.96%	3	13.04%
Shanghai	211	85.08%	37	14.92%
Tianjin	155	83.33%	31	16.67%
Liaoning	201	77.31%	59	22.69%
Guangxi	16	76.19%	5	23.81%
Shanxi (Xi'an)	71	75.53%	23	24.47%
Shandong	171	73.71%	61	26.29%
Hubei	106	73.61%	38	26.39%
Xinjiang	22	73.33%	8	26.67%
Hainan	19	73.08%	7	26.92%
Anhui	65	73.03%	24	26.97%
Jiangsu	341	66.73%	170	33.27%
Hunan	58	66.67%	29	33.33%
Sichuan	112	59.89%	75	40.11%
Fujian	61	52.14%	56	47.86%
Zhejiang	170	50.90%	164	49.10%
Chongqing	80	49.69%	81	50.31%
Guizhou	28	26.67%	77	73.33%
Hebei	54	10.06%	483	89.94%
Total	**2,930**		**1,512**	

SOE = state-owned enterprise.

Sources: China Real Estate Index System (CREIS) and authors' calculation.

In our sample, SOE bidders won 66% of the land auctions. We report the number and percentages of land parcels that SOEs and non-SOEs won in each province. As Table 6.1 shows, in most provinces, SOEs acquired more land than non-SOEs. However, in Hebei and Guizhou provinces, non-SOEs dominated the land market.

Finding 3: SOEs tend to pay a lower price in land auctions.

Next we compare the prices that SOEs and non-SOEs paid. SOEs with an institutional political connection, in theory, are more likely to be favored for the institutional reason that the government prefers SOEs to win an auction or develop the land for certain political objectives or certain types of projects, such as "white elephant projects" or "image projects." This land often has low economic development value to attract private bidders (Cai, Henderson, and Zhang 2013), and the government "prefers" SOEs to bid for these projects. The "political burden" (Lin, Cai, and Li 1998), "grabbing hand" (Shleifer and Vishny 1994), or "multitasking" (Bai, Lu, and Tao 2006) found in other fields is just what the government puts on SOEs. It makes sense because the government could ultimately control SOEs through soft budget constraints (Kornai 1986, Yang et al. 2017), access to bank loans (Yang et al. 2017), and personnel appointments[4] (Mi and Wang 2000) to fulfill its objectives by burdening SOEs. That would make SOE bidders pay a lower price for land auctions.

The regression results in Table 6.2 support that statement. As Table 6.2 shows, the coefficient for SOEs is negative and significant at the 1% level for the full sample and two-stage auctions and at the 10% level for English auctions. That means that SOE winners pay a significantly lower price than non-SOE winners, in particular in two-stage auctions. The variance of the estimated coefficients of SOEs across different models further supports our observation that local governments prefer two-stage auctions and that SOEs have more price advantages in two-stage auctions.

Besides, the estimated coefficients for the land area, land use type, and land reserve price are more significant in English auctions than in two-stage auctions. That means that English auctions are a more market-driven format in which the land quality drives the final sale price more than in two-stage auctions.

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4 Bureaucrats rather than capitalists select the managers of SOEs, and they must follow administrative orders (Hu 2000).

Table 6.2: Politically Connected Winners and Winning Prices

	Full Sample	Subsample: Two-Stage Auctions	Subsample: English Auctions
	(1)	(2)	(3)
SOE	−1.213***	−0.802***	−0.574*
	(−24.175)	(−10.556)	(−1.762)
Twostage_auction	−0.061***		
	(−5.345)		
Harea	0.007	0.003	0.101***
	(0.717)	(0.258)	(3.323)
Larea	−0.009	−0.007	−0.129***
	(−0.837)	(−0.502)	(−3.337)
Use = 1	−0.030	0.073	1.091**
	(−0.694)	(0.777)	(2.090)
Use = 2	−0.081*	0.016	0.848*
	(−1.932)	(0.210)	(1.934)
Rprice	1.023***	1.023***	1.056***
	(182.222)	(155.691)	(64.060)
Size	0.012	0.001	0.047***
	(1.620)	(0.074)	(3.106)
Cash	0.134	0.039	0.323
	(1.512)	(0.407)	(1.293)
Leverage	0.015	−0.042	0.040**
	(0.858)	(−1.449)	(2.142)
Age_IPO	−0.024	−0.135*	0.262
	(−0.365)	(−1.814)	(1.578)
Age	−0.164	0.051	−0.235
	(−1.225)	(0.348)	(−0.755)
Outside	0.091***	0.077***	0.114**
	(5.161)	(3.771)	(2.312)
Mkt_index	0.014***	0.016***	0.014
	(3.331)	(3.255)	(1.485)
Mkt_index	0.014***	0.016***	0.014
	(3.331)	(3.255)	(1.485)

continued on next page

Table 6.2 *continued*

	Full Sample	Subsample: Two-Stage Auctions	Subsample: English Auctions
	(1)	(2)	(3)
City_lprice	0.011	0.006	0.037
	(0.895)	(0.402)	(1.330)
City_larea	0.003	0.015	−0.027
	(0.341)	(1.480)	(−1.356)
Constant	−0.121	−0.823	−4.578***
	(−0.217)	(−1.248)	(−3.023)
Inverse Mills ratio	NO	YES	YES
Year fixed effect	YES	YES	YES
Regional fixed effect	YES	YES	YES
Firm fixed effect	YES	YES	YES
Obs.	2,608	2,021	587
Adjusted R^2	0.964	0.969	0.933

SOE = state-owned enterprise.

Note: This table presents the relation between the land final sale price (Price) and the winner's connections with the government. The dependent variable is the final auction price of each land parcel. The variable of interest is SOE. The independent variables include the following. (1) Characteristics of the land: *Twostage_auction* is the indicator of the two-stage land auction; *Harea* indicates the logged housing area permitted be built on the land; *Larea* indicates the logged land area; *Use = 1* represents residential land; *Use = 2* represents commercial land; and *Rprice* is the logged reserve land price. (2) The winning firm's financial statements: *Size* is the logged book value of total assets of the firm; *Cash* is the cash and cash equivalents divided by total asset (book value); *Leverage* is the total debt divided by the sum of total debt and equity (book value); *Age_IPO* is the logged number of years since the firm's IPO; *Age* is the logged number of years since the firm's establishment; and *Outside* equals 1 if the land is located outside the winner firm's headquarter city. (3) Market performance: *Mkt_index* is the monthly national real estate development prosperity index; *City_lprice* is the logged annual city-level average land price of the same-use type; and *City_area* is the logged annual city-level total land auction area of the same-use type. The model controls all the firm, year, and regional fixed effects. *, **, and *** represent the 10%, 5%, and 1% significance levels, respectively. The t-statistics are in parentheses.

Source: Wu and Yang (2020).

6.4 Conclusion and Political Implications

The PRC government has clear preferences in urban land auctions. In terms of the land auction format, the government favors two-stage auctions over English auctions. In terms of bidder types, compared with bidders without political connections, the government favors SOE bidders to win land auctions at lower prices. Consequently, the

government allocates urban land resources in the PRC unequally between SOEs and non-SOEs.

The study found that local governments play an important role in urban land transfer and land resource allocation in the PRC. Therefore, the efficiency of land resource allocation first depends on the definition and clarification of the main responsibility of local governments in the land market. At the same time, local governments should follow the land market mechanism more closely and reduce the impact of rent seeking and government–enterprise relations.

Auctions are an important tool for the allocation of urban land resources in the PRC. Among them, two-stage auctions account for about 80% of cities' operational land allocation. Therefore, improving the land auction system and mechanism constantly and strengthening the management of the land auction process is another important issue to improve the efficiency of land resource allocation in the PRC.

It is well known that, under the state-owned urban land system, there are differences between SOEs and non-SOEs in the quantity and price of land. This chapter revealed the difference in local governments' preference for different types of enterprises and its impact on land allocation but did not examine the impact of this preference difference on land allocation efficiency. Exploring local governments' preference for enterprises and its impact on land allocation efficiency further will provide a new perspective for improving land allocation efficiency through the understanding of the relationship between the government and enterprises.

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PART III

Innovations in Planning and Land Use Management Strategies

7

Designing Fair Compensation for the Compulsory Acquisition of Land: Case of Bengaluru, India

Jyoti Shukla

7.1 Introduction

The procurement of land for large infrastructure and development projects through market mechanisms involves huge transaction and information costs, which make the whole process expensive and time consuming. In India, the lack of accessible land records further exacerbates the situation, as it is difficult for market participants to ascertain the ownership of land, complicating negotiations. The consequence has been that the promoters of such projects have eschewed market negotiations for land procurement in favor of the use of compulsory acquisition powers of the state. These powers of the state, legally backed by the provision of enabling law, allow the government and its agencies to acquire a private interest in land (land rights of individuals) for public purposes.

The affected private landowners, however, strongly resist the process of compulsory acquisition. As Rao (2018a, 2018b, 2019) discusses, these landowners bear the loss of many functionings associated with land for which the present mechanisms of compensation (or resettlement) are unable to compensate. Aggrieved landowners, who often bear losses exceeding the compensation that they receive (Ghatak et al. 2013, Grover 2014), seek opportunities for negotiation, giving rise to legal disputes between the landowners and the acquirers. There is ample empirical evidence from many parts of the world to suggest that the majority of legal disputes for compensation conclude in favor of the landowner, and an upward improvement in compensation is commonly

observable (Newell, Chan, and Goodridge 2011; Singh 2012; Wahi et al. 2017). The landowners lose a significant amount of money and time in negotiating for their losses in the court given the arbitrary nature of many essential components of compensation, for example, the market value determined under the no-scheme scenario; the hope value (or the value of land for the highest and best use in the near future); severance; injurious affection; disturbances; and blight, for which the legal debate in the court determines the final value (refer to Sams 2016, 2017; Rao 2018a for details of court cases in Australia and India). While it is important to give the opportunity to the landowner to access the judicial system and have a fair chance to negotiate, there is growing realization that there are losses other than the original market value of land that also deserve compensation (refer to Wahi et al. 2017 for legal disputes on compensation in India).

Laws across countries legislate compensation on principles of "just compensation," "fair compensation," and "equity or equivalence" (Olanrele et al. 2017). However, an oversimplified interpretation of "just" and "fair" compensation equates compensation to the market value of land and other tangible losses (Olanrele et al. 2017). For example, the components of compensation in the United Kingdom, Denmark, the United States, and New Zealand, though their descriptions are different, broadly include the market value of land and improvements, severance, disturbance, and injurious affection (refer to Olanrele et al. 2017 for details of the components of compensation across different countries). At times, the landowners receive an additional amount or solatium as compensation for the compulsory nature of acquisition. For instance, in India, the old legislation recommended the payment of an additional 30% solatium (under section 23(2), Land Acquisition Act of 1894), and the new act has further revised the solatium upward to up to 200% of the market value of land (refer to the first schedule of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013). The new law cumulates many losses in the solatium, such as severance, injurious affection, disturbance, and so on, hence the upward shift. Even though these headings cover a good range of financial losses, many remain uncompensated, as the next paragraphs discuss.

For a comprehensive understanding of the losses associated with the compulsory acquisition of land, Rao (2018a) uses Sen's "capability theory" to explain the value of land to its owner. The concept of "functionings" lies at the heart of Sen's capability theory, which argues against equating individuals' well-being with income and resources and instead proposes equality of "capability" (Sen 1979). He defines capability as the set of functionings that are accessible to an individual and functionings as the states of wellness and doings that add to his or her well-being (Sen 1979). In other words, functionings are the usefulness

derived from resources while capability is the set of functionings that are accessible to a person. Enhancing well-being would therefore mean strengthening the capability of a person or improving his or her access to a wider set of functionings that are valuable to a person. In the context of compulsory acquisition of land, the loss of land compromises a wide range of functionings of landowners. Through a series of studies involving a survey of affected landowners and analysis of secondary data, Rao (2018a, 2018b, 2019) identifies a set of 27 fundamental functionings that are generally valuable to landowners and deserve compensation. Rao, Tiwari, and Hutchison (2017) argue that a fair compensation mechanism should satisfactorily replace or reconstruct all the fundamental functionings of land for each affected landowner. This chapter contributes to the wider debate on fair compensation and focuses on two crucial financial functionings of land, as Rao (2018b) identified, which are:

1. Being able to generate financial benefits linked with the future development potential of land

Earlier studies on urban land markets suggested that continuous growth in the demand for urban land, coupled with its regulated supply, has led to land value appreciation over time (Cheshire and Hibler 2017). Landowners are therefore optimistic about the advancement of their land's development potential and the consequential improvement in its value. This research refers to this as the "hope value" of land. Referring to the formal definition of hope value, which the Lands Tribunal for Scotland used, Rao (2018a) explains that hope value is the estimated improvement in the value of land due to its potential for development in the future.

2. Being able to use the property as a financial asset at the time of need

Sometimes there is a time gap between the actual acquisition of land and its notification for acquisition, as occurred in the case of the Bangalore–Mysore Infrastructure Corridor (BMIC) project. Landowners may find it challenging to sell or mortgage land during this time, after the state has earmarked their land for acquisition. The reduction in property value due to the notification of the property for acquisition for a public purpose is termed "blight."[1] Blight is the buyer's response to the risk

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[1] The Scottish government defined blight as the reduction in property value because the state has earmarked it for a public purpose, such as a new road (Scottish Government 2011). If owners find it challenging to sell their property because of the notification, then they may serve a blight notice to the acquiring authority and force the authority to buy their interest at its value before blight affected it (Scottish Government 2011). Unlike the Scottish government, the Indian government does not compensate for blight.

of receiving inadequate compensation payment at a later date (post-acquisition), time and costs involved in the settlement of compensation negotiations, restrictions on improving the property and associated financial and personal losses, and uncertainty of the time duration for which the property will be under notification, among others. Blight may pose serious financial challenges to landowners and reduce the financial security arising from landownership (refer to Rao 2019 for more details of blight and other functionings of land that the landowners affected by the BMIC project identified).

While feeding into the bigger objective of designing a fairer compensation mechanism, this research estimates the economic value of two important financial functionings of land that remain uncompensated under contemporary methods of compensation,[2] that is, hope value and blight, as discussed above. The specific questions that the research asks are: (i) What has been the impact of the improvement of land use on its value? (ii) What has been the impact of land acquisition notice on the value of land? (iii) Are the effects on different social groups different? This research finds answers to the above questions in the case of the BMIC project, which is a typical example of a public–private partnership road infrastructure project in India. The findings suggest that there is a significant positive impact of improvement of land use on land values. However, landowners whose land is acquired compulsorily do not receive any share of the project-generated benefits, unlike other landowners in the region. The results indicate that there is blight or a negative effect of a compulsory acquisition notice on the value of the property. This adds to the financial hardships of those landowners who need to sell or mortgage property post-notification. In addition, the negative impact is stronger for marginalized segments (belonging to a scheduled caste [SC] and/or scheduled tribe [ST]), thus worsening the situation.

This chapter aims to advance the discussion on fair compensation in two parts. The first part discusses the theoretical framework of Sen's capability approach and its application to the complete range of losses associated with the compulsory acquisition of land. Sen's economic theory allows us to include both financial and nonfinancial functions of land in the set of economically rational losses that deserve compensation. It is understandable that full compensation for all these losses, particularly nonfinancial losses, may be hard to achieve and is

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2 Even though some countries, like Scotland, allow negotiation over hope value and blight, these are not explicit components of compensation and the onus lies on the landowner to prove his or her claim. Arbitration over these losses is expensive and discourages landowners from undertaking the negotiation. This research is a useful guide to applying the hedonic approach to the identification of economic value of some of these (obvious) losses that deserve compensation.

beyond the scope of the present research. However, there is an urgent need to examine those losses that are financial in nature and yet remain uncompensated. These uncompensated financial losses are the focus area of this research.

The second part of this chapter is a natural extension of the first part and proposes a statistical solution for estimating the value of two important financial functions of land that landowners lose and that do not qualify for compensation in the contemporary approach to compensation in India. First is the loss of financial benefits arising due to an improvement in the use of land or its potential for development over time, which the study defines as the hope value of land. The hope value may be nondeterministic at the present time and yet landowners expect an improvement in value in the future. The second financial loss arises due to depreciation in the land value, or blight, due to the notification for compulsory acquisition. Given that the process of compulsory acquisition is often time consuming, the period for which land is under notification but not acquired may be long and uncertain. This is especially disadvantageous for those landowners who require their land for raising formal finance, say through sale or mortgage. This research estimates the depreciation in land value or blight due to acquisition notification and argues for its compensation.

Regarding the empirical estimations, this research takes its inspiration from the hedonic theory of land, which Section 7.4 describes. Sen (1987) explains the connection between capability, commodities, and their characteristics, and Sections 7.2 and 7.3 discuss it briefly. These discussions further clarify the definition of functionings and capabilities and form the foundation for later discussions on the estimation of the value of functionings using the hedonic model. The structure of the rest of the chapter is as follows. Section 7.5 presents a brief overview of the BMIC project and its relevance to this research. Section 7.6 discusses the data sets that this research uses and elaborates on the characteristics of villages that have undergone acquisition in comparison with those that are in the project planning zone but have not undergone acquisition. Section 7.7 discusses the results of hedonic estimation. Lastly, Section 7.8 concludes the above discussions and suggests the future direction for work in this area.

7.2 Relationship between Commodities and Capabilities

This section explains the relationship between commodities, characteristics, and utility, which forms the basis for hedonic theory, as Section 7.4 discusses later. More important discussions follow and

explain the difference between utility and capability, using Sen (1987) as a key reference. Most discussions use the same notations as Sen (1987).

> x_i = the vector of commodities possessed by person *i*
>
> $c(.)$ = the function converting a commodity vector into a vector of characteristics of those commodities
>
> $f_i(.)$ = a "utilization function" of person *i* reflecting one pattern of use of commodities that i can make (in generating a functioning vector out of a characteristic vector of the commodities possessed)

However, "the conversion of commodity characteristics into personal achievements of functionings depends on a variety of factors—personal and social" (Sen 1987, p. 17).

> F_i = the full set of "utilization functions" for person i to choose from
>
> $h_i(.)$ = the happiness function of person i related to the functionings achieved by i

Using the above notation, Sen (1987) explains functioning $f_i(.)$ as a utility-generating function of commodities and their characteristics. If person *i* chooses the utilization function $f_i(.)$, then, with *i*'s commodity vector x_i, the achieved or chosen functionings can be written as:

$$b_i = f_i\,(c(x_i))$$

where b_i may be interpreted as the person's being, for example being nourished, mobile, and so on. We can write the happiness that *i* would then enjoy from the functioning vector b_i as:

$$u_i = h_i\,(f_i\,(c(x_i)))$$

Sen (1987) argues that function h_i is a scalar-valued function and tells us "how happy the person is with the functioning vector b_i and it does not tell us how good that way of living is." Through his capability theory, Sen (1987) argues that happiness is not a plausible criterion for the goodness of life and certainly not the only criterion. Thus, the exercise of measuring happiness is not the same as the exercise of measuring the value of life. Regarding the valuation of the quality of life and *i*'s states

of being , Sen (1987) asserts that the valuation function to estimate the value of the vector of functionings b_i is:

$$v_i = v_i\,(f_i\,(c(x_i)))$$

The discussions above focus on a single utilization function $f_i(.)$ from a set of functions $F(.)$, where $F_i(.)$ is the set of feasible utilization functions given i's personal features and command over commodities. The complete set of vectors of functionings feasible for person i with commodity vector x_i is the set $Q_i(x_i)$:

$Q_i(x_i) = [b_i \mid b_i = f_i(c(x_i))$, for some $f_i(.) \in F_i$ and for some $x_i \in X_i]$, where X_i is the set of commodities.

Following Sen's (1987) theory, $Q_i(x_i)$ represents capabilities or the freedom that a person has in terms of various alternative bundles of feasible functionings given his or her personal features F_i (the conversion function of characteristics into functionings) and his or her command over commodities X_i (entitlements). Then, the set V_i gives the value of well-being that a person can achieve:

$$X_i = [v_i \mid v_i = f_i\,(b_i) \text{ for some } b_i \in Q_i]$$

The well-being of a person is then an evaluation of b_i (beings) or an index of the person's functionings. Sen (1987) explains that the evaluation exercise will be similar to ranking the set of b_i, in which a scalar value is attached to each b_i to represent "how good is that set of functionings—that particular achievement of doings and beings" (p. 8). While Sen (1987) acknowledges the need for valuing vectors of functionings, his theory is silent on what determines this value. The valuation exercise is further made difficult because, according to Sen (1987), people do not always choose the highest value of v_i in V_i, because maximizing one's well-being may not be the only motivation for the choice of functionings. There could be other "deontological" reasons for people's choice of functionings, for instance their obligations toward others. A simple interpretation of this non-maximizing behavior of individuals in the context of land would probably mean that landowners do not aim to maximize their welfare derivable from land. Sen (1987) justified this non-maximization behavior based on a landowner's concern regarding another individual's welfare. Thus, non-maximization behavior might result in a higher level of joint well-being for the landowner and others and a lower level of personal well-being for the landowner. This research avoids the complication of joint well-being and limits the scope to the

personal well-being of the landowner. For simplicity, we assume strict individualistic behavior of the landowner, who would be motivated to maximize his or her personal well-being.

While research has recognized capability theory as one of the most satisfying and comprehensive approaches to well-being, it is methodologically demanding and thus has received less empirical application so far (Chiappero-Martinetti et al. 2015). Continuous methodological developments are happening in the area, and an avid reader may refer to Chiappero-Martinetti et al. (2015) for an elaborate discussion on the operationalization of the capability approach. The United Nations Development Progamme has successfully applied capability theory in the development of the Human Development Index,[3] and many economists, such as Anand et al. (2009), have used this theory to study a wide range of developmental issues. In this research, we use hedonic theory to study the implicit value of functionings of land, which add to the well-being of the owner and are therefore crucial from the compensation point of view in cases in which public projects compulsorily acquire private land. We limit the scope of this research to identifying the value of two crucial functionings of land, which are hope value and blight, as Section 7.1 discussed earlier.

In the light of the above discussions on how converting commodity characteristics into useful functions can derive capability, the next section explains the theoretical framework of hedonic theory and its application in estimating the value of land-based functionings.

7.3 Why is Land More Valuable than its Market Value?

Section 7.2 explained how people associate value with commodities for the functionings that commodities offer (Sen 1987). Taking the discussion forward, this section explains, within the capability theory framework, why some landowners are reluctant to sell land and/or are dissatisfied with receiving the market value of land as compensation for the compulsory acquisition of land.

For an easier understanding, we assume a simple case in which land is the only commodity that a person possesses and all the functionings come from the land alone. The level of well-being of the person would be the cumulative value of the functionings derived from the land. As discussed earlier, v_i is the function to estimate the value of the vector of functionings of land:

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3 Technical notes on calculating the human development indices are available at http://hdr.undp.org/sites/default/files/hdr2018_technical_notes.pdf.

$$v_i = v_i\,(f_i\,(c\,(land)))$$

where

c is a function that converts land, as a commodity, into a vector of characteristics. In addition, c is independent of the personal characteristics of the landowner, which means that each individual will associate the same level of characteristics with a land parcel. In the words of Rosen (1974), characteristics are objectively measurable, which means that all buyers and sellers would read the same level of characteristics that each good embodies and their personal characteristics, features, or preferences would not affect their reading.

$f_i(.)$ is the utilization function that converts land characteristics into functions by using the personal characteristics of the owner i. Thus, $f_i(.)$ will vary for individuals with different personal characteristics. As mentioned earlier, $f_i(.)$ is a single selection from the set of feasible utilization functions $F(.)$ for the given personal features of person i.

The notation below explains a situation in which the owner's level of well-being associated with land is greater than or equal to what they can achieve from selling the land, that is:

$$v_i(f_i(c\,(land))) \geq v_i(f_i\,(c\,(monetary\ value)))$$

In this case, the landowner prefers to continue owning the land and does not exchange it for money or does not sell it. This is probably the case for all those landowners who are not in the market. This also explains why landowners are dissatisfied when the government (or one of its agencies) compulsorily acquires their land in exchange for money. To explain this simply, many affected landowners are dissatisfied with receiving the market value of land as compensation because they find it challenging to reconstruct the same level of well-being from money as from their land.

Investigating the explanation for why some landowners value land ownership more than its monetary equivalent further, many functionings derived from land are valuable to the landowner alone, given their personal and social circumstances, and may not have the same value for everyone else. These may be termed "subjectively valuable functionings" for the landowner, say f_{i_s}. For example, a Dalit[4] landowner may value land for the financial security, like any other landowner, but additionally for the consequential social independence or the freedom to break away from a society that non-Dalit exploiters dominate (Deshpande 2011).

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4 A person belonging to a scheduled caste and scheduled tribe, as Articles 341 and 342 of the Indian Constitution list, which some people consider to be the lowest caste in the Indian social hierarchy (Deshpande 2011).

All landowners would value financial security equally or it would be objectively valuable f_{i_o}, while a Dalit landowner would probably consider social independence to be subjectively valuable. Another simpler example of a subjectively valuable functioning could be the emotional well-being associated with the possession of an ancestral property that has been in the family for many years or generations. The original owner attaches emotional or nostalgic well-being to this land, which is otherwise not observable by others. Thus, it is possible to convert objectively valuable characteristics into both objective and subjective functionings, and the value of land to its owner is the cumulative value of all these functionings. A landowner is reluctant to sell land when the cumulative value of these functionings exceeds the monetary equivalent of land, that is:

$$v_i(f_{i_s})\,(c\,(land)) + v_i\,(f_{i_o})\,(c\,(land)) > v_i(f_i\,(c\,(monetary\ value)))$$

A rational assumption here is that the subjective functionings of land are non-substitutable with money and other commodities. If the value of subjective functionings is too large, the landowner would prefer to hold onto land in perpetuity and would choose to sell only when he or she either has made alternative arrangements for the subjective functionings or is prepared to give these away and the monetary value that the market offers for land either exceeds or matches the value of the objective functionings, that is:

Condition 1: $v_i(f_{i_s})\,(c\,(land)) = 0$

Condition 2: $v_i(f_{i_o})\,(c\,(land)) \leq v_i(f_i\,(c\,(monetary\ value)))$

The first condition means that landowners prepare over time and make alternative arrangements for their subjective functionings or willingly part with them. Regarding objective functionings, a landowner would sell land for a (monetary) value that allows them to regenerate the same or a greater level of functionings as the land. Thus, the monetary value of land equates to the value of objective functionings, while the landowner willingly surrenders subjective functionings. This is a typical case of willing sale. On the contrary, if land undergoes compulsory acquisition, the landowner is often neither prepared nor willing to part with subjectively valuable functionings, and the payment of the market value of land is merely compensation for objectively valuable functionings.

It is important to mention here that, when estimating the monetary equivalent of land, a landowner tries to maximize their profit and takes

account of the most valuable set of functionings derivable from the land, which may not necessarily match their own set of functionings. As discussed earlier, the maximization of value (of personal well-being) may not be the only motivation for a landowner when choosing their set of functionings $f_i(.)$, but, when estimating the value of land for transaction purposes, the landowner takes account of the highest and best possible uses of each characteristic of the land and thus the highest achievable level of well-being. A landowner decides to sell when the value offered by the market matches or exceeds their estimated value of the best set of functionings:

$$v_{max} \leq p(c)$$

where v_{max} is the maximum achievable well-being from using land with characteristics c and $p(c)$ is the price of land in the market.

It is important to note that the price function $p(c)$ is independent of the personal characteristics of the original owner i and the market decides it according to the land characteristics c. Price $p(c)$ is an indicator of the highest level of well-being v_{max} derivable from land with characteristics c. To put it another way, v_{max} is the maximum level of well-being achievable from land with characteristics c assuming that the owner-user, decided through market competition, would have the personal and social characteristics that allow the efficient conversion of the land's characteristics into the influence of landowners' personal characteristics or caste on the monetary value of land.

From the above discussions, we conclude that the transaction value of land in the market $p(c)$ is a measurable indicator of the highest-valued set of functionings achievable from land, which may not necessarily be the chosen set of functionings of the original landowner. In addition, according to the hedonic hypothesis, the price of land that a market transaction reveals reflects the implicit price of each characteristic of land when put to its best use. A further discussion on the implicit price of land's characteristics and the impact of personal characteristics on this price follows in Section 7.4.

At this stage, it is important to clarify that this research applies hedonic theory in the traditional way to estimate the implicit price of each characteristic of land. Capability theory explains how these characteristics generate functionings, and research has acknowledged that it is empirically challenging to estimate the value of a functioning itself, because firstly, each functioning is an outcome of a combination of personal and land characteristics for which the functional form is unknown and secondly, personal characteristics vary at the individual

level, thus leading to the generation of differential "levels" of functioning for each individual, even though the set of commodity characteristics remains the same. For example, having livelihood security would be a crucial functioning for an owner and comes from the utilization of many characteristics of land, such as its area, productivity, and so on. As a functioning, livelihood security associated with a land parcel would be different for, say, an agriculturist and an industrialist, and it is difficult to measure the level of security and the value attached to it objectively. However, it is still possible to measure the characteristics of land, that is, its area and productivity. Hedonic theory makes it possible to identify the empirical relationship between the well-being associated with land (for which the monetary transaction value is a measure) and each of its characteristics. In addition, knowing the stages of transformation of a commodity (or land) into characteristics and functionings, which eventually create well-being of different levels, helps in building a comprehensive definition of the value of land. At this stage, we explain the aim of this research again, which is to estimate the implicit value of the future development potential of land and blight, which are both important characteristics of land that contribute to the financial well-being of the owner and therefore deserve compensation in the case of compulsory acquisition of land. In addition, this research studies the impact of landowners' caste on the transaction value of their land.

7.4 Hedonic Theory and Land Values

Hedonic theory is applicable in a willing sale scenario in which a landowner enters the market and the transaction value of land with characteristics reveals the monetary measure of the highest-valued set of functionings v_{max}.

In his seminal paper, Rosen (1974) defines hedonic prices as the implicit prices of attributes that are "revealed to economic agents from observed prices of differentiated products and the specific 'amount' of characteristics associated with them" (p. 34). The hedonic hypothesis states that people value commodities for their utility-bearing attributes or characteristics (Rosen 1974). In reference to capability theory, it is possible to reinterpret the hedonic hypothesis to mean that commodities derive value from functioning-bearing characteristics. We re-emphasize that the hedonic model estimates the value of characteristics of land, although the interpretation of value is theoretically different from the traditional utility theory and instead adopts Sen's (1987) capability theory. Even though the two theories differ in their interpretations of

the market value of land as meaning utility and capability, respectively, these theoretical differences do not affect the empirical application of hedonic theory. We may draw theoretically different conclusions when interpreting the value attached to each characteristic of land and its impact on the personal well-being of the owner.

Advancing the discussion on hedonic theory, we describe a land parcel as a bundle of n objectively measurable characteristics. On a plane of several dimensions on which buyers and sellers locate, the vector of coordinates $c = (c_1, c_2, \dots, c_n)$ represents any location, where c_n measures the amount of the nth characteristic of the land parcel (Rosen 1974). Their perceptions of the number of characteristics embodied in each land parcel are identical, although they may attach different values v_i to alternative packages of characteristics (Rosen 1974). When the amount of the characteristic that the seller offers equals the amount that the buyer choosing to locate there demands, then the land transaction takes place and reveals the price of land and the implicit price of the characteristic.

$$p(c) = p(c_1, c_2, \dots, c_n)$$

Each land parcel's market transaction reveals the price function p relating prices and characteristics. The price function is the buyer's (or seller's) equivalent of hedonic price regressions, obtained as an outcome of comparing the prices of land with different characteristics. For example, the market reveals the price for land parcel $p_i\ (c_1, c_2^*, \dots, c_n^*)$ and $pj\ (c_2^*, \dots, c_n^*)$, and this information reveals the implicit price of characteristic c_1.

Rosen (1974) clarifies that both buyers and sellers base their locational and quantity decisions on maximization behavior. According to the traditional utilitarian theory, maximization behavior of the buyer would mean maximizing personal utility u subject to a nonlinear budget constraint.[5] In reference to capability theory, the maximization behavior of the buyer and seller would mean that they estimate the value v_i of any characteristics c_n for the most valuable set of functionings achievable from using characteristic c_n, which may or may not match their personal set of functionings. Section 7.3 discussed this earlier. For simplicity of mathematical notations, we restrict our discussion to the traditional utilitarian argument of utility maximization and budget constraint, assuming that the hedonic argument for utility u is equally applicable to the value of functionings v_i. We dedicate the next few sections to

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5 For more details of general conditions under a nonlinear constraint, refer to Intriligator (1971).

explaining how a tangential intersection of the bid and offer function for the buyer and the seller, respectively, determines prices $p(c)$. Rosen (1974) describes the offer function of the seller at length, and we discuss it here briefly.

Let y be the income function of a person. Then, $y = p(z) + \theta(c)$, where $p(z)$ is the price of other commodities with characteristics z and $\theta(c)$ is the expenditure that a person (or buyer) would be willing to make for land characteristics c. The bid function $\theta(c; u, y)$ is a family of indifference surfaces[6] of alternative combinations of characteristics possible with a given utility and income. It is the amount that a buyer is willing to pay for a set of characteristics with a fixed budget and utility, while $p(c)$ is the minimum price that they must pay in the market. Therefore, the buyer maximizes their utility, $u = u(z, c)$, when $\theta(c^*; u^*, y) = p(c^*)$ and $\theta(c_n)(c^*; u^*, y) = p_{c_n}(c^*)$, where c^* and u^* are optimum quantities.

Let $\emptyset(c; \pi, \beta)$ be the function of the offer price that the seller is willing to accept for an alternative set of land characteristics c, at a given profit level π and with factor prices β, while $p(c)$ is the maximum price that they can achieve in the market. The maximization of the seller's profit is equivalent to the maximization of the offer price. Put simply, profit maximization occurs when the offer price equals the market price, $\phi(c^*; \pi^*, \beta) = p(c^*)$ and $\phi_{c_n}(c^*; \pi^*, \beta) = p_{c_n}(c^*)$, where c^* and π^* are optimum quantities.

At equilibrium, the bid function of the buyer $\theta(c; u, y)$ matches perfectly the offer function of the seller $\emptyset(c; \pi, \beta)$ and the locus of the points of tangential intersection of the two is the envelope of prices $p(c)$. Figure 7.1 represents this graphically, where θ^i and $\emptyset^i$ represent the bid function and offer function of the ith buyer and seller and the points connecting the tangential intersection θ^i and $\emptyset^i$ are each the implicit price function $p_{c_n}(.)$ for each characteristic c_n. Stated differently, the gradient of the market clearing implicit price function $p(.)$ for each characteristic gives the common gradient of the two functions at the point of tangential coincidence.

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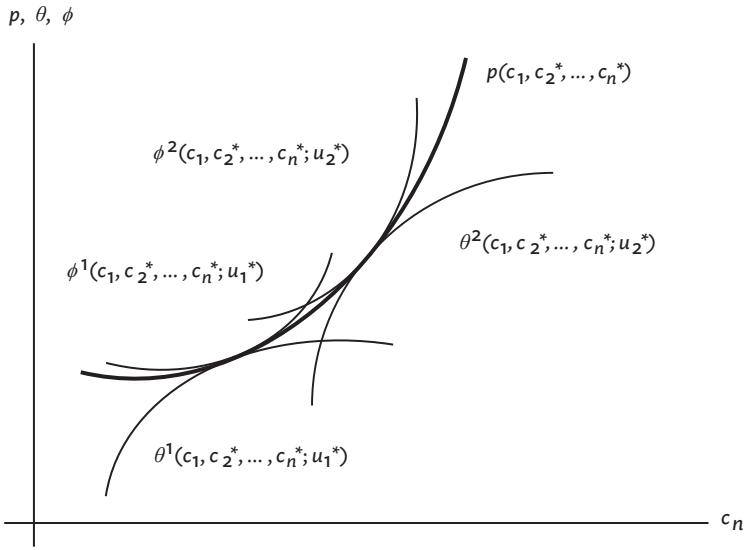
6 Refer to Alonso (1960) for a further explanation of indifference surfaces in urban economics.

Figure 7.1: Joint Envelope of the Bid Price of the Buyers and the Offer Price of the Sellers at Equilibrium



Source: Author.

7.4.1 Impact of Personal Characteristics on Transaction Value and Distortion of the Equilibrium

As discussed earlier, the market value is a measurable indicator of the highest level of well-being v_{max} that a landowner can achieve from using land. The underlying assumption here is that the owner-user would be fully capable of converting the land characteristics into the highest-valued set of functionings $f_{max}(.)$. However, given that the level of well-being derivable from land is a combination of personal and land characteristics, if the personal characteristics of the landowner are any less than those of the most efficient user, then the value of functionings of the owner may not match the market-determined value of the land. Personal characteristics also include landowners' negotiation power, which, in turn, may depend on their social status, education level, and so on. For example, a Dalit landowner, who does not enjoy an equal social status to others in the society, may not be able to demand the same value of land in the market as a non-Dalit owner (empirical discussions follow in Section

7.7). Harding, Knight, and Sirmans (2003) and Harding, Rosenthal, and Sirmans (2003) make a similar argument in their earlier studies, in which they find that women have less bargaining power than men in the United States' housing market (Harding, Rosenthal, and Sirmans 2003).

Regarding the impact of bargaining power on the overall price of the house $p(c)$ and on the implicit prices of each characteristic $p_{c_n}(c_n)$, Harding, Knight, and Sirmans (2003) confirm the earlier findings, which are that the best model of bargaining power is as a parallel shift in the hedonic function and that the impact is much weaker on the implicit prices. In the light of these earlier findings, this research discusses the impact of landowners' caste on the transaction value of land, and further research on its impact on each characteristic is pending.

Bargaining implies the distortion of market equilibrium, which means that either the buyer or the seller can influence the transaction price and shift it to their advantage. This is contrary to the assumption of an ideal competitive market, in which there are numerous buyers and sellers with equal negotiation power and no one can influence the price or charge any negotiation premium. The transaction price $p(c)$after bargaining would be $p(c)\frac{N_S}{N_B}$, where N_B and N_S are the bargaining power of the buyer and the seller, respectively, and take values between zero and one. At equilibrium, the bargaining power of the buyer and that of the seller are equal, $N_B = N_S$, and the bid price of the buyer, the offer price of the seller, and the price that the market determines coincide, that is:

$$\theta(c^*; u^*, y) = \phi(c^*; \pi^*, \beta), \text{ and}$$

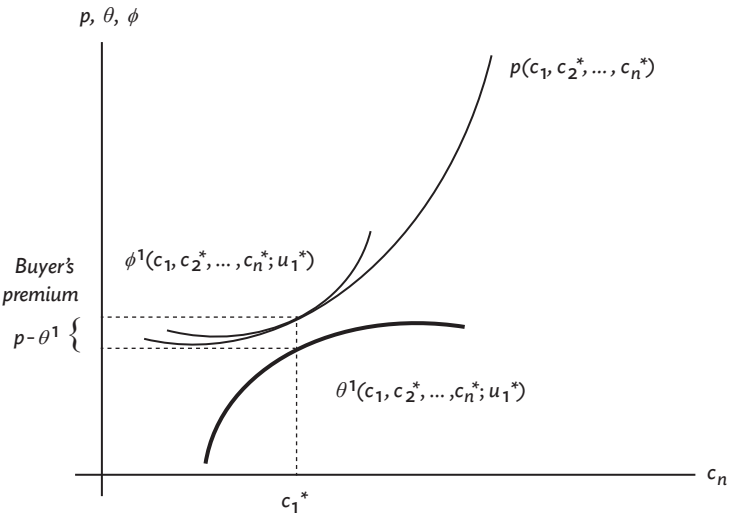
$$p(c^*)\frac{N_S}{N_B} = p(c^*)$$

Case 1: When the negotiation power of the buyer is greater than that of the seller ($N_B > N_S$), then $\frac{N_S}{N_B} < 1$ and the bid price is lower than the observed market price p(c).

$$\theta(c^*; u^*, y) = p(c^*)\frac{N_S}{N_B} \text{ and this is } < p(c^*)$$

The buyer would receive the negotiation premium $= p(c^*)(1 - \frac{N_S}{N_B})$, and the transaction would happen at a lower price than the observed market price. The seller would either withdraw from the sale or sell at a lower price than the observed market price. In the extreme scenario, the negotiation power of the buyer may be much greater than that of the seller, $N_B \gg N_S$; then, $\frac{N_S}{N_B} \to 0$ and $\theta(c) \to 0$. That is, if the buyer has infinite bargaining power, then they will not want to pay any price to the seller.

Figure 7.2: Buyer's Premium: The Negotiation Power of the Buyer is Greater than that of the Seller and Transactions Happen at the (Bid) Price, which Is Lower than the Observed Market Price



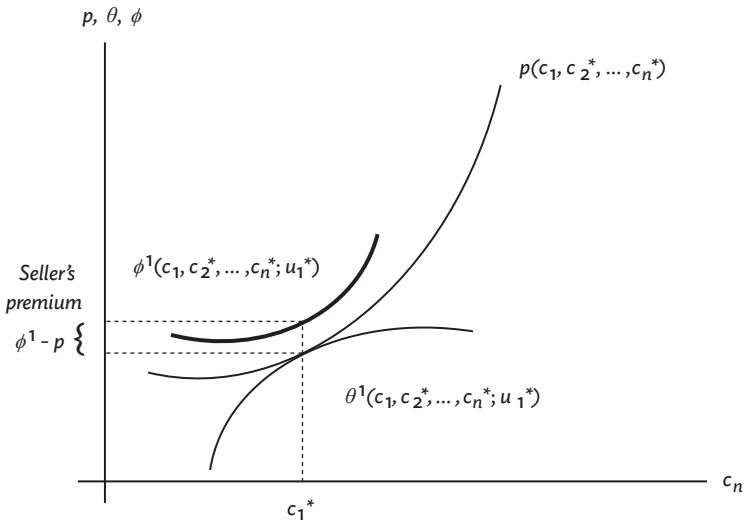
Source: Author.

For example, in the case of a public agency's compulsory acquisition of land, the negotiation power of the acquirer or buyer is greater than that of the landowner, given that the outcome is predetermined in favor of the acquirer or buyer. Therefore, the compensation that the acquirer offers to the landowner, which should ideally match the market value, may actually be lower to favor the acquirer or buyer. Consequently, landowners may receive inadequate compensation. Unfair compensation may stimulate the resistance of landowners to the compulsory acquisition process and force them to seek the opportunity for a fair negotiation in the court of law.

Case 2: When the negotiation power of the seller is higher than that of the buyer ($N_S > N_B$), then $\frac{N_S}{N_B} > 1$ and the offer price is greater than the observed market price $p(c)$.

The seller would receive the negotiation premium $p(c^*)(\frac{N_S}{N_B} - 1)$, and the transaction would happen at a higher price than the observed market price. The buyer would either not enter into buying or would buy at a higher price than the observed market price. In the extreme

Figure 7.3: Seller's Premium: The Negotiation Power of the Seller Is Greater than That of the Buyer and Transactions Happen at the (Offer) Price, which Is Higher than the Observed Market Price



Source: Author.

scenario, the negotiation power of the seller may be much greater than that of the buyer, $N_S \gg N_B$; then, $\frac{N_S}{N_B} \to \infty$ and $\emptyset(c) \to \infty$. That is, if the seller has infinite bargaining power, then they will charge a very high premium or hold out the property.

Harding, Rosenthal, and Sirmans (2003) use an additive term for bargaining power, B, in the original hedonic price function to estimate the effect on price, that is:

$$p(c) + B, \text{ where:}$$

$$B = b^{sell} D^{sell} + b^{buy} D^{buy} + e$$

D is the vector of both demographic and non-demographic characteristics of the buyer and the seller; b is the vector of coefficients that reflect the effect of D on the bargaining power; and e captures any idiosyncratic differences in the bargaining power of the seller and the buyer.

Given that the nature of the relationship of personal characteristics with property characteristics and its value is unknown, a sophisticated model would use an interactive term for bargaining power, $p(c)\frac{N_S}{N_B}$, alongside an additive term. More discussions on the functional form of the hedonic function appear in the next section.

7.4.2 Choice of Functional Form for the Hedonic Price Function

The hedonic slopes of the land price function are the implicit prices of land attributes, which are instruments for both objective and subjective functionings, as Section 7.2 discussed earlier. Since we do not have any prior notions about the functional form of hedonic functions, we start by discussing the most general form that incorporates all the other functional forms as special cases, that is, the Box–Cox functional form, as the literature has proposed (Halvorsen and Pollakowski 1981, Chattopadhyay 1999):

$$P^{(\theta)} = \beta_0 + \sum_{i=1}^{m} \beta_i c_i^{(\lambda)} + \frac{1}{2}\sum_{i=1}^{m}\sum_{j=1}^{m} \gamma_{ij}\, c_i^{(\lambda)} c_j^{(\lambda)}$$

where P is the price; βs are the market-determined parameters; c_i are the attributes or characteristics of the land and may also include the personal characteristics of the buyer and the seller; $\gamma_{ij} = \gamma_{ji}$; and $P^{(\theta)}$ and $c_i^{(\lambda)}$ are Box–Cox transformations:

$$P^{(\theta)} = \frac{P^{(\theta)} - 1}{\theta}, \text{ when } \theta \neq 0$$
$$= lnP \text{ when } \theta = 0$$

and

$$c_i^{(\lambda)} = \frac{c_i^{(\lambda)} - 1}{\lambda}, \text{ when } \lambda \neq 0$$
$$= lnc \text{ when } \lambda = 0$$

The Box–Cox function allowed us to estimate the complex functional relationship between the personal and property characteristics and the property value. We estimated the following functional forms and found the log-log relationship to be the most explanatory:

(1) $\theta = 1$, $\lambda = 1$, $\gamma_{ij} = 0$; *linear*
(2) $\theta = 0$, $\lambda = 1$, $\gamma_{ij} = 0$; *semi – log*

(3) $\theta = 0, \lambda = 0, \gamma_{ij} = 0; log - log$
(4) $\gamma_{ij} = 0; Box - Cox \sim linear$
(5) $(\theta, \lambda, \gamma_{ij})$ *unrestricted*; $Box - Cox \sim quadratic$

In the next section, we provide more details of the case of the BMIC project. Background knowledge of the BMIC project is necessary to allow the reader to develop a better understanding of the data and variables in Section 7.6.

7.5 Bangalore–Mysore Infrastructure Corridor Project

The State Government of Karnataka conceived the initial ideas of the BMIC in 1988, when it felt the need to provide an expressway between two major cities—Bengaluru and Mysuru (formerly known as Bangalore and Mysore, respectively). After a sequence of events between 1988 and 1995, the state government decided to build the expressway through a public–private partnership, which was a newly emerging format in India. In February 1995, the Governor of Massachusetts (United States) visited India and, as an outcome of his meeting with the Chief Minister of Karnataka, H. D. Deve Gowda, a private consortium formed by two United States-based companies (VHB and SAB), one Indian company (Kalyani Group), and the Public Works Department (Government of Karnataka), signed a memorandum of understanding (High Court of Karnataka 1998). The BMIC project had two main objectives: (i) to develop an expressway connecting two major cities in the state of Karnataka—Bangalore and Mysore; and (ii) to develop growth centers (townships) along this expressway and facilitate spatial distribution of the burgeoning population growth in Bengaluru and Mysore (BMICAPA 2017). The financial model of the project was to leverage from the land value appreciation post-project (Raghuram and Sundaram 2009). From its inception in 1995, the project generated controversies over the acquisition of land, which caused significant delays. However, the project has overcome many legal controversies since 1995 and has been progressing steadily.

The land requirement for the project is 23,846 acres (KPWD 1998). Table 7.1 presents the distribution of land requirements by administrative divisions (called taluka[7]). By 2004, the Karnataka Industrial Areas Development Board (KIADB) had notified all land for compulsory acquisition under the Karnataka Industrial Areas Development (KIAD)

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7 Taluka is an area of land within a city or town that serves as its administrative center, with possible additional towns and usually a number of villages.

Table 7.1: Taluka-Wise Land Requirements for the Bangalore–Mysore Infrastructure Corridor Project, 1998

Administrative Division (Taluka)	Area (acres)
Bangalore North	855
Bangalore South	5,089
Ramnagaram	8,170
Channapatna	3,572
Maddur	481
Mandya	667
Srirangapatnam	4,839
Mysore	173
Total	**23,846**

Source: KPWD (1998).

Act of 1966. It successfully acquired the land for the first phase of the project, and this allowed the construction of a peripheral road around Bengaluru city and a short stretch (12 kilometers) of the expressway, which was opened to the public in June 2006. At this stage of the project, the plan was to develop two townships, but the landowners strongly resisted the acquisition of their land for townships because they viewed townships as private projects (for more details on the private gains arising from the BMIC project, refer to Raj and Angadi 2018).

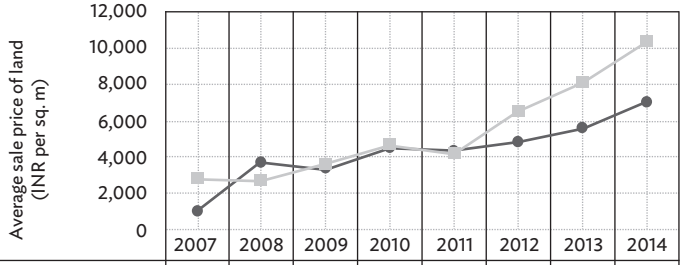
The status of landowners to date is that they have received notification of land acquisition but the KIADB has not yet acquired it. The original owners continue to use their land with the restriction of improving their land. To explain the procedure in more detail, under section 28(1) of the KIAD Act, 1966, the state government issues a preliminary notice for acquisition and the land transfers to it, free from all encumbrances, only after the publication of the final declaration for notification under section 28(4). The state pays compensation only after taking possession of the land. The act does not specify any timeline for these processes, and often the time gap between preliminary notification and actual acquisition is uncertain, as in the case of the BMIC project. According to a report by the Comptroller and Auditor General of India (2017), in 2016–2017, approximately 28,720 acres of land received preliminary notification from the KIADB, of which 63% has been pending acquisition for the past 5 years. After preliminary notification for acquisition of land, the original landowners continue to operate under the legal restrictions that the KIAD Act imposed on improving,

selling, or mortgaging land.

Once the state has earmarked the land for acquisition (under preliminary notification), its value starts depreciating. Influential market players see this is an opportunity to procure notified land at reduced prices from desperate landowners. Even though there is a risk of losing land to the acquirers, there is still an opportunity to have the land de-notified (Comptroller and Auditor General of India 2011). By virtue of its power under section 21 of the Karnataka General Clause Act, the state government has the authority to cancel final notification orders (issued under section 28(4) of the KIAD Act) at any time before the acquiring agency takes possession of the land (Comptroller and Auditor General of India 2011). In the past, the state government has de-notified land on many occasions based on public and political considerations (Comptroller and Auditor General of India 2011). This develops hope of de-notification, and the strategic purchase of notified land is common in Karnataka State. Given that the notification of the land occurred between 1997 and 2004 for the BMIC project and that the project is facing strong resistance from the public and political parties, strategic buying and selling of land is happening in the region. Over the years, many real-estate developments, particularly residential apartments, have evolved in Bengaluru South, along the expressway, and the property values of land in the region have increased significantly. Figure 7.4 presents the average sale price per square meter for notified and non-notified land in 23 villages around the BMIC project. The price per square meter for non-notified land is higher than that for notified land except in 2008, when the prices were comparable. Post-2012, the price of both notified and non-notified land increased, though the growth rate was significantly greater for non-notified land.

The prolonged period of development has revealed the impact of the change of the use of land from agricultural to nonagricultural, particularly high-rise residential. In addition, landowners have observed the negative impact of acquisition notification on the property value. Accordingly, landowners who have received acquisition notification, but acquisition has not yet taken place, have been demanding compensation for the loss of hope value and blight. However, the acquirers are reluctant to pay more than the original market value of land in its existing use, that is, agriculture. Given the interesting situation described above, the BMIC project allows us to observe a positive impact of the change of use on agricultural land (hope value) and the negative impact of acquisition notification (or blight). Additionally, this research estimates the negative impact of landowners' caste (SC and/or ST) on the property value, which is reflective of the lower social status and bargaining power of SCs and/or STs.

Figure 7.4: Comparing the Average Sale Price of Land (per square meter) for Notified and Non-Notified Land in 23 Villages along the Bangalore–Mysore Infrastructure Corridor Project in Bengaluru South Region, 2007–2014



	2007	2008	2009	2010	2011	2012	2013	2014
Notified villages	1,018	3,704	3,390	4,541	4,341	4,867	5,530	7,007
Non-notified villages	2,782	2,701	3,582	4,632	4,177	6,507	8,107	10,350

Notified villages — Non-notified villages

INR = Indian rupee.
Source: Author's calculations based on data from the Sub-Registrar's Office, Bengaluru.

7.6 Data and Variables

To develop a comprehensive hedonic model of land value and the above functionings, which together constitute the value, this research relies on two primary sources of information:

Firstly, we obtained the land and property sales registration data from the Inspector General of Stamps and Registration, Government of Karnataka, through the registration databases that 45 sub-registrar's offices maintain in the Bengaluru region. As of February 2016, the databases digitally recorded 34,799 sale transactions[8] in the Bengaluru region between 2006 and 2015. However, very limited data are available for 2006 (114 transactions) and 2015 (127 transactions), and therefore we restricted the period of analysis for this research to 2007–2014. The number of transactions ranges from 2,364 in 2007 to 4,316 in 2014. The maximum of 7, 004 transactions occurred in 2013. In total, this research analyzed 33,424 genuine transactions. Each record contains

8 Prior to 2006, sub-registrar's offices recorded land transactions manually, and each transaction has a physical file stored at the sub-registrar's office that registered the property. These records are difficult to access.

information on the date of the transaction, sale price, land area, land use, and location. From the transaction data, it was possible to derive four major land use types: agriculture (3,497); vacant land (available for development, 25,206, and petty shops, 2); residential use (low-rise houses on the urban periphery, 3,981); and residential use (apartments, 740). We observed land use from the data rather than from the planning regulations, because the proposed plans for the region came into question along with the BMIC project. To explain further, in 1999, the Bangalore–Mysore Infrastructure Corridor Area Planning Authority (BMICAPA) came into being as the planning authority for the BMIC project area (High Court of Karnataka 2003). It prepared the Outline Development Plan for the BMIC planning area and identified the land required for the road, townships, and so on using aerial and land surveys (para 31, High Court of Karnataka 2005). As the project encountered legal controversies, opportunistic sellers and buyers carried out land transactions in the area by speculating on the future development potential of the land according to the BMICAPA. Given the organic nature of residential development (except apartments) typical of rural areas in India, we can assume that residential improvements of land (except apartments) do not add to the value of land. Thus, the transaction value is essentially the value of the land itself. To extract the value of land from the transaction value of the apartment, it is possible to estimate a hedonic price function on apartment characteristics, such as the built-up area, the number of rooms, car parking, and the undivided share in the land. In summary, the data set contains information on 33,424 sale transactions that took place in 13 notified and 10 non-notified villages between 2007 and 2014. Of the total number of transactions, 29% occurred in the notified villages.

Information on the personal characteristics, such as the caste, of the buyer and seller is not available along with the transaction data; therefore, we relied on village-level information (as opposed to personal information) to estimate the impact of the caste on property values. We also observed locational parameters at the village level and assumed that they remain the same for all the observations in that village but vary across villages. These parameters include the total geographical area of the village; area under irrigation; nonagricultural area; primary manufacturing activity in the village; infrastructure facilities, such as some public and private health care centers; educational facilities; availability of drinking water taps; and drainage availability. We relied on census data for information on the caste and locational characteristics discussed above. Given that India collects census data every 10 years, we projected the population (total, scheduled caste [SC], and scheduled tribe [ST]) for 2006–2015 using data from 2001 and 2011. We assumed that the data on locational parameters from the census for 2011 were

consistent during the period 2006–2015. Table 7.2 summarizes the village-level characteristics of notified and non-notified villages.

In general, the proportion of land under irrigation in non-notified villages is larger than that in notified villages except in Naganayananahalli (where 41.19% of the land is irrigated) or Badamanavarthekaval (where 24% of the land is irrigated). An important observation from the characteristics of villages is that, in notified villages, a relatively larger proportion of land than in non-notified villages is under nonagricultural use. For example, Gonipura has about 40% of land under nonagricultural use. We may highlight here that nonagricultural use excludes land under forests or grazing or fallow land and that this land is used for productive purposes other than agriculture. The demographics of these villages suggest that the proportion of the SC population is around one-fifth or more in six out of the total 13 villages notified for acquisition as compared with four out of 10 in the non-notified villages. The ST population in Naganayakanahalli (a notified village) is as high as 85%. Rachanamadu, another notified village, has a 30% ST population. These are substantially larger than the SC and/or ST population in non-notified villages. The infrastructure facilities are comparable across these villages. In terms of public health care facilities, based on the 2011 census, many notified villages are better endowed than non-notified villages. However, the endowment of private health care facilities is better in non-notified villages than in notified villages. A key message from the above discussion is that the evidence is contrary to the argument of the acquiring authority that most of the land in the notified village is less productive and houses less marginalized communities.

Table 7.3 presents the descriptive statistics for the variables considered in the model and their expected relationship (sign) with the value of land. Of the total 33,424 transactions in 23 selected villages, 63% were in villages for which the nearest town is Bruhat Bengaluru Mahanagara Palike (BBMP), translated into English as Greater Bengaluru Municipal Corporation. Other villages, although within Bengaluru, are closer to Nelamangala town. Nearness to the BBMP means better accessibility to urban facilities and therefore the expectation of a positive impact on property values.

These villages are in a region where sericulture is a major economic activity, which has led to the development of the textile industry. In terms of the manufacturing activities in these villages, 34% of villages noted textiles as the primary manufacturing activity in the 2011 census. Around 27% and 16% of villages identified medicine and brick manufacturing, respectively, as the primary manufacturing activity. In terms of the impact of land values, the expectation is that these higher-level uses (as compared with agriculture) will have a positive impact on land values.

Table 7.2: Village-Level Characteristics

S. No.	Village Name	Area Irrigated (% Total Geographic Area)	Area under Nonagricultural Uses (% Total Geographic Area)	Public Health Facility (No. of Health Workers per 1,000 Persons)	Private Health Facility (No. of Health Workers per 1,000 Persons)	SC Population (% of Total Population)	ST Population (% of Total Population)
Notified for acquisition							
1	Badamanavarthekaval	24.10%	14.80%	0.479	0.479	37.96%	3.25%
2	Chinnakurchi	10.28%	16.20%	0	0	14.28%	0.00%
3	Dodderi	9.30%	0.00%	0	1.427	38.95%	2.66%
4	Gangasandra	13.12%	3.65%	0	0	23.18%	0.74%
5	Gonipura	1.80%	40.55%	2.118	0	13.89%	0.21%
6	Hampapura	2.80%	22.36%	0	0	18.46%	0.00%
7	Kengeri	10.43%	0.00%	10.153	0	5.19%	1.52%
8	Kolur	14.32%	10.99%	1.008	0	28.71%	0.45%
9	Kumbalagodu	6.94%	0.00%	6.4289	0	21.43%	1.71%
10	Naganayakanahalli	41.19%	5.37%	0	0	2.09%	85.12%
11	Rachanamadu	2.93%	0.00%	0	0	19.58%	29.97%
12	Thippur	2.35%	33.64%	0	0	16.35%	0.62%
13	Uttari	3.89%	6.33%	0	1.379	4.41%	7.44%
Not notified for acquisition							
14	Doddabele	13.90%	0.00%	0	0.742	25.64%	1.56%
15	Gangondanahalli	28.68%	0.42%	0	0.610	12.43%	13.30%
16	Kachohalli	26.47%	10.19%	0	0.245	19.08%	1.85%
17	Kommaghatta	29.89%	0.00%	0	1.291	12.25%	21.29%
18	Lakshmipura	23.92%	10.17%	0.525	0	28.62%	3.56%
19	Madavara	28.17%	20.22%	0	0.490	9.78%	2.25%
20	Mallasandra	3.12%	0.00%	0	2.060	6.64%	0.86%
21	Manganahalli	20.10%	9.04%	0	0.752	14.01%	0.87%
22	Uttarahalli–Manavarthekaval	0.00%	31.73%	0	0	12.51%	0.00%
23	Vaddarapalya	33.43%	10.16%	1.155	0	32.35%	3.47%
	Total	**19.47%**	**7.14%**	**0.576**	**0.614**	**19.92%**	**5.04%**

SC= scheduled caste, ST = scheduled tribe.

Source: Author's calculations based on census data from 2001 and 2011.

Table 7.3: Descriptive Statistics

S. No.	Variables	(1) Expected Sign	(2) Mean (Std Dev.)
	Market value (dependent variable)		878,664.500 (3,002,183)
1	Area of land transacted (sq. m)	+	337.466 (2,102.007)
2	Nonagricultural area (share of total geographical area)	+	0.071 (0.071)
3	SC population (share of total population)	–	0.199 (0.109)
4	ST population (share of total population)	–	0.050 (0.063)
5	Dummy for primary manufacturing activity (bricks)	+	0.161 (0.367)
6	Dummy for primary manufacturing activity (medicine)	+	0.270 (0.444)
7	Dummy for notified for acquisition	–	0.290 (0.454)
8	Dummy for nearest town being BBMP	+	0.632 (0.482)
9	Dummy for residential land use (apartment)	+	0.022 (0.147)
10	Dummy for residential land use (house)	+	0.119 (0.324)
11	Dummy for vacant land	+	0.754 (0.431)
12	Percentage of area under irrigation (as a share of the total geographical area of the village) × transacted property being in agricultural use (dummy)	+	0.018 (0.062)
13	Dummy for the year of transaction—2008	+	0.071 (0.256)
14	Dummy for the year of transaction—2009	+	0.067 (0.251)

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Table 7.3 *continued*

S. No.	Variables	(1) Expected Sign	(2) Mean (Std Dev.)
15	Dummy for the year of transaction—2010	+	0.084 (0.278)
16	Dummy for the year of transaction—2011	+	0.151 (0.358)
17	Dummy for the year of transaction—2012	+	0.204 (0.403)
18	Dummy for the year of transaction—2013	+	0.210 (0.407)
19	Dummy for the year of transaction—2014	+	0.129 (0.335)
	Total observations—33,424		

BBMP = Bruhat Bengaluru Mahanagara Palike, SC= scheduled caste, ST = scheduled tribe.
Notes: Village-level parameters—variables 2 to 8.
Property-level parameters—variable 1 and variables 9 to 19.
Source: Author.

7.7 Estimation Results

We conducted the analysis in two steps. Since the value of the apartment is not equivalent to the value of the land, the first step estimates a hedonic price function for the apartment sale value as a function of the apartment characteristics and the apartment's undivided share of land. The second step involves the estimation of hedonic functions for land sales.

7.7.1 Hedonic Function for the Apartment Sale Value

We assumed that the relevant value for consideration in our analysis is the value of the apartment's undivided share of land[9] rather than the

[9] We define the undivided share of land as the proportionate share of land for each apartment in the land area of the entire apartment complex project. We calculate this as the built-up area (or saleable floor area) of each apartment divided by the total built-up area (or saleable floor area) of the project multiplied by the total land area of the project.

value of the apartment. We then used the estimated function to predict the value of an undivided share of land for all the observations related to apartment sales in the data. This allowed us to estimate the hedonic price function for land for all the apartment sales, as Table 7.4 shows. All the variables have the expected signs. The elasticity of an undivided share of land is 0.45, implying that a 1% increase in the undivided share of land for an apartment increases the value by 0.45%.

We used Table 7.4 to predict the value of an undivided share of land for those transactions that have identified the nature of the transaction as "apartment." The predicted value replaces the transaction value of the apartment in the data for the estimation of the hedonic function for land sales.

Table 7.4: Hedonic Function for the Market Value of Apartments

Variables	Market Value of Apartments (log)
Undivided share of land (log)	0.451*** (0.041)
Number of bedrooms	0.192*** (0.018)
Number of car parking slots	0.174*** (0.013)
Dummy for floors being greater than 4	0.044*** (0.009)
Dummy for the year of transaction—2011	0.038** (0.016)
Dummy for the year of transaction—2012	0.119*** (0.015)
Dummy for the year of transaction—2013	0.152*** (0.016)
Dummy for the year of transaction—2014	0.499*** (0.026)
Constant	11.044*** (0.236)
Observations	739
R-squared	0.750

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05.
Source: Author.

7.7.2 Hedonic Function for Land Values

From running five versions of hedonic functions—linear, log-linear, log-log, linear Box–Cox, and generalized Box–Cox—we found that the transformation coefficients of the Box–Cox functions were not very different from zero and the likelihood ratio test statistics were close to $\tau = 0$. Therefore, there was merit in using a log-log model for computing the implicit prices. However, the Breusch–Pagan test for the linear, log-linear, and log-log models indicated that the variance was inconsistent and that there was heteroskedasticity. Nevertheless, the problem of heteroskedasticity did not cause bias in the ordinary least squares (OLS) estimates of the coefficients, even though it tended to underestimate the standard errors. In addition, the R^2 for the log-log model was reasonable, and we used this functional form to estimate the results and implicit prices.

Table 7.6 presents the implicit prices for various functionings obtained from the log-log model.

The results indicate that the transaction value at means, for a given year, is 31% lower for land that has received notification for acquisition than for land in villages that has not, all things being equal. As mentioned earlier, blight due to the notification has been observable because of the long gap in time between notification and acquisition, during which land transactions take place. Notice for acquisition causes blight even though the amount of compensation in the initial offer for each land parcel undergoes a few revisions before the formal land acquisition and the settlement of compensation.

As for the size of land transacted, a 1% increase in the land area increases the transaction value by 0.77% (Table 7.5). Given that these are largely agrarian settlements, irrigated land fetches a higher value than rainfed or unirrigated land. The sign for the coefficient of a share of the irrigated area in the total agricultural area is positive and significant. A larger share of economic activities that are nonagricultural in a village increases the general level of the land value in the village. The positive coefficient of a share of nonagricultural land in the total area of the village confirms this hypothesis. With the manufacturing activities, villages that have engaged in brick manufacturing have a higher value of land than others, as the positive and significant coefficient for bricks indicates. These are the villages that are closer to the BBMP and where large-scale apartment building activity has commenced, particularly since 2011, with the completion of the ring road component of the expressway. Landowners have sold their land at higher values as the demand for brick manufacturing to meet the demand for apartment construction activity in the village has increased. The potential for economic activities also has a significant impact on the land values. The main economic activity in most

villages before 2006–2007 was agriculture. The construction activities that began particularly after the completion of the road in 2011 led some landowners to sell their agricultural land to brick manufacturers in many of the notified villages. The prospect of losing land had intensified this situation, and the value that the landowners realized for land for brick manufacturing activity was higher than that for agricultural activity. Furthermore, land in villages that have become part of the BBMP is valued higher. This reflects the premium attached to being part of the metropolitan Bengaluru and receiving services from the BBMP.

Table 7.5: Results from the Estimated Hedonic Models

S. No.	Variables	Log-Log
1	Area of land transacted (sq. m)	0.769***
		(0.00348)
2	Nonagricultural area (share of total geographical area)	2.648***
		(0.0447)
3	SC population (share of total population)	–1.257***
		(0.0323)
4	ST population (share of total population)	–0.699***
		(0.0517)
5	Dummy for primary manufacturing activity (bricks)	0.479***
		(0.0108)
6	Dummy for primary manufacturing activity (medicine)	0.329***
		(0.0109)
7	Dummy for notified for acquisition	–0.374***
		(0.00877)
8	Dummy for nearest town being BBMP	0.609***
		(0.00810)
9	Dummy for residential land use (apartment)	1.357***
		(0.0265)
10	Dummy for residential land use (house)	1.071***
		(0.0205)
11	Dummy for vacant land	0.499***
		(0.0193)
12	Interactive term: Percentage of area under irrigation (share of the total geographic area)* Transacted property being in agricultural use (dummy)	1.541***
		(0.0882)

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Table 7.5 *continued*

S. No.	Variables	Log-Log
13	Dummy for the year of transaction—2008	0.122***
		(0.0130)
14	Dummy for the year of transaction—2009	0.204***
		(0.0133)
15	Dummy for the year of transaction—2010	0.103***
		(0.0131)
16	Dummy for the year of transaction—2011	0.209***
		(0.0116)
17	Dummy for the year of transaction—2012	0.476***
		(0.0113)
18	Dummy for the year of transaction—2013	0.645***
		(0.0114)
19	Dummy for the year of transaction—2014	0.911***
		(0.0125)
	Constant	8.031***
		(0.0297)
	Observations	33,424
	R-squared	0.805

BBMP = Bruhat Bengaluru Mahanagara Palike, SC= scheduled caste, ST = scheduled tribe.
Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.
Source: Author.

The negative effect on the sale value worsens in the case of land belonging to the SC and ST population. The negative signs for the variables percentage of SC population and percentage of ST population indicate a lower value for SC and/or ST-owned land. A higher percentage of SC and ST population in the village (indicating higher land ownership among these socially marginalized groups) is associated with lower land values, confirming that the legal restrictions on the sale of SC/ST-owned land to persons who are not SC and/or ST have lowered the value of their land. The reduced land values for SCs and/or STs may be a combined effect of legal restrictions on the sale of SC and/or ST land to non-SC/ST buyers and the lower social status and negotiation power of SC and/or ST owners.

Table 7.6: Implicit Prices (in Rupees) Based on the Log-Log Functional Form

S. No.	Variables	Marginal Effect
	Market value (dependent variable)	
1	Area of land transacted (sq. m)	2,002
2	Nonagricultural area (share of total geographical area)	2,326,704
3	SC population (share of total population)	1,104,481
4	ST population (share of total population)	–614,186
5	Dummy for primary manufacturing activity (bricks)	420,880
6	Dummy for primary manufacturing activity (medicine)	289,081
7	Dummy for notified for acquisition	–328,621
8	Dummy for nearest town being BBMP	535,107
9	Dummy for residential land use (apartment)	1,192,348
10	Dummy for residential land use (house)	941,050
11	Dummy for vacant land	438,454
12	Interactive term: percentage of area under irrigation (share of the total geographic area)* Transacted property being in agricultural use (dummy)	1,354,022
13	Dummy for the year of transaction—2008	107,197
14	Dummy for the year of transaction—2009	179,248
15	Dummy for the year of transaction—2010	90,502
16	Dummy for the year of transaction—2011	183,641
17	Dummy for the year of transaction—2012	418,244
18	Dummy for the year of transaction—2013	566,739
19	Dummy for the year of transaction—2014	800,463
	Total observations—33,424	

BBMP = Bruhat Bengaluru Mahanagara Palike, SC= scheduled caste, ST = scheduled tribe.
Source: Author.

As explained earlier, all the land was originally for agricultural use until the formation of the BMIC Area Planning Authority. While some land parcels remained in agricultural use, others underwent improvements to host more valuable uses, like high-rise residential. The magnitude of the coefficient for apartment use is the highest, followed by residential low-rise or houses and vacant sites. Thus, the hope value of land is observable and the owners of notified land expect

compensation in accordance with the improved values that capture the potential for the development of agricultural land for other, better uses.

7.7.3 Discussion

Table 7.7 presents the estimated impact of acquisition notification (or blight) and improvement in the development potential (or hope value) on the transaction value for land. The results indicate that the value of notified land is 31% lower than that of non-notified land in any given year. The reduction in value is the difference in the predicted value of notified and non-notified land at means in the same year, which the table expresses as the percentage of value of non-notified land.

As discussed earlier, the development potential of land is observable through the improvement in the use of land either at the property

Table 7.7: Blight and Hope Value Calculated as the Percentage Change in Land Value at Means in the Same Year

Use of Land Parcel	Village-Level Activities	Change in Land Value
Agriculture	Agriculture (notified for acquisition)	–31% (blight)
Hope value		
Agriculture	Agriculture + medicine manufacturing	39%
Agriculture	Agriculture + brick manufacturing	61%
Vacant land (developed)	Agriculture	65%
Vacant land (developed)	Agriculture + medicine manufacturing	129%
Vacant land (developed)	Agriculture + brick manufacturing	166%
Residential (peri-urban housing)	Agriculture	192%
Residential (peri-urban housing)	Agriculture + medicine manufacturing	306%
Residential (peri-urban housing)	Agriculture + brick manufacturing	371%
Residential (apartment)	Agriculture	288%
Residential (apartment)	Agriculture + medicine manufacturing	440%
Residential (apartment)	Agriculture + brick manufacturing	527%

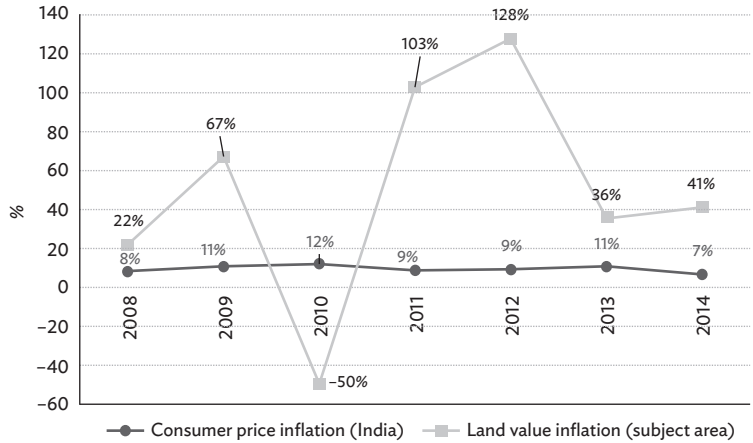
Source: Author's calculations.

level or at the village level. Taking the base value of non-notified land in agricultural use, in an agricultural village, the hope value ranges between 39% and 527%, depending on the use of the land and the village-level activities. For example, the value of agricultural land is 39% higher if it is in a village that manufactures medicine as opposed to an agricultural village. Similarly, brick-manufacturing activities improve the land value by 61%. While these are village-level activities that improve the average value of land in the region, at the property level, the agricultural land value improves by 65% if the development takes place as a plot; 192% if conversion to residential use (houses) occurs; and 288% for apartment use.

As Figure 7.5 shows, the inflation in land value (in the subject area) has been much higher than the consumer price inflation in India, except in 2010.

While land is a store of value, it additionally serves consumption requirements, unlike other asset classes. Regarding compensation for the compulsory acquisition of land, it is important that estimations

Figure 7.5: Comparing Inflation in Land Values (around the Bangalore–Mysore Infrastructure Corridor Project) and the General Consumer Price (India), 2008–2014 (%)



Source: Author's calculation based on inflation data from the World Bank (2019) and land transaction data from the Sub-Registrar's Office, Bengaluru.

Table 7.8: Toward Fair Compensation

Components of Compensation	Fair Market Value (KIAD Act and Land Acquisition Act of 1894)	Compensation Based on the Land Acquisition Act 2015	Compensation for Loss of Functioning
Market value of land in current use	P	P	P
Blight	–	–	0.31P
Hope value	–	–	0.39P to 5.27P
Solatium	0.3P	P to 3P	–
Total	1.3P	2P to 4P	1.7P to 6.58P

KIAD = Karnataka Industrial Areas Development.
Source: Author.

of the market value of land appropriately capture its rapid value appreciation over time, as in the case of the BMIC project. Table 7.8 presents a comparative structure of the estimated value of compensation for compulsorily acquired land if the compensation is based on (i) the KIAD Act of 1966, which refers to the Land Acquisition Act of 1894 for compensation determination; (ii) the new, improved Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013; and (iii) whether the compensation includes the value of functionings (blight and hope value).

Table 7.8 raises an important point regarding the appropriateness of the current and proposed compensation mechanisms, which at times may inadequately compensate for the loss of hope value and blight, which the market value of land estimations using conventional valuation methods do not capture accurately. Compensation for loss of hope value and blight would raise the amount to between 1.7 times and 6.58 times the original agricultural value of the land. In terms of the financial feasibility of the acquirer and private developer, Raj and Angadi (2018) find that the BMIC project generated an internal rate of return (IRR) of 135% for the developer, and this was 6.5 times higher than the originally agreed IRR of 17.5%. This increase is largely attributable to the appreciation of land value. Thus, in the case of the BMIC project, it ensures the profitability for the developer even after compensating the affected landowners for hope value and blight.

The economic value of the functionings estimated above is contextual to data from Bengaluru, around the BMIC project area. While the behavior of the land market in other metropolitan cities in India may

be comparable to that in Bengaluru, region-specific data are necessary for an accurate estimate of the economic value of hope value and blight. The generalization of these findings is debatable at this stage, and further research should include a range of types and scales of projects across multiple cities, if data are available. With appropriate modifications, researchers can adopt a similar approach to the assessment of hope value and blight in other countries.

Recognition of loss of functionings associated with land would be useful in designing the mechanism for compensation. We may, however, highlight here that we were only able to compute the value of those functionings that the market measures objectively in this research. In addition, there are subjective functionings that landowners lose in the compulsory acquisition. However, the lack of data on household characteristics precluded us from estimating the value of these functionings, even though there is a possibility of many of them being valuable.

7.8 Conclusion

Compulsory land acquisition is a contentious issue between landowners and acquirers, and policy makers and economists have debated it widely regarding various concerns but mostly inadequacy of compensation for the affected landowners. Despite the guiding principle of the legal framework being just or fair compensation for the affected landowners, in practice, fair compensation narrowly equates to the market value of land. While the market value of land is a good measure of the monetary losses of the affected landowners, it does not cover the full range of financial and nonfinancial losses associated with the compulsory acquisition of land.

The three questions that this research investigated are: (i) What has been the impact of the improvement of land use on its value? (ii) What has been the impact of a land acquisition notice on the value of land? (iii) Are the effects on different social groups different? We answered these questions using the hedonic price approach. The research did not impose a functional form for the estimation of the hedonic model, and it estimated a range of functional forms. The estimated models and their performance statistics indicate that functionings combine in a log-log form to determine the value of land.

Using empirical data on property transactions conducted in the BMIC project area and registered with sub-registrar offices in Bengaluru, India, during 2006–2015, this research estimated the appreciation in land value due to an improvement in land use from agriculture to residential. The results indicated that the value of agricultural land

may improve by between 39% and 527%. Additionally, the study found that, once a property has received notification for acquisition, its value depreciates by almost 31%. Together, these compensable financial losses, that is, hope value and blight, amount to nearly 0.92 to 5.58 times the value of land. The potential for the development of land changes with micro-level factors, such as the distance from the city center; therefore, the estimates of hope value and blight vary across regions depending on the local land market conditions. Raj and Angadi (2018) find that the benefit that the private developer generated or IRR that the Nandi Infrastructure Corridor Limited consortium generated was 650% higher than the approved IRR of 17.5%. This is attributable to the accrual of unaccounted benefits stemming from land value appreciation (or hope value) after the project launch. In addition, there is caste-based discrimination in the land market, and ownership of land is especially important for social equality and empowerment of the weaker segments. These results indicate that the KIAD Act of 1966, under which land acquisition took place, clearly under-compensated the landowners.

While the new Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013, in India has revised the compensation upward to two to four times the market value of land, situations of under-compensation could still occur in some circumstances. A more logical estimation of these factors, such as one based on losses like hope value and blight, would have reduced the chances of over- or underestimation of compensation. The discussion in this chapter paved the way for designing a fairer mechanism of compensation as a combination of monetary and nonmonetary strategies, which together satisfactorily reconstruct or replace all the financial and non-financial functions of land for each affected landowner.

The findings from this research are a useful guide for designing a fairer compensation mechanism that encapsulates these losses, which are definite yet not compensable unless negotiated in the court. We may, however, highlight that this research estimated the value of losses in the context of the BMIC project in Bengaluru, and a similar contextual approach would be necessary for the appropriate estimation of the hope value, blight, and impact on value due to social and demographic characteristics.

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8

Land Titling and the Sustainable Development Goals: Revisiting Assumptions to Secure Land for the Urban Poor in Phnom Penh, Cambodia

Johanna Brugman

8.1 Introduction

As Sustainable Development Goal (SDG) 10: Reduced Inequalities recognizes, income inequality is growing, with the richest 10% earning up to 40% of the total global income. Despite Asia's dramatic economic growth, income inequality is continuing to rise, and even though poverty has decreased, alarming rates remain in the region (ACHR 2014, UNESCAP 2017). Access to secure land for the urban poor in Asian cities is an important dimension that provides opportunities for the economic and social well-being of individuals, families, and communities in the short- and long-term future and is key in supporting the targets of SDG 1: No Poverty, SDG 11: Sustainable Cities and Communities, and SDG 15: Life on Land. Furthermore, the effective registration of land is essential to facilitating innovation in land administration, such as the development of community land trusts, and fair land acquisition processes of the state for the development of public infrastructure.

To promote the urban poor in accessing secure land, international donors and governments in Asia support large-scale titling programs and individual land ownership. These practices assume that individual title can reduce urban poverty and inequality by easing access to credit for the urban poor and incentivize economic opportunities by enabling land markets and investment in cities (de Soto 2000). Despite the benefits that title can bring to the urban poor, evidence has also suggested that

the settings in which land-titling programs have been most successful are dependent on the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power (Deininger and Feder 2009).

In this light, Cambodia is a good case to analyze the outcomes of the titling formalization "fix" (Dwyer 2015) within a context of weak governance and rapid urban growth. Since 2002, the Cambodian government has implemented the multi-donor-supported Land Management and Administration Project (LMAP) to develop a land administration framework after land records were destroyed by the Khmer Rouge in 1975. The LMAP encompasses a systematic land registration (SLR) program, a nationwide-scale titling program to register all the land parcels in the country, secure land rights for vulnerable groups, and reduce poverty. This chapter presents the results of a case study of one informal settlement in Phnom Penh subject to titling under the SLR program in 2009.

The following research question guides the chapter: What are the implications of individual title for securing the land and social and economic well-being of the urban poor in Phnom Penh? The chapter uses the hypothesis that people should not consider titling as a panacea and/or as the only way to secure land rights and reduce poverty and inequality in Phnom Penh; instead, land-related interventions need to engage with power inequality and the complexity of governance arrangements (Deininger, Selod, and Burns 2011), as well as rapid urbanization rates, the financialization of land and housing, and the specific needs of governments and the urban poor based on political and socioeconomic contexts (Payne 2001, Deininger and Feder 2009, Payne and Durand-Lasserve 2013). The findings of the study support the evidence in the literature that has pointed out loopholes in titling programs and their capacity to secure tenure and reduce poverty in complex governance environments and cities experiencing rapid urbanization (Payne 2001; Field and Torero 2006; Porter 2011; Deininger, Selod, and Burns 2011; Payne and Durand-Lasserve 2013; World Bank 2016a; Varley 2018). The chapter argues that title and private ownership do not necessarily guarantee security of tenure and the well-being of urban poor citizens and that, without careful consideration of social, political, and economic dimensions, titling can make the urban poor vulnerable to state- and market-driven displacement.

8.2 Titling and the Sustainable Development Goals

The global policy shift toward land tenure interventions occurred in the mid-1990s as a result of theoretical propositions that development economists had put forward, arguing for a more interventionist

approach supporting the state's responsibility to regulate land markets (de Soto 2000, Deininger 2003). As a result, land titling became the dominant policy to secure land rights across the world. This market-oriented approach became highly accepted and supported among development agencies and governments around the world following the publication of *The Mystery of Capital* by Hernando de Soto. In his arguments, de Soto (2000) claims that land titles and land formalization are the solution to poverty by unlocking the capital generating potential of informal land and property, known as "dead capital" (de Soto 2000). Today, international agencies around the world continue to support titling and consider it to be an important avenue to achieve the SDGs.

A key rationale for land titles is to incentivize the efficient functioning of land markets. De Soto (2000) claims that informal tenure creates uncertainty, as the state and formal financial institutions do not recognize it. Thus, there are high transaction costs in informal markets, as asset prices reflect the high risk associated with informal transactions. In this sense, it is arguable that land titling programs, as a market-oriented intervention, can fix land markets. Land titling provides the foundation for increased land market transactions by formalizing ownership rights and creating property information systems, such as a cadastre and land registry, to secure tenure and record land transactions. Thus, it removes the perceived risks associated with informal ownership, providing confidence in the market to buy and sell land without the fear that the government will appropriate assets. The dominant form of tenure proposed in titling programs, as a long-term objective, is individual freehold titles or private ownership. Brandao and Feder (1996) explain that secure individual property rights are critical in establishing a structure of economic incentives for investment in land-based activities. The authors argue that the more freehold rights are restricted, the weaker the investment incentives and the lower the productivity of land will be. These arguments are in line with the World Bank's (2019) *Doing Business Report*, which acknowledged property registration as playing a critical role in supporting all economies and business environments around the world.

Land title can be an avenue to achieve the SDGs because it can incentivize land markets and economic development, which will benefit the well-being of individual households. Furthermore, land title can provide certainty and help to enforce the statutory land rights of vulnerable populations (Feder and Nishio 1998). However, as most independent reviews of land titling programs have found, there is a dearth of independent evidence to estimate the magnitude of the impact of land titling programs worldwide and their long-term impact on land market development and socioeconomic development, particularly

in urban and peri-urban areas (Payne, Durand-Lasserve, and Rakodi 2007, 2008). Methodologically, conducting social and economic impact assessments of land titling presents significant challenges, such as the requirement to measure individual variables that are difficult to quantify as well as the inability to measure the impact of land titling programs over short-, medium-, and long-term periods (Payne, Durand-Lasserve, and Rakodi 2007, 2008). Furthermore, research into the effectiveness of titling programs needs to consider the specific political and governance contexts of each country. Based on this, the papers reviewed to inform this research focused on surveys of land titling projects using specific case studies of countries and did not provide a complete picture of the magnitude of the impacts of titling projects worldwide.

On a positive note, the evidence suggests that access to title in urban areas has incentivized housing investments, such as in Peru, where Field (2005) finds that, for titled households, the rate of house renovations increased by more than two-thirds above the baseline levels used in the study (see also Deininger and Feder 2009). Surveys in Dakar, Senegal have also indicated that tenure regularization had a positive impact on improvements and extensions of houses for beneficiary households. The most visible changes were observable in Dalifort (a Dakar neighborhood), the first settlement that the government regularized. In 1987, before tenure regularization, 90% of the dwelling units were shacks built in nonpermanent materials. In 2000, after regularization, 48% of the houses consisted of permanent building materials, a level that increased to 68% in 2007. Thus, titles have stimulated investment in housing. Despite these findings, most authors have attributed investments to the perception of security of tenure rather than the receiving of title as such (Payne, Durand-Lasserve, and Rakodi 2008). Furthermore, most evidence suggests that land values increase as a result of land titles. Payne, Durand-Lasserve, and Rakodi (2007) suggest that price increases of 25% are common following the provision of land titles, and in some cases, the increases are even larger. In this light, Lanjouw and Levy (2002) find that titles increased the value of a plot in informal settlements by 23% in Ecuador. In cases where property values rise substantially following titling, taxes based on such values will theoretically generate correspondingly large revenues; however, the literature has not provided clear evidence to support these assertions. Burns (2006) claims that, in Thailand's Land Titling Project, which commenced in late 1984, the annual revenues increased from about $150 million in 1985 to a peak of over $1,200 million in 1996. Even after the property market crash of 1997, the revenues remained at an average of almost $400 million a year nationally. The fact that one agency or authority may collect taxes and other charges while others may provide

benefits, such as improved services, complicates the revenue of tax from titling (Payne, Durand-Lasserve, and Rakodi 2008). Furthermore, the costs of a formalized property can increase the financial pressure on poor households through the payment of taxes and urban services. Research has shown that renters in particular are most affected by formalization, as rents tend to increase because of these processes (Payne 2001, Desai and Loftus 2012, Payne and Durand-Lasserve 2013).

Despite the clear advantages of securing property rights with support from the state and the value that a healthy economy can bring to the urban poor, there is evidence that demonstrates that the formalization of property rights through title has not always succeeded in reducing poverty and enforcing land rights (Hutchison 2008, Deininger and Feder 2009, Marx 2009, Payne and Durand-Lasserve 2013, World Bank 2016a). Field and Torero (2006) find in their research on a land titling program in Peru that having land titles does not enable the urban poor to access credit from private commercial institutions. Unstable income and liquidity for deposits continue to be barriers to the urban poor's access to credit. Larger surveys of titling programs, which find little evidence of titles increasing the likelihood of receiving credit from private sector banks, support these conclusions. They attribute the main reason for this to households fearing that they would lose their property and that the banks would ask for a bank guarantee from another person or evidence that the household had a regular income before offering a loan (World Bank 2016a). Furthermore, Rolnik (2015) shows that having titles and being able to borrow money from financial institutions has led to dangerous borrowing practices that can ultimately compromise security of tenure.

Payne and Durand-Lasserve (2013) argue that the current dynamics of land liberalization in the global South and titling programs are increasing the pressure of the market on urban low-income settlements and thus complicating the intended outcomes and benefits of title securing tenure for the urban poor. Payne and Durand-Lasserve (2013) explain that the scale of market-driven displacement worldwide is tending to override that of forced evictions and that titling programs can stimulate market-based displacement by encouraging gentrification, especially in settlements located near city centers or other high-value locations (see also Payne, Durand-Lasserve, and Rakodi 2009; Rolnik 2015). Evidence from large-scale surveys on titling programs refers to three situations in which post-titling sales appear to be significant: distress sales, sales in peri-urban locations where residents have relocated from informal inner-city settlements, and cases where households realize the windfall gains of titled properties in locations that are attractive to higher-income households or private developers (Payne, Durand-Lasserve, and Rakodi 2007, 2008). Thus, it is fair to

argue that title does not necessarily provide tenure security to residents where the state or private investors can earmark land for development but mostly to those residents who live in areas where land has lower value and less interest (Payne, Durand-Lasserve and Rakodi 2009).

Based on the above, many experts have argued that, for land title programs to be effective, it is necessary to pay attention to the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power in specific countries (Deininger and Feder 2009). In Rwanda, for example, despite the registering of 11 million land parcels at the national level in 2011, the land titling program's implementation has been difficult because of the limited capacity of central and local administrative governments (Payne and Durand-Lasserve 2013). A World Bank review of land administration programs highlighted the need for technical integration and inter-agency coordination, political commitment, capacity building of local institutions, and the specific provisions in land title programs to include vulnerable groups, such as women, indigenous people, and the urban poor (World Bank 2016a). Furthermore, the World Bank (2016a) recognized that the link between improved tenure security and other expected development outcomes, such as social and economic development, is not automatic. Improving the land administration system on its own may not be sufficient to achieve the intended development outcomes that the SDGs expressed. Additional measures and reforms of other sectors, such as the judicial sector, specifically may also be necessary to ensure broader social and economic outcomes from land administration projects (World Bank 2016a).

The lack of information and studies evaluating and monitoring the impacts of titling programs highlights the importance of continuing to conduct research to understand the magnitude and the short-, medium-, and long-term impacts of titling programs, particularly for the urban poor and in the context of the SDGs. This gap informs the research questions and purpose of this chapter outlined in the introduction. The next section explains the governance environment in Cambodia and the influence that this specific complex environment has on the social and economic impacts of titling programs for the urban poor in Phnom Penh.

8.3 Land Titling in Cambodia

Despite Cambodia being a predominantly rural country, it is experiencing one of the fastest rates of urbanization in Southeast Asia (ADB 2014). Recent estimates of population figures show that Cambodia's urban population has grown at a rate of 3.7% annually since 2008 and predict that the urban population will grow by 29.5% in the next 15 years (UNFPA

2014). The estimates indicate that, by 2030, 5.4 million Cambodians will live in urban areas, with most people living in Phnom Penh. In 2014, the city grew by 2.74% and had an estimated population of 1.5 million people (PIN 2015). Urban growth is attributable to an increase in the number of the city's inhabitants but also to a high rate of rural–urban migration as well as economic growth. Today Cambodia's economy is continuing to grow due to the garment, tourism, and real-estate sectors (Guimbert 2010). Foreign and private investors are investing heavily in land and real estate, resulting in the oversupply of condominiums targeting the middle- and high-income classes as well as the speculation and commercialization of land, which has made land prices grow exponentially over the years across the city (STT 2012).

According to the World Bank, poverty has fallen in Cambodia and the country has recently moved its status to a lower middle-income economy (World Bank 2016b). However, people consider Cambodia to be one of the region's countries with higher levels of rural and urban poverty and inequality, with an estimated gross domestic product per capita of $946 and a Gini coefficient of 28.6 (World Bank 2017). Currently, urban growth across the country is uneven, remaining concentrated in Phnom Penh and its immediate vicinity, which is an attractive location for industrial and real estate growth given the capital's international connectivity and the ease of access that it provides to government and administrative functions (World Bank 2018). In Phnom Penh alone, economic inequality is highly visible across the city. Today a familiar pattern across Southeast Asia has started to manifest in the urban form of Phnom Penh. This includes the development of skyscrapers, large infrastructure projects, satellite cities, and gated communities, such as Campo City, Diamond Island, and Grand Phnom Penh International. At the same time, there is a large number of informal settlements and a lack of affordable housing. This means that lower-income and urban poor families in particular have very few possibilities to find land and housing and stay secure in central locations (ACHR 2005). This is a tangible example of the urban inequality that people experience in Phnom Penh.

The World Bank has identified Cambodia as a country with one of the highest rates of land inequality in Asia, estimating a land inequality Gini coefficient of 0.65 in 2007 (World Bank 2007). Since the Khmer Rouge's destruction of land records, land lies at the center of debates about Cambodia's socioeconomic development. According to the World Bank (2007), the inequality reflects a skewed distribution in which there are a large number (an estimated 46%) of rural households that are landless or land poor (owning less than 0.5 hectares) and a very small

number who control vast areas of land. Oxfam GB (2007) conducted a survey of landholding patterns in 433 villages, which it selected through a multistage process. Although the sampling design may not have been nationally representative, the findings suggested that, in many localities, a large proportion of land (i.e., privately owned land, not including state land allocated as economic land concessions) was held by powerful individuals who were generally not resident in the community. The findings showed a high degree of inequality, with 12% of owners each having holdings of more than 3 hectares accounting for a total of 72% of the land (Oxfam GB 2007). More recent estimations from the United Nations Capital Development Fund indicated that as much as 30% of Cambodia's land in 2010 was owned by only 1% of the population (UNCDF 2010). The Royal Government of Cambodia holds about 75%–80% of the country's territory under the status of state land (USAID 2011). The 2001 Land Law allows the transfer of state public land into state private land as a precondition for allocating concessions for various purposes. The government has allocated an increasing share of state private land as economic land concessions (ELCs) to powerful elites and foreign investors since the mid-2000s, mostly for agro-industrial plantations. In Phnom Penh, local and foreign investors have used these transfers to develop commercial and real estate, often at the expense of the urban poor. Thus, in urban and rural areas, land disputes, land grabs, and forced evictions have been common and with them poverty and dispossession. Recent estimates indicate that 29,358 families (146,790 persons) suffered eviction in Phnom Penh between 1990 and 2011, over 12,000 families were under the threat of eviction in 2014, and there were 77 eviction sites in 2016 (STT 2014, 2016). Most of these evictions and forced displacements are attributable to weak governance and enforcement of the law.

Land governance in Cambodia is complex. Various government institutions are responsible for land governance, including the Ministry of Land Management, Urban Planning, and Construction (MLMUPC); the Ministry of Agriculture, Forestry, and Fisheries; the Ministry of Industry, Mines, and Energy; and the Ministry of Environment. After the civil war, land governance relied heavily on international development assistance. In 2001, the government passed a land law that established a relatively comprehensive legal framework for land tenure and administration in Cambodia. The Land Law of 2001 extended ownership rights to residential and agricultural land, introduced a new categorization system for land ownership in Cambodia (consisting of state–public land, state–private land, private–individual land, and indigenous and/or communal land), and

formalized the system of granting land concessions on state–private land. The government can grant ELCs for livelihood subsistence purposes as a redistributive measure for landless and land-poor farmers (social land concessions [SLCs]). Further to the Land Law of 2001, international donors have funded the Land Allocation for Social and Economic Development Program (formerly known as the Land Management and Administration Program [LMAP]), the Land Administration Subsector Program, and Circular 03: Resolution on Temporary Settlements on Land Which Has Been Illegally Occupied in the Capital, Municipal and Urban Areas.

Despite the efforts for decentralization, decisions on land are highly centralized. For example, the Office of the Council of Ministers, the government's top executive agency, also approves the granting of ELCs and SLCs. In addition, the 1994 Law on Investment established the Council for Development of Cambodia (CDC) to oversee private sector investments. The prime minister chairs the CDC, which consists of senior ministers from relevant government agencies who exercise considerable influence over decisions concerning land. Informal partnerships and relationships between the government, private companies, foreign investors, and the business elite influence land and development decision making. This has generated what Paling (2012) has named "disjointed governance," in which state–private informal alliances and relationships bypass land and planning legislation (see also Hughes 2007, Un and So 2011). This governance environment has posed many difficulties for the effective implementation of land administration reforms in the country, with major donors withdrawing their support for land rights programs in Cambodia in recent years.

SLR initially occurred under the donor-funded LMAP (2002–2009) in partnership with the MLMUPC. The LMAP began in 2002 as the first phase of the government's land reform program, which it established to give effect to the Land Law of 2001. The World Bank (pledging $28.83 million), GTZ ($3.5 million in technical assistance), the Government of Finland ($3.5 million in technical assistance), and the Canadian International Development Agency ($10 million in both funding and technical assistance) were the primary donors of the project (Bugalski and Pred 2010). SLR involves identifying a specific area for land registration, after which land registration teams enter and conduct a coordinated survey and demarcation, adjudicate land claims, and finally issue land title certificates. In addition to SLR, the LMAP has established dispute resolution mechanisms to resolve disputes over unregistered land and disputes that emerge during the registration process (Grimsditch, Kol, and Sherchan 2012). Donors identified land titling through SLR

as a principal means of increasing land tenure security for vulnerable communities and promoting the development of efficient markets in the country. This is a system of mass registration that complements the existing processes of SLR in Cambodia, in which individuals can register their land by paying the government a fee of about $400 (Grimsditch, Kol, and Sherchan 2012). Thus, people envisioned that SLR would be the principal means that vulnerable groups in Cambodia, such as the urban poor and indigenous people, would rely on for the recognition and protection of their land rights, as well as a means to reduce poverty by accessing credit.

According to most donor reports and studies reviewed in the writing of this chapter, the definition of the effectiveness and success of SLR concerns the number of titles issued, the capacity of government institutions to manage and resolve land disputes, and the capacity of SLR to ensure the protection of land rights for the most vulnerable. Despite the vision that SLR will also reduce poverty by enabling access to credit and incentivizing land markets, no reports or studies have evaluated these dimensions. The existing information shows that SLR was effective in registering more than 3 million land parcels in the country in 2015, developing a cadastre, and building governance capacity to resolve land disputes (GIZ 2016). However, the government has issued titles almost entirely in lowland paddy areas, where conflict and tenure insecurity are not issues (Scurrah and Hirsch 2015). Most studies on the implementation of SLR have agreed that the program has not been successful because of the state's lack of transparency in its implementation. Bugalski and Pred (2010) identify the exclusion of difficult and/or contested areas from titling and the lack of transparency in state land classification as two key factors in the design and implementation of SLR that impair the successful implementation of the systematic titling mechanism in Cambodia. In Phnom Penh, empirical studies have shown deficiencies in the implementation of SLR, including the exclusion of informal settlements (Grimsditch, Kol, and Sherchan 2012; Keo, Bouhours, and Bouhours 2015). These studies have suggested the existence of systemic problems in the governance structures of the state, impairing the transparent and successful registration of land and the recognition of land rights for vulnerable groups. In Phnom Penh in particular, the rapid rates of urban development and the state's protection of foreign investors' interests in land have affected the registration of land (Bugalski and Pred 2010). The activities of the LMAP now take place under the MLMUPC's Land Administration Subsector Program without the support from donors. The next section discusses the case of one informal settlement excluded from SLR in Phnom Penh.

8.4 Case Study Findings

8.4.1 Methodology

The findings presented in this chapter are part of a PhD research project with funding from an Australian postgraduate award and the School of Earth and Environmental Sciences, University of Queensland, Australia. The author obtained ethical clearance from the university to conduct this study. The fieldwork took place between June and September 2016 in Phnom Penh.

The author adopted a case study research method with the aim of understanding complex social phenomena in which the topic of research needs in-depth and context-dependent knowledge (Flyvbjerg 2006, Yin 2009). The case is a deviant case, understood as being unusual in the sense that it is "especially good" compared with other informal settlements in Phnom Penh (Flyvbjerg 2006). This is because of the presence of financial investments in housing, infrastructure, and livelihood as well as collective action among the residents. Thus, the author selected the case on the basis of expectations about its information and content and expected it to reveal more information than typical or average cases by activating more actors and mechanisms involved in the study of formal and informal relationships. To ensure that knowledge on the social, political, and economic contexts of the city complemented the case study, the experiences of community leaders of three other informal settlements presenting different characteristics from the one studied, as well as the experiences of civil society organizations and government and private institutions involved in urban planning, housing finance, and informal settlement upgrading in Phnom Penh informed the research. The specificities of the historical, political, social, and economic contexts of Phnom Penh also helped to sustain the consideration of this case as a deviant case in relation to other cities of the global South.

The data collection took place through face-to-face interviews and document reviews within a 4-month period in Phnom Penh. The author conducted 30 interviews with households at the case study site in Phnom Penh and 20 interviews with representatives of government departments, international development agencies, private financial institutions, and nongovernment organizations (NGOs). The author also held site visits and interviews with three community leaders of three informal settlements in Phnom Penh to ensure better interpretations of the findings. The interviews took place in English and Khmer. A Khmer research partner and interpreter facilitated and translated the interviews when required. The interviewer recorded, translated, and transcribed the interviews; however, in some cases, participants

requested not to have their interview recorded. In these cases, the interviewer took notes and transcribed them. The author used NVivo (a qualitative data analysis computer software package) to code the interviews and identify key themes for the analysis of the results.

8.4.2 Overview of the Case Study Site

The settlement[1] is located 7 kilometers from Phnom Penh's city center. The settlement is urban, situated in an attractive location close to services such as schools, health centers, markets, and different types of businesses and job opportunities. After the civil war in the late 1970s, former soldiers and their families occupied the settlement with the consent of the government at the time. Afterward, people returning from rural and refugee camps to Phnom Penh bought land from the "original" military families, who informally subdivided and sold the land. Thus, the settlement experienced ad hoc occupation, as happened in the whole of Phnom Penh under the de facto property market that arose in the city in the absence of land records after they were destroyed by the Khmer Rouge (Khemro and Payne 2004). During this time, the city experienced the return of thousands of its citizens from rural areas and refugee camps, seeking to rebuild their lives after years of war. In the absence of land records, the then government declared legal claims to immovable property to be invalid, and all land and houses became the property of the state (Khemro and Payne 2004). However, most property owners in Phnom Penh were killed or died between 1975 and 1979, leaving land and buildings vacant in the city. People returning to Phnom Penh occupied land and empty buildings on a "first come, first served" basis. Until 1989, the government allowed people the right to occupy property and to sell and buy it on the emerging de facto land and housing market. As a result, arrangements for ownership emerged mainly through informal means of buying and selling plots and houses (Khemro and Payne 2004).

At that time, and to establish land rights, residents living at the case study site recorded their land transactions informally as a land sale or transfer written agreement, in a certificate known as *plong ton* or soft title. These soft titles gave residents possession rights over their land and stated information on the person and/or family occupying the land and the location of the plot, including an indication of the land size and boundaries. As the country rebuilt its institutions and introduced land

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1 For confidentiality reasons, the chapter does not mention the name of the informal settlement that acted as the case study for this study.

legal frameworks, the categorization indicated the settlement to be "temporary," waiting for the state to decide its legal status under SLR. Based on the prescriptions of the Land Law of 2001, residents were neither legal nor illegal but able to claim land ownership because they had possession rights over their land and had lived on the land before 2001. Residents relied on SLR for guaranteeing that the state recognized their land rights.

At the time of the research, the settlement was home to 48 households or approximately 253 people. In the settlement, 18 out of 59 families were from Phnom Penh and the rest came from other provinces in Cambodia.[2] The settlement had connections to water and electricity and good road infrastructure, and most residents had invested in their houses. Most adults worked in the informal sector as moto-taxi and tuk-tuk drivers and vegetable sellers in the market. Younger generations worked in more formal low-paid jobs, such as jobs in garment factories and building and construction. Women especially stayed at home to look after children, and many opened home-based businesses. The Appendix presents the household information that the interviews collected and indicates that household incomes varied between $30 and $1,000 per month, showing that people in this settlement were living well above the poverty line. The statistics that the Identification of the Poor Programme (IDPoor) of the Ministry of Planning provided indicated that lower levels of poverty than in other areas in the city characterized the village and district where the settlement was located. Despite this, the poverty that people experienced had changed over time as part of the collective social process experienced in the settlement and the benefits that some families had been able to gain from urban development. Socioeconomic differences were evident among the residents, as wealthy residents had started to move to the settlement over recent years.

8.4.3 Exclusion from Systematic Land Registration

In 2006, the MLMUPC declared the village that the case study site occupied to be an area in which to implement SLR. Despite the registration of some land plots, it excluded most of the village, including all the land parcels of the residents of the study site. The reasons for the exclusion remained unclear; even a World Bank mission that visited the village in 2009 could not clarify the reasons for the exclusion. The research found two potential reasons for the exclusion of the settlement from SLR. The settlement bordered two

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2 These statistics came from surveys that community members and NGOs conducted.

sites of state public land: a section of a lake in the northwest and an empty plot of land in the middle of the settlement that belonged to the state. Key informants explained that both the lake and the empty plot of land were classified as state public land; however, over the years, government authorities had reclassified these sites as state private land and sold them to private developers. In addition, in 2012, the Municipality of Phnom Penh granted permission to develop Pong Peay City, a mix of residential and commercial facilities. The project involved filling in 9.6 hectares of the lake, including 2.6 hectares of the land surrounding the study site, which was occupied by about 20 families. At the time of the research, most of the lake, like many other lakes in Phnom Penh, had been filled in. Based on this, participants in the study explained that the exclusion happened because the government saw opportunities for the commercial development of the public land surrounding the case study site and was not prepared to recognize the land rights of residents until it had defined these development plans.

In this light, Grimsditch, Kol, and Sherchan (2012) explain that, in cases of exclusion from SLR, land parcels remain unregistered because the state considers them as having an "unclear status." No law or legal instrument in Cambodia has defined this term. However, it appeared that most cases of unclear status involved land that the state had claimed but that it had not formally demarcated as such. Records also indicated areas bordering state land as having an unclear status if the state's land boundary remained undefined. In such cases, the records did not register the land to anyone and marked them as unclear on the cadastral index map. These findings provided evidence of what Bugalski and Pred (2010) identify as key limitations for the effective implementation of SLR in Phnom Penh, including the exclusion of difficult and/or contested areas from titling and the lack of transparency in the state land classification. Furthermore, this case demonstrates how the state utilizes the law to legitimize the sale of public state land, including lakes, to private developers by using sub-decrees to reclassify public state land as private state land and subsequently sell land to private developers and foreign investors.

Keo, Bouhours, and Bouhours (2015) show that exclusions of urban poor communities from SLR in Phnom Penh are common. The most recognized case of exclusion and subsequent forced eviction is the case of Boeung Kak Lake, which ended in the World Bank withdrawing its support from the LMAP. This case points out systemic problems in the governance structures of the state, impairing the transparent and successful registration of land and the recognition of land rights for vulnerable groups. Furthermore, the rapid rates of urban development and the state's protection of foreign investors' interests in land rather

than the public good affect SLR (Bugalski and Pred 2010). This highlights the arguments in the literature about the need for land interventions to engage with the complexity of governance arrangements, power inequality, and the specific needs of governments and the urban poor based on their political and socio-economic contexts (Payne 2001, Deininger and Feder 2009, Payne and Durand-Lasserve 2013, World Bank 2016a).

8.4.4 Civil Society Responses to Gain Recognition of Land Rights

The exclusion of the settlement from SLR posed a threat to residents' security and created fears about the possibility of eviction. These feelings appeared mainly as a result of the alarming forced evictions of informal settlements that were happening in the city at that time rather than from a direct eviction threat from local authorities. Thus, obtaining title through SLR was important for residents to feel secure and recognized under the law.

The residents of this settlement were organized. With support from NGOs over the years, they developed a community savings scheme and elected a leadership team to manage community affairs. Over time, the residents learned how to identify and prioritize needs, save money, and work together in addressing basic needs. They were also good at leveraging financial resources and support from local authorities and NGOs to invest in their needs. For instance, the collective efforts of residents had developed connections to water, electricity, and road infrastructure. This was an important characteristic of this settlement that was not apparent in many urban poor communities in Phnom Penh.

The residents built on their collective agency to develop strategies to engage productively with the government and gain recognition of their exclusion case. They developed three strategies: (i) build networks and alliances with urban poor residents of other settlements in Phnom Penh, NGOs, and international donors; (ii) produce legal and spatial information about their exclusion case; and (iii) use public forums to voice their exclusion case and build relationships with key government officials to gain visibility. After various encounters and informal discussions, the MLMUPC gave the residents and two other excluded communities in the village the opportunity to reapply for SLR. In 2016, almost 7 years after their exclusion from SLR, the cadastre team from the MLMUPC surveyed the land plots of the residents and gave households a "survey receipt" as a guarantee that it would register their plot under the SLR process. In early 2017, the residents received individual land titles under SLR. These findings

point out the importance of empowering, supporting, and building the capacity of civil society organizations and urban poor communities to ensure their participation in land titling projects and to hold the state accountable for its responsibilities in the implementation of land titling. In Cambodia, this is an urgent requirement considering that most donors have withdrawn their support from land rights programs in the country over the past years.

8.4.5 Implications of Individual Land Title for Tenure Security of the Urban Poor

Interviews with residents of the case study site in the moments anticipating the receipt of land title certificates indicated that receiving title was important for the residents to feel secure on their land; however, receiving individual title over their property was also an economic incentive. In this light, the research showed that, in some cases, particularly for poorer residents, title could make residents' tenure security vulnerable, as it could incentivize the sale of land at a higher price to obtain an immediate and short-term financial benefit. In addition, having title opened additional opportunities to access credit from microfinance institutions (MFIs) and banks, which, in some cases, were detrimental to residents' tenure security due to risky borrowing practices that exceeded the capacity of the residents to service loans. These findings are in line with Payne and Durand-Lasserve's (2013) arguments concerning the fact that the current dynamics of land liberalization and land title programs can increase the pressure of the market on urban low-income settlements and result in market-based dispossession.

In this case, the poverty and economic conditions of each household influenced the financial practices of the residents. The research found that there were families that were aware of the risks of taking up loans without having a stable income or the capacity to repay loans and preferred not to borrow money from external sources. Some of these households had been living in the area for a long time and had seen neighbors lose their land because of loan defaults. However, these households experienced the need to improve their housing conditions, and, because they had no job and income opportunities, they sold or planned to subdivide and sell part of their land to gain money and improve their houses. Residents who, at the time of the research, were wealthier experienced this situation (and had benefited from selling parts of their land), as well as poorer residents who were planning to use formal title under SLR to sell part of their land for a higher price to newcomers to the area.

The research also found that the generation to which the people in the settlement belonged influenced the way in which they valued land. Older people who had lived in the settlement for a long time and struggled to obtain services, built a place and community, and advocated for tenure security valued their land differently from younger generations. Older people understood the value of keeping the land for the future and ensuring their family's well-being over time. Younger generations saw land as a profitable asset and an easy way to make money, a view that risked the security of families' tenure in the long term. Older people, especially older women, who had lived in the settlement for a long time, were aware of and concerned about the mentality of younger generations and thus reluctant to give control of their land to their children. Accordingly, the women maintained their name as owners in the registration process to obtain formal title of the whole property and did not subdivide the land or include the names of their children in the formal title.

The above points to the importance of considering how the model of urban development was transforming the social relationships of the people living in the city, leading to a change from collective to individual values. This was specifically driven by the transition of Cambodia to a market-driven economy. These changes constituted a threat to residents, as the loss of collective values and action diminished their collective support systems, which, as Section 8.4.4 explained, were an important mechanism for residents to maintain and build power and resist processes of accumulation by dispossession in the city and to navigate the governance and planning structures creating social and spatial inequalities in Phnom Penh.

The risks of residents losing land by selling it increased because of the attractive location of the settlement. As mentioned earlier, the settlement is close to Phnom Penh's city center. The settlement is urban, situated near services including schools, health centers, markets, and different types of businesses and job opportunities. In addition, due to the residents' collective efforts, the settlement had good access to water and electricity as well as a good-quality access road. Overall, the settlement was clean and well maintained and enjoyed a sense of place. All these features had attracted wealthy residents from inner parts of Phnom Penh as well as other provinces in Cambodia, generating a process of gentrification in the neighborhood. In fact, some families had already sold their land to newcomers and the neighborhood had experienced rapid change. These findings are in line with other studies in the global South that have reported that access to land title can induce processes of gentrification and displacement, especially in settlements located near city centers or other high-value locations (Payne, Durand-Lasserve, and Rakodi 2009).

The research found that residents in the settlement had been accessing credit from MFIs and banks using as collateral their informal title or the land title of their family properties located outside Phnom Penh. The loans that residents accessed were not specific loans for housing, such as mortgages. They were everyday loans that these institutions offered for business activities or, in the case of some MFIs, house renovations. At the time of the research, the MFIs' interest rates in Phnom Penh ranged from 14% to 24% per annum, and the interest rates that the banks offered ranged from 9% to 18% per annum. In interviews, bank officials explained that banks had to become more flexible in their requirements for collateral to be able to compete with the flexibility of MFIs. However, the access to loans and the lower interest rates that banks offered depended on the client's profile and ability to meet the bank's criteria to access loans. For instance, having a stable income and savings deposits was as important as having land title as collateral. Thus, most residents in the settlement could not access loans from banks and take advantage of the lower interest rates that these institutions offered.

Banks charged higher interest when residents used informal title as collateral, as this represented a higher risk to the financial institutions. Thus, obtaining formal title through SLR was an economic incentive for residents to be able to access lower interest rates from banks; however, most residents whom the author interviewed relied on MFIs as well as informal lenders charging up to 10% per month for loans.

Most interviewed residents had obtained multiple loans from different sources to renovate their houses and develop home-based businesses, such as rental rooms. In some cases, people with large blocks of land had "informally" subdivided their land and registered these subdivisions with village or commune authorities, using the various "soft titles" to obtain multiple loans from various sources and experiencing large amounts of debt. There were also risky individuals who borrowed money from MFIs and informal lenders who charged high interest rates without having a stable income and thus experienced the possibility of loan default and confiscation of their land.

These findings show that, even when title is important for urban poor residents to feel secure through the state recognizing their land rights, it can also be an economic incentive that can make the urban poor vulnerable to market-based dispossession. On the one hand, title can incentivize the urban poor to sell land at a higher value to obtain a short-term financial benefit. On the other hand, title can open the possibilities for the urban poor to access credit and, in the case of Cambodia, lower the interest rate of loans if people access these through banks. However, as was apparent in this case, the urban poor can be vulnerable when entering the market without financial training and proper support

(Payne 2001). These findings are particularly important considering the rapid pace of urban growth and transformation that cities like Phnom Penh are experiencing today and the financialization of land and housing (Rolnik 2015).

8.5 Conclusion and Policy Recommendations

This chapter contributes to the wider debate on the appropriate mechanisms to secure land tenure and support the well-being of the urban poor in cities of the global South, two key components of the successful progression of the SDGs. The case study presents the main findings that question the individual- and market-oriented model for securing land rights through large-scale titling programs in contexts of weak governance, great power inequality, and rapid urban growth, as people are experiencing in Phnom Penh. The first finding relates to the state's effective implementation of titling programs. As the case study shows, the state's SLR increasingly excludes informal settlements in Phnom Penh. As other studies have shown, SLR in Cambodia has mainly been successful in areas where there are no overlapping claims over and interests in land (Scurrah and Hirsch 2015). Thus, because of the complex governance environment of Cambodia and multiple interests in land for commercial and real estate development, SLR is failing to serve its purpose of securing land rights for vulnerable populations. Second, the case study shows the key vulnerabilities to market-based displacement that the urban poor face and that individual titling could exacerbate in the future. These vulnerabilities include compromised tenure security when title acts as an economic incentive to sell land at a higher price and obtain an immediate and short-term financial benefit. Risky borrowing practices that exceed the capacity of the urban poor to service loans also compromise tenure security. This is happening in a context where the government does not regulate financial institutions, in particular MFIs, as well as informal lending and they can charge very high interest rates to the urban poor, as is the case in Cambodia. Furthermore, the findings show that, together with the transition to a market economy and the transformation of traditional patterns of exchange and reciprocity, the enablement of an individual system of property rights can contribute to the loss of collective support systems that the urban poor rely on to overcome poverty and gain political recognition in contexts of great power inequality, like that of Phnom Penh.

The findings support the arguments in the literature (Hutchison 2008, Deininger and Feder 2009, Marx 2009, Payne and Durand-Lasserve 2013, World Bank 2016a) that stress that, despite the clear

advantages of securing property rights with state support and the value that a healthy economy and land market can bring to the urban poor, the formalization of property rights through title has not always succeeded in reducing poverty and enforcing land rights. This is particularly evident in contexts of weak governance and rapid urbanization rates, in which land is highly profitable for the state and foreign investors. The findings of this chapter show that land access for the urban poor in the global South is a matter of power inequality; thus, for land titling programs to be effective, it is necessary to pay attention to the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power in specific countries (Deininger and Feder 2009). Previous research in Cambodia has pointed out that the best way to stimulate investment and pro-poor economic development is to support a diverse range of tenure options, not only individual title. Within these options, research has proposed communal land rights and undertaken pilot projects around the country (ACHR 2017). This type of tenure arrangement has received support as a means to increase security without stimulating rapid increases in land prices, prevent downward raiding by higher-income groups, and avoid the displacement of very poor residents. In other cities of the global South, research has recognized collective mechanisms, such as community land trusts, as an alternative to individual titling and impacts of land speculation and market-based displacement of the urban poor (Algoed, Hernandez Torrales, and Rodriguez Del Valle 2018). These mechanisms do not have to be permanent; as Payne (2005) explains, they can be a temporary arrangement to support the urban poor in making a more manageable transition and gaining exposure to the formal land market (Payne and Durand-Lasserve 2013).

Furthermore, the research shows that, without proper financial training and support, title can make the urban poor vulnerable when entering the land and housing market. Thus, there is a need for titling programs to include additional measures such as financial training and economic literacy for the urban poor and collective financial mechanisms, for instance community development funds to incentivize financial protection, collective action, and support networks among the urban poor (Boonyabancha 2009). Further to this, the findings in this chapter point out the importance of empowering, supporting, and building the capacity of civil society organizations and urban poor communities to ensure their participation in land titling projects as well as delivering public education campaigns on land rights in areas targeted for SLR. These measures are additional steps that donors need to integrate into land titling programs in contexts of large-scale informality, weak governance, and rapid urban growth, like that of Phnom Penh (USAID 2011).

Examining issues of land beyond titling makes sense when contextualizing the contribution of land access to the SDGs, in particular the reduction of poverty (SDG 1) and inequality (SDG 10), as research has recognized these as multidimensional and structural conditions. A study on poverty lines that the International Institute for Environment and Development conducted in 2014 defined poverty as being deeply associated with structural conditions. The study identified 11 dimensions of poverty that extend beyond having access to land and housing, including a lack of access to proper finance and a lack of political voice and power. This multidimensional understanding of poverty highlights that it is essential for the well-being of the urban poor to secure land and housing. In fact, this is a key dimension that separates poor people into different levels of poverty, ranging from isolated homeless and scattered squatters to people living in more established and improved informal settlements. However, to reduce poverty through land interventions and contribute to achieving SDG 1 and SDG 10, these need to be coupled with interventions that address other key dimensions of poverty. The literature has recognized these arguments well and reported successful slum upgrading programs, such as Favela Bairro in Brazil and the Baan Mankong Program in Thailand (Fiori, Riley, and Ramirez 2001; Boonyabancha 2009). In addition, the World Bank's Land Governance Assessment Framework is a useful tool to assess the capacity of governments to undertake, implement, and enforce successful land titling and administration projects, taking into account their legal and institutional frameworks, land use planning, management and taxation systems, the management of public land, public provision and land information systems, and dispute resolution and conflict management mechanisms (Deininger, Selod, and Burns 2011). Using this tool can help donors and governments to look beyond title and engage with other key dimensions that need to be addressed for titling programs to succeed. In particular, this tool can support donors and governments in identifying key areas in need of reform that require strengthening before embarking on expensive funding arrangements for titling programs.

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Appendix: Household Characteristics

1. Household 1

Number of people:	4
Families:	1
Members:	Father, mother, daughter, son
Main occupations:	Moto driver, housewife, work at dental clinic, student
Estimated household income per month:	$130
Participant in saving group:	Yes
Tenure:	House owner/soft title

2. Household 2

Number of people:	8
Families:	2
Members:	Father, mother, 2 children Sister of mother and nephews
Main occupations:	Housewife, taxi, van driver
Estimated household income per month:	$800
Participant in saving group:	Yes
Tenure:	House owner/soft title

3. Household 3

Number of people:	4
Families:	2
Members:	Mother, father, son Nephew
Main occupations:	Housewife and shop owner, policeman, airport job
Estimated household income per month:	$400
Participant in saving group:	Yes
Tenure:	House owner/soft title

4. Household 4

Number of people:	4
Families:	1
Members:	Mother, father, daughter, baby
Main occupations:	Housewife, driver
Estimated household income per month:	$260
Participant in saving group:	Yes
Tenure:	House owner/soft title

continued on next page

Appendix *continued*

5. Household 5

Number of people:	4
Families:	1
Members:	Mother, father, son, baby
Main occupations:	Housewife, construction worker
Estimated household income per month:	$100
Participant in saving group:	Yes
Tenure:	Renter

6. Household 6

Number of people:	4
Families:	2
Members:	Mother, father, son, granddaughter
Main occupations:	Housewife, construction worker
Estimated household income per month:	$500
Participant in saving group:	Yes
Tenure:	Renter

7. Household 7

Number of people:	7
Families:	3
Members:	Mother, father, 3 children and their wives, 2 grandchildren
Main occupations:	Vegetable seller, moto-dub driver, housewife, electrician, military
Estimated household income per month:	$200
Participant in saving group:	Before yes/now no
Tenure:	House owner/soft title

8. Household 8

Number of people:	4
Families:	1
Members:	Grandmother, son, wife, grandson
Main occupations:	House, polish cars, garment factory
Estimated household income per month:	$280
Participant in saving group:	Yes
Tenure:	House owner/soft title

continued on next page

Appendix *continued*

9. Household 9

Number of people:	10
Families:	3
Members:	Mother, father, daughter, husband, baby, siblings, and family of 1 sibling
Main occupations:	Stay-at-home mother (previously cleaner, cook), vegetable seller, moto-dub driver, tuk-tuk and taxi driver
Estimated household income per month:	$300
Participant in saving group:	No
Tenure:	Living with parents who are house owners/ soft title

10. Household 10

Number of people:	10
Families:	3
Members:	Mother, 2 sons and daughters-in-law, daughter and son-in-law, grandchildren
Main occupations:	Food seller, tour guide, housewives
Estimated household income per month:	$500
Participant in saving group:	Yes
Tenure:	House owner with soft title, sister lives in a small house on the same plot of land

11. Household 11

Number of people:	5
Families:	1
Members:	Wife, husband, 3 children
Main occupations:	Grocery shop, military, and moto-dub
Estimated household income per month:	$500
Participant in saving group:	Yes
Tenure:	House owner/soft title

12. Household 12

Number of people:	10
Families:	4
Members:	Wife, husband, 3 children and families
Main occupations:	Retired/rental business
Estimated household income per month:	$1,000
Participant in saving group:	Yes
Tenure:	House owner/soft title

continued on next page

Appendix *continued*

13. Household 13

Number of people:	7
Families:	About 3
Members:	Grandmother, daughters, daughter-in-law, son, son-in-law, grandson
Main occupations:	Home sewing business, security guard, moto-taxi driver, garment factory workers
Estimated household income per month:	$400
Participant in saving group:	Before yes/now no
Tenure:	Land and house owned by son living in another place/soft title

14. Household 14

Number of people:	2
Families:	1
Members:	Husband, wife (children live with grandparents)
Main occupations:	Carpenter (previously wife worked in a restaurant)
Estimated household income per month:	$30 ($10 per day)
Participant in saving group:	Yes
Tenure:	House owner/soft title

15. Household 15

Number of people:	4
Families:	1
Members:	Husband, wife, 2 children
Main occupations:	Home poster printing business and rental business
Estimated household income per month:	$830
Participant in saving group:	Yes
Tenure:	House owner/soft title

16. Household 16

Number of people:	5
Families:	1
Members:	Husband, wife, 3 children
Main occupations:	Home business including coffee, sewing, and a shop, tuk-tuk driver
Estimated household income per month:	$200
Participant in saving group:	Yes
Tenure:	Living on subdivided land owned by her parents with soft title

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Appendix *continued*

17. Household 17

Number of people:	4
Families:	1
Members:	Husband, wife, 2 children
Main occupations:	Government worker, stay-at-home mother (previously she was a midwife)
Estimated household income per month:	$300
Participant in saving group:	Yes
Tenure:	House owner/soft title

18. Household 18

Number of people:	7
Families:	3
Members:	Husband, wife, 3 children, sister, brother
Main occupations:	Housewife, public company, restaurant, rental income
Estimated household income per month:	$1,050
Participant in saving group:	Yes
Tenure:	House owner/soft title

19. Household 19

Number of people:	4
Families:	1
Members:	Husband, wife, 2 daughters
Main occupations:	Housewife, military, Canadia Bank
Estimated household income per month:	$410
Participant in saving group:	Yes
Tenure:	House owner/soft title

20. Household 20

Number of people:	11
Families:	3
Members:	Aunt, nephew, niece, son, daughter-in-law, children, uncle
Main occupations:	Community leader Urban Poor Women Development, electrician, housewives
Estimated household income per month:	$525
Participant in saving group:	Yes
Tenure:	House owner/soft title/subdivided land for family members

continued on next page

Appendix *continued*

21. Household 21

Number of people:	4 (but live with 7 other people)
Families:	3
Members:	Husband, wife, aunt, 3 children, sister-in-law, brother-in-law, uncle
Main occupations:	Electrician, stay-at-home mother
Estimated household income per month:	$525
Participant in saving group:	Yes
Tenure:	Living in subdivided land of her aunt-in-law, investing in building her new house

22. Household 22

Number of people:	6
Families:	1
Members:	Husband, wife, grandmother, 3 children
Main occupations:	Real estate, electrician
Estimated household income per month:	$600
Participant in saving group:	Yes
Tenure:	House owner/soft title

23. Household 23

Number of people:	4
Families:	1
Members:	Husband, wife, 2 children
Main occupations:	Previously garment factory worker, now stay at home, car garage worker
Estimated household income per month:	$250
Participant in saving group:	No
Tenure:	Renting

24. Household 24

Number of people:	3
Families:	2
Members:	Husband, wife, nephew
Main occupations:	Street sellers
Estimated household income per month:	$600
Participant in saving group:	No
Tenure:	Renting

continued on next page

Appendix *continued*

25. Household 25

Number of people:	3
Families:	1
Members:	Husband, wife, child
Main occupations:	Learning sewing, tuk-tuk driver
Estimated household income per month:	$300
Participant in saving group:	No
Tenure:	Renter

26. Household 26

Number of people:	9
Families:	4
Members:	Grandmother, daughter and husband, children, son, and their families
Main occupations:	Cooking and selling food, grocery shop, shop sellers
Estimated household income per month:	$700
Participant in saving group:	No
Tenure:	Renters of land/live in basic structure as well as renters of house owned by landowner

27. Household 27

Number of people:	5
Families:	1
Members:	Wife, husband, 3 children
Main occupations:	Car mechanic, stay-at-home mother
Estimated household income per month:	$400
Participant in saving group:	No
Tenure:	Renters

28. Household 28

Number of people:	4
Families:	1
Members:	Wife, husband, 2 children
Main occupations:	Street vendors
Estimated household income per month:	$600
Participant in saving group:	No
Tenure:	Renters

continued on next page

Appendix *continued*

29. Household 29

Number of people:	3
Families:	1
Members:	Wife, husband, 1 child
Main occupations:	Taxi driver, garment factory
Estimated household income per month:	$500
Participant in saving group:	No
Tenure:	Renters

30. Household 30

Number of people:	5
Families:	1
Members:	Husband, wife, 2 daughters, 1 grandchild
Main occupations:	Garment factory, restaurant, tuk-tuk driver
Estimated household income per month:	$450
Participant in saving group:	No
Tenure:	Renters

9

Financing Transit-Oriented Development in the Cities of the People's Republic of China by Value Capture: Negotiating Better Public Infrastructure

Erwin van der Krabben, Jinshuo Wang, and Ary Samsura

9.1 Introduction

A recent World Bank report warns of the increasing problems of car-dependent urbanization (Suzuki et al. 2015, p. 2): "the problems of car-dependent urban development—congestion, air pollution, greenhouse gas emissions, lengthy commutes, and social inequality in accessibility—have been increasing in rapidly growing cities in developing countries." The People's Republic of China (PRC) is projected to have 900 million cars, or more than the number in the world today. The PRC's cities have recognized these problems and have already substantially invested in public transport solutions (metro rail, light rail, bus rapid transit, heavy rail transit) to reduce car dependency. In urban planning, transit-oriented development (TOD), aiming to optimize the use of improved accessibility of public transport nodes, has proved to be a successful strategy adding to a more sustainable and resilient urban development. To be effective, TOD policies usually benefit from integrated decision making with regard to land use planning, land policy, and transport planning. However, issues of governance and finance complexity often hinder integrated TOD decision making and investment strategies in rapidly growing cities in the PRC. Moreover, the need for urban transformation in relation to TOD will continue, and this will add new policy challenges.

In order to broaden financial sources of infrastructure development, privatization of urban infrastructure financing has become more common in the PRC, since a series of policies were released in 2001. Among these policies, integrated transport and land use development are encouraged as one alternative way to alleviate fiscal constraint of public transport. There is much evidence to suggest that transit-oriented development interacts with land value (Suzuki et al. 2013, Li et al. 2013). Increased accessibility has a positive impact on land and property value. Depending on the institutional context and the right instruments, (part of) the increment value can be captured by financial instruments to cofinance transport investment (van der Krabben and Needham 2008; Medda 2012; Muñoz Gielen, Salas, and Cuadrado 2017; Muñoz Gielen and van der Krabben 2019).

Partly as a response to the current transitional planning context, many PRC cities make use of innovative but often informal TOD and land management strategies to meet the demand of public infrastructure, finding ways to bypass formal procedures that act as a barrier to integrated investment decisions. In this chapter, we analyze the effectiveness of two innovative but informal—that is, not in line with current regulations—local TOD land management policies recently introduced in two cities in the PRC, respectively the "rail plus property strategy" (Shenzhen) and the "land reserve strategy" (Wuhan). Additionally, we aim to understand what institutional barriers prevent the wider use and the "formalization" of these strategies.

Our study is based on a literature review, interviews, and a focus group meeting. In 2017, we conducted 14 in-depth semi-structured interviews (1–1.5 hours) with experts (from the PRC) in spatial planning, economics, transport, land policy, and finance. Questions focused on the policies and practices of the PRC's TOD policies. The focus group meeting took place in Beijing in July 2018, with nine experts attending.

9.2 Transit-Oriented Development Strategies in the People's Republic of China

To alleviate car dependence and environmental problems, the PRC's cities have vastly invested in constructing and improving public transport systems, and have paid attention to the concept of transit-oriented development. Transit-oriented development characterized by high density, diversity, and compact development has been proved to be a feasible strategy to promote sustainable urban development by integrating land development and transit investment (Suzuki et al. 2013). Given the limited public finance and rapid urbanization trend in the PRC, the need to finance expensive transit infrastructure has become a

particular challenge to governments (Yang, Feng, and Cao 2007). There is plentiful evidence that urban transport has a positive impact on property values close to transit corridors in the PRC. Therefore, land-based value capture mechanisms can be an approach to cofinance public transport development (Doherty 2004; McIntosh, Trubka, and Newman 2014; Medda 2012).

As a way to promote urban sustainability, the concept of TOD has become more popular in the PRC. Mu and de Jong (2012) state that cities should meet certain conditions to make TOD work, such as pedestrian-friendly urban design, good governance, and high-quality transit services. Doulet, Delpirou, and Delaunay (2016) argue that the implementation of TOD has been hindered by the PRC's planning system, despite the opportunity to implement TOD principles, as a response to rapid urbanization and supported by relatively low levels of car use and high levels of public transport use. Zheng (2015) analyzed the challenges to apply TOD concepts in the PRC, including the misunderstanding of TOD as a concept itself and barriers from current planning regulations, administrative regulations, and financing mechanisms. To promote the effective implementation of TOD, several studies (Chen 2010, Su et al. 2014, Yang et al. 2016) have suggested improving the coordination between land use and transportation policies.

A number of empirical studies have started to identify possible solutions to the funding issue relevant to TOD faced by the authorities, based on the potential to capture land value increments resulting from public transport construction. According to empirical studies in cities such as Beijing, Guangzhou, and Nanjing—and in line with similar international evidence—the development of mass transit plays a positive role in the increase in the surrounding property values (Gu and Zheng 2010; Deng and Nelson 2013; Zhang and Wang 2013; Zhang et al. 2014; Li, Zhou, and Wu 2014; Sun, Wang, and Li 2016; Xu, Zhang, and Aditjandra 2016). So far, the betterment derived from public transport investment has not been effectively captured by local governments. Tian (2006) claims that the inability of the government to address the betterment and worsement issues will lead not only to constrained fiscal revenue for public services, but also to uncertainty in (local) land markets.

9.3 Land Management Policies

9.3.1 Dual Land Market

By its constitution, there is no private ownership of land in the PRC: all urban land is state-owned, and rural land is collectively owned by the villages (except the rural land owned by the state by law) (Liu and

Zeng 2019). The PRC's dual land right system refers to a situation in which there is both an urban system and a rural system in terms of land ownership, land market, and management. On the land market, urban land use rights can be transferred, while the state is the only provider of urban land use rights. Land for commercial use must be transferred through bidding, auction, or listing. Land conversion from agricultural use to urban use requires the transfer of land ownership from collective to the state. Land acquisition by local government is the only legal channel for implementing land conversion from agricultural to urban land.

The land rights system influences the governments' attitudes to land value capture instruments. First, the local government's monopoly on the primary land market puts these local governments in a strong position toward private developers. Thanks to the powers of the local authorities to acquire rural land of low value, local governments often give priority to greenfield development rather than redevelopment of built-up areas (which has led to low efficiency of urban land use in many of the PRC's cities).

9.3.2 Land Leasing System

Land leasing is the common way for local governments to capture land value in the PRC. Local governments have economic and political incentives resulting from fiscal decentralization and governance centralization to convert rural land to urban use (He, Zhou, and Huang 2016; Lichtenberg and Ding 2009). The revenue generated as extra-budgetary revenue is used to pay for local public infrastructure development, but there is usually no direct link between the lease required for a given plot of land and the infrastructure provided for that plot (Ingram and Hong 2012). Since the introduction of a land use right system in the late 1980s in the PRC, public land leasing activities have grown considerably. As local governments monopolize land supply on the primary land market, they have the power to control local land markets. Local authorities lease land parcels for commercial use through tender, auction, or listing; developers receiving the land pay the land transfer fees in a lump sum, which accounts for the major proportion of land revenue for local governments in the PRC.

Land finance is a significant type of fiscal revenue strategy for local governments to raise revenue through land leasing and land tax in the PRC. Land transfer fees have increased noticeably from CNY129.59 billion in 2001 to over CNY3,560 billion in 2016. Most land revenues are used to finance the development of urban public infrastructure (Lin 2007). Fan, Zheng, and Shi (2016) report that CNY2.59 trillion in land transfer fees has been spent on public infrastructure during

the period from 2008 to 2012. However, Zheng, Wang, and Cao (2014) argue that the land finance model causes inefficient land use and social problems and jeopardizes the PRC's sustainable development. It leads to oversupply of land, increases inequality in income between cities, and is based on a questionable compensation mechanism for the original users of the land (Liu and Jiang 2005). Moreover, the system primarily seems to facilitate urban greenfield expansion, while it is doubtful whether the increasing demand for urban regeneration—often in a context of complex, fragmented property rights—can be financed in a similar way.

9.3.3 Land Tax

In the PRC, there are three types of land-related taxes imposed on urban land: (i) land value-added tax, (ii) land use tax, and (iii) real estate tax. Land value-added tax is collected at the stage of land acquisition and transaction; the urban land use tax and real estate tax are collected from the owners. Land value-added tax imposes tax on the increment of land value from the land or property transfer. The amount of tax is assessed on the basis of land increment and implements four super progressive rates. Urban land use tax imposes tax on the use of urban land. The amount of tax is assessed on the basis of the land area occupied by the taxpayer. Urban real estate tax resumes the tax on the holding and leasing of urban buildings. It mainly applies to properties leased to foreign enterprises.

Present taxes on urban land and property generate, however, limited revenue for local governments. Several authors have claimed that the limited revenue from land-related tax is caused by unreasonable rates and assessing approaches, which lead to problems of social inequity (He and Zhu 2004). Furthermore, Man (2012) reveals a number of crucial problems of the current land tax system, including instability, too much focus on the transaction, limited options to tax owners, and improper appraisal methods.

9.3.4 Public–Private Partnership in Urban Development

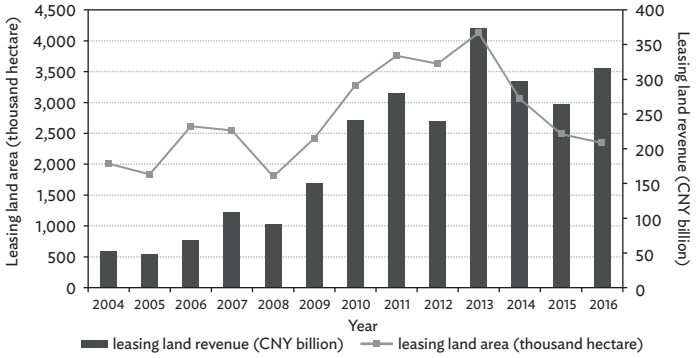
Public–private partnership (PPP) was officially embraced by the PRC government in 2001 when the Chinese National Planning Committee issued the policy note "Suggestions to Promote and Guide Private Investment." Since then, a series of policies have been released to promote the involvement of private capital in financing public infrastructure development. It has become increasingly popular that local authorities cooperate with private investors to promote urban development in the PRC. Consequently, private investors increasingly

play a role in supporting urban infrastructure development in many of the PRC's cities. Cheng et al. (2016) found that the PRC's PPP projects have undergone four stages influenced by the macro investment environment and PPP regulations. From the perspective of the private sector, the reliability of local governments is crucial to the success of PPP projects.

9.3.5 Developer Contributions

Infrastructure contributions specified in the land concession contract in the PRC are not the same as the developer obligations elsewhere. In the PRC, these contributions are a result of the municipal government conditioning the land concession contract before tendering in the context of state ownership of land (Liu and Zeng 2019). According to Liu and Zeng, the common practice of infrastructure contributions in the PRC is rigid. The role of the planning authority is predominant. The specific contributions and the floor area ratio (FAR) are determined at the planning stage of the regulatory detailed plans, at which the developers are not involved. To the developers, more contributions mean higher costs or lower profit under the fixed FAR. The only flexibility that they have to manage the higher costs is the bidding price for the land concession contract. If the required infrastructure contributions are more extensive, the developers would tend to bid lower prices for the contract.

Figure 9.1: Revenues from Land Leasing and Amount of Land Leased in the People's Republic of China, 2004–2016



Source: China Land and Resources Bulletin 2004–2015.

9.4 Institutional Barriers to Implementing Transit-Oriented Development Policies

As we argued above, to be effective, TOD policies benefit from an integrated approach toward land use planning, land policy, and transport planning. However, three main institutional barriers currently prevent such integration in the PRC.

9.4.1 Unsupportive Planning Regulations Leading to Separate Transport and Land Use Development

The planning system lacks planning regulations that are conducive to TOD principles. For instance, mixed-used land development is obstructed by the diverse leasing terms of different land use types. Second, there are no national planning regulations that encourage high-density development in transit areas and/or prioritize TOD compared to non-transit-oriented development. Although the national government has issued policies to encourage integrated transport and land development, those policies are not compulsory. As one interviewee noted: "Some policies on transit-oriented development have been issued by central government, but they are just suggestions" (Interviewee 5). In addition, one expert observed in the focus group meeting:

> [T]he TOD concept was introduced to Chinese cities since the expansion of urban rail. Since then the TOD concept has been promoted for instance by the World Bank in Kunming and Nanchang. However, this is just TOD version 1.0 with little value capture due to the barriers from building regulation such as FAR and other codes.

Whereas local authorities have attempted to develop their own types of TOD under the absence of national standards, the practices may result in transit adjacent development. As one interviewee remarked: "Many people talk about TOD in [the People's Republic of China], and consider the high-density building blocks around the railway station as TOD. Nonetheless, *it is just TAD*" (Interviewee 13.) Underlying these types of development is the philosophy of growth-oriented development, which regards urban planning as a tool to promote economic growth (Wu 2015). Some participants in the focus group meeting argued that many high-speed railway stations are located at the edge of cities without efficient connections to the city center. The assumption is that land development will happen automatically within the transit area.

9.4.2 Limited Value Capture Instruments under Current Land and Financial Situation

Given that local authorities have monopoly power of land acquisition and transfer in the first-level land market, land leasing has been the main approach for local governments to capture land value increment in the process of rapid urbanization (Tao et al. 2010). Additional to land leasing, the "rail plus property" strategy has been tentatively practiced in several cities through cooperation among public sectors, transit companies, and developers (Suzuki et al. 2015). The characteristics of these two value capture mechanisms are described by one interviewee:

> "The first approach is that local authorities acquire and reserve the land before the building of public transport, and then they sell the land to developers by tendering, listing or auction. Therefore, the land transfer revenue actually is the land value increment that is captured by local governments. Another way is to allocate the land along the metro line to urban metro companies by local governments, while the metro companies take charge of property development and receive revenue from property sales. Compared with land leasing, the metro companies benefit from two parts of land value creation including the land transfer fee and property development benefits, since they obtain the land at a relatively low price through land allocation (Interviewee 10).

Despite the experimental implementation of joint development in some cities, transit companies find it difficult to acquire land parcels through competitive land tendering.

Apart from these two financial mechanisms, few instruments for value capture are feasible for transport development. Firstly, effective tax-based instruments are still lacking due to the absence of a national real estate tax system in the PRC. Secondly, urban planning and the land transfer system hinder the use of development-based instruments without specific regulation conducive to integrated transport and urban development.

9.4.3 Inefficient Governance without Clear Rules

Two main governance approaches correspond with current value capture instruments in the PRC: transit private-led and public-led governance approaches. In both approaches, the public agencies take charge of land planning and transfer. However, one problem with

these governance approaches is that it may be costly to coordinate different public agencies, given the lack of an effective coordination system. First, the divergent priorities of local and regional authorities may lead to problematic regional coordination. As an example, the construction of the intercity railway system in the Pearl River Delta was referred to in the focus group meeting: "Many cities want to build a railway system directly connected to the Shenzhen railway system, but negotiations by local authorities failed due to different priorities, despite the provincial level coordination mechanism." Quite similar to regional coordination problems, interdepartmental level coordination problems on the municipal level are quite common as well.

It has become increasingly difficult for local authorities to acquire land parcels. Under the current institutional arrangement, local communities are not included in the decision-making process. Private developers are reluctant to invest without clear rules delineating the terms and incentives such as density bonuses. There is also concern about equity issues with regard to land acquisition.

9.5 Two Case Studies of Local Transit-Oriented Development Policies

Within the current institutional context, the PRC's cities must be creative to bypass present regulations in order to implement more effective land value capture mechanisms as a financial source for successful TOD. Two cases in Shenzhen and Wuhan illustrate this well.

9.5.1 Rail Plus Property Strategy, Shenzhen: The Shifting Rules of Land Acquisition

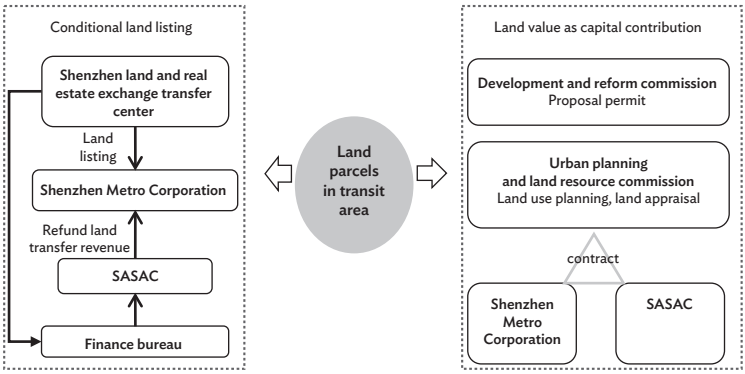
As the first economic zone in the PRC, the Shenzhen special economic zone (SEZ) was established in 1980. It receives the central government's policy support on economic development. In 1992, the Standing Committee of the National People's Congress granted Shenzhen municipality the power to enact local laws and regulations. In 2010, the Shenzhen SEZ was expanded to the whole area of Shenzhen; it was considered a showcase of the PRC's reform and opening up. At the same time, Shenzhen has been a pioneer in the PRC's land policy reforms (Shen and Xu 2012). Shenzhen municipality enacted the Plan of Land Management System Reform in Shenzhen in 2012, allowing land use rights to be used as municipal investment shares. With the support of the central government, Shenzhen has the chance to experiment with innovative land value capture instruments for public transport investments.

To alleviate fiscal constraints, the "rail plus property" strategy was adopted by Shenzhen Metro Corporation and Shenzhen municipality, following Hong Kong, China's practice (Yang et al. 2016). By 2016, the Shenzhen metro system had seven metro lines in operation with a length of 265 kilometers (km) (not including the Longhua line). Shenzhen plans to build another six lines with a length of 257 km, requiring an investment of about CNY200 billion (SZMC 2016). Most of the metro lines are constructed and operated by the Shenzhen Metro Corporation (SZMC), which is a state-owned company. In 2013, the department of property development in the SZMC was established to take charge of property development and management around metro stations. By the third quarter of 2017, 3 million square meters of property projects were under construction, and property sales reached CNY42 billion (SZMC 2017b).

In order to ensure that the SZMC can acquire land parcels for joint development, Shenzhen municipality has taken creative measures. Land acquisition took place in two phases. From 2008 to 2012, conditional land tendering was applied, which required the bidders to have the qualification of being able to construct and operate metro lines. By 2012, the SZMC had obtained land parcels of 18.45 hectares through conditional land tendering (SZMC 2012). Moreover, the "Plan of Land Management System Reform in Shenzhen" empowered Shenzhen municipality to transfer land parcels as investment shares in 2012. The Urban Planning and Land Resource Commission is responsible for evaluating land parcels. The contract is signed by the SZMC, the Urban Planning and Land Resource Commission, and State-Owned Assets Supervision and Administration Commission (SASAC). Shenzhen municipality plans to prepare another 2.18 million square meters of land for 14 real estate projects with the total building area reaching 6.93 million square meters (SZMC 2017a).

Furthermore, in order to promote TOD, Shenzhen kept revising "The Standards and Guideline for the Urban Planning of Shenzhen" in 2012, 2014, and 2017. It encourages mixed land use in the transit area and has modified the land use classification by adding the mixed land use provision. For instance, the guideline regulates detailed FAR for the transit area by dividing the influence area of metro stations into two distance bands: the 200 meters inner band and the 200–500 meters outer band. The FAR bonus in the inner band of hub metro stations can be as high as 60% of base FAR, and 40% of base FAR in the outer band; for secondary stations, the density bonus decreases to 40% and 20%. To improve governance efficiency, the land department and urban planning department have been merged in Shenzhen into the Urban Planning and Land Resource Commission, taking integrated responsibility for land use planning, urban planning, transport planning, and land transfer (see

Figure 9.2: Shenzhen's Rail Plus Property Strategy



SASAC = State-Owned Assets Supervision and Administration Commission.
Source: Authors.

Stillman and Bharule [2020] for more on the efficiency benefits of the governance of integrated commissions).

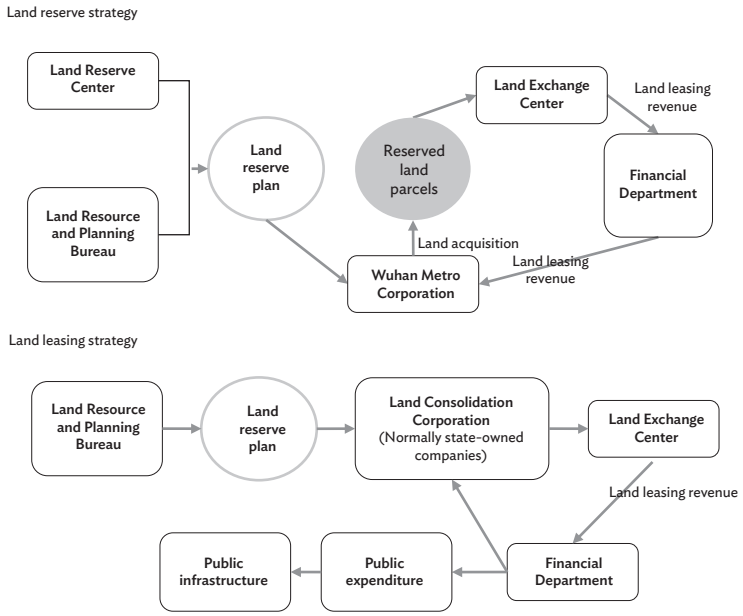
9.5.2 Land Reserve Strategy, Wuhan

The city of Wuhan operates 10 metro lines with a length of 288 km and plans to build 6 additional lines with a total length of 110 km in 2021 (Wuhan Metro Corporation 2017). According to the construction plan approved by the National Development and Reform Commission in 2015, Wuhan municipality wants to invest CNY45.96 billion in urban railway development from 2015 to 2021 (DRC of Hubei Province 2015).

A so-called land reserve strategy has now been utilized by Wuhan municipality to finance the expensive rail transit development (Sun et al. 2017). As part of this strategy, the Wuhan Metro Corporation is responsible for land acquisition and consolidation; subsequently, land parcels will be transferred to developers by the land exchange center (which is a public agency). After land leasing, the revenue will be allocated to the Wuhan Metro Corporation for urban rail transit development.

Although the process of the land reserve strategy is in some respects similar to the common land leasing strategy, two significant differences appear. First, in the land leasing strategy, land acquisition is normally done by state-owned companies that have the expertise in land consolidation,

Figure 9.3: Wuhan Land Reserve Strategy for Transport Investment versus the Common Land Leasing Strategy in the People's Republic of China



Source: Authors.

while as part of the Wuhan land reserve strategy, the transit company takes charge of land acquisition for land reserve. Second, the revenues from land leasing simply go into the public financial pool for general public infrastructure investment, whereas the revenues from the land reserve are discretely earmarked for the metro line's development.

The advantage of this approach is that it meets the requirements of the land transfer policy in the PRC. Several cities including Ningbo, Qingdao, and Hangzhou have issued similar policies to support experiments based on the principles of this land reserve strategy (Hangzhou Municipality 2017). However, it is challenging to apply this strategy in other cities, given the difficulty of land acquisition and unsustainability of funding source. In addition, the construction and maintenance of the urban metro systems require sustainable funding sources in the longer term, while revenue from the land reserve is a lump-sum profit.

9.5.3 Discussion

These experimental practices illustrate the innovative approaches adopted by some PRC cities to promote joint development of transport and land, with the central government's support. While the strict land auctioning rules in the PRC's land marketization policy prevent cities from an integrated TOD policy, the two cases demonstrate how they can find a path through these rules. Nevertheless, the current situation is not without problems. Integrated TOD, led by metro corporations, requires that metro corporations have sufficient expertise in real estate development. This expertise is questioned by some of our interviewees. Even though transit companies can get land plots for property development, their ability to develop and manage property has been questioned, as one interviewee commented: "Most of the transit companies in Chinese cities are state-owned companies in [the People's Republic of China], which are not managed in a transparent and clear way like the MTR Corporation in [Hong Kong, China]" (Interviewee 13). Given the inefficiency of property development by metro corporations, some municipalities have changed their strategy. They preferred to lease land to private developers and invest land leasing revenues in public transport development rather than leasing land to the metro corporation directly (Interviewee 14).

Other interviewees question the transit companies' willingness to promote the integration of transport and land development. Several interviewees note that "Most urban railway companies are state-owned companies and receive a great amount of subsidy from local governments for urban rail maintenance and operation. Therefore, they do not have much incentive to adopt value capture instruments by integrating transportation with surrounding land use" (Interviewees 5, 14).

9.6 Conclusions

The need to cope with a changing political or economic environment such as the transitional processes in the PRC may lead to an increase in informality due to the incapability or unwillingness of the state to implement formal institutions (Altrock 2012, Kreibich 2012). Informality has become an effective strategy by the public sector in the PRC to deal effectively with changing situations (Webster et al. 2016). Different from informality by civil society, informality in this chapter refers to processes in which planning decisions are made by public authorities either based on criteria that are not explicitly defined in regulations or through flexibly interpreting formal rules to match changing situations and

reach certain goals. Moreover, it is suggested that formal and informal approaches are interrelated, indicating the rationale of calculating the informality degree.

Since the economic reform in the late 1970s, the PRC has been experiencing continuous processes of decentralization, marketization, and globalization, which have allowed local governments to actively initiate policies for local economic growth (Wei 2001), while spatial planning governing social-spatial changes has been utilized as an instrument to promote growth by the central and local authorities (Wu 2015, Wu and Hong 2017). Whereas the PRC's planning is proactive toward its growth agenda, it faces numerous challenges to (effective) urban governance, such as the emergence of urban villages, demand for infrastructure, and land management (Cao, Feng, and Tao 2008; He, Zhou, and Huang 2016; Li 2015; Lichtenberg and Ding 2009). Formal planning institutions often are incapable of dealing with these new challenges in a proper way.

In response, local governments have attempted to bridge the gap between these new challenges and the formal institutions in this transitional period by innovative but informal planning approaches. This effort appears to be a process of social learning through widely observed instances of trial and error (Helmke and Levitsky 2004). Hence, informality has been utilized to achieve, for instance, the goals of economic development and public infrastructure provision. As commented by Altrock (2012), the strategy of "conceded informality" is used by state organs at the national and provincial levels not only to respond in a flexible way to upcoming challenges, but also as an experimental tool to grant some autonomy to local authorities to try different approaches to see which work best. Although the experimental approach to the implementation of innovative land management and land-based value capture mechanisms for TOD undoubtedly offer new chances for additional revenue for the PRC's cities, the institutionalization of these mechanisms still seems to lag.

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PART IV

Toward Equitable Land Use for Infrastructure

10

Land Acquisition in Indonesia and Law No. 2 of 2012

James Guild

10.1 Introduction

Compulsory land acquisition has been a major impediment to economic development in Indonesia, often delaying major infrastructure projects for years. Prior to 2012, the legal authority and procedure through which the state could acquire land were both unclear and contradictory. Lacking a legal framework that provided the process with certainty and legitimacy, land acquisition in years past has often triggered accusations of state coercion, intimidation, and human rights violations. In 2012, the Indonesian legislature passed a landmark bill called Law No. 2 of 2012 on Land Acquisition in the Public Interest. It conferred on the state the legal authority to acquire privately held land for the purpose of economic development, and it established a statutory process for the determination of compensation, as well as clearly defined procedural requirements and deadlines for all parties involved. This has resulted in the acceleration of many long-stalled infrastructure projects and has ensured that the outcome of compulsory land acquisition is generally more equitable, although there are some deficiencies in the legislation that are likely to require further reform.

This chapter will begin with a discussion of land use law in Indonesia, focusing on the historical reasons for land acquisition constraining development efforts. It will then move to a comparative analysis of two case studies, the Lombok International Airport and the New Yogyakarta International Airport (NYIA). The Lombok Airport project began in the 1990s and therefore did not have the benefit of Law No. 2 of 2012, while the NYIA project began in 2014 under the authority of the new law. A qualitative analysis of both projects reveals important ways in which the law has changed the process of compulsory land acquisition in Indonesia. As the analysis shows, the law ensures that compensation

for registered titleholders is fairer now than it was previously. The procedural requirements that the law mandates have also accelerated the process while creating mechanisms through which titleholders can contest the will of the state. The chapter concludes by discussing the policy implications of these findings and highlighting some areas of potential reform, such as compensation for nonregistered titleholders and intangible losses.

10.2 Land Use in Indonesia

A broad range of legal traditions have evolved over time throughout the Indonesian archipelago, including both customary legal traditions and a civil law system inherited from the Dutch colonialization (Lindsey and Santosa 2008). Efforts to reform this system of overlapping customary and civil laws and eliminate redundancies have only seriously been underway since the fall of the authoritarian New Order in 1998. The capacity of local courts in Indonesia still varies widely, and rulings are often vulnerable to political pressure or corruption rather than sound legal reasoning. However, with the judiciary now being somewhat autonomous, recent scholarship has found that the institutional capacity of the courts is slowly improving and that they are making some legal decisions according to the letter of the law rather than political expediency (Butt 2014). This is the context in which land use law has developed in Indonesia, and it highlights the importance of Law No. 2 of 2012 in bringing clarity to a legal landscape that has long been confusing and contradictory.

Basic Agrarian Law No. 5 of 1960 governs the use of land in Indonesia. It established that land is a gift from God for the benefit of the Indonesian people and that society empowers the state to serve as the custodian of that land and regulate its use in the public interest (Hutagalung 2015). The law created a class of freehold title known as *Hak Milik*, but in practice this official title continued to overlap with customary land claims. Prior to the post-1998 reform era, when the state wished to expropriate land for development, the executive branch would selectively invoke its legal authority stemming from the Basic Agrarian Law to acquire the land that it desired. The procedure through which the state could acquire land was vague, referencing the need for consensus without specifying how to achieve it. The state was otherwise content to let customary law govern land use at the local level, and little effort was made to clarify or improve the titling records (Lindsey and Santosa 2018).

The Basic Agrarian Law thus proved to be inadequate, with the state employing and enforcing it selectively throughout the country and often overwriting it with sectoral laws and ministerial decrees that

eroded its legitimacy and did little to clarify issues of legal hierarchy or overlapping land titles. To complicate the statutory landscape further, President Suharto issued Presidential Decree 55 of 1993, which established a procedure via executive fiat for determining and paying compensation to landowners when the state deemed the use of the land to be in the public interest. The government never codified this into law or ratified it in the legislature; it merely emanated from the president, who in practice was the final authority on judicial matters at that time.

The precise definition of public interest, as well as what constituted fair compensation, was left open to interpretation, and government officials alone determined compensation, minimizing the participation of local landowners in the process. There was no legal recourse for landowners to appeal the state's decision, and, as titling records were often incomplete and poorly kept, it could be difficult to establish proof of true legal ownership. In practice, landowners often felt compelled to accept whatever compensation the government offered under coercion from the police or military. Decentralization in the post-1998 period further fractured this system of land governance. The authority for land governance devolved to local officials, but questions remained about how exactly this division of authority would work in practice (Hutagalung 2015).

One major obstacle was that the central government needed to develop and implement a national economic agenda but had to rely on local officials to execute the details, such as approving land deals. This created opportunities for rent seeking at the local level and generally mismatched incentives (Nasution 2016). It resulted in a serious log jam during the presidency of Susilo Bambang Yudhoyono (2004–2014), as the process of land acquisition became so complex and cumbersome that it caused major infrastructure projects like toll roads to stall (Davidson 2015).

Faced with these obstacles and equipped with inadequate legal tools to overcome them, President Yudhoyono began recentralizing the legal authority over land governance at the national level. These efforts ultimately produced Law No. 2 of 2012 on Land Acquisition in the Public Interest. This law, which supersedes previous executive and ministerial decrees in terms of legal hierarchy, was the first statutory revision to the land acquisition law since the Basic Agrarian Law of 1960. While it significantly enhances the state's power to acquire land in the interest of national development, it contains several procedural safeguards designed to protect landowners and ensure a more equitable outcome than previously existed.

Law No. 2 of 2012 mandates several clearly defined procedural stages, including a public outreach and discussion period prior to the

issuance of a location permit.[1] During this phase, a team, which includes the head of the local branch of the Ministry of Law and Human Rights, as well as independent academics, must mediate disputes. The intention is to give civil society a greater voice in challenging or even opposing the unilateral interests of the state regarding project development.

It also establishes a legal mechanism for resolving disputes related to the legitimacy of the state's right to expropriate the land, first passing through the State Administrative Court before reaching a final chance to appeal to the Supreme Court. It is also possible to challenge the amount of compensation at the district court level, with the option of appealing to the Supreme Court. Each leg of the legal process has clearly defined deadlines for rendering decisions, although, given that the capabilities of courts in different parts of the country can vary widely, this does not ensure that they will return a decision on time, and previous research has characterized the process as a "leap of faith" (Davidson 2015).

Article 1.10 of the law states that the appraised value of the land must reflect "adequate and fair compensation to the entitled party." An independent third party is responsible for appraising the land at the time of issuance of the location permit, and the appraisal must include valuations for the land, the space above and below ground, structures, plants, and objects as well as other intangible losses, such as loss of income. The law states that compensation may take the form of cash payment, replacement land, resettlement, or share ownership in the development project. However, the law explicitly states that cash payments will be privileged, and officials at the National Land Agency (*Badan Pertanahan Nasional*, or BPN) stated to the author that almost all claims have been settled on a cash basis, as there is a perception that land banking arrangements are too complex and difficult to implement in practice.[2]

Licensed appraisers must carry out the appraisals, according to the standards that the Indonesian Society of Appraisers (*Masyarakat Profesi Penilai Indonesia*) have established, specifically SPI (*Standar Penilaian Indonesia* or Indonesian Assessment Standard) 306, which mandates the appraisal of land at its "fair replacement value."[3] The Asian Development Bank (ADB) conducted a gap analysis of this standard, comparing it with its own appraisal standards to gauge whether it conformed to best

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1 An unofficial English language translation of the law can be found at http://www.flevin.com/id/lgso/translations/Laws/Law%20No.%202%20of%202012%20on%20Land%20Acquisition%20for%20Public%20Interest%20Development.pdf (accessed 1 December 2020).

2 Author interview with BPN officials in Jakarta, 22 January 2019.

3 The technical specifications of this standard can be accessed at https://www.mappi.or.id/files/1405998014-ED_Juknis_SPI-306_200714.pdf

practices, and found SPI 306 to be "in line with the replacement cost principle set forth" by ADB (ADB 2017). SPI 306 allows appraisers to employ a combination of cost, income, and market valuation methods in determining a fair replacement value. As the case study of the NYIA below indicates, in practice, appraisers have relied mainly on the market value of comparable land in determining compensation and have struggled to reach valuations in the more complex appraisal of intangible losses.

The new law also guarantees that landowners retain title to their land until they receive compensation (or until the government deposits the compensation with the court in the case of consignment). The law is a compromise that seeks to make outcomes more equitable for landowners while imposing a maximum 3-year deadline on the process to speed up projects, clarify procedural requirements, and improve the regulatory and investment climate. Shortly after it was passed, the law received a challenge in the Constitutional Court, which ruled against the complaint, adding another layer of legitimacy. In tandem with the law, President Yudhoyono also implemented reforms at the BPN, pushing it to update, digitize, and record land titles more accurately (Schreiber and Schneider 2017).

The following case studies will analyze the impact of these legal and bureaucratic reforms on the process of compulsory land acquisition in Indonesia.

10.3 Lombok International Airport

The Lombok International Airport in Nusa Tenggara Barat (West Nusa Tenggara) offers an incisive look into the process of land acquisition during the late New Order, prior to the existence of Law No. 2 of 2012. Beginning in 1995, the Suharto government began developing a new international airport in Lombok. Bali was already a popular destination for tourists and foreign investment, and the expectation was that the trend would spill over to the neighboring island of Lombok.

The project commenced as a wave of investment hit the region. The 800 hectares targeted by the state-owned airport operator Angkasa Pura I for the airport was a small portion of the thousands of hectares that big developers were acquiring at the time. These developers, including the Lombok Tourism Development Corporation, which President Suharto's son partially owned, were able to acquire land from locals at far below the market price, often using state security forces to coerce landowners into accepting unfavorable terms (Dibley 1996).

Amid this general investment frenzy, Angkasa Pura I invoked the authority of Presidential Decree No. 55 of 1993 to begin acquiring 800 hectares in Central Lombok Regency. As a Presidential Decree, in

theory it had less hierarchical authority than a law that the legislature had passed, such as the Basic Agrarian Law of 1960. However, in practice, during the New Order, such decrees had the full force of the law and the government often enforced them using the coercive power of the state's security apparatus. The decree established a one-sided and unilateral process for acquiring land, mandating the creation of a compensation team that consisted entirely of government officials and allowed the provincial governor to be the final arbiter of disputes. There was no recourse for legal appeals, and the judiciary during the New Order was a highly co-opted branch of government that tended to serve the interests of the president.

In 1995, government officials began acquiring land for the airport. Team 9, which was responsible for determining compensation, did not include any local community members or civil society organizations. In a series of three public meetings held in June and July 1995, they first offered local landowners IDR1,500 per square meter for their land. Villagers reported later, in interviews about the experience, that in the third and final meeting in July, they received a take-it-or-leave-it offer of IDR2,000 per square meter and felt coerced into accepting these terms as state security personnel accompanied Team 9. The local regent, subdistrict, and village heads also pressured landowners to accept the deal (Zaenudin 2013).

An investigation that the Ministry of Law and Human Rights conducted later concluded that the state had coerced landowners into accepting inadequate compensation ranging between IDR2,000 and IDR2,200 per square meter and that it subjected those who refused to jail and violence (*Lombok Post* 2016). This inequity was compounded as dispossessed and former landowners watched real estate values subsequently rise, driven by rampant speculation and development. In 2001, the land prices in east Lombok had reached IDR120,000–160,000 per square meter (Fallon 2001). By 2010, the prices had reached approximately IDR200,000 per square meter (Cassrels 2010). As a point of comparison, IDR2,000 in 1995 was equivalent in value to IDR15,700 in 2018, or a little over $1.[4]

The issues related to the acquisition of land from the mainly Sasak ethnic community at below market value and the use of intimidation and violence soon became even more complicated when the Asian financial crisis forced the government to suspend the project indefinitely. The affected community, some 7,000 people, continued to occupy and live on the land during the intervening years as the future of the project remained uncertain. With the revival of the project in 2005, these

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[4] Calculated using historical exchange rates and using a rate of IDR14,500 to $1 in 2018.

issues returned, and the legacy of intimidation and unfair compensation resurfaced. The government was intent on continuing with the airport project and sought to clear the landowners from the area once again. However, as the ex-landowners felt that the initial process of land acquisition had been neither fair nor conducted in good faith, these efforts provoked an intense backlash from the local community.

Thousands of local people were strongly opposed to the project, and the confused web of jurisdiction and responsibilities relating to land use in the post-New Order period impeded a decisive resolution. In September 2005, about 1,000 farmers turned out to protest against the project in an event that the National Police had permitted. Just before the event, the National Police revoked the permit, and the Central Lombok Regional Police declared the gathering illegal. In the scuffle that followed, at least 35 farmers and two police officers suffered injuries, including gunshot wounds (*Detik News* 2005). Clashes between farmers and police continued into 2006, resulting in numerous injuries (Hakim 2006).

In an effort to resolve the situation, Angkasa Pura I eventually paid an additional IDR5.4 billion in "peace money" to local farmers as compensation for the violence that had occurred between 2005 and 2006. Landowners who were involved in the process have reported that, to them, the matter was not merely one of financial compensation and relocation but was about "leaving their life history" (Zaenudin 2013). Construction finally began in January 2008 and finished, many months behind schedule, in October 2011. The airport sits on 551 hectares of land, and the total project cost was IDR945.8 billion, which Angkasa Pura I primarily financed (Bustanuddin 2011).

The Lombok International Airport project highlights several critical issues related to land acquisition in Indonesia and its evolution over time. First, it reveals how, under the New Order, the state leveraged its coercive power to serve the interests of big developers with close ties to Suharto. The compensation that it offered to acquire land for the airport project was well below the market value, and a campaign of intimidation as well as the perceived illegitimacy of the process ensured that farmers had little choice but to accept the terms that the state offered and then watch as the land values appreciated rapidly in the following years.

The end of the New Order, rather than providing clarity, exacerbated the confusion, as the division of responsibilities between different stakeholders and levels of government became blurred, leaving no single authoritative institution or statutory process to resolve the issue conclusively. This resulted in several years of protracted conflict, often escalating into violent confrontations. In total, the project began in 1995 and finally ended in 2011, taking 16 years from start to finish.

10.4 New Yogyakarta International Airport

The New Yogyakarta International Airport (NYIA) is the largest Indonesian airport development since the passage of Law No. 2 of 2012. It thus offers an excellent example for comparative analysis, as it is possible to contrast the ways in which this project used the law from the previous case to identify the impact of the new legislation on the process of compulsory land acquisition. The Special Administrative Area of Yogyakarta (*Daerah Istimewa Yogyakarta* or DIY) is a semi-autonomous province located adjacent to Central Java. It is a center of high Javanese cultural and historical significance, a major tourist destination, and a highly productive agricultural area.

Before the new airport opened, Adisutjipto International Airport served Yogyakarta. That airport, which is technically an air force base, has a capacity of around 1.5 million passengers. It currently receives around 7 million passengers per year, placing it far over capacity. The size of the runway and the lack of facilities and apron space limit both the number of flights and the size of the aircraft that can land. There are currently only limited international flights from Kuala Lumpur and Singapore and no direct international flights to Australia or Europe.

To boost tourism and commerce, the government began developing a site in the Kulon Progo Regency for a new international airport around 2013. It identified approximately 587 hectares of land for acquisition for the airport, planning the future development of an adjacent commercial center. The expectation is that the airport will be able to handle 15 million annual passengers initially, with multi-phase plans for expansion until 2040.

On 5 September 2014, the governor of DIY, who is also the hereditary sultan, issued Gubernatorial Decree Number 89/TIM/2014 authorizing the formation of a land procurement preparation team for the development of the NYIA. The issuance of this decree occurred, as Law No. 2 of 2012 mandated, following a procurement report from Angkasa Pura I specifying the site and size of the land needed, a statement of purpose, the budget, the estimated land values, and a rough timeline for construction. The preparation team collected preliminary data on those whom the procurement affected and then conducted public consultation and outreach meetings with the community.

According to court documents and media reports, the outreach period began on 23 September 2014 with a series of meetings held on successive days in the five villages that would be affected by the proposed project. These meetings were contentious. *Wahana Tri Tunggal* (WTT),

a farmers' association and the primary leader of the opposition, later claimed in a court filing that police had blocked members from attending the 23 September event.[5] This prompted the Regent of Kulon Progo, Hasto Wardoyo, to adopt a more hands-off approach to the public consultation meetings, during which residents who could prove that they had legal title to land in the area attended a one-hour informational presentation and then had to register either their agreement with or their opposition to the plan. Hasto referred to this as a policy of "minimal handling" to avoid escalating conflict (Natalia 2014).

On 31 March 2015, the governor of DIY issued the Determination of Location Permit based on the report submitted by the preparation team.[6] The location permit had an initial validity of 2 years, with a maximum 1-year extension; thus, Angkasa Pura I had the obligation to complete the remaining steps in the land acquisition process (including settling all legal challenges via the court and appeal process, appraising and remeasuring the site to determine fair compensation, and acquiring title to the land) within a firm 3-year window or it would lose its location permit. Incorporating the lessons learned from a long history of delays related to land acquisition, Law No. 2 of 2012 ensured hard deadlines for every step of the process, and, as soon as the permit was issued on 31 March 2015, it triggered a 30-day countdown for affected parties to appeal the decision at the State Administrative Court of Yogyakarta, which a group of some 40 farmers that WTT represented did.

On 23 June 2015, the State Administrative Court of Yogyakarta ruled in favor of the farmers, placing the future of the project in doubt.[7] The case immediately underwent an appeal at the Supreme Court, which had 30 days to return a ruling. The Supreme Court, which is the ultimate authority on such matters, overturned the lower court's opinion, allowing the project to proceed. As mentioned earlier, the court system is slowly progressing toward more principled legal reasoning, but the Supreme Court since 2011 has also shown general unwillingness to enter into controversial cases of judicial review, often taking a pro-government position on difficult cases and trying not to accept ones that raise complex political questions (Butt 2018).

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5 Putusan Nomor 07/G/2015/PTUN.YK. https://putusan.mahkamahagung.go.id/putusan/909a7284e14fb17874939530362d2757

6 Keputusan Gubernur Daerah Istimewa Yogyakarta Nomor 68/KEP/2015. http://jdih.jogjaprov.go.id/storage/1470099660skgub68-2015.pdf

7 Putusan Nomor 07/G/2015/PTUN.YK. https://putusan.mahkamahagung.go.id/putusan/909a7284e14fb17874939530362d2757

This final ruling on the matter of the location permit's legitimacy and legal force took less than 4 months from start to finish and cleared the way for the BPN to appoint appraisers to begin assessing the land and determining compensation. For disputed compensation determinations, landowners could appeal first to the District Court, then to the Supreme Court, with each stage of the process being subject to hard deadlines of 15 or 30 working days. Once the Supreme Court has ruled, the legal appeal process has been exhausted and the state agency acquiring the land can deposit the sum at the District Court on consignment. Once the agency has submitted the money to the District Court, the title transfers legally from the landowner to the implementing agency, which in this case is Angkasa Pura I.

As the law requires, the BPN employed third-party appraisers who determined the value of the land according to the Indonesian Society of Appraisers (*Masyarakat Profesi Penilai Indonesia)* standards. It did not disclose the new appraised values publicly, but it is possible to ascertain a general idea of the level of compensation from public statements and court records. This can then be compared with what the market value for land in that area should be.

The total price paid by Angkasa Pura I to acquire 587 hectares was approximately IDR4.1 trillion, or IDR686,697 per square meter. According to the director of Angkasa Pura I, Danang S. Baskoro, it is possible to break this down by type (Table 10.1) (Permana 2017).

Table 10.2 lists a sample of compensation cases filed at the District Court in Wates, which fall pretty close to the average in Table 10.1.

Table 10.1: Breakdown of Compensation Paid for the New Yogyakarta International Airport (all amounts in rupiah)

Type	Hectares	Total Compensation	Price per Square Meter
By Agreement	342	2,800,266,194,388	818,791
By Consignment	51	297,924,934,900	584,166
Public	34	231,210,459,050	680,030
Paku Alam Ground	160	701,512,349,000	438,445
Total	587	4,030,913,937,338	686,697

Note: Paku Alam land is a hereditary principality near Yogyakarta.

Source: *Detik Finance*. 2017. Sukma Indah Permana, Pembebasan Lahan Bandara Kulon Progo Rampung 91%. 21 January.

Table 10.2: Sample of Compensation Payments to Titleholders in Kulon Progo Regency

Case #	Size (m^2)	Price (IDR)	IDR/m^2
Putusan Nomor 7/Pdt.G/2018/PN Wat	2,233	1,061,066,000	475,175
Putusan Nomor 15/Pdt.G/2017/PN Wat	2,859	2,153,013,500	753,065
Putusan Nomor 25/Pdt.G/2017/PN Wat	3,320	1,743,798,400	525,240
Putusan Nomor 12/Pdt.G/2018/PN Wat	1,535	1,194,907,500	778,441
Putusan Nomor 26/Pdt.G/2017/PN Wat	2,880	1,994,622,000	692,577
Putusan Nomor 105/Pdt.P.K/2017/PN Wat	4,008	3,073,642,900	766,877
Total/Avg	16,835	11,221,050,300	666,531

IDR = rupiah, m^2 = square meter.

Source: The directory of court decisions can be obtained from the Supreme Court's online record system.

The compensation rate in these cases ranged between IDR475,175 and IDR778,441, averaging IDR666,531 per square meter, which is roughly in line with the IDR686,697 set out in Table 10.1. The next question is whether this represents a fair rate for land in the Kulon Progo Regency in 2015.

Determining the market value of real estate in Indonesia can be challenging. While the BPN has taken steps in recent years to improve its record keeping and the accuracy of its data, it is still a relatively opaque institution, and official sales prices in tax records are often unreliable as parties frequently under-report the sales price to lower their tax burden (Tamtomo et al. 2008). A more accurate picture can be obtained through site visits and court records.

An interview with a local landowner revealed that land in 2013 was selling for between IDR180,000 and 200,000 per square meter (Kresna 2018). Several 2016 lawsuits list the expected value of land in the area at between IDR800,000 and IDR2 million per square meter.[8] During a site visit to the area in October 2018, the prices for land in proximity to the airport were reported to the author at between IDR1 million and IDR2 million per square meter.[9] Table 10.3 summarizes a range of estimated land valuations.

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8 Putusan Nomor 142/Pdt.G/2016/PN Wat, Case Nomor 134/Pdt.G/2016/PN Wat, Case Nomor 135/Pdt.G/2016/PN Wat, and Case Nomor 136/Pdt.G/2016/PN Wat.

9 Site visit to Kulon Progo Regency, 26 October 2018.

Table 10.3: Approximate Land Value per Square Meter in Kulon Progo Regency, 2013–2018

Year	Range (IDR)
2013	180,000–200,000
2016	800,000–2,000,000
2018	1,000,000–2,000,000

IDR = rupiah.

Source: Author's calculation based on site visit and review of archival material and court cases.

The higher land prices from 2016 onward reflect inflationary pressure from speculative land purchases after the issuance of the airport's location permit. The valuation of the land in 2015 increased significantly over the market value in 2013, indicating that the price that the state offered represented a reasonable replacement value according to market-based estimates. Moreover, there is evidence that the procedural requirements mandated by Law No. 2 of 2012 ensured that a fair price was determined and offered.

In 2014, Angkasa Pura I estimated that it would need IDR900 billion for land acquisition (Sukirno 2014). This averages IDR153,322 per square meter or slightly less than the estimated market price in 2013. After an independent appraisal team revalued the land, the valuation more than quadrupled to IDR4.1 trillion. This helps to explain why thousands of local landowners initially resisted the project but, as the parties worked through the process, a majority eventually accepted the terms that Angkasa Pura I offered. By January 2017, of the 587 hectares undergoing acquisition, the sides had failed to reach agreement on only 51 or about 9% (Permana 2017). Even WTT, the group that sued to stop the project in 2015, eventually accepted the state's improved offer terms.

10.5 Conclusion and Policy Implications

The comparison of these two cases reveals that Law No. 2 of 2012 has materially improved the process of compulsory land acquisition in Indonesia and moved it toward a more equitable policy framework. Table 10.4 summarizes these improvements.

The law has brought clarity to what was a confusing and often contradictory legal landscape. It delineates the authority and responsibility for procedural compliance and imposes hard deadlines that have greatly accelerated project timelines. The completion of the

Table 10.4: Summary of Pre- and Post-Law Provisions

	Lombok International Airport (Pre-Law No. 2 of 2012)	NYIA (Post-Law No. 2 of 2012)
Financial Compensation[a]	IDR15,704	IDR686,697
Legal Appeal Mechanism	No	Yes
Evidence of State Coercion/ Intimidation	Yes	No
Third-Party Appraisal Team	No	Yes
Recognition of Non-Titleholder	No	No
Project Length	16 Years	4 Years[b]

IDR = rupiah, NYIA = New Yogyakarta International Airport.

[a] Adjusted to 2018 currency, using the inflation index on www.inflationtool.com.

[b] The location permit was issued in 2015 and the airport became operational in 2019.

Source: Author's calculation.

NYIA took about 4 years, while in Lombok the process took four times longer. The Asian financial crisis and the unclear lines of authority and legal hierarchies that had prevailed prior to the enactment of Law No. 2 of 2012 caused the delay. This effect is also present in other sectors, such as toll roads. According to toll road regulator Badan Pengatur Jalan Tol (BPJT), from 2004 to 2014, approximately 250 km of toll roads entered operation. In the last 5 years, over 700 km have become operational largely due to the positive impact of the law.[10]

The law has also materially improved the terms of financial compensation, ensuring that they reflect more accurately the fair replacement value based on market price estimations. There is no credible evidence that the state used coercive force in the NYIA project to compel landowners to accept the terms, as was the case in Lombok. Indeed, the strongest opponents of the project eventually accepted the state's terms and voluntarily released the land after the law's procedural and legal safeguards ensured a fair level of compensation. Although the Supreme Court ultimately overturned the case brought to the State Administrative Court, the existence of a legal mechanism through which affected landowners can challenge the state's agenda is an important consideration and one that previously did not exist.

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10 The progress of toll roads at the national level is updated regularly here: Badan Pengatur Jalan Tol, Jalan Tol Beroperasi (Operational Toll Road Report). http://bpjt.pu.go.id/konten/progress/beroperasi.

There are some areas that the law does not address adequately, particularly recognizing non-titleholders and determining intangible losses. In the first instance, there were dozens of shrimp farmers in Kulon Progo Regency who had been working on publicly owned land for many years. Although they had access to and use of the land, they did not own the title and therefore the law did not recognize them. This is a potential shortcoming of the law, as official land titling in Indonesia often overlaps with customary land titles and records are frequently inaccurate or incomplete. Many of the shrimp farmers sued in the District Court, which awarded them a partial judgment comprising sufficient capital to start comparable shrimp farms in other locations.[11] The Supreme Court later overturned these decisions,[12] but the willingness of the District Court to base its ruling on the spirit rather than the strict letter of the law is a noteworthy and encouraging development.

There is also an issue related to compensation for intangible losses for registered titleholders. In the case of the NYIA, out of 11,000 affected people, 300 refused to vacate the site (Muryanto 2018). Having exhausted their legal options to appeal, police forcibly evicted them. According to these families, financial reparation alone was inadequate to compensate them for the loss of their land. They indicated that they were fearful of losing their identity, which is closely associated with the land. They deemed the offers of employment at the airport to be inadequate, as many of them enjoyed working on the land and expressed no interest in becoming baggage handlers or security guards. They wanted to be relocated to another site that was comparable to their current land and where they could reasonably replicate their current living conditions.[13] The Indonesian government was unable to meet this demand to their satisfaction.

This highlights the difficulty of determining compensation for intangible losses. Officials at the BPN confirmed in an interview that determining intangible losses is difficult and maintained that no universally agreed standard exists for doing so, noting that the majority of landowners prefer to accept cash compensation in the form of the market value of the land. They noted that more complex compensation schemes, such as land banking or lease backs, are virtually unheard of in Indonesia due to the difficulty in implementing them. They are also

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11 Putusan Nomor 60/Pdt.G/2016/PN Wat.

12 See Putusan Nomor 3525 K/Pdt/2016, Nomor 3291 K/Pdt/2016, or Nomor 3532 K/Pdt/2016 as examples. The Supreme Court ruled the same way in overturning dozens of similar cases.

13 Author interview with a representative from PWPP-KP, the nongovernment organization working with the hold-out families, Yogyakarta, 2 October 2018.

still working on standardizing the law's implementation across regions and sectors.[14]

In a policy environment in which the judiciary and the National Land Agency are still in the process of developing institutional capacity, a more straightforward approach to compulsory land acquisition, such as the one currently being implemented under the authority of Law No. 2 of 2012, may be the most efficient and most equitable. As these institutions continue to acquire experience from the implementation of a relatively straightforward legal tool, such as Law No. 2 of 2012, the chances of successfully implementing more complex policies, such as land banking and compensation for intangible losses, are likely to improve.

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14 Author interview with BPN officials, Jakarta, 22 January 2019.

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11

Implementing a Land Trust System in Bangladesh as a Strategy for Financing Infrastructure and Sustainable Land Management

Monzur Hossain and Naoyuki Yoshino

11.1 Introduction

Bangladesh, being a small but densely populated country with 1,255 inhabitants per square kilometer, has been facing various problems of land management due to poor land governance and administration, climate change risks, and unplanned land conversion, etc. (Hossain 2017). The sustainable land management issue has thus received wider attention in development discourse of Bangladesh for its climate vulnerability and lowest land to person ratio (0.06 hectares [ha]) (FAO 2013). Against this backdrop, there has been a growing demand for land for nonagricultural purposes with an impressive economic growth of over 6% in the last 2 decades. For the construction of new homes, roads, educational institutions, and industries, a substantial area of farmland is being used every year. As a consequence, land transfer and land conversion rates are on a rising trend in Bangladesh. A study shows that agricultural land, which is currently about 84% of total land, has been depleted at a very high rate, at about 0.56% per annum (Quasem 2011).[1] Land conversion, along with land degradation due to the effects

[1] Reviewing various studies, Hossain (2017) argued that the land conversion rate (from agricultural to nonagricultural) in Bangladesh is highly controversial.

of climate change, has given rise to the need for a sustainable land management (SLM) policy for planned and efficient use of scarce land. In this context, adoption of a land trust (LT) system could be deemed useful for sustainable land management for a land-scarce small country like Bangladesh for ensuring its food security, affordable housing, infrastructure development, and the promotion of industrialization.

A traditional land trust is a legal contract between the owner of the land and the trustee (for example, a company) whereby the owner retains all rights to property in anonymity, but the trustee is given the authority to manage the property for a certain period of time (Yoshino et al. 2018, Crabtree et al. 2011).[2] Within the scope of arrangements, a traditional land trust can be extended to infrastructure construction to attract private investments, solve acquisition and resettlement issues, and maintain a higher return from the land. The idea is that the spillover benefits (for example, tax revenue) that are generated from the project may be shared among the private investors (Yoshino et al. 2018; Yoshino et al. 2020). A similar approach can be applied to delta management to protect coastal areas from floods, salinity, etc., due to rising sea levels by the construction of dams and dikes. Since the construction of dams or dikes requires huge investments, the costs may be shared by the beneficiaries such as water bodies, local governments, and inhabitants. We term this approach the land trust plus (LTP) approach.

The major benefits of a land trust are that it will reduce costs of land purchases, a leasing contract can be enforced, future tax revenue can be repaid and, most importantly, landowners can continue ownership of their land. Given the socioeconomic transformation happening in the country over time with higher economic growth (over 7% in recent years), increasing demand, as well as escalating prices of land for housing and industry, the need for incentivizing private investors to invest in infrastructure and for landowners to collaborate with government in land acquisition is critical. With the increasing rate of fallow agricultural land due to the shift of labor from farm to nonfarm sectors and the outward migration of landowners, a land trust could be an efficient option that involves several sorts of benefits. For example, a land trust may help reduce the cost of land purchase, future tax revenues generated from the spillover effect of infrastructure investments can be shared, and on top of this, the landowners can keep their land.

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2 A land trust is a special trust agreement under which the beneficiary directs the trustee in all matters in regard to the title to the trust property. The beneficiary also holds the trustee free from liability. These types of trusts are now operating well in many countries, including the United States, the United Kingdom, Australia, and Japan.

A land trust could be one of the best ways to increase the rate of return, to invite private investors into infrastructure investment, and/or for real estate developers to efficiently use nonagricultural land. The objective of this chapter is thus to derive a framework for operationalizing LTP in developing countries like Bangladesh toward achieving SLM. We consider Bangladesh as a strong case for implementing LTP because of its growing infrastructure needs with exposure to climate change risks and higher economic growth.

The chapter is organized as follows. Section 11.2 discusses the context for introducing LTP as a strategy for SLM. Section 11.3 discusses various land trust approaches, along with international best practices. Section 11.4 develops an analytical framework for spillover revenue sharing. Section 11.5 discusses potential challenges for implementing LTP, and Section 11.6 concludes the chapter.

11.2 The Context

Land Area in Bangladesh

Currently, agricultural land makes up 84% of Bangladesh's total land stock of about 14.84 million ha in 2010 (Table 11.1). However, the rate of conversion of the cultivable land is estimated at 0.10% annually, mainly due to transfers to housing, road, and industrial infrastructure. On the other hand, from 1973 to 2008, a substantial amount of land was lost

Table 11.1: Availability of Agricultural Land from 1976 to 2011

Year	Estimated Land in Bangladesh (million ha)	Cultivable Land (million ha)	% Cultivable Land
1976–77	14.28	9.39	65.75
1980–81	14.29	9.38	65.64
1985–86	14.48	9.44	65.19
1990–91	14.84	9.72	65.50
1995–96	14.84	8.72	58.76
2000–01	14.85	8.40	56.57
2005–06	14.84	8.42	56.74
2010–11	14.84	8.52	57.41

ha = hectare.

Note: Agricultural land is the summation of cropped land, current fallow, and culturable waste.

Source: Bangladesh Bureau of Statistics (2011).

(Hasan et al. 2013). A study carried out by the Centre for Environmental and Geographic Information Services (CEGIS 2008) estimated that the amount of total land eroded was 156,780 ha and 45,520 ha accreted along the Jamuna, Ganges, and Padma rivers from 1973 to 2008. Given this substantial loss of land, it is important to develop policies for land reclamation and sustainable land management.

A good amount of both agricultural and nonagricultural land directly or indirectly owned by the government, known as *khas* land, is also a concern for sustainable land management in Bangladesh. An estimate shows that there are about 3.3 million acres of *khas* land, of which 0.8 million acres are of agricultural *khas* land, 1.7 million acres are of nonagricultural *khas* land, and 0.8 million acres are of *khas* water bodies (Barakat, Zaman, and Raihan 2001). However, as no actual official statistics are available, the actual area of *khas* land would be higher than the estimated amount. Most of the *khas* land is illegally occupied by rich and powerful people in society, although a portion of the *khas* land has been distributed among landless poor people.

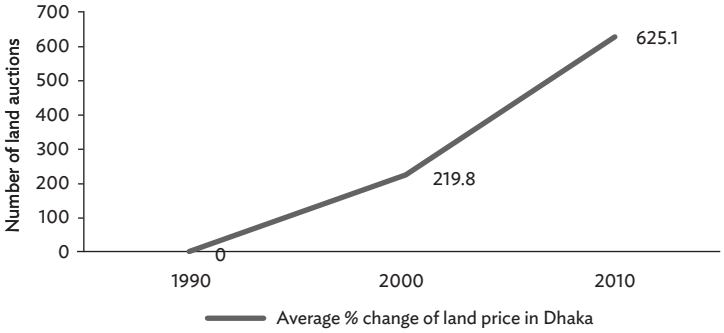
11.2.1 The State of Nonagricultural Land

The high rates of urbanization and industrialization have been observed in the country as the amount of nonagricultural land increased from 1.18 million ha in 1976 to 2.4 million ha in 2010. This increase is linked to the high growth and diversification of the economy, which consequently led to an astronomical increase in land prices in the country over time (Figure 11.1). As a result, the land price puts extra cost pressure on private as well as public investments, leading to a lower rate of return.

The country also observes episodes of real estate boom over time. The real estate sector in Bangladesh has been flourishing constantly over time with rapid urbanization and an increase in demand for housing in big cities. As a result, the prices of both land and houses have been increasing continually over time, and the real estate price bubble is underway. As Figure 11.1 shows, the price of land in Dhaka increased sixfold from 1990 to 2010. The price of flats (two- to three-room homes in a multistory building) has increased 20%–30% in just 4 years (Figure 11.2b). The growth in demand for apartment homes has seen a surge in recent times, with steady growth in the number of apartment units in the last decade (Figure 11.2a). Along with the increased demand for apartments, the number of real estate developers has also been growing (Seraj 2011).

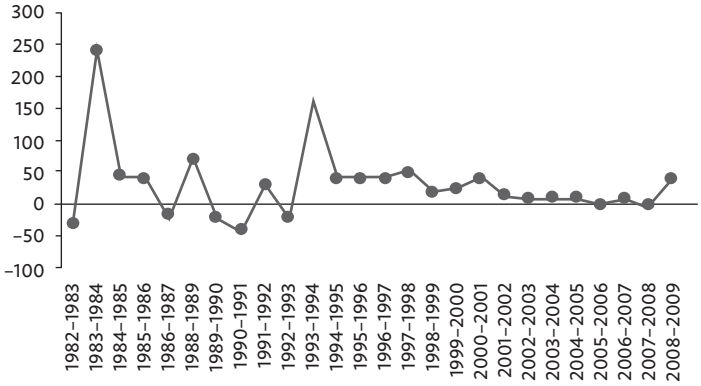
On the subject of tenancy patterns, it can be observed that with regard to apartments, landowners reside in only 7% of apartments and tenants reside in 33% of apartments, most of which belong to

Figure 11.1: Change in Land Prices in Dhaka, 1990–2010 (%)



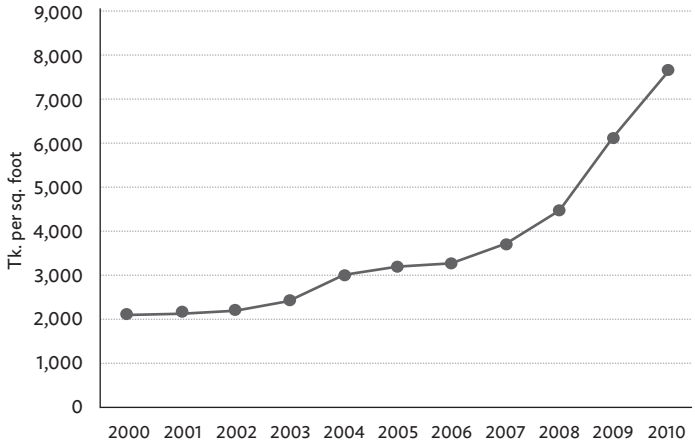
Sources: Real Estate Housing Association of Bangladesh and Bangladesh Bureau of Statistics.

Figure 11.2a: Growth of Apartment Units in Dhaka, 1982–2009



Source: Seraj (2011).

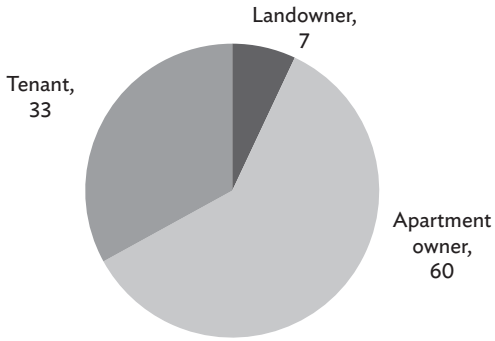
Figure 11.2b: Growth of Apartment Prices in Dhaka, 2000–2010



Source: Seraj (2011).

landowners. About 60% of apartment owners who bought apartments from real estate developers reside in them. It shows that in most cases, real estate housing development in Dhaka has a 60:40 ratio once homes are built on the land (Figure 11.3). Land developers sell their shares to outsiders with a proportionate share of land. Although this method

Figure 11.3: Tenancy Patterns in Apartments in Dhaka (%)



Source: Seraj (2011).

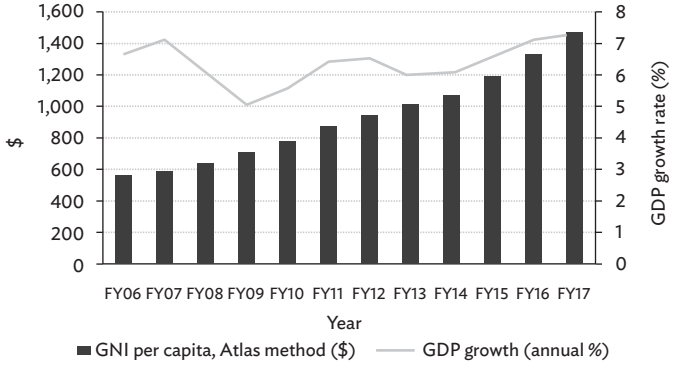
works well in Bangladesh, without selling land one cannot think of other options. As we argue in the later part of the chapter, with the provisions of a land trust (or community land trust), an owner can enjoy rent for a specified period without losing ownership of the land. Moreover, the current method compels owners to sell the land, which contributes to the surge in the prices of land.

11.2.2 Land Use for Infrastructure and Financing Investments

There has been a huge demand for infrastructure financing in Bangladesh in tandem with its high growth potential. The economy has been growing at an impressive 6% or more during the last decade and recently, the gross domestic product (GDP) growth rate has been more than 7% (Figure 11.4). Since independence, Bangladesh has been experiencing a steady increase in the growth rate of real GDP, accelerating from an average of less than 4% per year during 1974–1990 to 6.4% in the period 2010–2014. The 7th Five Year Plan (2015–2019) forecasts a GDP growth rate annually of 7%–8%.

However, Bangladesh has one of the lowest tax-to-GDP rates in the world, which is around 10%. Total bank credit as a share of GDP grew from 14% to 55% over the period 1980–2012. A high rate of interest and interest spread, high nonperforming loan ratio, and weak

Figure 11.4: Gross National Product Growth Rate and Per Capita Income (Gross National Income)

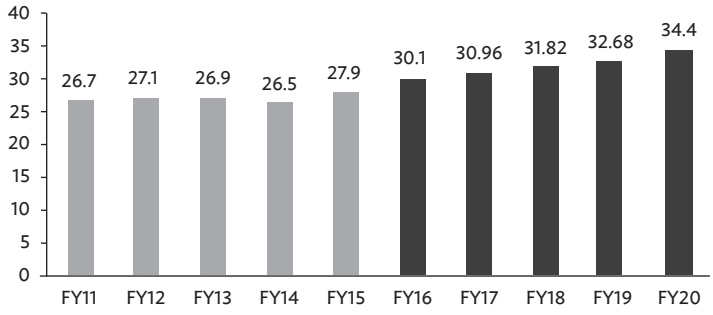


FY = fiscal year, GDP = gross domestic product, GNI = gross national income.
Source: Ministry of Finance.

corporate governance are key obstacles to mobilizing private finance from the banking sector in Bangladesh. Further, in the absence of a well-developed capital market, the growth of private credit has played a role in supporting the expansion of the private sector in Bangladesh. Therefore, alternative financing approaches for public infrastructure investment need to be explored.

The projection of investment requirements as a percentage of GDP shows that the country needs investments at 34.4% of GDP (Figure 11.5), of which public investments are projected to be 8%–9%. The rest of the investments, equivalent to 26%–27% of GDP, are estimated to be done by the private sector, although private sector investment has been stagnant at around 22%–23% for the last 5 years or so. Thus, it is important to devise policies that might encourage private investments not only in private sector projects but also in infrastructure projects, given that public–private partnerships have not been working effectively in Bangladesh.

Figure 11.5: 7th Five Year Plan Investment Requirements (as % of GDP)



FY = fiscal year, GDP = gross domestic product.
Source: Government of Bangladesh. Planning Commission. GED 7th Five Year Plan (2015).

The proposed land trust can also solve the problems of the private land acquisition process for public infrastructure projects. The inadequacy of the regulatory framework for the land acquisition process, pricing of land, and the concomitant resettlement process are plagued with delays in implementation of infrastructure projects (Hossain 2017,

FAO 2013).[3] There is thus a challenge when large-footprint projects are to be implemented in greenfield areas, industrial estates, special economic zones, or export processing zones. Therefore, it is imperative to create an incentive mechanism so that private landowners will readily transfer their land for building public infrastructure. A land trust could be one such option through which private landowners would be interested to transfer their land for infrastructure investments.

11.2.3 Mega Infrastructure Projects in Bangladesh

At least 10 megaprojects are now being implemented in Bangladesh. These projects involve tedious and difficult tasks of land acquisition, resettlement costs, and financing (see Table 11.2 for a summary of some of them). The infrastructure projects, such as bridges, rail links, power plants, deep sea ports, and nuclear power plants, are being implemented with a matched government and donor agencies fund. The projects, once completed, are expected to generate substantial spillover economic benefits to the people of the project-adjacent areas. The list in Table 11.2 shows the intensity of work that has been running over the years.

Table 11.2: Summary of Ongoing Mega Infrastructure Projects in Bangladesh

Name of Project	Project Completion Time and Estimated Cost	Land Acquisition
Padma Bridge	Tenure: 2015–2021 (only 43% was completed by 2018) Est. cost: Tk307,933 million	Construction of 6.15 km-long bridge involves huge acquisition of land and resettlement work
Padma Rail Link	Tenure: 2016–2022 Est. cost: Tk349,880 million	Land acquisition is going on along 172 km of railway tracks between Dhaka and Khulna's Mongla

continued on next page

[3] Bangladesh still follows an old Land Acquisition and Requisition of Immovable Property Ordinance, 1982, the root of which was the British colonial Land Acquisition Act of 1894.

Table 11.2 *continued*

Name of Project	Project Completion Time and Estimated Cost	Land Acquisition
Chittagong-Cox's Bazar Railway Network	Tenure: 2016–2022 Est. cost: Tk183,040 million	The 100 km dual-gauge single line requires acquisition of a huge amount of land
Metro Rail in Dhaka	Tenure: 2012–2024 Est. cost: Tk219,850 million	Mainly uses public roadside land
Payra Deep Sea Port	Tenure: 2015–2021 Est. cost: Tk11,280 million	Land acquisition is required
Rooppur Nuclear Power Plant	Tenure: 2017–2024 Est. cost: Tk450,000 million	Civil work to prepare 260 acres of land for the country's first nuclear power plant at Rooppur in Pabna

km = kilometer, Tk = taka.

Note: Project costs are subject to revision.

Source: Various newspaper reports.

11.2.4 Status of Land Degradation and Land Erosion

Major types of land degradation that occur in Bangladesh are water erosion, soil fertility depletion, salinization, water logging, pan formation, and active flood plain. Among them, water erosion and fertility depletion are the main factors. Much of the land degradation is caused by population growth and human-induced technological change in agriculture. About 75% of the hilly areas have very high susceptibility to erosion (BARC 1999). The decline in soil fertility occurs through a combination of lowering of organic soil matter and loss of nutrients.[4] This situation calls for proper management of agricultural land that may ensure a balanced use of both agricultural and commercial land as well as their balanced conversion.

Rising sea levels could erode a substantial amount of land in Bangladesh. Sea-level rise affects the coastal zones of Bangladesh in a number of ways, including inundation, erosion, and saline water

[4] The average organic matter content of topsoils (high land and medium high land situations) has gone down from about 2% to 1% over the last 20 years due to intensive cultivation (Hasan et al. 2013). Removal of nutrients is also a threat to agricultural productivity.

intrusion into the water table.[5] Results from a recent study showed that the overall trend of sea-level rise in the coastal zone (encompassing 19 districts out of 64 covering 47,201 sq. km of land area, which is 32% of the total landmass of the country) is 6–20 millimeters per year, which is about two to five times higher than the global average (Fasullo and Nerem 2018). Chittagong and Cox's Bazar region are likely to be the most affected by rising sea levels. The sea-level rise is expected to jeopardize the lives and activities of 28% of the total population of the country, although in phases.

As part of delta management, the Bangladesh government has formulated a 100 year plan, the Bangladesh Delta Plan 2100 (BDP 2100), highlighting various approaches and measures. So far, various measures, including placing coastal polders, have enabled bringing 1.2 million hectares of land under agriculture or aquaculture and protecting lives and properties of coastal communities against flooding, storm surges, and salinity intrusion. However, there have been unintended consequences, such as river sedimentation and waterlogging, that have become increasingly problematic in the last 3 decades in certain parts of the coastal zones. Changes in river salinity and the availability of fresh water may affect the fish habitat and productive fresh water fisheries. Thus, delta management is recognized as an important aspect of sustainable land management in Bangladesh.

Infrastructure Investment for Delta Management

In view of the best practices of the Netherlands' delta management experience, Bangladesh formulated the above-mentioned BDP 2100 (Bangladesh Planning Commission 2018). The plan outlines both institutional and operational aspects of delta management. As the Netherlands' delta management approach was supported by the Delta Law passed by parliament in the late 1950s, similar types of laws are suggested in the BDP 2100 for other parts of Bangladesh. It is to be noted that the Netherlands constructed 53 dike rings—large regions protected by a single dike. One ring may be protected from a once-in-2,000-year flood and another one from a once-in-10,000-year flood. However, replication of such approaches will require huge investments.

Drawing from the above noted replicable lessons of in delta management, Bangladesh's past experiences, and the present

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5 The Intergovernmental Panel on Climate Change made sea-level rise projections for the world, which indicate that the global mean of sea-level rise was 19 ± 2 centimeters over the last century and higher rapid sea-level rise is now projected to be 28–98 centimeters by 2100.

socioeconomic and political realities, the proposed approach in the BDP 2100 is for reforming the water and other related delta governance and institutions include reforming the legal framework for water resources management, the establishment of the Delta Fund, a Delta Commission, and the implementation of the plan itself. Financing the BDP 2100 is a big concern for Bangladesh. Bangladesh presently spends about 0.8% of GDP on water resources, mostly for new investments with negligible operations and maintenance funding. The minimum financing for implementing the BDP 2100 is estimated to be about 2.5% of GDP, of which 2.0% would be for new investments and 0.5% of GDP would be for annual operations and maintenance. This proposed amount of annual delta investments would amount to one third of the total development budget of Bangladesh.

The Netherlands' experience showed that the national budget provided only about one quarter of total delta financing. Regional water bodies and municipalities provided the remaining three quarters. Bangladesh presently does not have autonomous municipalities and local water bodies. The establishment of autonomous municipalities could be another major institutional reform which may take time. Similarly, the establishment of local water bodies and their effective functioning will also take time. Thus, in reality the national budget will be the main source of delta financing in the next few years.

Unlike the Netherland's experience, water management is heavily centralized in Bangladesh and most water institutions are managed centrally at the national level. The main local institutions are the water supply and sewerage authorities, municipalities, and the city corporations (*pourashavas*). These municipal institutions deal with water and sanitation issues, with services mostly concentrated in urban areas. They are managed by the Ministry of Local Government, Rural Development and Co-operatives and mostly funded by the national budget, with some limited cost recovery (charges for water and sanitation services). What is missing is the representation of beneficiary stakeholders linked with coastal management, river management, freshwater wetlands (*haors* and *baors*) management, large irrigation schemes, and flood control. The establishment of an organization for water management is an essential reform for successful management of the BDP 2100. Thus, designing and adopting technical and socioeconomic solutions to flood and irrigation management projects requires the implementation of large water infrastructure projects, including land reclamation from the sea. It can be done through the appropriate selection of places for reclamation along the coastal belt, and a substantial new amount of land can be reclaimed from the sea and added to the existing land mass. In the

coastal zone, especially in the Meghna estuary, land has continuously been reclaimed on a limited scale. Bangladesh has experienced the stabilization of newly accreted lands from tidal and storm surges through afforestation and polderization. The northeastern and eastern sides of Bhola Island, the northern and western sides of Hatia, the western side of Manpura, and the western side of the Sandwip Islands experience severe erosion. Some areas are also increasingly subject to prolonged waterlogging due to encroachment and land reclamation by closing the tidal channels. Delta management thus makes a strong case for fast-tracking the implementation of LTP in Bangladesh.

11.3 Land Trust for Sustainable Land Management

The rapidly increasing demand for nonagricultural land in a land-scarce country like Bangladesh contributes to abnormal land price hikes over time, which impede investment opportunities to some extent. High land prices are a big concern for foreign investors because they cause an imbalance in equity sharing. Moreover, higher land prices make housing unaffordable to middle-class urban people and give real estate companies the chance to make supranormal profits. Private land is also necessary for infrastructure investment. Thus, the government has to pay large amounts of money to landowners to ensure a peaceful transfer of land. A land trust could be an effective way of land transfer that could solve many of the land transfer related problems. As already mentioned, a substantial amount of arable land is now being converted for commercial use. The shift of labor from agriculture to nonagricultural work and outward migration also cause a huge crisis in land management in rural areas. Furthermore, a land trust could work as a mode of alternative financing for investment in flood and water management, as well as other physical and social infrastructure. A land trust is not the panacea for all land-related problems; however, this method is flexible and to some extent produces better results in terms of the revenue sharing approach in infrastructure financing (Yoshino, Hossain, and Taghizadeh-Hesary 2020).

11.3.1 International Experiences of Land Trust

Land trusts have been applied in many countries. Community land trusts (CLTs) are widely used in the United States (US) and the United Kingdom (UK) to provide housing through rental, cooperative, or mortgage ownership, with additional opportunities for commercial and/

or community facilities (Crabtree et al. 2011). The practice of CLT in the US is a few decades old, having started in the 1960s and experiencing exponential growth since, mainly due to its affordability and stable home ownership for lower-income households. There are now more than 240 CLTs in the US. The UK's CLT is only a few years old and emerged from interest in the success of the US sector. Australia is also exploring the potential of CLTs for the indigenous peoples' housing sector (Table 11.3).

In Japan, there are four distinct types of commercial trusts: (i) trusts similar to deposit taking and lending, e.g., loan trusts; (ii) trusts for asset management, e.g., money trusts and securities investment trusts; (iii) trusts for securitization, e.g., money claim trusts; and (iv) trusts for businesses, e.g., land trust (Kanda 2016). In Japan, trust businesses can only be carried out by entities licensed under the Trust Business Act (Act No. 154 of 2004, as amended) and financial institutions licensed under the Act for Financial Institutions' Trust Business (Act No. 43 of 1943, as amended). Currently, more than 200 financial institutions and entities are licensed to carry out trust businesses in Japan (Kanda 2016).

Table 11.3: International Experiences of Land Trusts

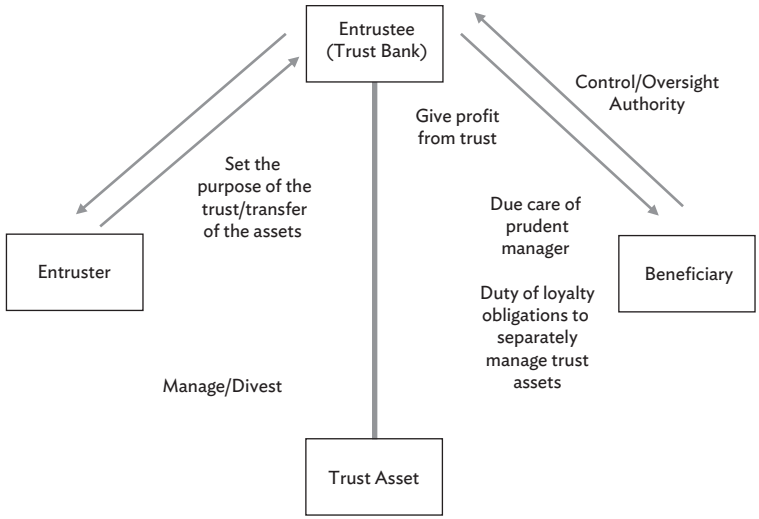
Country	Types of Trust	Applicable
United States	Community Land Trust	Cooperative housing, owned housing
United Kingdom	Community Land Trust	Cooperative housing, owned housing
Australia	Community Land Trust	Housing for indigenous people
Japan	Business Trust, Trust for Asset Management, Loan Trust	Financial instruments, assets, business

Sources: Kanda (2016), Crabtree et al. (2011)

11.3.2 Land Trust Structure

In a typical trust structure, three stakeholders are involved: the entruster, the entrustee, and the beneficiary (Figure 11.6). An entruster may leave their assets for the beneficiary by retaining ownership, but they may entrust the entrustee with the asset with certain conditions for the beneficiary to receive the profit. The entrustee could be a trust bank—a separate bank can be formed for this, or existing commercial banks can get licenses under a law which has to be promulgated. Certain

Figure 11.6: The Three Parties of a Trust



Source: Yoshino, Abidhadjaev, and Nakahigashi (2018).

rules apply to the entrustee. An entrustee must manage the trust asset with prudent care and not for their own benefits.

As discussed, land trusts have been working well to manage land properties in developed countries. Some developing countries are also implementing land trusts for effective and sustainable land management (see, for example, Chapter 12 on Thailand).

In Bangladesh, there is currently no legal framework that entrusts banks or other parties to act as entrustees. Thus, a land trust law has to be formulated and operationalized so that it can allow commercial banks to act as trust banks and ensure other legal safeguards.

11.3.3 Rent Calculation

Following Yoshino et al. (2018), here we propose a method of rent calculation by considering a present value model that relates the current price of land to the infinite streams of future earnings from holding and exploiting the land (sometimes referred to as its "hope value"). Equation (1) shows the price of land rents in period t as the discounted sum of the expected future net returns to the land (to infinity).

$$P_t = \frac{E(R_{t+1})}{(1+\delta)} + \frac{E(R_{t+1})}{(1+\delta)^2} + \cdots + \frac{E(R_{t+1})}{(1+\delta)^n} + \cdots \quad (1)$$

where P_t shows the price of land in period t, $E(R_t)$ is the expected land rent in period t, where E denotes the expectation regarding the future returns on land rent, and δ_t is the time-invariant discount rate for period t. If we assume that $E(R_t)$ grows at the rate of g in each period, and $\bar{R}=E(R_t)$, then equation (1) can be written as the capitalization formula, which describes the proportional relationship between the current land price and the expected land rent of the next period.

$$W_t = \frac{\bar{R}}{\delta - g};\ g = \frac{\overline{\Delta R}}{\bar{R}} \quad (2)$$

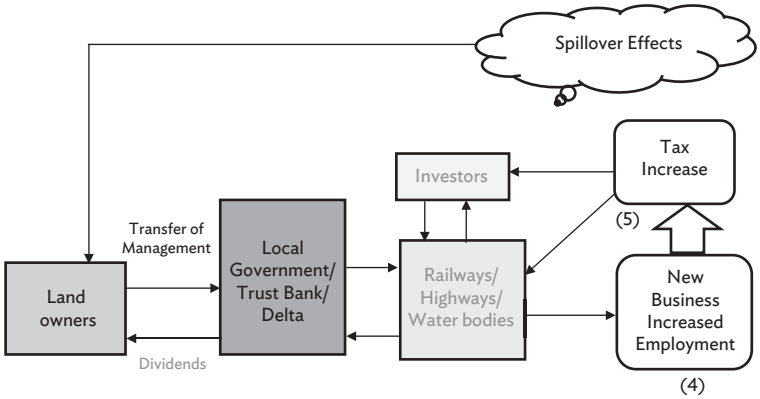
In the context of land trust organizations, each landholder expects to receive this land rent (W) in period t from such organizations, which consider the role of expectations and discounting factors.

11.3.4 Land Trust Schemes

Land Trusts Used for Infrastructure

Basically, landowners entrust their land to the trust bank. Many developing countries do not have trust banks. It will be possible to give trust licenses to ordinary banks as long as the solid functioning of the

Figure 11.7: Benefits of a Land Trust in Infrastructure Projects



Sources: Yoshino and Abidhadjaev (2017a, 2017b).

trust bank can be established. Alternatively, local government can step in to play the role of a trust bank. A proposed land trust is shown in Figure 11.7. Landowners entrust their own land to either a trust bank or local government. They watch whether the land is properly used for infrastructure. They check the net revenue of an infrastructure entity. Part of the net revenue is returned to landowners every year. Landowners keep their land as owners, but they lease the land to infrastructure operators for long periods of up to 99 years. Annual rent can be received by the landowners.

Based on the nature of land use in Bangladesh, a land trust for the following uses could be applied in Bangladesh.

Land Trust for Delta Management

As already discussed, the delta management plan requires huge amounts of money equivalent to 2.5% of GDP, up from the current 0.8% of GDP (Bangladesh Planning Commission 2018). Although in the Netherlands two thirds of delta investments are borne by rate-earning local water bodies and local government, this may not work in Bangladesh, given the poor institutional and financial structure of these bodies in the country. Instead, like the trust scheme for infrastructure discussed above, delta infrastructure can be constructed with private investments, and the spillover tax revenue generated from water bodies and local government bodies can be shared proportionately among the investors. Thus, the land trust approach can be applied to water bodies, and this is expected to solve financing problems for delta plan implementation.

Trust of Agricultural Land

The trust of agricultural land allows landowners to entrust their agricultural land to a trust bank, and the trust bank manages the land. In this case, the trust bank rents the land to farmers who wish to farm on large consolidated land, and the landowners receive a part of the profit as dividends. Here, consolidation of land into bigger and more profitable farms leads to higher profits for the landowners. In this way, the landowners can maintain the ownership of the land and increase the profit by lending the land to the younger farmers through a trust bank. Hence, a land trust is a method to consolidate assets owned by individuals, entrust them to a trust bank, and make better use of the assets.

A land trust will work better than purchasing the land from landowners. This is because farmers receive huge amounts of one-time money when they sell their land for infrastructure, but a land trust can ensure long-term flows of money to the landowners even across generations, generated by net revenues of agricultural production or investments in infrastructure such as toll roads, railways, water supply, and electricity.

Trust of Real Estate and Housing

In megacities like Dhaka, for building big infrastructure or improving housing conditions in old neighborhoods of Dhaka, it is important to consolidate several pieces of land. For consolidation, landowners need help from a trust bank or trust company, which is not possible for an individual real estate company or others. The trust bank then builds a large building on the land to realize the effective utilization of the land. In this process, landowners can live in apartments within the building or houses and receive part of the profit as dividends from the trust bank as it maintains their ownership. This method will allow individual landowners to gain more profit. The current problem of congestion and land management in old Dhaka city can be resolved more easily with a land trust.

Trust of *Khas* Land

As the ownership of *khas* land lies with the government, any state-owned commercial bank may act as the entrustee of the *khas* land that can be used for private benefit, such as housing or industry. This might prevent the misappropriation of *khas* land by powerful people.

11.4 Analytical Framework

11.4.1 Infrastructure Investment and Its Spillover Tax Revenue

Traditionally, infrastructure investors used to receive only user charges from infrastructure investment. However, as Yoshino, Helble, and Abidhadjaev (2018) argue, infrastructure projects can generate spillover benefits through increases in property tax, corporate tax, income tax, etc., a share of which can be used as an incentive for private landholders. For example, a positive spillover effect of a new highway is that it generates more employment through an increase in private businesses and private investment along both sides of the highway.

In a macroeconomic estimation, Yoshino and Nakahigashi (2004) used a trans-log production function to estimate the direct effect of infrastructure investment and spillover effects (i.e., indirect effects). The direct effect of infrastructure investment is created by the construction of infrastructure that will increase the output of the region. Spillover effects (i.e., indirect effects) will have at least two channels, depending on the types of investments. One is that infrastructure construction (roads, bridges, economic zones, etc.) will prompt the construction of other complementary infrastructure, such as new office buildings, new housing, growth centers, marketplaces, restaurants, and new residences,

which will increase the efficient use of land. The second channel would be income enhancing, which might happen through three channels (Khandker, Bakht, and Koolwal 2009): (i) transportation costs as well as input and output prices; (ii) labor supply, as well as farm and nonfarm production; and (iii) household outcomes such as earnings, consumption, and schooling. Khandker, Bakht, and Koolwal (2009) show that rural households in villages targeted by the road development project have on average an 11% higher consumption per capita per year. They also found that a road improvement project in rural villages led to an approximately 5% reduction in moderate and extreme poverty in Bangladesh. Analyzing the impact of the Jamuna Multipurpose Bridge Project in Bangladesh, Mahmud and Sawada (2018) found that with decreasing household unemployment, bridge construction facilitated farm to nonfarm shifts in employment, which were 4% on average.

Given the above examples, the productivity effect of infrastructure can be estimated as follows. Consider a production function:

$$Y = f(K_P, L, K_G) \tag{3}$$

where K_p is private capital, L stands for labor, and K_G is stock of infrastructure investment. The general type of the production function is a trans-log production function.

$$\begin{aligned} \ln Y = {} & \alpha_0 + \alpha_1 \ln K_P + \alpha_2 \ln E + \alpha_3 \ln K_G + \beta_1 \frac{1}{2} (\ln K_P)^2 \\ & + \beta_2 \ln K_P \ln L + \beta_3 \ln K_P \ln K_G + \beta_4 \frac{1}{2} (\ln L)^2 \\ & + \beta_5 \ln L \ln K_G + \beta_6 \frac{1}{2} (\ln K_G)^2 \end{aligned} \tag{4}$$

Given the production function in equation (4), the productivity effect of infrastructure can be classified into three categories as shown in equation (5). The first term on the right is the direct effect, the second term is the spillover effect in regard to the private capital, and the third term represents the spillover effect related to the labor input. The productivity effect of infrastructure is expressed in marginal productivity.

$$\frac{dY}{dK_G} = \frac{\partial f(K_P, L, K_G)}{\partial K_G} + \frac{\partial f(K_P, L, K_G)}{\partial K_P} \frac{\partial K_P}{\partial K_G} + \frac{\partial f(K_P, L, K_G)}{\partial L} \frac{\partial L}{\partial K_G} \tag{5}$$

Table A11.1 (in Appendix) shows an estimate of the direct and spillover effects of infrastructure investment in Japan (Nakahigashi and Yoshino 2016, Yoshino and Abidhadjaev 2017a). While the estimated

direct effect of infrastructure investment on output was 0.638, the spillover effect due to the use of private capital was 0.493. The biggest spillover effect was estimated to be an increase in employment. It shows that a 1% increase of output will increase tax revenues by, on average, 20% in Japan.

If 50% of the increased tax revenues are distributed by the collector to investors in infrastructure, it increases 43.8% of the rate of return as shown in Table A11.1. In the period 2006–2010, 50% of incremental tax returns increased the rate of return 39.1%. These significant increases in the rate of return would have attracted private investors into infrastructure investment. These estimates serve as a basis for our argument to apply land trust that will allow landowners as well as investors to receive a share of spillover benefits.

Increased tax revenues from spillover effects can be written as follows:

$$dT_{spill} = t \text{ x } dY_{spill} = t \text{ X } \left(\frac{\partial f(K_P, L, K_G)}{\partial K_P} \frac{\partial K_P}{\partial K_G} + \frac{\partial f(K_P, L, K_G)}{\partial L} \frac{\partial L}{\partial K_G} \right) x \, dKG \quad (6)$$

There are two portions in the spillover tax revenues. The first part comes from the contribution of private capital and the second part is created by an increase in employment. Increased tax revenues from the direct effect of building infrastructure is written as:

$$dT_{direct} = t \text{ x } dY_{direct} = t \text{ x } \left(\frac{\partial f(K_P, L, K_G)}{\partial K_G} \right) x \, dKG \quad (7)$$

By adding equation (6) and equation (7), the total tax increase created by infrastructure is:

$$dT_{total} = dT_{spill} + dT_{direct} \quad (8)$$

The spillover tax revenues are the part of the increase in total tax revenues in the region that is shown in equation (4). dT_{spill} in equation (6) is created by private capital and employment which should be returned to infrastructure investors and construction companies. dT_{direct} is the increased tax revenues created by government infrastructure investment.

As already discussed, land acquisition is one of the more complex and disputed tasks in infrastructure investment. A significant amount of time, effort, and money are involved in the land acquisition process that often lead infrastructure investments into states of delay or uncertainty. Having experienced major problems in constructing commercial

buildings and condominiums, land trusts are extensively used in Japan as a resolution to these problems. Landowners can keep the land as their own and lease it to commercial developers and condominium developers. Landowners own the land and receive annual rent from commercial developers and condominium developers. Another method is to offer one unit of a condominium to a landowner in exchange for ownership of the land. Thus, this type of land trust can be used for housing too, which may bring down housing prices as well.

11.4.2 Empirical Exercise: Tax Revenue Effect of Public Investment in Bangladesh

As public infrastructure investments are public goods, both the formal and informal sectors get equal benefits from the productivity gains from public investments. Given the profit function,

$$\pi_i = AK_i^{\propto} L_i^{1-\propto} G - w_i L_i - r_i K_i \tag{9}$$

The total tax to output ratio can be given as

$$\frac{\tau \pi_i}{Y_i} = \frac{\tau}{Y_i}(AK_i^{\propto} L_i^{1-\propto} G - w_i L_i - r_i K_i) \tag{10}$$

Differentiating the above expression with respect to G yields the response of tax-to-output ratio due a marginal increase in G as follows:

$$\frac{d}{dG}\left(\frac{\tau}{Y_i}(AK_i^{\propto} L_i^{1-\propto} G - w_i L_i - r_i K_i)\right) = \frac{\tau}{Y_i}\left(AK_i^{\propto} L_i^{1-\propto}\right) > 0 \tag{11}$$

This expression implies that public expenditure should lead to increased competitiveness and, hence, profitability of firms at the margin and therefore the firm's ability to pay taxes.

Following equation 11, we run the following regression:

$$\Delta tax_{gdp_t} = \alpha_0 + \sum_{i=1}^{k} \alpha_{1i}\, \Delta tax_{gdp_{t-1}} + \sum_{j=1}^{n} \alpha_{2ji}\, \Delta x_{jt-i} + \alpha_3 tax\_gdp_{t-1} + \sum_{j=1}^{n} \alpha_{2ji}\, \Delta x_{jt-i} + \sum_{j=1}^{n} \alpha_{4i}\, x_{it-1} + \varepsilon_t \tag{12}$$

where

tax_gdp_t = Represents tax–GDP ratio, a measure of tax revenue performance

x_t = Represents a vector of variables that explain changes in other factors

ε_t = Represents a white noise error term

The estimates from the vector error correction (VEC) model for the data covering the period 1986–2017 are shown in Table 11.4. First, we test the stationarity of data series using the Phillips-Perron test. Results suggest that the series tax–GDP ratio, developmental expenditures, and trade–GDP ratio are integrated of order 1 (I(1)). Therefore, the VEC model is used. We selected the optimal lags for the model using the Akaike information criterion (AIC) and the Hannan–Quinn (HQ) information criterion. According to AIC and HQ, the optimal lag length is 4. Then we did the test for cointegration using the Johansen Cointegration test with the Rank test and Max-eigenvalue test, and the results suggest that there is 1 cointegration equation at the 5% level of significance. The VEC model results suggest that there is a long-run positive and significant relationship between public development expenditures and tax revenue, which can be considered for calculating spillover benefits (the incremental tax revenue) of the government's developmental expenditure because tax revenues are generated due to improvements in infrastructure.

Table 11.4: Cointegration Test

Tax–GDP Ratio	Log (Development Expenditure)	Log (Trade as % of GDP)
1.000000	–5.98***	–4.027***
Std. Error	(1.02)	(0.34)

GDP =gross domestic product.
Source: Authors' compilation.

11.5 Challenges of Land Trusts

There are legal, financial, and governance challenges in implementing land trusts in a country like Bangladesh. A strong commitment from the government is required to initiate the land trust system. Accordingly, a land trust act would be needed to support the trustee, the entruster, and the beneficiary. The following are the issues that need to be resolved to initiate land trust. Basic work needs to be done to ascertain the legal parameters under which a land trust model would operate in Bangladesh's jurisdictions. From a legal perspective, it is necessary to define the scope and parameters of the land trust. From a financial perspective, it is necessary to determine the activities, business plans, and indicative performances of various land trust models in terms of

rent calculation, tax revenue-sharing methods, and service charges of banks, among others. Some financial regulations need to be implemented to allow banks and nonbanks to operate trusts. Different types of governance frameworks would be required to run a land trust. It is to be noted that while private investment in public infrastructure would require one type of governance framework, a separate governing body might work for managing private properties.

In addition, to implement LTP in infrastructure financing with a revenue-sharing mode, the following issues need to be resolved.

(i) **Defining catchment area:** A big infrastructure project generates spillover benefits along the project areas and sometimes beyond the project areas. It would create difficulties in revenue sharing if the catchment area of the project is not clearly defined. Moreover, spillover benefits of other nonland trust projects might create problems. It is therefore important to delineate clearly the area which receives greater benefits of the projects so that a certain portion of an increase in revenue may be shared among the investors.

(ii) **Estimating revenue-sharing ratio:** If a road project goes through a district, it might generate spillover benefits across a 1-kilometer radius of the project. How much of the incremental revenue of the project can be shared among the investors and for how long? A prudent method of the spillover revenue sharing must be in place to get the benefits of land trusts.

(iii) **Duration of the project:** The duration of revenue sharing should not be for an unlimited period. A proper method for estimating the duration of revenue sharing has to be developed considering the life of the project as well as the rate of return from the project.

(iv) **Governance:** A governing body consisting of various stakeholders, including public officials such as tax officials and private investors, may be formed for each of the land trust infrastructure projects. The body will handle the issues of concern discussed above.

11.6 Conclusions

Bangladesh has been facing multifaceted land-related problems for a long time. The rapidly increasing demand for nonagricultural land in Bangladesh contributes to abnormal land price hikes over time, which impedes the investment opportunities and affordable housing objective of the people. Climate change vulnerability poses additional risks on the country's land management aspects. In this context, the land trust method could be an effective way of managing land that could solve

many of the land-related problems in the country and, therefore, could be a vehicle for ensuring sustainable land management. As a result, we foresee that the land trust method could be crucial for minimizing land degradation, rehabilitating degraded areas, and ensuring the optimal use of land resources for the benefit of present and future generations. The United Nations Sustainable Development Goals emphasize sustainable land management in Goal 15: Life on Land. As SLM approaches require an appropriate policy and regulatory environment that ensures collaboration and partnership among land users, technical experts, and policy makers to ensure corrective measures against degradation and other concerns, the "Land Trust Plus" approach can thus be seen as an important strategy for ensuring sustainable land management.

This chapter discusses various options of land trust that can be implemented in Bangladesh to achieve sustainable land management. The proposed land trust approaches might go beyond traditional land trust methods, which we can term as Land Trust Plus and could be used as alternative financing method for infrastructure development. An analytical framework for land trust is also shown in this chapter, with a discussion of possible challenges. LTP could be a way to enhance sustainable land management in terms of its efficient use and productivity, while sustaining the rate of return for landowners. Bangladesh faces land shortages due to growing industrial needs, infrastructure development, real estate booms, and land degradation and erosion due to climate change risks, among others. If properly applied, LTP could be one of the options that would attract private investors into infrastructure by increasing the rate of return on infrastructure investment. The spillover effects of infrastructure investment under LTP will increase revenue, sales, and property taxes, which can be equitably shared under an agreeable method among the investors and the government.

In addition to infrastructure financing, traditional land trusts can be applied for housing, agricultural land use, and *khas* land use. A proper legal and regulatory framework will be needed to implement land trusts successfully in Bangladesh. Further, as part of SLM, Bangladesh could localize the Netherlands' experiences of land reclamation and delta management policies with technological innovation to make it cost-effective under LTP. Therefore, in the authors' view, Bangladesh has strong potential to implement LTP to boost its economic growth with private sector led infrastructure investments. For sustainable development with shared prosperity, the country needs to create a clear and implementable action plan for adoption of land trusts. However, a note of caution is that a land trust is not the panacea for all land-related problems, so a proper land governance plan should also be in place to reap the benefits of land trust methods.

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Appendix

Table A11.1: Economic Effect of Infrastructure Investment in the Case of Japan

	1956–1960	1961–1965	2001–2005	2006–2010
Direct effect (Kg)	0.696	0.737	0.114	0.108
Indirect effect (Kp)	0.452	0.557	0.091	0.085
Indirect effect (L)	1.071	0.973	0.132	0.125
20% returned	0.305	0.306	0.045	0.042
Increment	43.8%	41.5%	39.0%	39.1%

Source: Nakahigashi and Yoshino (2016).

Table A11.2: Phillips–Perron Test Results

	Level			First Difference		
Variables	Intercept	Intercept and Trend	None	Intercept	Intercept and Trend	None
Ln (TRADE-_GDP)	–1.61	–1.32	1.25	–5.15***	–5.62***	–4.89***
Ln (DEV-EXP)	–2.27	–2.21	0.17	–6.49***	–6.76***	–6.58***
TAX-GDP	–1.03	–2.56	2.58	–6.33***	–6.18***	–5.20***

*** Indicates the level of significance at the 1% level.

Source: Authors' estimation.

12

Land Trusts in Thailand: Current Issues and Prospects

Nimnual Piewthongngam

12.1 Introduction

Trusts[1] have been widely used around the world since the 18th century as key financial mechanisms for wealth management of individuals, families, and entities, especially in the context of private estate planning and asset management. Moreover, trusts serve as functional financial tools for commercial transactions. For instance, trusts may be strategically used to structure collective investment in capital markets, and to issue and sell bonds to the public under conditions of loan and land trust. Further, trusts are used to facilitate community affairs such as land conservation and charity (Ho and Lee 2013).

Trusts derive from many different sources, depending on their purposes and what is allowed under the laws of a given country. For example, trust practice in England originated from the country's need for estate management and developed into one of the most prominent tools for both private and commercial financial management. Thus, the concept of trust law and the practice of trusts in England contributed to the development of trust businesses, practices, and ultimately trust laws around the world. In the United States as well as Japan, trusts mainly emerged because of a growing need and urgency for mechanisms to support investment and commercial purposes. Subsequently, trusts have

[1] With respect to the differences in trust laws across all jurisdictions, the Hague Convention on the Recognition of Trusts is an international treaty that was designed to establish a common basis on trust law as well as to address the most important issues concerning the recognition of trusts. The Convention defines trust as "the legal relationships created—inter vivos or on death—by a person, the settlor, when assets have been placed under the control of a trustee for the benefit of a beneficiary or for a specified purpose."

been adapted into many different types and purposes. Depending on the country, trust laws have been adopted in a unique and fact-specific manner and are informed by the country's needs at the time of reception.

Over a long period of time and across a number of jurisdictional borders, many factors interacted to shape the law and practice of trusts. Those factors included financial pressures, legislative limitations, academic exchange of ideas, colonial rules, commercial competitions, and shifts in national wealth and demographics (Tamaruya 2018).

In general, there are four components involved in the creation of a trust: (i) a settlor as a creator of a trust; (ii) a trustee who is assigned to manage the trust for a beneficiary; (iii) a beneficiary who is entitled a right to benefit from the trust (unless it is a charitable trust, which usually does not have one specific beneficiary); and (iv) a trust asset (usually money or property), which must be transferred to the trustee as legal owner upon setting up the trust.

In Asia, as pioneered by Japan, many leading economies adopted trust laws in the early 20th century. Japan's first legislation was named the Secured Bond Trusts Act. Subsequently, Japan's Trust Act was enacted in 1922. That act was later amended in 2006. Japan's trust laws have been well developed and serve as useful financial tools through various types of trusts within Japan's trust industry. Interestingly, Japan's Trust Act 1922 and contributed to setting up of the trust industry not only in Japan but also in the Republic of Korea and Taipei,China. The Republic of Korea's Trust Law was promulgated in 1961 and later amended in 2011. Taipei,China first developed the concepts and appearance of trusts in many laws long before it enacted its first trust law in 1996. Later, the Trust Enterprise Act was codified to provide the legal foundation for the business trust and asset management industry of Taipei,China. In the People's Republic of China, the Trust Law was promulgated and came into force in 2001.

The leading Asian economies mentioned above adopted trusts as vehicles primarily for commercial purposes. Consequently, trusts have been developed and widely used, among other types, for asset and wealth management. For instance, in Japan, there are several different types trusts for various purposes such as land trust, pension fund trust, and real estate trust. Hong Kong, China and Singapore are also examples of economies that use trust legislation as a key financial tool to manage private and commercial trusts for individuals and entities. These countries also implement trust laws as means of attracting foreign clients for business development. In addition, in both jurisdictions, trust laws are well developed especially for wealth management services.

In the case of Thailand, the reception of trust law did not occur until very late when the first trust legislation, the Trust for Transaction in Capital Market Act (Trust Act), was promulgated in 2007.

This chapter is divided into six parts and aims to provide the historical background and recent development of trust law in Thailand. To serve its purpose, this chapter will discuss the key components of the existing trust law and the future private trust law. This chapter also focuses on the potential for land trusts and land trust banks and companies to equitably manage and assemble smallholders' plots for the purpose of benefiting public infrastructure use and access, as proposed by Yoshino et al. (2018b). Section 12.2 of this chapter begins by analyzing the history of trust law to provide greater insight into the reception of trust law in Thailand. To understand trust law's main characteristics, Section 12.3 examines the key features of the Trust Act as the first and only current trust law in Thailand during the time of writing this chapter. Subsequently, Section 12.4 concentrates on salient characteristics of the Bill on Trust for Private Asset Management (Private Trust Bill). This chapter endeavors to evaluate whether the future private trust law will help give rise to the creation of land trusts and land banks in Thailand, especially for the benefits of smallholders' plots.

Section 12.5 explores the possibility of land trusts as the best way to use land and to develop infrastructure with real cost and time savings. In addition, this chapter discusses a newly promulgated law, the Entitlement over Immovable Property Act B.E. 2562 (2019) (*Sap-Ing-Sith* Act). This act creates a new type of right over property that can be used as trust property. This part will also examine Japanese land trusts as examples of using land trusts and land trust banks for asset management purposes, particularly for benefits to smallholders' plots.

Finally, Section 12.6 draws on recommendations on potential land trusts in Thailand to affirm the benefits of land trusts—not only for improving infrastructure projects but also for ensuring sustainability and maximized land use for a better economy and quality of life.

12.2 Legislative History of Trust in Thailand

Thailand had no specific trust law until the first promulgation law in 2007. Before that, there were some trusts established in Thailand under Royal Commands, wills, and juristic acts. One such example is the Land Deed Act or Trusts, which was created under the law of England. At the time of the Act's ratification, the Thai court used the equity principle of the trust law of England to enforce trusts that arose under the Act (Polrop 2012).

In 1935, the Civil and Commercial Code: Book 6 was promulgated, and its Section 1686 specifically prohibited the formation of a trust. It prescribed that a direct or indirect trust, created by will or by any juristic act producing an effect during one's lifetime or after death, would have no effect. This meant that Thai law did not recognize trusts and the creation of trusts was also prohibited. However, the Supreme Court later acknowledged and in fact validated the trusts established before the announcement of the Civil and Commercial Code: Book 6. Accordingly, no trusts were established between 1935 and 2006. Sahachaiyunta (2018) comments that, even though a real estate trust has been widely used in many countries, Thai law did not legalize such a trust in its historical past. For this reason, a useful tool for raising funds for investing in real estate could not be set up. Moreover, during the absence of private trust law in Thailand until the time of writing and the presence of the Inheritance Tax Act, many wealthy Thai families and entities transferred liquid assets to establish private trusts overseas, especially in Hong Kong, China and Singapore, where trust laws were and remain maturely developed (Srithaworn 2016).

In Thailand, there was no clear explanation for the prohibition against trust creation, especially a trust by will. Hutangkul and Kumphusiri (2018) take the position that trusts were strictly banned in the Civil and Commercial Code: Book 6 on Succession because, to set up a trust, a settlor must transfer property to a trustee-owner to manage for the benefit of the beneficiary. This transaction, in fact, breached the blanket provision in Section 1336 of the Code. Section 1336 of the Code provided, "Within the limits of law, the owner of property has the right to use and dispose of it and acquires its fruits...." Even though the trustee has legal ownership to the trust property, the use of rights is limited. Additionally, there are many specific laws dealing directly with estate management and planning, foundation setup, asset management for minors, and management of juristic persons. Under these circumstances, there was no need to create a complex trust practice in combination with these specific laws. However, Chaibubha (2018) concludes that the prohibition could come from the limitation of use of rights such that the trustee can only use property for the benefit of the beneficiary in specific ways. For this reason, the trust property could be bound to a person(s) endlessly and without limitation. Hence, the practice served to obstruct and impede economic progress because property ownership could not be modified or transferred to others.

Chaibubha (2018) expresses the view that a trust creates a limitation to the rights of the legal owner of the property. However, the trust is such a useful tool to assist a person who may be not capable of managing personal assets, such as minors or estate management for the deceased.

12.3 Reception of Trust Law in Thailand

The Civil and Commercial Code Section 1686 was amended in 2007 to allow the setting up of a trust thereunder. However, Section 1686 was limited solely to a trust created by virtue of the provisions of that law. The creation of any general trust, whether directly or indirectly, by will or by any juristic act producing an effect during one's lifetime or after death still remains prohibited. Fundamentally and importantly, in Thailand a trust can be legally created only if it is formed under a specific trust law. The stringency of the forms and methods of fundraising to undertake the transaction in Thailand's capital market became an obstacle to the very development of the capital market. Therefore, the first legislation on trusts in Thailand, the Trust for Transactions in Capital Market Act B.E. 2550 (2007), was enacted facilitate transactions solely in the capital market context. Additionally, as stated in its Remark, the Trust Act was expected to be used as another instrument to make fundraising efficient and free of problems that may arise from such transactions. To date, the Trust Act is not only the first, but also the only trust law that is legally enforceable in Thailand. Under the Securities and Exchange Act, the Securities and Exchange Commission (SEC) is empowered by Section 8 of the Trust Act to formulate policies to promote, develop, and supervise transactions in the capital market. These transactions include the issuance of rules, regulations, notifications, orders, directives, and stipulations under the Securities and Exchange Act. The key features of the Trust Act are examined below.

12.3.1 Creation of Trust

Pursuant to Section 3 of the Trust Act, a trust means a legal relationship arising from a trust instrument, which is defined as a contract between a settlor and a trustee.

A trust instrument must be in the form of a contract whereby a person called a settlor transfers or creates real rights pertaining to property to or for another person, called a trustee, with trust and confidence so that the trustee may manage such property for the benefit of the designated beneficiaries. In addition, under Section 14, the following statements must be incorporated in the trust instrument or the trust instrument will be void:

(i) names of a settlor and a trustee;
(ii) beneficiary identifiable by name, qualification, or any characteristic that specifies the beneficiaries of a trust;

(iii) objectives of trust; and
(iv) property constituting the trust property.

By virtue of Section 11 of the Trust Act, a trust is created when a written contract is made and a settlor transfers property or creates a real right or any right appertaining to property constituting trust property to or for a trustee. However, if a settlor wishes to demonstrate its intention to enter into a trusteeship, such settlor is required to make a specific written declaration to create a trust. Upon doing so, the settlor would need to subsequently submit the written declaration to the SEC Office for review. This action is simply a formality and constitutes a legal requirement which does not oblige the SEC Office to render any decision. For the purpose of this Act, property rights or any right pertaining to property, including land and buildings, can be used to establish a trust. Trust property means any property as specified in a trust instrument including any property, both tangible and intangible properties such as land, buildings, and intellectual property rights. Moreover, trust property also includes interest, debt, and liability arising from management of a trust in compliance with a trust instrument or this Act.

12.3.2 Trusts for Transactions in Capital Markets

Section 4 of the Trust Act stipulates that a trust can be created solely for the benefit of transactions in the capital market in the following transactions:

(i) the issuance of securities under the Securities and Exchange Act;
(ii) the securitization under the Royal Enactment on Special Purpose Juristic Persons for Securitization; and
(iii) other transactions that support or are beneficial to capital market development.

The SEC, as a regulator under the Trust Act, currently allows the creation of two types of trust: active trusts and passive trusts. An active trust means a trust for administrative and managerial investment, which has trust certificates issued. At present, active trusts created in the capital market are trusts for institutional investors and high net worth investors, real estate investment trusts (REITs), exchange trade trusts, special purpose trusts, and *sukuk* trusts (Islamic financial certificates). A passive trust is a trust for property holdings or for the benefit of debt settlement in issuing securities, trusts for issuing and offering employee stock ownership plans, trusts for an employee joint investment program, trusts for derivative warrants, trusts to set up reserve accounts or sinking funds for loan payments, and trusts for

setting up asset lists for debt collection for specially appointed juristic persons (Siriwattana 2015).

12.3.3 Eligible Settlor

Section 12 of the Trust Act limits the following juristic persons,[2] not individuals, to be settlors:

(i) company issuing securities under the Securities and Exchange Act;
(ii) originator under the Royal Enactment on Special Purpose Juristic Person for Securitization; and
(iii) juristic persons having the qualifications specified in the notification of the SEC, which are limited liability companies and public limited liability companies.

Further, a settlor and a trustee are not allowed to be a beneficiary unless there is another beneficiary or other beneficiaries included in the trust. The settlor or trustee may receive a limited amount of interest from the trust property not more than the proportion specified in the SEC notification. If the settlor or trustee receives interest more than this proportion, the interest will be allocated to another beneficiary or other beneficiaries.

12.3.4 Licensed Trustee

Under the Trust Act, a trust is a regulated business that is strictly controlled by the SEC. Hence, any person who wishes to perform a trust business is required to obtain the SEC's approval. The Trust Act also specifies that commercial banks, financial institutions, securities companies, and any other juristic person (to be determined by the SEC) are eligible to apply for approval and obtain a fully licensed trustee to undertake the trust business. Section 77 of the Trust Act imposes criminal sanctions on any person undertaking business in a manner similar to trust business without obtaining the SEC's approval. Any person who violates this provision will be liable to imprisonment for a term not exceeding 10 years and a fine not exceeding B1 million (the equivalent to approximately $32,000), or both.

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[2] A juristic person can come into existence only by virtue of the Civil and Commercial Code. The code states that a juristic person has rights and duties in conformity with the provisions of the United States Code of the law within the scope of its power or duties, or its object as provided or defined in the law, regulation, or constitutional act.

There are lengthy provisions prescribed under Chapter 3 of the Trust Act that detail the duties a trustee must perform. Apart from managing a trust property for the benefit of beneficiaries, a trustee is required to avoid an act of conflict of interest when managing a trust and to prepare an account of trust property separate from any other accounts under its responsibility. If a trustee and/or its management fails to comply with provisions of the Trust Act, penalties could range from payment of a very high fine to imprisonment, or both.

12.3.5 Effects of Creation of a Trust

A trust instrument records what is agreed between a settlor and a trustee. It constitutes conditions, rights, and duties of the settlor, the trustee, and the beneficiary. The rights and duties of the settlor are limited to what is specified in the trust instrument. The transfer of a trust property to a trustee creates a legal right for the trustee as an owner or a person entitled to the right over the trust property. Subsequently, the trustee holds a duty to manage the trust property for the highest benefit of the beneficiaries. Moreover, the trustee is required to manage a trust with integrity and prudence as a professional with expertise by providing fair treatment to all beneficiaries.

Section 18 of the Trust Act guarantees that beneficiaries are entitled to receive benefits arising from the trust property's management and any right as specified in the trust instrument and this Act. Additionally, the beneficiary has the right to direct a trustee to manage a trust in accordance with the trust instrument or the Trust Act.

Furthermore, the beneficiary has a right to claim compensation for the benefits of the trust, in cases where the trustee fails to manage the trust in accordance with the trust instrument or the Trust Act.

12.3.6 Termination of Trust

In general, under Section 51 of the Trust Act, a trust will be terminated under a condition specified in a trust instrument. In addition, the following cases will cause a trust to be terminated:

(i) a purpose of the trust instrument has been accomplished;
(ii) a court gives a judgement or grants an order to terminate the trust because a new trustee cannot be appointed to replace the previous trustee;
(iii) the trustee remains the only beneficiary; or
(iv) cases of alteration to or for the trustee occur where the trust instrument prohibited alteration.

12.3.7 Purpose and Scope of the Trust Act

Trusts in different forms and purposes have been widely accepted and used by many countries throughout the world; this can be observed on a wide scale in leading economies. Thailand chose to enact its first trust law to support the growth of its capital market to attract more investment. However, the provisions of the Trust Act are restricted as the Act permits limited types of juristic persons who are eligible to apply for a trust license. In addition, the Trust Act does not allow an individual or a private company to undertake a trusteeship. The legal principles provided in the Trust Act have served their objectives well as we witness a considerable expansion in the number of trusts, especially of the REIT variety.

As of 24 June 2020, there are currently 31 active REITs in Thailand. In fact, the REIT is not only the first type of trust established under the Trust Act but also the most suitable type of trust set up under the Trust Act. The REIT is a type of trust where a trustee is determined as its true owner on behalf of its beneficiary and does not have a juristic person status. The Trust Act governs all matters in relation to operation of the REIT. As a matter of principle, the REIT offers trust units to the public by issuance of a trust certificate, which is identified as a security instrument under the Securities and Exchange Act B.E. 2535 (1992). Thus, the REIT must strictly comply with the provisions of this Act in relation to issuance and the public offering of trust units as disclosure of all relevant and necessary information.

Prior to the establishment of any REIT, the REIT manager (RM) is required to file a public offering of trust unit application to the SEC. Once the SEC grants the application, the RM will appoint an underwriter to sell and distribute trust certificates to the general public. Investors will become trust certificate holders and the REIT's beneficiaries. A trust deed will assign management duty to the RM. To serve the beneficiary's best interests, the trustee bears the important responsibility to supervise the RM's performance and administration of the REIT. Rental income generated from investing in real property will be paid to the unit holders as dividends.

The Trust Act is an example of how a trust can be useful for asset management. Thus, trusts should not solely serve as a tool for managing assets for the wealthy. Trusts can be used in family estate management and for other commercial purposes as well. Perhaps, it is time Thailand enacts legislation allowing private trusts and other types of trust because of trusts' usefulness in many diverse asset management contexts. In the absence of private trusts in Thailand as a result of and a new Land and Building Tax Act, many wealthy families are forced to move their wealth to be managed overseas. In such a case, trusts for personal asset

management are preferable. Singapore and Hong Kong, China are popular destinations for this purpose because they offer various kinds of trusts that have been developed to serve as financial services for both private and commercial trusts.

The Trust Act excludes other kinds of trusts as it was enacted to develop transactions in the capital market, not for other purposes. Hence, there is currently no variety of financial tools in the form of a trust. Thailand should allow the use of the trust business extensively as a mechanism to manage assets and to reduce the transfer of funds to trusts in other jurisdictions. This will create an opportunity to attract more investment within Thailand (Sahachaiyunta 2018). Another scholar comments that Thailand is entering into the stage of an aging society and trusts could possibly serve as a useful tool to help Thai citizens effectively plan their retirement. Certainly, Thailand's economic growth and social development will be affected. There have been many benefits of trusts, for example: (i) the segregation of assets for the specific purpose of covering living costs and health care expenses; (ii) protection against asset abuse or mismanagement; and (iii) family relationship management (Ruamrangsri 2018). There are clear disadvantages arising from the lack of private trust laws. The next part will explore the development of drafted legislation for a private trust law.

12.4 Current Development of a Private Trust Law in Thailand

As previously mentioned, Thailand promulgated its first trust law less than 15 years ago and it allows for the creation of trusts only for capital market transactions. Additionally, there is no private trust law in Thailand as the Civil and Commercial Code does not allow the creation of a trust without a specific trust law. A private trust itself is an effective tool for private asset management that will benefit individuals, groups, and other juristic persons who are not subject to the Trust Act.

On 10 July 2018, the Bill on Trust for Private Asset Management (Private Trust Bill) was approved by the Thai Cabinet. The Private Trust Bill aims to establish an effective tool for private asset management to reduce transferring liquid assets for management overseas. The Private Trust Bill passed the legislative review of the Office of the Council of State. Most recently, the bill is undergoing an amendment process carried out by the Fiscal Policy Office of the Ministry of Finance. The bill will later proceed through necessary legislative procedures until it is finally promulgated.[3]

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[3] Interview of an officer in charge, the Fiscal Policy Office on 23 March 2020.

This section will examine the new legislation on private trusts to illustrate the legal principles behind the bill. Moreover, this section will analyze how the Private Trust Bill will benefit individuals, families, and juristic persons, particularly property owners who are subject to a new tax levy on land and buildings alike. The key components of this Private Trust Bill are summarized below.

Pursuant to Section 7 of the Private Trust Bill, it is proposed that a trust can now be created for the first time by a written contract while someone is living or by a will after the person's death. For purposes of this bill, a settlor can be an individual or a juristic person. To create a trust, a settlor prepares a written contract or a will. Then, the settlor either transfers trust property or creates a real right or any right pertaining to the property, such that the trust property is to or for a trustee. However, the bill prohibits a settlor to undertake a trusteeship. Furthermore, a trustee is not allowed to be a beneficiary; otherwise, the trust contract is voided. Section 10 of the bill specifies that a trust contract must contain names of a settlor and a trustee and a beneficiary. Additionally, it must also include objectives of the trust, property constituting the trust, and a term of the trust, which is limited to a maximum of 100 years.

The Fiscal Policy Office has explained that 100 years will be sufficient time for two generations to manage and plan for passing on wealth to the next generation. Moreover, the Fiscal Policy Office opines that it should be a reasonable period of time such that the trustee can effectively take care of and manage the trust property. On the other hand, if the termination of the private trust is too short in time, Thailand will be disadvantaged because its citizens will liquidate their assets in Thailand and then seek to establish trusts in other jurisdictions that provide for longer validation periods of trust. For example, Singapore allows a long validity of private trusts for a maximum of 100 years. In addition, longstanding validity of a private trust will create stability and security to the property of individuals until large business groups need an expert to manage their assets.

Conditions, rights, and duties of the settlor, the trustee, and the beneficiary are described in a trust instrument or a will. The beneficiary is entitled to rights for all the benefits from the trust as described in the trust instrument or will. Moreover, the beneficiary is also entitled to other rights under the trust instrument and under the Private Trust Bill. Pursuant to Section 24 of the Private Trust Bill, the trustee holds a duty to manage the trust property with integrity and prudence as a professional for the highest benefit of the beneficiaries.

Section 7 of the Private Trust Bill prescribes that property, real rights, and any right pertaining to property can be transferred to a

trustee for purposes of establishing a trust. Under Sections 137 and 138 of the Civil and Commercial Code, property includes things which are corporeal objects as well as incorporeal objects, which are both susceptible of having value and of being appropriated. Thus, the eligible underlying trust assets prescribed under the proposed law are generally bankable assets such as cash, listed stock, investment units in mutual funds, investment portfolios, and shares in private equity funds. Land and other types of assets may also be underlying trust assets subject to a trustee (Urapeepatanapong et al. 2018). In addition, assets both in Thailand and overseas can be used as trust assets. A trust created under the Private Trust Bill is limited only for personal asset management purposes. Hence, a private trust could not raise funds from the public. It also could not be managed for the benefit of capital market transactions because the Trust Act already governs such transactions.

Section 18 of the Trust Act guarantees that beneficiaries are entitled to receive benefits arising from the trust property's management and any right as specified in the trust instrument and this Act. Additionally, the beneficiary has the right to direct a trustee to manage a trust in accordance with the trust instrument or the Trust Act.

A private trust will also be a regulated business under the control of the SEC. According to Section 55 of the Private Trust Bill, commercial banks, financial institutions, securities companies, and other juristic persons (to be specified in the future by the SEC) are eligible to apply for approval to undertake trust businesses. A licensed trustee has the duty to manage a trust with integrity and prudence for the highest benefits and financial returns to beneficiaries. In addition, the trustee is prohibited to act in a manner that suggests or presents a conflict of interest. To this end, the trustee is obligated to prepare an accounting of trust property separate from any other accounts under its responsibility.

In doing so, the trustee must verify the accuracy of such accounting and ensure the accounting is up to date. If the trustee fails to comply with the trust instrument or the Private Trust Bill, the trustee may be subject to administrative sanctions and/or criminal liability. The rest of the drafted provisions closely resemble the Trust Act.

When the Private Trust Bill comes into effect, it will open up new ways for asset and wealth management. A trust vehicle is relatively new to Thailand and only a trust for capital markets is available at the moment. Therefore, the Thai government should prepare a trust knowledge training and capacity building program to educate individuals who may be interested in using trusts to manage their assets. Further, such a training program should be available to all related stakeholders including, but not limited to, eligible entities

who wish to operate a private trust business, lawyers practicing in the subject area, and government officers who will facilitate private trust transactions.

There is no restriction on the types of private trusts that can be created under the Private Trust Bill. Hence, a settlor can arrange a private trust to manage an asset as s/he desires, but such a trust must comply with all provisions stipulated under the Private Trust Act. A family trust is a common form of trust that has been commonly used to manage private assets to pass on estates to future generations. In some jurisdictions, such as the United States, a trust is an important tool for both estate and tax planning purposes.

A private trust, however, can also serve as a useful tool to manage many kinds of assets for many purposes, not only those limited to personal estate planning and family assets management. For example, in the Republic of Korea, real estate trusts have become a key part of the trust business since the early 1990s. There, landowners entrust a trust bank or a trust company to develop and manage properties as well as invest in the project itself. Once the project becomes profitable, the trustee distributes the benefit to the beneficiaries. According to Tamaruya (2018), real estate trusts accounted for nearly 24% of the Republic of Korea's entire trust assets. In Japan, individuals who live in small houses can use their land by consolidating land and building apartments or office buildings on it by entrusting a trust bank or a trust company to create a real estate trust. Under such circumstances, the trustee constructs a large building on the land to make optimal use of the land (Yoshino and Wisuttisak 2020). A land trust can also play an important role in both land development for commercial purposes and in facilitating public infrastructure projects. The next section will discuss land trusts as a mechanism for using land as well as for supporting the development of infrastructure projects.

12.5 Potential for Future Land Trusts and Land Trust Banks in Thailand

This section will explore a land trust as a tool to manage private assets that can benefit both private and public projects. Furthermore, it will explore two important new laws, the Land and Building Tax Act B.E. 2562 (2019) and the Entitlement over Immovable Property (*Sap-Ing-Sith* in Thai) Act B.E. 2562 (2019). As discussed, these two new laws would support the emergence of land trusts in Thailand, although they are conditional on the Private Trust Bill's enactment in the first instance.

12.5.1 Land Trusts for Better Use of Land

In March 2019, Thailand introduced the Land and Building Tax Act B.E. 2562 (2019) to collect taxes from any individual or juristic person who has ownership, possessory, or use rights over any land or buildings, including condominium units. Pursuant to Section 37 of this act, in case the land or building is not properly or reasonably used, or has been left vacant for the entire past tax year, these immovable properties are deemed "vacant property."

Consequently, an owner of such property is liable for paying the land and building tax.[4] This Land and Building Tax Act poses many difficulties to property owners as well as persons who own the right to use any land and buildings.

The Ministerial regulation published in the *Government Gazette* on 25 December 2019 states that a block of land is deemed vacant property if it has not been used for its purpose, such as agricultural land, for the entire past tax year. The same principle applies to a building if it can be used for other purposes such as for residential or commercial use for the entire past tax year (Urapeepatanapong and Charoenkitraj 2020).

This original provision is of great concern to the owners of immovable properties regardless of income class. Many Thais, especially middle class and wealthy people, treasure real estate property, particularly land and condominiums, as a preferred way of saving. When they hold vast real estate holdings and do not use them, they become liable to pay taxes for these vacant properties. In addition, some land is suitable for agriculture and farming purposes but not for commercial or residential use. Owners of the vacant properties must make a proper plan to use such properties. It is because of the land and buildings they intended to hold on to for saving purposes that they have now created a tax liability for themselves under the Land and Building Tax Act. Perhaps they could try to find alternative uses for such land or buildings or attempt to lease them. However, these approaches may not be simple endeavors for owners who possess a lot of vacant properties or own fallow agricultural land.

For farmers and small landowners, a significant problem is the assessment and payment of such steep taxes, which they previously never had to pay. Some of these affected landowners may own inherited agricultural land but lack the money to use the properties to avoid their them from being deemed vacant properties. In this situation, if the Private Trust Bill comes into force, a landowner can entrust a trust bank

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[4] Due to the coronavirus (COVID-19) pandemic, the Thai government announced in June 2020 the land and building tax applicable to property owners will be reduced by 90%.

or a trust company to act as a trustee to manage and use the properties through a land trust. The trust bank and trust company can specialize in land trust management and invest in the necessary time and efforts to turn the unproductive property into a better source of income through the generation of rent or royalties.

12.5.2 Land Trusts for Land Acquisition in Infrastructure Projects

In normal practice, property developers or infrastructure sponsors always find it difficult to deal with landowners, especially when they must gather small amounts of land for colossal projects. The process of acquiring land is costly and time consuming, also in Thailand. Compensation is not the only main issue that challenges land acquisition efforts; landowners' willingness to sell their land is another one. Some landowners intend to keep land to pass on to their next of kin and this presents another barrier to land acquisition efforts.

Yoshino et al. (2018a) propose using land trusts as a solution to the land acquisition dilemma for infrastructure development in Asia. The authors take the view that the typically long and complex process of acquiring land for infrastructure and industrial projects can be expedited by using a land trust bank. They explain that the land trust bank will handle land acquisition in a peaceful and coordinated manner. In this case, a land trust will allow landowners to preserve their rights to the properties, while at the same time yielding benefits to the land trust through a lease fee. A trust bank will manage lands to infrastructure development and industrialization purposes without infringing on the landowner's innate rights.

Despite Thailand still lacking a private trust law, the Private Trust Bill remains in the process of being enacted. The private trust industry in Thailand will soon begin after the enactment of the Bill. There is no doubt that a family trust will be accepted and widely used when private trusts are allowed. However, this chapter proposes that a land trust should be developed and promoted along with the family trust in the trust industry in Thailand. This section will examine benefits of land trusts for private property management and also to facilitate infrastructure projects.

As Thailand is still continuing with its infrastructure and industrial developments, there are many ongoing infrastructure projects such as a high-speed train project in the northeast and mass transit train systems in both underground and overground projects in Bangkok. These public projects aim to develop and improve the quality of life for local people and also to attract foreign investment.

For instance, a special development zone called the East Economic Corridor in eastern Thailand serves to promote industrial growth as well as to decentralize business congestion. Thailand also faces challenges in acquiring land for these projects, which cause project delays and high investment costs. Perhaps land trusts could be an effective way of managing the effective negotiation process and, in turn, this could make it more efficient in terms of cost and time. When the Private Trust Bill is enacted, Thailand can benefit from land trusts by encouraging landowners, including small plot holders, to use trusts as a vehicle to gain better use of their land. Trust banks or trust companies can either develop the land on an independent basis or lease land to developers or infrastructure investors to earn annual incomes.

Trust banks and trust companies are expected to play significant roles as key drivers of the private trust industry. The Thai government needs to encourage banking institutions and financial companies, who are eligible to apply for a trust license, to manage private trusts under the proposed Private Trust Act, and to prepare for this new asset management service under trusteeship. Since there is no limit to the type of private trusts, those banks and financial entities should prepare to serve as trustees for asset management in advance. Perhaps, at the beginning, they can focus on trust services for family asset management, real estate, and land because those will be the most preferred, and they are high-value and familiar services. In addition, this chapter encourages these entities to begin considering a more active role in land trusts. It is important that those entities supply trustee services with their best understanding of trusts and trust law. In addition, land trusts can consolidate many landowners to participate in land trusts and they can become trust banks or companies that specialize in land trusts for both private and public projects. Yoshino and Wisuttisak (2020) emphasize that banks can expand their roles from being financers of infrastructure projects to becoming trust managers.

Many landholders can entrust a trust bank or a trust company to be a trustee to manage their land. After that the trustee can lease land for infrastructure projects as well as for commercial projects. The landowners still hold on to an equitable interest in their properties, while revenue from the land lease agreement will be distributed to beneficiaries as specified in the trust instrument.

As mentioned above, the new property tax will create burdens for landowners, particularly those who own many vacant properties, and a land trust can efficiently pivot such vacant properties toward deriving benefits from idle and unused land.

12.5.3 New Entitlement over Immovable Property: Future Trust Property

The Entitlement over Immovable Property (*Sap-Ing-Sith* in Thai) Act B.E. 2562 (2019) was published in the *Royal Thai Government Gazette* on 30 April 2019 (hereinafter the *Sap-Ing-Sith* Act). It came into effect on 27 October 2019. The remarks in the *Sap-Ing-Sith* Act explain that the hire of property under the Civil and Commercial Code is a contractual right between particular contracting parties, which has certain limitations in economic use. The *Sap-Ing-Sith* Act was promulgated to establish a new right over property that provides more rights to property holders.

Property registered as *Sap-Ing-Sith* can be transferred, inherited, or used as a guarantee for mortgage repayments. The entitlement over immovable property or *Sap-Ing-Sith* is defined as a property right to immovable property as prescribed in the act. Pursuant to Section 3 of the *Sap-Ing-Sith* Act, immovable property refers to land with a title deed, land, construction on it, and condominium units that can be registered as *Sap-Ing-Sith*. To establish *Sap-Ing-Sith*, an owner of a property is required to register at the Department of Lands to obtain a *Sap-Ing-Sith* certificate. There is no minimum term for *Sap-Ing-Sith*. However, the maximum term of a *Sap-Ing-Sith* agreement should not exceed 30 years. Any juristic acts relating to *Sap-Ing-Sith* must be done in the form of an agreement and subsequently registered at the Department of Lands.

Sap-Ing-Sith is an alternative option for businesses and investors to make a long-term investment in properties, which can be used almost in the same way as purchasing the properties. This option will reduce costs and can be used as business security to acquire more capital. The property can be subleased, modified, and renovated without the owner's consent (Bunruangthaworn, Suppakrucha, and Maniwat 2019).

A regular lease or hire of immovable property under the Civil and Commercial Code cannot enjoy these flexibilities as allowed for *Sap-Ing-Sith*. This is because any rights under a normal agreement for the hire of immovable property cannot be transferred or mortgaged, and the lease agreement also must end on the lessee's death.

This new right over property can be used as a trust property where the property owners do not need to transfer their immovable property to a trustee. The property owners only register their property as *Sap-Ing-Sith* at the Department of Lands and then transfer the *Sap-Ing-Sith* certificate to the trustee through a trust instrument. Upon the property owners doing so, the trustee can manage, transfer, or lease such immovable property as a trustee for the benefit of the

beneficiaries. *Sap-Ing-Sith* offers great potential to make better use of immovable properties. With the *Sap-Ing-Sith* agreement, landowners can still own the land but, in the meantime, they can also derive benefits from it. Developers who are *Sap-Ing-Sith's* holders can mortgage the *Sap-Ing-Sith* and use the funds for project development. This would not otherwise be allowed under the lease of immovable property not registered as *Sap-Ing-Sith*.

12.6 Conclusion

This chapter concludes with a recommendation and analysis of the potential for using land trusts in Thailand. This final part affirms that land trusts are beneficial to ensure sustainable land use, and also to support the participation of smallholders' plots in commercial and infrastructure projects for a better economy and quality of life. When the Private Trust Bill comes into effect, a trust bank or trust company can act as a knowledge intermediary to gather small plots in rural or urban areas and develop commercial projects or promote the land under the land trust to other developers. For public projects such as roads, dams, and other infrastructure projects, it is promising that future land trusts are likely to shorten the land acquisition process and complete project development faster and at lower cost. The landowners who become settlors are not forced to sell their land, but can also gain benefits from the infrastructure projects from annual lease fees and can use the public infrastructure as well.

Thailand does not have a special trust bank or company yet because private trust creation remains prohibited to the present day. Nonetheless, the Private Trust Bill is in the process of being finalized and ratified. The bill will create a new whole service area for the financial industry. Banks and financial entities eligible to become licensed trustees under the Private Trust Act will serve as key drivers in moving the trust industry into the next level—from serving private asset management to facilitating and managing land trusts for the benefit of both infrastructure projects and private assets.

Yoshino et al. (2018b) conclude that land trusts or land leases for the development of infrastructure investment and industrialization purposes is one of the most promising mechanisms for increasing the rate of return to invite private investors into infrastructure investments.

With the newly created transferable right, the Entitlement over Immovable Property or *Sap-Ing-Sith*, the use of land leases becomes less restricted. A landowner can establish *Sap-Ing-Sith* as a right over the property and lease such property to developers or infrastructure projects without losing property ownership. This arrangement creates flexibility to use immovable property as detailed above. Furthermore,

Sap-Ing-Sith can be used as a trust property to establish a trust or a land trust in particular. Once such private trusts are allowed, a trust bank or company can encourage landowners and smallholders to use *Sap-Ing-Sith* as a trust property to facilitate various private and public land development projects instead of losing ownership of the land by selling it. The owners of land or buildings can benefit from their underused land and buildings through a trust where a trust bank or trust company can apply their professional skills to manage those vacant properties and turn them into profitable assets and sites for useful public purposes.

However, in the absence of a private trust, the author recommends that landowners and smallholders use *Sap-Ing-Sith* to enter into commercial contracts with private developers or infrastructure projects while awaiting the enactment of the Private Trust Bill. As discussed, land trusts are indispensable in this context because they will facilitate asset management in a variety of aspects. However, land trusts and other private trusts cannot be created without a specific law. Additionally, there is no specific timeline for the Private Trust Bill to be enacted. Hence, *Sap-Ing-Sith* can be used during the absence of land trusts, particularly when using them to support public projects that require the rights-of-way over land owned by landowners. *Sap-Ing-Sith* can also help owners of vacant property that is subject to land and building taxes to gain better commercial use of the land.

Last but not least, familiarity about private trusts of any kind, such as family trusts and land trusts, is not well shared among the general public yet. Even though private trusts are not allowed in Thailand yet, the Private Trust Bill is on its way to being enacted. This chapter suggests related government agencies should prepare to educate the public, lawyers, and financial institutions to understand the context of private trusts and prepare to set up the necessary knowledge infrastructure.

There will be a need for trust lawyers, specialized trust banks, and trust companies, all of which should specialize in specific trust businesses. Of course, the question will be whether these individuals and organizations are adequately prepared to perform the legal and financial services that future settlors and private trusts will require. Additionally, there is also the matter of what exactly it will take for these individuals and organizations to be ready to provide services as specialist trust lawyers and trustees. As land trusts are expected to be one of the most important trusts in Thailand, it is also unclear who will be able to educate landowners, especially smallholders, regarding trusts such that these groups learn enough to use trusts effectively and to their benefit. Finally, banks, securities, and financial companies should, if they have not already done so, determine what kind of business trusts they can support and start preparing accordingly.

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13

Impact of Social Safeguarding on Private Land Ownership and Individual Well-Being: The Case of Sri Lanka

S. P. Jayasooriya

13.1 Introduction

Safeguard policies and practices are part of the installation of infrastructure and consist of assessment of the quality of environmental and social safeguards for sustainable development. Therefore, safeguards have been an integral part of infrastructure development for green growth in many countries. Many donor organizations offering infrastructure financing use social safeguards that aim to address resettlement issues and restore the income of affected people with varying degrees of success.

In Sri Lanka, the Asian Development Bank (ADB) financed the National Highway Sector Project (NHSP) for transport sector development and safeguard implementation. The demand for the assessment of the safeguard policies in line with ADB's Safeguard Policy Statement (SPS) should be one of the key considerations for road rehabilitation and financing for sustainable development. Resettlement and income restoration programs for affected people act as social safeguards for achieving the objectives of livelihood and living standard improvement and poverty reduction. The impact evaluation assessed the degree of impact on the directly affected people and non-affected people before and after the project's implementation.

The aim of long-term economic growth depends on reducing poverty and inequality by improving lives through social inclusion and environmental sustainability. Multilateral donor organizations are committed to maximizing the positive social and environmental results,

while minimizing the negative impacts and risks for the people affected by infrastructure development. Protection and investment in natural and social resources respond to the challenges of climate change, promote sustainable infrastructure solutions, and ensure social inclusion and accountability. ADB works to achieve these outcomes for social and environmental targets with a comprehensive set of safeguard policies for the projects that it finances. It believes that projects grounded in environmental and social sustainability are inherently better.

A key pillar of development is infrastructure, which, when properly built and administered, leads to economic growth, higher productivity, and competitiveness. Further, it is essential for improving the livelihood and living standards and the inclusiveness of societies. With higher growth of the population and economic regions, the demand for adequate, high-quality, and climate-friendly infrastructure increases. There are many challenges involved in providing infrastructure and services, such as rapid urbanization; limited access to basic water, electricity, and sanitation services; regional and global integration; natural disasters; and the need to address climate change adaptation and mitigation.

13.1.1 Importance of Safeguarding for Sustainability

In Asia, rapid urbanization, greater needs for natural resources, and natural calamities have increased the risks of population displacement, including displacement for development projects. ADB's involuntary resettlement safeguard application in selected projects relies on the SPS's involuntary resettlement policy principles in its assessment: early screening, meaningful consultations, improved or at least restored livelihoods of displaced persons, assistance for both physically and economically displaced persons, improvement of living standards of the displaced poor and vulnerable groups, assistance for persons without titles or rights to land, resettlement plans, disclosure, payment of compensation and other entitlements before possession, and monitoring and assessment of outcomes. The clearly defined policy principles aim to achieve more than giving compensation and "doing no harm;" they favor drawing people affected by ADB-financed projects into the development process with the potential to improve their lives.

Occasionally, the involuntary resettlement of infrastructure development projects can cause severe economic, social, and environmental risks. Consequently, it may not be possible to optimally manage the hardship and deprivation of the affected people. Hence, ADB's safeguards aim to avoid possible involuntary resettlement and to minimize it through several means.

This evaluation assesses how ADB's involuntary resettlement safeguards add value in helping to achieve the broader development goals of poverty and inequality reduction, while also paying attention to what is necessary to fully implement the SPS. The research method in the country for the infrastructure development project encompassed a document review; semi-structured interviews with key people, including interviews with affected people; and stratified random sample surveys among 201 affected households and control groups in Sri Lanka.

13.1.2 The Safeguard Policy Statement's Alignment with Land Acquisition and Rehabilitation Regulation and Practices

The administration of the rehabilitation packages followed ADB's financing requirements. The Government of Sri Lanka also administered the country safeguard system (CSS) in line with the SPS. These principles and processes stem from Sri Lanka's laws, regulations, and guidelines and from ADB's SPS (ADB 2009). The resettlement framework highlights and outlines the specific requirements that the executing agency of the investment program has to meet in the formulation and implementation of a resettlement plan and/or resettlement implementation plan (RP and/or RIP) for a project with potential resettlement impacts by focusing on their screening and categorization, socioeconomic assessment, public consultations, resettlement planning, institutional arrangements for RP and/or RIP implementation, monitoring of results, grievance redress mechanisms, and budget.

The SPS explains the collective objectives of ADB's safeguards, designs policy principles, and outlines the delivery process for ADB's safeguard policy. The SPS developed from three safeguard policies on the environment, involuntary resettlement, and indigenous peoples. Then, it gathered into one single policy for consistency and coherence, and it comprehensively addresses environmental and social impacts and risks. The SPS directs sustainability by protecting the environment and people from the potential adverse impacts of projects.

The structure of the rest of this chapter is as follows. Section 13.2 discusses the importance of impact evaluation as sustainable development from the literature. Section 13.3 presents the data and empirical approach of the impact evaluation. Section 13.4 contains the results of the assessment of social safeguards and a discussion. Section 13.5 presents the conclusion, while Section 13.6 gives policy recommendations for sustainable infrastructure development in the future.

13.2 Literature Review

Infrastructure development improves the livelihoods of people directly and indirectly through poverty alleviation. Multilateral development organizations have allocated various forms of financing to infrastructure development in the past in many developing countries. Along with road sector financing, a number of researchers have shown that infrastructure development is obligatory for improving people's livelihood (Van de Walle 1996, Jacoby 2000, Gibson and Rozelle 2003, Jalan and Ravallion 2003, Lokshin and Yemtsov 2005). Further, much infrastructure development consists of safeguard practices and assessment in the projects themselves for sustainable development in line with the road rehabilitation and financing. Among many impact evaluation studies on road rehabilitation, Gonzalez-Navarro and Quintana-Domeque (2016) conducted a seminal study. They applied a randomized experiment to quantify the impact of infrastructure development on poverty. Therefore, the rigorous evaluation of the impacts of infrastructure started with quasi-experimental methods.

Social safeguard practices and policies are one of the key considerations in road rehabilitation projects to evaluate the impacts of social development in line with the best practices of safeguard measures for the transport sector (ADB 2009). Second, a broader framework is necessary for evaluating the impacts of infrastructure on poverty reduction, since infrastructure cannot prevail in isolation. Meanwhile, most of the theoretical works have focused on the nexus between infrastructure and poverty outcomes, including income, health, education, and other individual socioeconomic outcomes. However, these studies have been limited in their explanation of the dynamic or stochastic nature of poverty (Fafchamps 2003, Dercon 2005). A policy analysis of static poverty can result in inefficient policy interventions (Jalan and Ravallion 1998).

Providing access to infrastructure directly increases the income of households, improving their production. Indirectly, it changes consumption, saving, and investment decisions (Dillion 2011; Aoyagi, Sawada, and Shoji 2014). It is possible to use either experimental or nonexperimental methods for the infrastructure evaluation. However, people regard the role of infrastructure as that of a facilitator of mutual complementarities between market, state, and communities, which play a critical role in correcting both market and government failures (Hayami 2009, Mansuri and Rao 2013).

13.2.1 Impact Evaluation of Infrastructure

By offering empirical evidence, impact evaluations aim to provide a better measure of the results attributable to development projects. Evidence-based decision making improves accountability and learning

from development interventions. Further, before and after comparisons between outcomes, with and without projects, often lead to false conclusions. Thus, impact evaluation offers a set of tools to measure the project drivers for change that are truly attributable to the projects.

Understanding the most effective intervention is essential to ascertain causal relationships that will effectively reduce poverty. However, impact evaluations work on the counterfactual, which is a randomly selected control group.

Even though impact evaluation is an innovative field, the literature has presented limited evidence about the contribution of individual infrastructure projects and programs to the achievement of the development goals. Further, to undertake empirical tests, the project designs included many choices and assumptions. Systematic measurement of project outcomes supports evidence-based decision making and helps in the effective design and implementation of the projects. On the other hand, nonexperimental studies tend to provide biased estimations due to selection bias, as countries place infrastructure in the areas where they expect high economic growth. In terms of measuring the infrastructure outcomes without bias, it is possible to use the experimental or quasi-experimental approach to establish causal impacts (Gonzalez-Navarro and Quintana-Domeque 2016).

It is difficult to prove the random placement of infrastructure, but, when infrastructure placement is beyond human alterations, it gives researchers a natural experimental setting similar to DiNardo's (2008). The seminal study by Duflo and Pande (2007) about the impact of dams in India on poverty reduction uses the quasi-experimental variable approach. Using transport networking data, Banerjee, Duflo, and Qian (2012) addressed the problem of endogenous placement to show the impact on the regional economic outcome. With the support of the role of infrastructure in reducing both chronic and transient poverty, a unique panel data study investigated irrigated and nonirrigated areas of Sri Lanka (Sawada et al. 2014). In another study, a household fixed-effects approach using panel data estimated the return on infrastructure investment in a rural development program in Bangladesh (Khandker, Barnes, and Samad 2009).

In a similar way, Dinkelman (2011) studied the impact of household electricity access on employment in South Africa, considering electrification as an instrumental variable. According to the above results, even though the income levels for the treated and control groups were not significant at the 5% level (Table A13.3), further analysis (Table A13.4) showed that the estimated results for the difference-in-difference approach were significant at the 5% level. This indicates that the safeguard policies for the treated group are effective and efficient over time in the restoration of their income sources and increase their

income significantly. This leads to the inference that safeguards increase the sustainability of the livelihood and living standards among the affected persons.

13.3 Data

The evaluation study conducted a socioeconomic survey of 201 households in two sections: (i) B153: Hikkaduwa–Baddegama and (ii) B157: Aluthgama–Lewwanduwa, of the National Highway Sector Project–Additional Financing (NHSP–AF). The survey intended to investigate income restoration and to assess whether the affected households were better or worse off after the project. The study adopted a mixed approach, with both qualitative and quantitative methods, for the analysis to produce detailed results with insights. It used impact evaluation techniques with both quantitative and qualitative data from the household survey. It drew the counterfactuals from comparable nonparticipant areas. For additional information, nonquantifiable variables, and robustness, the study collected qualitative information too.

13.4 Results and Discussion

13.4.1 Quantitative Impacts on Affected Persons

This section presents the results of the difference-in-difference (DID) estimation. Table A13.1 (Appendix) provides a summary of the sample statistics. To compare similar groups, the study conducted a balancing test. It checked the control and treatment groups prior to the road rehabilitation in Table A13.2 (Appendix) to define the observed outcomes between the treatment and the counterfactual groups. The evidence shows that the two groups are similar in most of the indicators that the analysis considered. Table A13.2 shows that there are no statistically significant differences across the treatment and control groups in these pre-rehabilitation variables. To compare the two groups, it is essential to test the balance of the characteristics of the groups to ensure reliable estimates and robustness. This shows the mean comparison of the treated and control groups of persons in the road rehabilitation project before the implementation of the safeguard policies (Table A13.3). The results indicate that the two groups are equal in terms of the basic characteristics in the study, which eventually leads to the DID estimation.

Table A13.4 presents the covariate estimation of the DID method for the treated and control groups. The results reveal that the primary income, education of the household head, ownership, land value,

occupation, urban location, family size, proportion unemployed, proportion in business, proportion in industry, proportion in services, and household completeness are significant predictors of the difference in the treated and control groups of the study. While the results imply that the project did not harm the affected households, they could also mean that the additional support through limited livelihood training had little impact on raising the income of the affected households living below the poverty threshold.

In the estimates of first difference, the improvement of the lower income group was minimal. The difference-in-difference estimates show a significant improvement as a result of the income restoration program. Thus, the study suggests that policies can improve the intervention of the income restoration program along with the package for the betterment of the lower-income groups.

The quantitative assessment of the impacts of road rehabilitation on affected people used the double-difference method. Table A13.4 reports the results. The evaluation's stratified sample survey for the NHSP–AF reflected virtually no change in post-project income levels, indicating at least restoration of livelihoods, in line with the SPS's bottom-line objectives, but no improvement for the poor and vulnerable in the first stage. These results support the assertion that those with privately owned lands took advantage of the increase in land prices tremendously after the road rehabilitation. The land in urban locations has gained higher values for the livelihood improvement under the project. The proportion in business, industry, and services has significant impacts on the well-being of the affected groups in line with the counterfactual. Household completeness also showed a significant result for the road rehabilitation, indicating more rapid completion of the affected houses than the control.

According to the results, even though the income levels for the treated and control groups were not significant at the 5% level (Table A13.3), further analysis (Table A13.4) showed that the estimated results for the difference-in-difference approach were significant at the 5% level over a period of time. This indicates that the safeguard policies over time were effective and efficient for the members of the treated group in the restoration of their income sources and increased their income significantly.

The NHSP–AF survey also found that most respondents in the two road sections did not know about the grievance redress mechanism. The evaluation's stratified sample survey for the NHSP–AF reflected virtually no change in post-project income levels, indicating at least restoration of livelihoods, in line with the SPS's bottom-line objectives, but no improvement for the poor and vulnerable. While not a mandatory

requirement of the SPS, improving the livelihoods of the non-poor and vulnerable affected people would have offered both benefits for affected people and likely increased project returns.

13.4.2 Qualitative Impacts on Affected Persons

ADB policy principles on consultation, disclosure, and grievance redress mechanisms: The policy principles on meaningful consultation, disclosure, and the grievance redress mechanism were not the priority for the projects. The study found a lack of explanation of the entitlements and resettlement options for the affected people. A majority of the people was not aware of their lump-sum compensation payments and grievance redress mechanism. It was evident that almost 50% of the people affected by the NHSP–AF were satisfied with the Land Acquisition and Resettlement Committee (LARC) and Super Land Acquisition and Resettlement Committee (Super LARC) system of hearings and reported that they had negotiated a better compensation package. The rest of the affected people complained that they were not satisfied with the LARC system due to the limited time, undue pressure, and lack of attention and transparency (ADB 2016). The social impact assessment needs a simplification of communication issues.

Land for land: Safeguard measures advocate for vulnerable communities regarding the need to rehabilitate sociocultural features, food security, and productivity, and the SPS advises replacing the lost land with other land "where possible" as compensation for land-based affected people. Sometimes, due to inelastic resources, land for land becomes an unlikely involuntary resettlement option.

Addressing wider social dimensions: ADB's social dimensions map, including growth and social development, depends on policies and institutions that can recognize and promote equity, empowerment, security, and risk management. Social impact assessment provides an integral part of involuntary resettlement planning and management strategies. Further, the NHSP produced a series of in-depth external monitoring and evaluation reports that explored a range of sociological perspectives on resettlement implementation. The project cases have developed good records of paying affected people compensation, including poverty grants. For two projects, the external monitoring and evaluation specialists provided valuable additional information to improve the delivery, including problems delivering on entitlements, mainly in terms of their adequacy and timing.

Reaching the affected poor and vulnerable: It is a challenge to improve the living standards of the poor and vulnerable according to the policy principle. The Road Development Authority's projects provided

a one-off grant of $117 to each of those meeting the definition of affected poor and vulnerable, which include the elderly, the disabled, and households with female heads. While this represents a serious attempt to reach those most in need among the affected, the results have yet to show that the grants bring the recipients up to the national minimum living standards.

Livelihood programs: It is necessary for each resettlement plan to present detailed measures for income restoration and livelihood improvement, encouraging the borrowers to make every effort to improve the incomes of displaced persons so that they can benefit from the project, based on the guidance. It indicates compensation at replacement rates plus additional necessary livelihood rehabilitation measures, with benefit sharing where possible. The NHSP provided livelihood programs that consisted of short skills-based training courses, with links to microcredit sources. Despite interviews with several past trainees who had launched successful businesses as a result of the training, there was less take-up of training than expected overall. The training courses experienced a reduction in scope and discontinuation during implementation. This may reflect (i) the project's minor adverse impacts on incomes and livelihood risks, with restricted access to roadside commercial and residential properties, generally limited to the short rehabilitation phase; and (ii) a lack of time or resources for effective needs assessment for training formulation.

13.5 Conclusion

The study explored the impacts of road rehabilitation in ADB-financed projects in Sri Lanka. The mixed method of evaluation enabled the study to gather quantitative and qualitative impacts for the affected persons. This chapter examine the impacts of social safeguarding among the people affected by the road rehabilitation. The results of the quantitative analysis primarily reveal that the primary income, education of the household head, ownership, land value, occupation, urban location, family size, proportion unemployed, proportion in business, proportion in industry, proportion in services, and household completeness are significant predictors of the difference in the treated and control groups of the study. The evaluation's stratified sample survey for the NHSP–AF reflected a significant difference in post-project income levels, indicating at least restoration of livelihoods, in line with the SPS's bottom-line objectives, but no improvement for the poor and vulnerable in the first stage. While not a mandatory requirement of the SPS, improving the livelihoods for the nonpoor and vulnerable affected people would have offered both benefits for affected people and likely increased project returns.

The chapter examined the importance of qualitative aspects of the Safeguard Policy Statement in Sri Lanka. The case of Sri Lanka provides the value of the SPS framework as a benchmark for safeguards as well as the areas that need continued strengthening in matters of design and especially implementation. The purpose of the evaluation is to elaborate on the net benefits of the safeguards in support of essential infrastructure investment. Sustained poverty and inequality reduction depend on growth that is environmentally sustainable and inclusive. To manage the certain social risks connected with the projects that it supports, in 2009, ADB adopted the SPS, which consolidates and updates previous safeguard policies on involuntary resettlement. This evaluation study supported safeguards in involuntary resettlement and recognized the effective application of the safeguard policy for ADB and the Government of Sri Lanka.

13.6 Policy Recommendations

According to the results, the income levels for the treated and control groups are significant. This indicates that the safeguard policies over time for the treated group were effective and efficient in the restoration of their income sources and increased their income significantly. This evidence leads to the inference that the safeguards increased the sustainability of the livelihood and well-being among the affected persons. Besides, it implies that the project did not harm the affected households; it could also mean that additional support through limited livelihood training had an impact on raising the income of affected households living below the poverty threshold. The NHSP–AF survey also found that most respondents in the two road sections did not know about the grievance redress mechanism. The various relevant Sri Lankan laws cover the permanent physical and economic impacts arising from land acquisition. The SPS also covers those impacts, whether permanent or temporary, arising from involuntary restrictions on land use or on access to legally designated parks. Nevertheless, the gaps between the two approaches are still significant in this evaluation's view and require special attention when preparing resettlement plans. Among ADB's member countries, Sri Lanka's policy on involuntary resettlement has often received recognition as a national policy that is almost comparable to the SPS.

In conclusion recommendations for policy makers are arising from this estimation include:

- Designing land management as a package of income restoration and grievance redress to strengthen the CSS is essential.
- The process of safeguard implementation in the national highway sector can follow the SPS guidelines to satisfy the requirement.

- Infrastructure development needs consideration as an inclusive package for the affected parties and the landowners.
- Road rehabilitation projects can implement social safeguarding in sustainable land management.
- An income restoration program for the affected parties is essential for recovering their income.
- Ownership of the land and well-being: the landowners are better off with the implementation of safeguarding approaches.
- The use of sustainable land management through a proper resettlement plan, which includes the social safeguarding component, is essential.
- The policy principles on meaningful consultation, disclosure, and grievance redress mechanism were not the priority for the projects. Thus, it is essential to increase the entitlements and resettlement options of the affected people.
- ADB's social dimensions map, including growth and social development, depends on policies and institutions that can recognize and promote equity, empowerment, security, and risk management.
- It is necessary to reach the affected poor and vulnerable people to improve their living standard according to the policy principles.
- The resettlement plan presented detailed measures for income restoration and livelihood improvement, encouraging the borrowers to make every effort to improve the incomes of displaced persons so that they can benefit from the project based on the guidance.

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Appendix: Empirical Approach

Difference-in-Difference Estimation

The basic idea of the method of project evaluation is to measure the outcomes of the control group over time in relation to the treatment group in the absence of the program. At least pre- and post-intervention cross-sections including both treated and control groups (additional pre-intervention data help to make identifying assumptions plausible) are possible with existing survey data. In addition, the data are available for a period before the intervention (baseline) as well as after the intervention (follow-up), and this allows for the use of difference-in-difference (DID) estimation.

An extension of the pre–post design is the inclusion of a group of non-participants to act as a baseline to control for time-invariant unobservable factors. This design may include things such as life cycle changes, economic shocks, and so on. The estimator is essentially the observed difference in outcomes of the participants pre- and post-program participation, minus the outcomes of non-participants over the same period (hence the term difference in difference). Formally:

$$TT = E(\Delta|X, D = 1) = [E(Y_{1t}|X, D = 1) - E(Y_{0t}|X, D = 1)] - [E(Y_{1t}|X, D = 0) - E(Y_{0t}|X, D = 0)] \quad (1)$$

$$Y_{it} - Y_{0t} = \alpha^* + \varphi(X_{it}) - \varphi(X_{0t}) + X_{1t} - X_{0t} \quad (2)$$

Like the before and after estimator, the fixed-effects estimator works on the assumption that $E(Y_{1t} - Y_{0t}| D = 1) = E(Y_{1t} - Y_{0t}| D = 0)$; in other words, the *unobserved change* in outcomes of participants *in the absence of the program* would be the same as the observed change among non-participants over the same period. Therefore, while the fixed-effects estimator overcomes one of the limitations of the before and after estimator in allowing time-specific variants common to all groups, it is still vulnerable to those time-specific variants that differ between groups.

The Difference-in-Difference Estimator

The difference-in-difference (DID) estimator measures the impact of the program intervention through the difference between participants and non-participants in the before–after change in outcomes. To see

how this estimation method works, assume that Y_1 and Y_0 are related to the observable variables X for individual i at time t as follows:

$$Y_{1it} = X_{it}\,\beta_1' + X_{1it} \tag{3}$$

$$Y_{0it} = X_{it}\,\beta_0' + X_{0it} \tag{4}$$

We assume that these equations are causal relationships and that $E[U_{1it}|X_{it}]=0$ and $E[U_{0it}|X_{it}]=0$. The X_{it} vector usually includes a constant term, and in addition it may include one or more time-specific dummy variables, which indicate changes over time in the outcomes Y_1 and Y_0 that are connected with the program being evaluated.

To begin, consider first the problem of estimating the average impact of the program on the treated, ATT, and the average impact for a treated individual i at time t for whom $X = X_{it}$, denoted by $ATT(X = X_{it})$. We define the latter parameter of interest as follows:

$$ATT(X = X_{it}) = E[Y_{1t} - Y_{0t}|P_t] = 1, X = X_{it} \tag{5}$$

where conditioning on $P_t = 1$ restricts the sample to the treated. Note that we define $ATT(X = X_{it})$ for a particular point in time, t. It is possible that, if the program ran at a different time, or if the impact measurement took place at a later time (e.g., several years after the implementation of the program), the impact would be different.

Results and Discussion

The evaluation team carried out semi-structured interviews on several NHSP road sections, and a survey of 201 households on two NHSP–AF road sections (B153 and B157) showed the impacts on their pre- and post-project income.

Table A13.1: Summary Statistics

Variable	Mean	Standard Deviation	Min.	Max.	Observations
Primary Household Income (After)	44,722.51	49,807.75	2,000	400,000	191
Primary Household Income (Before)	34,182.54	52,720.56	2,000	500,000	189
Ethnicity of HH	1.08	0.47	1	4	201
Ownership	1.10	0.30	1	2	201
Staying Period	42.29	23.54	0.5	100	200
Age of HH	58.33	14.21	25	90	201
Sex of HH	0.77	0.42	0	1	201
Marital Status of HH	1.21	0.62	1	5	201
Disability of HH	1.11	0.42	1	3	201
Education of HH	14.03	4.07	1	8	199
IR Training	1.97	0.15	1	2	200
No Training	3.39	1.53	1	5	154
Microfinance	1.99	0.08	1	2	155
Samurdhi Recipient	1.90	0.29	1	2	199
Land Area (Before)	40.50	43.18	2	320	178
Land Area (After)	36.36	41.48	0	310	169
Land Value (Before)	126,779.80	99,868.56	1,500	1,000,000	193
Land Value (After)	268,974.10	162,522.90	5,000	1,500,000	193

HH = household head, IR = income restoration.

Source: Author's estimations based on household survey data from ADB (2016).

Balancing Test

Table A13.2: Balance Test Results before Safeguard Implementation

	Treated		Control	
	Mean	Standard Deviation	Mean	Standard Deviation
Income Level	34,722.51	29,845.63	33,182.54	30,913.42
Education of HH	13.5	6.53	14.2	5.42
Ownership	1.10	0.82	1.11	0.71
Years of Stay	45.4	6.9	46.2	12.3
Land Value	125,491.42	55,421.64	124,513.02	62,162.52
Occupation	10	–	11	–
Ethnicity	1.12	0.34	1.23	0.61
Sex of HH	0.89	0.45	0.73	0.46
Urban Location	0.82	0.55	0.81	0.45
Age of HH	47.4	14.3	52.6	12.5
Marital Status	1.32	0.62	1.33	0.71
Disability	0.71	0.44	0.72	0.46
Family Size	3.4	2.1	4.1	1.9
Proportion Unemployed	0.53	0.44	0.51	0.43
Proportion in Business	0.62	0.45	0.64	0.50
Proportion in Agriculture	0.38	0.33	0.41	0.33
Proportion in Industry	0.55	0.42	0.53	0.43
Proportion in Services	0.67	0.61	0.66	0.62
Household Completeness: Proportion of Complete Households	0.72	0.38	0.71	0.32

HH = household head.

Source: Author's estimations based on household survey data from ADB (2016).

Impact Evaluation

Table A13.3 shows the quantitative evaluation of impacts between treatment and counterfactual groups.

Table A13.3: Comparison of Treatment and Control Households

	Treated		Control	
Variables	Mean	Standard Deviation	Mean	Standard Deviation
Income Level	41,722.5	11,253.3	32,182.5	12,973.1
Education of HH	15.41	3.63	9.47	6.21
Ownership	1.42	0.89	0.74	0.69
Years of Stay	44.56	5.32	43.21	7.31
Land Value	574,211.6	51,265.4	369,714.3	495,412.6
Occupation	7.8	–	10.4	–
Ethnicity	1.22	0.41	1.32	0.40
Sex of HH	0.68	0.56	0.67	0.55
Urban Location	0.87	0.25	0.62	0.63
Age of HH	48.4	18.2	49.3	12.4
Marital Status	1.42	0.72	1.40	0.57
Disability	0.82	0.62	0.88	0.45
Family Size	4.2	2.0	3.0	2.1
Proportion Unemployed	0.43	0.35	0.72	0.54
Proportion in Business	0.87	0.47	0.34	0.65
Proportion in Agriculture	0.42	0.42	0.61	0.63
Proportion in Industry	0.77	0.61	0.42	0.32
Proportion in Services	0.69	0.61	0.45	0.61
Household Completeness: Proportion of Complete Households	0.89	0.47	0.45	0.51

continued on next page

Table 13.3 *continued*

Variables	Difference	t-Value	p-Value
Income Level	9,539.97*	1.53	0.069
Education of HH	5.94***	6.71	0.000
Ownership	0.68**	–1.28	0.028
Years of Stay	1.35	3.90	0.429
Land Value	204,497.9***	23.61	0.007
Occupation	–2.6**	12.10	0.041
Ethnicity	–0.1	3.50	0.923
Sex of HH	0.01	1.20	0.673
Urban Location	0.25***	4.62	0.000
Age of HH	–0.9	2.18	0.784
Marital Status	0.02	2.11	0.367
Disability	–0.06	1.31	0.532
Family Size	1.2**	4.12	0.034
Proportion Unemployed	–0.29**	7.13	0.021
Proportion in Business	0.53***	11.50	0.000
Proportion in Agriculture	–0.19	4.23	0.457
Proportion in Industry	0.35**	6.51	0.044
Proportion in Services	0.24**	7.24	0.026
Household Completeness: Proportion of Complete Households	0.44***	14.31	0.002

HH = household head.

* denotes statistical significance at the 10% level, ** denotes statistical significance at the 5% level, and *** denotes statistical significance at the 1% level.

Source: Author's estimations based on household survey data from ADB (2016).

Table A13.4: Difference-in-Difference Estimation Results

Outcome Variable	Income	Standard Error	t-value	p-value
Baseline				
Control (C)	3.4e+04	–	–	–
Treated (T)	4.1e+04	–	–	–
Difference (T-C)	5,983.90	8,893.73	0.91	0.361
Follow-Up				
Control (C)	4.0e+04	–	–	–
Treated (T)	4.9e+04	–	–	–
Difference (T-C)	14,885.31	8,732.72	0.66	0.509
Difference-in-Difference	8,902.4***	3,204.641	0.87	0.008

Notes: Means and standard errors are estimated by linear regression. Inference: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Source: Author's estimations based on household survey data from ADB (2016).

14

Right Ways for the Road Ahead

Piyush Tiwari and Grant B. Stillman

14.1 Introduction

Land use management strategies and tools for land assembly for urban development and infrastructure projects in a country are primarily guided by the institutional and legal systems within which individual rights to property operate. As we have examined, on one extreme of the spectrum of these strategies and tools is compulsory acquisition where private property rights are extinguished in favor of public purposes through the use of a state's legal power. On the other end are the market mechanisms where sellers and buyers participate voluntarily and transact and have the right to object to the transfer of their land for other purposes (holding out). Then there are strategies and tools that are between these two extremes such as land readjustment that requires voluntary cooperation between landowners and may involve the state's power to compulsorily acquire only to overcome holdout problems should they arise. Approaches that involve voluntary mechanisms for land assembly take time and sensitivity and often state agencies implementing urban development and infrastructure projects eschew such processes in favor of compulsory acquisition.

In countries that place strong emphases on the political and moral philosophy of liberty, consent of the governed, and equality before law that result in robust private property rights, we observe that landowners generally disapprove or are skeptical of social purposes of land assembly. These circumstances have resulted in compulsory acquisition of land as a preferred method of land assembly as in the United Kingdom, the United States, and other countries that affiliate with liberalistic ideology. Taking land compulsorily has generally been unexceptional when land is required for critical national security purposes, such as during wartime when private sacrifices are made in favor of the continuing existence of the state. But as faith in governments' justification of public purpose has waned, private individuals and movements are questioning whether new railway lines

or expansion of highways are always necessary and good reasons to take property.

Methods for land procurement in countries with communitarian and/or socialistic roots, such as Germany and Japan, which result in simultaneous acknowledgment of private and social functions of property, encourage the first use of participatory mechanisms for land assembly such as land pooling. As many of the case studies in this book have proved, it is of first importance to understand the ideological and constitutional status of private property in a country to before proposing strategies for land procurement, as approaches that will work in one country might not be appropriate in another. Yet infrastructure specialists can at least lay out options of what has worked in other jurisdictions for local government and community consideration if it might be adaptable and successful for them. Even if they believe it may be adaptable, there is never any guarantee that it will succeed in a discrete project or setting as circumstances change over the long time required for megaproject gestation.

Another dimension of land rights that modern land laws have not been able to address adequately is the right to land of indigenous peoples. Land laws in countries that have had colonial pasts have taken root in the legal systems of their colonizers, which is usually inadequate or even dismissive in addressing the interests of indigenous peoples. Although international law now accepts indigenous peoples' rights to their ancestral territory and the total environment as a bundle of human rights, even progressive states have been reluctant to recognize these rights as these are viewed as collective rights, which are indivisible and interdependent.

The recognition of indigenous land rights also touches on the issues of territoriality and meaning of nationhood, which might extend to dimensions of self-rule and self-determination. In some countries (for example India and the Philippines[1]) the judiciary is willing to treat indigenous rights in land and natural resources separately and has accepted oral traditions or testimonies of elders and communities under oath as sufficient evidence for establishing interests in the forests and forest products. However, courts have been reluctant to interfere with or second-guess decisions of the executive branch in matters related to national development agendas.

The broad pattern that has emerged regarding land procurement where indigenous rights are affected is to ensure that impacted indigenous peoples are adequately informed, their knowledgeable consent is obtained, and *sufficient and effective* compensation or

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1 Republic of Philippines, Republic Act No. 8371. The Indigenous Peoples' Rights Act 1997. https://www.officialgazette.gov.ph/1997/10/29/republic-act-no-8371/ (accessed 20 August 2020).

reparations are provided. However, it is evident that even in countries that have recognized indigenous property rights, it has not always been possible to provide clear guidance on how to value land that is subject to indigenous property rights or how to value indigenous property rights for the purposes of compensation for their loss, impairment, diminution, or partial or total expropriation (Sheehan and Wensing 1998). Even the interests of seminomadic or travelling peoples who might pass through areas transiently or seasonally must be considered and accommodated to the extent reasonable and possible.

This challenge gets further complicated when government processes become dysfunctional and practices of land procurement and leasing are laced with obstacles, incompetence, or corruption. There are, however, some examples of reforms in the practices of leasing and transferring land for economic purposes by the governments in Vanuatu, the People's Republic of China (PRC), and Fiji which have helped in protecting the holders of customary land rights. In Vanuatu, leasing of land with customary rights requires consent from the whole clan rather than individuals and new laws have been enacted to strengthen the protection of customary land rights. In the PRC, semi-privatization of property permits farmers to transfer property and secure loans, increasing the productivity of farmers. Fiji provides local people with a form of rent payment for the government-controlled leasing of their land to agribusinesses.

What has become clear through rigorous study of various land management strategies and the strategies and legal, social, and economic institutions within which these strategies operate, through the cross-country analyses in this book, is that the pluralism of approaches for the procurement of land for urban development and infrastructure will persist. It is difficult, if not impossible, to design a foolproof method (other than what is based on market transaction) for procurement of land for public purposes that will be applicable for all countries. However, it is possible to identify key elements of land use management strategy that must be part of the tool kits to be used for land procurement in cases where markets fail. In this chapter we showcase these key and promising elements that could improve land procurement and are necessary for rendering land use management equitable.

14.2 Compensation and Process of Land Procurement

For land procurement through approaches that are not market driven and where a buyer is the state, which has better information and stronger negotiation power than the landowners, the process of land

procurement and the land value that is paid to landowners becomes important to ensure that the procurement has been procedurally and distributively just. Where land is compulsorily acquired for public purposes, outright monetary compensation is paid to the landowners. The compensation principle is based on just value or fair value of the acquired land. Some countries have also based the compensation on an equity and equivalence or replacement principle. In practice, these have translated into a compensation that is based on current market value of land and property that is being compulsorily acquired (Table 14.1). Due to the compulsory nature of procurement, the compensation offered includes heads of claims that provide better than the current market value of land and property (Table 14.2).

Not unexpectedly, these principles have found broadest acceptance in economies with long and reliable traditions of commercial and monetary transactions, underpinned by trustworthy land registration and titling systems. The major causes of discontent with compulsory

Table 14.1: Compensation Principle for Compulsory Acquisition in Selected Economies

	Compensation Principle				Basis of Valuation		
Economy	Just Value	Equity and Equivalence	Fair Value	Cost	Market Value	Replacement Cost	Depreciated Replacement Cost
United Kingdom	√				√		
Denmark		√			√		
United States	√				√		
Australia	√				√		
New Zealand	√				√		
Hong Kong, China	√				√		
Malaysia	√				√		
South Africa			√			√	
Nigeria			√				√
Rwanda			√		√		

Source: Olanrele et al. (2017).

Table 14.2: Heads of Claims in Compulsory Acquisition Compensation in Selected Economies

	Categories Heads (Items) of Claims							
Economy	Land	Improvement/ Building	Severance	Injurious Affection	Disturbance	Solatium	Special Value	Crop
United Kingdom	√	√	√	√	√			√
Denmark	√	√	√	√	√			√
United States	√	√	√	√	√			√
Australia	√	√	√	√	√	√		√
New Zealand	√	√	√	√	√			√
Hong Kong, China	√	√	√		√			√
Malaysia	√	√	√		√			√
South Africa	√	√					√	√
Nigeria		√						√
Rwanda	√	√	√	√	√			√

Source: Olanrele et al. (2017).

acquisition are that the process is perceived as coercive in nature by those affected and the compensation that is paid is viewed as inadequate to compensate for the losses that the landowners suffer, which are more than the simple loss of asset value.

Indonesia attempted to improve its compulsory acquisition process through implementation of the Land Acquisition in the Public Interest Law (Law No. 2 of 2012). That law has delineated the authority and responsibility for procedural compliance and imposes hard deadlines on project timelines. The law also improved the terms of financial compensation to more accurately reflect the fair replacement value based on market price estimations. There is evidence that opposition to land acquisition eased after the law's procedural and legal safeguards ensured a fair level of compensation. The law paved the way for a

mechanism for impacted landowners to challenge the state's agenda, which became an important consideration. Guild (Chapter 10 of this volume) highlights some gaps that the law still has been unable to address. The most important is the lack of recognition of non-titleholders of land as claimants for compensation and failure to compensate the intangible losses of landowners.

A recent assessment by the Asian Development Bank's Office of the Special Project Facilitator of the Batumi Bypass Road Project in Georgia highlighted concerns with the process of acquisition and determination of compensation. While the law there required compensation to be fair and based on market value, the lack of local valuation professional expertise inhibited this from being achieved. Landowners whose land was acquired felt that the process of acquisition was coercive, and the grievance redressal mechanisms were inefficient in handling complaints. The Office of the Special Project Facilitator has recommended a number of steps to improve the process. These include impose penalties for noncompliant valuers, build the capacity of local valuers and enhance leadership capacity of implementing agencies, ensure coordination and communication between the social safeguard team and the project design team, and eliminate the practice of verbal negotiations and oral agreements (ADB 2020).

A major shortcoming of present compensation mechanisms associated with compulsory acquisition is that these compensate affected landlords for the market value of land. In some cases, slightly more than the market value of land is offered if other heads of claims as shown in Table 14.2 are included. The compensation does not include the loss of "hope value" or expected value for future use of the land. Shukla (Chapter 7) estimated the appreciation in land value due to an improvement in land use from agriculture to residential as a result of a road project and urban growth in Bengaluru (India). The results indicated that the value of agricultural land improved by between 39% and 527%. Additionally, the study found that once a property has received government notification for acquisition, its market value depreciates by almost 31%. Together, these financial losses, that is, hope value and "blight," amount to nearly 0.92 to 5.58 times the value of land, which are not compensated by present compensation mechanisms. The potential for the development of land depends on the micro-level factors, such as the distance from the city center and urban growth. This requires that the estimates of hope value and blight must vary across regions depending on the local land market conditions. For a fairer compensation mechanism, it is necessary to encapsulate these losses, which are definite yet not compensable under the current mechanisms. Moreover, the considerations that go into rezoning of land from a simple and basic use into sophisticated and multilevel multiple purpose

properties are frequently a black box to outside observers, who are not privy to the internal lobbying on planning and land use management committees usually at the most local government level. Even in developed countries these considerations are fraught with unfairness and often insider trading or self-dealing.

Landowners whose land is acquired compulsorily usually perceive the process as unfair and are suspicious of their avenues to object. The power inequality between the acquirer and acquiree results in coercive processes with inadequate voice and concern for landowners. In a recent study, Rao, Hutchison, and Tiwari (2020) find that the process of compulsory acquisition frequently lacks involvement and representation of landowners and other members of the public. During the initial stages of project planning and compulsory acquisition, acquiring agencies lack engagement with members of the public. The accountability of acquirers toward acquirees is low and rarely guaranteed, which results in biased assessment of people's suggestions and objections. During project execution when people expect greater accountability of the acquirers in matters concerning compensation negotiation and inexpensive procedures for representation, these are seldom met. Rao, Hutchison, and Tiwari (2020) argue that procedural fairness is necessary in compulsory acquisition. They propose that the process in projects that involve land procurement through compulsory acquisition must include the following principles:

> First, explicit demonstration of the "proportionality" principle of "public" projects by undertaking a detailed socio-economic cost-benefit analysis. Secondly, equal representation of all stakeholders at the initial stages of project identification and design. Thirdly, ensuring informational and financial symmetries between acquirers and acquirees. Fourthly, ensuring a neutral assessment of people's suggestions and objections by a third party. Fifthly, improving accountability of the acquiring agency and its partners towards verbal and written commitments and timelines. Sixthly providing counselling services or other suitable help to affected landowners in dealing with mental stress and finally, improving overall service delivery and a more responsive grievance management system (Rao, Hutchison, and Tiwari 2020).

A mechanism for land use management for urban development and infrastructure that addresses challenges associated with process and compensation that compulsory acquisition of real estate poses is land readjustment. Land readjustment (known by various other names as

well, see van der Krabben, Tiwari, and Shukla, this volume) assembles and re-parcels land by possible swapping of land positions among landowners without the need of any transaction, so that a part of the land can be used for public services and infrastructure that benefits existing landowners as well as the city. The mechanism has existed in many countries but has become a method of land procurement in only a few. Ideological preference toward property rights is one of the reasons for limited adoption of land readjustment for land management by countries relative to compulsory acquisition, as explained by Shukla (Chapter 1). However, in countries where institutions and practices include communitarian ideologies, land readjustment as a mechanism for land procurement has gradually taken shape.

This could be particularly helpful for village or communal arrangements where formal and registered titles cannot be proven but there is agreement that all in the area will share the improved land plots. De Souza and Koizumi (Chapter 4) point out that in Indonesia, an established practice, adat, for land swapping preceded land readjustment. Indonesia also used its land titling program aimed at streamlining land ownership to achieve land consolidation. A lack of trust among participants (landowners, public agency) is another factor that has limited its use. Jain (Chapter 5) argues that by continuous implementation, for small or large areas, the scheme self-evolves and the trust of people in this mechanism of development increases, gradually bringing them to participate and share.

Often public infrastructure is built through public–private partnership mechanisms, of which much has been written and which are well known. To avoid the delays, risk, and cost associated with land procurement, the private sector often persuades public agency partners to acquire land compulsorily. In Japan, in land readjustment schemes, tax exemptions are offered on the sale of reserved land, which incentivizes the private sector to use land readjustment methods (Jain, Chapter 5). Fairness and predictability of the land procurement process and in the equitable distribution of benefits that accrue is necessary to minimize discontent among landowners. Japan's schemes constitute land readjustment councils comprising elected representatives from the landowners and leaseholders to discuss potential benefits with each land rights holder individually and resolve any issue of disagreement. This has increased the transparency, participation, and trust of the rights holders in decision making and overall implementation process. But it is unclear how such mechanisms might be adapted to function in lower-trust countries or among groups and stakeholders that are diverse in makeup, power, agreeableness and outlook (see Postface).

Land readjustment is not without limitations. In the case of Indonesia, De Souza and Koizumi (Chapter 4) point out that it cannot

fully represent the religious and cultural identities of those who participate. (Parenthetically, we observe that with the increasing reversion of land to indigenous or traditional custodians throughout the developing world, the realm of open rights of way not traversing sacred or environmentally sensitive places will become even more difficult to secure.) These Indonesian projects also resulted in wealth concentration as property values in project areas rose significantly compared to non-project areas and also led to the expulsion or driving out of the original *adat* law communities. Land readjustment also led to the weakening of cultural and religious ties as the replacement land was often at places far from original and ancestral locations. The infrastructure development projects that used land readjustment methods to procure land were subsidized by the public exchequer. While the cost was borne by society, the benefits were not equitably distributed and in some cases essential public facilities such as promised parks or schools did not get built as the reserve land was not available (De Souza and Koizumi, Chapter 4). This is a breaking of the social contract that needs to be avoided as it increases distrust when future projects are announced and opened for public comment.

14.3 Alternative Solutions for Land Procurement and Compensation

To overcome the challenges associated with land use management strategies for urban development and infrastructure under current laws and practices, project implementing agencies in some countries and multilateral institutions have developed safeguard policy statements as operational policies to "avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process" (ADB 2013). Safeguard policies aim at identifying the impact of development projects early. Plans to mitigate, avoid, and compensate those adverse impacts are developed and affected people are fully involved, informed, and consulted during project preparation and implementation stages. These policies more or less aim to bridge the gap that existing land use management strategies were supposed to have been filling.

As highlighted by Jayasooriya (Chapter 13) in the case of road projects in Sri Lanka, safeguard policies have resulted in better outcomes for affected persons in terms of restoring their income sources and increasing their income significantly. This provides evidence that a better land use management strategy should involve income restoration, participation of affected persons in project planning and implementation, and imaginative grievance redressal mechanisms.

The other approach that Wang, van der Krabben, and Samsura (Chapter 9) recommend is the use of informal planning approaches that allow flexibility and can provide better outcomes in land management for infrastructure projects. In the PRC, informality has been used by governments at different levels to achieve the goals of economic development and public infrastructure provision. An example of an informal planning approach is the implementation of innovative land management and land-based value capture mechanisms for transit-oriented development, which has allowed opportunities for the creation of infrastructure and the generation of additional revenue in the PRC's cities.

14.4 Innovative Mechanisms Separating Use and Ownership

A land trust model separating the ownership of land and its uses shows great potential to be used for urban development and infrastructure projects. Essentially, the land trust model has three parties in the trust: entruster or settlor, (en)trustee, and beneficiary. By entrusting their land to a trust bank or community land trust, the entrusters can benefit from the entrustee's efforts to pool all land and invest in the development of that land, while retaining part of their ongoing interest or future profit participation. The beneficiaries receive a share of the profits that the developed land generates from the trust. Land trusts have long been used in Japan for large real estate development projects and their potential for application to infrastructure projects is advocated by Yoshino and Wisuttisak (2020).

Hossain and Yoshino (Chapter 11) have argued that their "land trust plus" approach could be one option that might attract private investors into infrastructure by increasing the rate of return on infrastructure investment in the country example of Bangladesh. Piewthongngam (Chapter 12) examines the potential of land trusts in Thailand and argues that land trusts are beneficial to ensure sustainable land use and also to support the participation of smallholders' plots in commercial and infrastructure projects for a better economy and quality of life. For public infrastructure projects, land trusts are likely to shorten the land acquisition process and complete project development faster and at lower cost. Most importantly, the landowners who become settlors do not have to sell their land immediately and irretrievably but can also gain benefits from the infrastructure projects from annual lease fees and can use the public infrastructure as well. Certain types of infrastructure, particularly railways, are prepared to lease their guideways on a long-term basis and do not insist on owning the underlying property. An option to eventually

buy the land after the owners and their first-generation heirs are deceased or no longer interested in its reversion can be negotiated.

Thailand has introduced a bill that will create a whole new service area in the financial industry. Banks and financial entities eligible to become licensed trustees under the Private Trust Bill will serve as key drivers in moving the trust industry into the next level—from serving private asset management to facilitating and managing land trusts or community trusts for the benefit of both infrastructure projects and private assets. With a newly created transferable legal right, the "Entitlement over Immovable Property" or *Sap-Ing-Sith* in Thailand, the use of land leases will become less restricted. A landowner can establish *Sap-Ing-Sith* as a right over the property and lease such property to developers or infrastructure projects without losing property ownership. Further, when the Private Trust Bill is enacted, *Sap-Ing-Sith* can be used as a trust property to establish a general trust or a land trust in particular. A trust bank or company can encourage landowners and smallholders to use *Sap-Ing-Sith* as a trust property to facilitate various private and public land development projects instead of losing ownership of land by selling it. It is hoped that owners of land or buildings can benefit from their underused land and buildings through a trust bank or trust company, which can apply their professional skills to manage those vacant or run-down properties and turn them into profitable assets.

Finally, for countries and regions within countries that have imperfect land title registration systems (see Chapter 3), it may be possible to skip the analog stage by adopting satellite surveying in combination with on-the-ground proving and authentication, digital systems, and e-solutions leading to a single, unified, permanent, and updated land information system:

> The primary purposes of [digital land management systems] are to establish a single source of truth for all land records, update the existing land records linking textual and spatial information, and provide web-enabled services to the citizens anytime and anywhere. Its strategic interventions... cover the broad categories of functions, records, technology, people, interdepartmental communication, legal interventions, and data security (ADB 2017, p. 26).

It is hoped that greater digitalization and automation may preserve tacit know-how and remove some of the opportunities for rent seeking and lead to greater expedition of hitherto manual procedures. Many governments in developing countries in Asia are addressing the upgrading of their core service deliveries with 21st century technology, and land use and planning is a critical part of that suite of e-solutions.

14.5 List of Resolves for More Equitable Land Use

The treatment in this book has clearly demonstrated that the topic of land use management for equitable infrastructure development is too diverse to be resolved by a single approach. Plurality and customization of land management methods and tools is a virtue. However, it may be possible to identify certain basic principles that can serve as guidance in common country situations. As a conclusion, we would like to modestly put forward the following list of resolves for the consideration of theorists and practitioners. Although they are crafted primarily with developing countries in mind, most of them could be profitably followed in developed and sophisticated markets desiring for a more efficient and equitable land use management process as well.

Box 14.1: List of Resolves Toward More Equitable Use of Land for Infrastructure Projects

1. Do no harm and make original owners first beneficiaries of project design.
2. Understand local communities' expectations and engage with them and work through expert mediators.
3. Offer a menu of possible land use models that have worked elsewhere to consider adapting for sponsors, host governments, financiers, or local communities.
4. Engage in extensive impact and feasibility studies with multiple public consultation stages and checkpoints.
5. Know with humility when to hold off or shelve something that might be better to bring up later.
6. Bring trusted independent, professional, and qualified property evaluators, quality surveyors, and completion guarantors into projects at all levels.
7. Hire social workers and relocation specialists to follow medium- and long-term impacts on affected people to ensure they receive as many of the promised benefits and livelihood improvements as possible.
8. Rearrange relocation packages and benefits for affected people or their descendants.
9. Honestly admit to fundamental changes of circumstances or miscalculations that retard project progress.
10. Establish trusted avenues to meaningfully complain and to hold sponsors, host governments, and financiers accountable for broken promises or missed benefits.

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Postface

Reflections on Trust, Sharing, and Guaranteed Accountability

Grant B. Stillman

The familiar adage used to go something like "a person's home is their castle," and with good and universal reasons. Land is a real, and usually imperishable, sheltering asset that can always be usefully worked by its owner (or tribe or collective) to provide regular sustenance, usually water and kindling, sometimes game, fowl, and energy fuels, and hopefully extra income generation: all the core ingredients necessary to sustain a bearable existence.[1]

By contrast, precious metals or gems cannot be eaten, and artwork, tulip bulbs, or other fad collectibles are subject to market distortion and fickle tastes, while over-printed fiat currencies might be devalued, bailed in for a crisis, or cancelled to be replaced by unpredictable, ephemeral digital asset entries (which could become inaccessible during a power outage or denial of service).

Third-party promises of a future job, a better way of living, or universal basic income are just that: promises in an unknowable future yet to materialize by elite strangers or distant governments or boardrooms that may or may not have people's best interests at heart or the ability to deliver even if they wanted to.

Laws related to the recognition, conveyance, and protection of land rights seem to be the most developed (in the sense of thoughtful and intricate) throughout all jurisdictions and legal traditions, second only to criminal codes. After the Enlightenment, premodern states were able to introduce land reforms by disbanding large estates of ennobled classes and expand property-owning rights for the benefit of the proletariat. Nevertheless, some societies have long struggled to implement modern

[1] Land by its nature is, of course, not transportable (although not a house or dwelling on it, which can be moved with difficulty) and therefore must be converted into a more movable money value to carry around so as to be able to buy a new piece of land in the place of relocation (Harari 2015, p. 200).

property rights, stable commercial law, and robust financial institutions. Other countries continue to experience what Francis Fukuyama has described as an "arbitrary legal environment, in which property rights can be tenuous, levels of taxation variable according to which provincial government one is dealing with, and bribery a way of life in dealing with government officials" (Fukuyama 1995, pp. 330, 352).

Most of us know what it means to possess something: but how one responds when state-backed encroachments are being made and one is firmly and repeatedly asked to give up part or all of their property for amorphous concepts like the common good, community interests, or public need is harder to explain or empathize with if you lack personal experience.[2]

Therefore, the purpose of this coda to the book is to reflect upon further useful socioeconomic and politico-legal constructs that better frame (hopefully even integrate) the various case studies and recurring themes we have explored throughout. I have chosen to view this through the prism of trust within a society, how individuals to a particular deal might decide to cooperate or share part or even all of their assets, and the utility of third-party guarantees or good offices that ensure promises made will be kept and governments and developers are ultimately held accountable for their wrongful actions and failures to perform.

As a preliminary observation, it is worth realizing that the level of impact on the land (and opposition it might engender in those affected) of a public purpose taking for infrastructure varies markedly with the type of engineering being undertaken. Most destructive and irremediable are the old-fashioned dam and water catchment floodings of towns and villages that have lost favor this century (even the submerged soil will be irretrievably degraded), and the permanent excavations for canals, waterways, levies, and open-drain cuttings. Small corridors of land taken for widening highways or pavements appear to be historically irreversible too as roads stubbornly persist once laid down (even since Roman days) and peripheral buildings become firmly established along the margins and are hard to push back or remove.

But a trackway (tram, light rail, people-mover, or aboveground intercity train) need not be permanent or stuck to a fixed surface path and many 19th century railroads (including disassembled elevated

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2 For a later regional example drafted subsequent to the UN-sponsored conventions on human rights of the 1960s, see Article 14 of the African Charter on Human and Peoples' Rights dated 27 June 1981, which "guarantees" a right to property that "may *only be encroached* upon in the interests of *public need* or in the *general interest of the community* and in accordance with the provisions of appropriate laws" (emphases added).

tracks) have been abandoned and the vacant land returned to original uses or amblers' pathways. As this book's cover clearly shows, high-voltage transmission pylons or 5G towers nimbly stepping across a farmer's field might be expected to have a negligible disruptive effect (if any) on the livestock grazing and crop cultivation underneath. [3] Indeed, they can become a source of additional rental income for the aerial right-of-way owner.

Therefore, we posit that the propensity to share or cooperate among citizens and governments with competing uses of land is a function of how much land is being affected by the proposal and the degree to which its new use will make it irreversible to the prior or traditional use before the project. In this regard it is worth recalling the perceptive observations made by Amartya Sen on moral compulsion and the mixed motivations behind people's observed actions. He recognized while it is true that many expressed preferences are thought to be driven by self-interest, people also want to display their social side and simply do something that goes against their initial private wish for the sake of appearances, conformity, or going along with the comfort of the group (Sen 1973). (For an up-to-date example, surveys have found whatever Japanese people might think about the prophylactic benefits, they will voluntarily wear facemasks (without threat of fines) mainly because others like to do so, and it makes them feel comfortable and accepted in a group setting.)

This interrelationship can be graphically imagined as a plot of high-trust societies against the general willingness to share land for others' uses. The driver to bring these elements into an equilibrium or a "sweet spot" where the deal is consummated and parties are content could be helped by the comfort net that a bona fide guarantor or fixer of last resort might be able to supply (whether that comes from private, public, or international suppliers of independent good will) (Figures 1a and 1b).

The other dominant crosscutting theme throughout the book is the reliability of the sponsors (be they government, private, or a combination) to deliver upon their promises to complete the projects or to make whole the original owners or dispossessed peoples through a variety of remedies. Here we might want to break down the responsibility of such

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[3] The growing potential of hyperloops, extended tunneling, underground passageways, and subterranean utilities to install needed higher-quality infrastructure without permanently moving or disrupting surface landowners or dwellers has been recognized in the author's sections and notes on superficies in Chapter 25 of Hayashi et al. 2020. Underground or submerged infrastructure is also less impacted by ground-level disasters, severe weather, and even electro-magnetic disruptions. Aboveground oil and natural gas pipelines can also cause devastating pollution in the event of breaks, accidents, civil disobedience, or vandalism.

failing and delinquent sponsors into three broad categories of increasing levels of culpability (Box 1).

This schema presumes a shared ability of concerned parties and interested bystanders being able to assess where along the spectrum from innocent failure to bad faith dealing any troubled project might find itself from time to time. Also, a project might encounter innocent complications and then compound the problem by choosing illicit solutions.

Undoubtedly, the conception of fairness has quite strong scientific basis as disclosed in primate tests approximating receiving unfair treatment in an economic game.[4] All things being equal (at least in the eyes of the players involved), if player 1 is treated less equally or less fairly than player 2, the reactions will range from frustration, anger, disgust, rejection, and eventually rebellion from the system or game.

In his 1995 groundbreaking book on *Trust: The Social Virtues and the Creation of Prosperity*, Francis Fukuyama describes how almost all economic activity in the modern word is carried out by organizations that need social cooperation. He explains trust as "the product of preexisting communities of shared moral norms or values," and says that these communities "are not the product of rational choice in the economists' sense of the term" (Fukuyama 1995, p. 336). He further describes how some societies exist that do not have strong family or other associations, and states that these societies do "not provide fertile ground for economic activity, supporting neither large organizations nor family businesses" (Fukuyama 1995, p. 337).

Fukuyama also explains there could be societies where there is the expectation of the general population that strangers, foreigners, and elites will often cheat their fellow citizens. In this case the behavior is certainly regular and predictable but owing to it being dishonest and fraudulent it contributes to what he terms "a deficit of trust" (p. 366 n. 6). Even in developing countries it must eventually be accepted that politicians who command the public's trust should never be engaged in lobbying for, or profit sharing (receiving commissions) with, land and project developers.

After the bane of free riding, economists are most intrigued by situations of prisoner's dilemma and information asymmetry. However, it is worth pointing out that land transfer negotiations are never conducted in isolation by the parties and so a fair degree of communication is allowed and expected among the participants. Therefore, they are able to assess each other's bona fides or check their track records and reliability. Nevertheless, Fukuyama must be right to observe that cultures with strong reciprocal obligations should be expected to find a fairer solution

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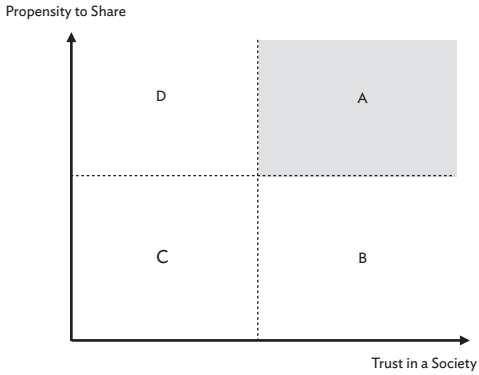
4 James Q. Wilson contends this moral side to economic games is evident even in infants and children yet to be socialized (Wilson 1993) after Fukuyama.

Figure 1a: Factors Contributing to Likelihood of a Willing, Uncontested Surrender of Land



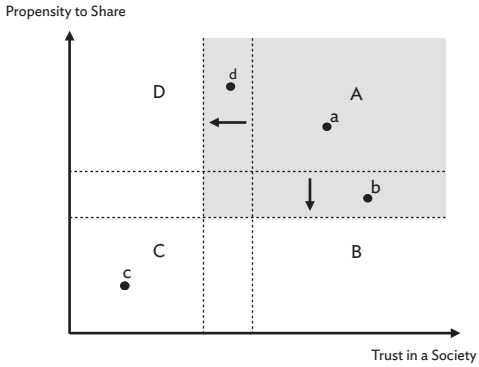
A: High trust countries with a landowner very willing to share—deal almost always consummated (represented by shading).

B: High trust countries with a landowner marginally willing to share—uncertain outcome.

C: Low trust countries with a landowner reluctant to share—deal unlikely to be consummated.

D: Low trust countries with a landowner very willing to share—uncertain outcome.

Figure 1b: Effect of a Guarantor on the Likelihood of a Willing, Uncontested Surrender of Land



A: High trust countries with a landowner very willing to share—deal almost always consummated.

B: High trust countries with a landowner marginally willing to share—uncertain outcome.

C: Low trust countries with a landowner reluctant to share—deal unlikely to be consummated.

D: Low trust countries with a landowner very willing to share—uncertain outcome.

Notes:

- A country is located in the figures based on the combination of its landowners' general willingness to share and assessed level of societal trust.
- An individual affected landowner's propensity to share is determined on a personal, subjective, and often project-specific basis. They might have a higher or lower degree to share depending on the counterparties, purpose of the surrender of their land, degree of permanent deprivation, amount of land lost, emotional or spiritual kinship with their land, or irremediable return to their descendants.
- A country located in the upper-right, shaded quadrant, such as Country "a", is reasonably able to consummate a deal in most cases, even without the help of an independent and credible 3rd party guarantor stepping in.

continued on next page

Figure 1a and 1b *continued*

- The dotted horizontal and vertical lines represent the thresholds for sufficient levels of willingness to trust and share, respectively, and their intersection represents the equilibrium or "sweet spot." The extension of the shaded zones into previously unconsummated deal quadrants represents the ability of an independent and credible 3rd party guarantor to move the line for uncertain outcome parties to come into possible consummation. The lesser impact of the guarantor on being able to move the reluctant or distrustful parties toward a possible successful outcome in a C-graded country (low trust and a reluctance to share landowner) is observed by the smaller area of increased shading. (See also Table 1: Potential Indicators for an Ease of Rights-of-Way Project/Country Index.)
- The dots represent example countries affected by the introduction of the guarantor. Country "a" continues to enjoy being within the thresholds of trust and propensity to share, while countries "b" and "d" each benefit from the extended thresholds for propensity to share and increasing trust, respectively, that allow them to be contained within the new, wider shaded zones on account of the guarantor. Country "c" remains outside even the new sweet spot zone, and will need further improvements of the thresholds for its outcome to ever change, if at all.

Source: Author with assistance from Adam Majoe, ADBI Press 2020. CC BY-SA 3.0.

Box 1: Categories, Causes, and Culpabilities of Unkept Promises to Affectees of Surrendered Land

Natural/Force Majeure	Accidental—Negligence—Incompetence	Deliberate Breach, Noncompliance, Fraud
E.g., natural disasters, fundamental changes of circumstances, troubled project with unforeseen complexities	E.g., failures brought about through good faith errors, inabilities, or misjudgments of sponsors	E.g., mens rea to cheat, break promises, and defraud affectees, lack of empathy with victimized communities, corruption, bribery, and low integrity
Morally excusable, understandable and forgivable	Usually excusable except for gross (criminal) negligence	Legally and morally wrong, requires deterrent

Source: Author.

to the dilemma than ones rewarding individualism (Fukuyama 2011, p. 391 n. 9).

At this point it is worth remembering that a perceived overreliance on private wishes in opposition to public purposes is not necessarily or always to be regarded as tending to the selfish.[5] For instance, it

[5] In contrast to Shukla's discussion of Figure 1.1 in Chapter 1 of this volume.

could arise from a noble historic, religious objection, or protection of the environment for the greater good of the group rather than one individual's gain and greed. The propensity to share is also intertwined with the frequently observed and undeniable "not-in-my-backyard/neighborhood" phenomenon.

Similarly, not all opposition to laws related to land procurement can be attributed to the consequences of societal or procedural problems that arise from distrust or a failure to understand, compromise, and cooperate. Whatever the various factors, drivers, or causes of proprietary selfishness, higher-quality infrastructure and improvements in technology like cleaner and enclosed hyperloops can be expected to eventually reduce the noise, smell, pollution, and other nuisance aspects of nearby or overhead transportation or unwelcome installations.

According to Yuval Noah Harari, just because a large number of people can find a way to live together in the same city, this will not always guarantee they can work out "how to divide land and water, how to settle disputes and conflicts" (Harari 2015, p. 114). He continues:

> Cooperation sounds very altruistic, but is not always voluntary and seldom egalitarian. Most human cooperation networks have been geared towards oppression and exploitation. The peasants paid for the burgeoning cooperation networks with their precious food surpluses, despairing when the tax collector wiped out an entire year of hard labour with a single stroke of his imperial pen. (p. 116)

Many problems have been caused by not introducing organized land development earlier. As this book has established, if crowded countries had set up proper titling, zoning, regular-shaped subdivisions, building regulations and heights, fire safety, marking of easements for eventual underground and aboveground services, preservation of reserves, parkland, and sensitive lands, and road thoroughfares much earlier and got strong local council and town planners to design their urban landscapes before colonizers or settlers moved in, we would definitely have had a better starting point.

Regrettably, the practice of land readjustment is a second-order compromise that tries to catch up and introduce the arrangements that should have been imposed from the start. But many do not realize there is a better way to organize and get started and accept that all they have in the toolbox is the pooling and consolidation after the settlers are already in possession and objecting to the late changes. Developing countries with crowded populations or population shifts from the country to the city are probably always going to experience unplanned growth and

shanty development, unless the incoming people are disciplined or the central government strong and persistent.

Yet the development community must often engage with these second-best solutions and for many countries we have examined this is the starting point. That said, if there is still time for open expanse or low-density countries to introduce logical planning from the beginning it should be encouraged (but never at the expense of dispossessing indigenous or first nation peoples). If you come onto land or buy into it when there is already a marked easement for a road widening or public path,[6] then you cannot complain much later when that land is eventually retaken for a purpose other than under your control (if legitimate and not a cover for a private sector exploitation). Keeping your land free of building or inconsistent uses before sewer pipes or underground power cables are dug and laid also seems a fair bargain for the benefit gained by the improved services and hard to argue over even in poorer communities that might want to keep the land for growing food.

Here is the first complaint against land readjustment for mixed and shared uses. It comes too late and the local council sets the agenda of what are the other uses you will have to submit. You might like an all-purpose, common-use paved road to drive along or even a water catchment area to help your access to clean drinking water, but why should you give up your land to set up a playground or low-income housing? Those may be local government priorities but are they necessarily going to be yours if you do not have a benefitting family member? You may even be willing to part with a high percentage of your land for a road at a bargained price, but not if it is going to low-income housing or revitalization of your low-rent neighborhood.

Then there is the worry of gentrification pushing you out economically (i.e., formal market displacement) once the improvements attract more affluent neighbors. What if the current landowners cannot afford to pay the betterment levies for the new services being offered to their plots? Again, others with more buying power will eventually force their way in and dispossess them. There seems to be no way to avoid this widespread result, whether it be in developed, developing, or communal countries.

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6 Jurisdictions and cultures have wide variances on historic and fundamental human rights to roam or pass through and enjoy the views of another's land and whether they are recognized by law or custom, and more importantly well accepted and tolerated by current managers and owners of the land. The vexed question of what might happen when indigenous rights have been dismissed, exploited, or extinguished is discussed in the chapters of Perera (Chapter 2) and Price (Chapter 3).

Post-disaster and postwar might be the exceptions where generations will be prepared to accept a basic change of the status quo (or what used to be known as progress or improvement in living standards before it became cheapened by vacuous, nonspecific phrases like "a new normal"). Could this explain the town planning and revitalization successes of Japan, Germany, and parts of the United Kingdom in implementing the technique? But has it successfully transferred and been able to work in much of Latin America, for instance? Apparently not, except in unique places like Brasilia following the highly planned, newly created capital city model of Canberra in Australia. Another conservative aspect is a society's background level of resistance to change or desire to maintain the status quo as being more predictable or safe. This might have its roots in such diverse phenomena as religion, respect for elders, castes, ethnic suspicions, and even systemic racism.

This complicated situation only gets worse when private developers enter the picture as they get the benefit of your land after the rezoning that you could not enjoy for yourself. This does not strike many as fair, even in developed world scenarios. The conversion of agricultural land into urban land, or the conversion of rural land into highways or airport runways, is a different undertaking to the reorganization of slums into a serviced, quality, and affordable housing area. What about the complicated ramifications of replacing shanty structures that are, at least, providing shelter for the very poor with homes they can never aspire to afford?

Problematic—contested—sensitive lands result in unclear or avoided status for titling. There is the ever-present worry that the state (or certain agents within it) is legally or corruptly engaged in nontransparent dealings with private or related parties to dispossess, ignore, or take advantage of the persons in situ. In many countries at various stages of development there is a continuum of wealthy, expensive land which will never be bulldozed—not least due to influence and too expensive to acquire or redistrict—to peri-urban and least attractive, cheaper zones ripe for acquisition and redevelopment or gentrification. Sometimes a good infrastructure project will result in gentrification and that is enough to engender resentment leading to opposition.[7]

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[7] During the construction of the Ventura and Hollywood freeways in the 1950s, many of the tonier properties and salubrious neighborhoods had the financial resources to retain high-powered law firms long enough to help them organize and lobby for route deviations; meanwhile middle-class households, orchards, flower farms, and horse ranches incurred the brunt of the condemnation. Another forgotten remedy formerly used in many states in the United States is the solicitation of signatures on a petition to stop the construction of planned and earlier approved freeways or disruptive infrastructure that have run into local and widespread opposition by affected communities.

It is well for planners and engineers to remember that the fastest way from point A to B is not necessarily a straight line. Incremental costs can be calculated by deviating from the shortest line in terms of extra track expense and time delay, versus the value of keeping the sensitive land or occupants in place (at least until they die or want to move out). As some contributors to this volume have argued, a gradual bend in the line or route might be the best solution to keeping a community in place and not having to disrupt them by moving home and facing the uncertainties of a new life in an unfamiliar place. In the future they might eventually move away on their own accord and the line can be finally straightened if that technology is still useful.[8]

If we start from the premise that something must be given to everyone found in a redevelopment site—respecting the needs of informal settlers and renters—and not just proven landowners, our next question that occupied a large part of this book is how to divide up the deal-sweeteners to be offered? So, one possibility could be a universal income or windfall, which might be offered regardless of the title situation—like all Saudis and Norwegians get back from their oil industries. Borrowing the argument of Brugman, it could be time to "look beyond [bare] title" so that communal land rights or community land trust approaches for everybody in an affected area might be a better way to go on some occasions instead of concentrating on the specific interests of individuals who can prove title (Brugman, Chapter 8).

Taking another example where competing rights are frequently irreconcilable: putting aside the environmental and water safety externalities for one moment, are underground mineral rights exploited more for the good of the general public or the private greed of miners? This way of thinking can extend to property redevelopers of slums. Ultimately this will depend on who gets voted into parliament to make sympathetic laws or whether the split is challenged in judicial or administrative courts. Here part of the concern is that instead of going to the promised public benefit that a grantor may feel happy about, it ends up in the hands of greedy privateers (or miners) who already have enough land in their hands or under control.

Along the planned right of way of a transportation route or inside a redevelopment zone, it still makes sense for cadastral teams to go in and to try to survey, and then for resolution bodies to settle boundaries where

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8 Of course, manipulating track routes for ulterior motives that benefit connected landowners, voters, or front companies for elites, while long experienced in most jurisdictions, is particularly pernicious and detrimental to the general population's trust and support for institutions when it is uncovered or eventually revealed to them. Only independent oversight, public consultations, or involvement of many decision makers can have a chance of acting as a limited bulwark against such stubborn but all too human practices.

disputes persist between neighbors. (Even if there is no widespread titling in other parts of the country, a law governing a specific subject matter might be created within that project zone alone.) This baseline will be useful as some valid criteria to apportion the share of the "sugarcoated" rewards, overlaid with "icing" for everyone to bring them to a minimum level of enjoyment, satisfaction, and acceptance of the change due to development.

We should also question whether property is really so "scarce" or ultimately "failing" like Marx thought it was, because strata high rises are capable of constantly adding new levels (with more commanding views) with no limit as we find in built-up areas. However, we might imagine that desirable location property near a city center or attraction or possible foreshore coastal and beach access properties might be tending to scarcity.

As Shukla observed in Chapter 1 of this book, a high level of cooperation demanded in public projects frequently requires strong private laws, which are most often lacking in a developing context. Even Fukuyama is ultimately unsure whether "greater communications will bring deeper understanding and cooperation" or if instead "familiarity breeds contempt rather than sympathy" (Fukuyama 1995, p. 354). Therefore, the question becomes how to encourage the de Tocqueville virtue of "self-interest rightly understood," so that actors would come to realize on their own that cooperation most of the time was ultimately in their enlightened self-interest (de Tocqueville 1945, p. 104).

The psychologist Jordan B. Peterson has also popularized a similar character trait (or, in his words, personality attributes as likely predictors of behavior) in the form of a level of a person's *agreeableness* as being the ability of an actor to empathize, preparedness to meet the other side's needs further than halfway, politeness and avoiding confrontation, and accept the public good beyond their personal, selfish needs (compared to disagreeable people). This maximizes in highly egalitarian societies like Scandinavia and Japan. But the ingredient is often seen most vividly in the example of the lone hold-out among a group of farmers or householders who refuses to give way when their neighbors have conceded to a project's guide path. Of course, it is among the hardest to measure and quantify for such analyses, but that does not mean that we should not try to acknowledge its existence and impact on the expected propensity to want to share. During the project planning and implementation, these traits will naturally disclose themselves by conscientious objectors who can never be won over. On the other hand, not all hierarchy needs to be reduced and then dismissed as a selfish form of power grab. Sometimes it is the most logical way to organize for the common and greater good. Nevertheless, it can still result in a form

of stubborn noncooperation when a person feels resentful that they are being taken advantage of.

Perceptively, Harari has praised money (or I might add placing a monetary value on things like one's connection to land) as perhaps "the most universal and most efficient system of mutual trust ever devised." Like Fukuyama, Harari believes this trust was brought about by networks of complex and long-term political, social, and economic relations. Using this universal medium of exchange, strangers who do not trust each other are able to find a way to cooperate (Harari 2015). Should we hope that finding the right "price" (be it expressed in money or intangible promises or a combination thereof) can always ensure a mutually acceptable meeting of minds?

A core conundrum we must keep returning to is does government at whatever level (advised by connected property developers or international financial institutions) really know in every case what is the best use for a piece of land over the local inhabitants or first settlers and users of that land? In representative systems (as distinct from direct referenda-based democracies or proposition jurisdictions), governments pretend to make decisions for the general population and so, in theory at least, determine limits on these private rights on behalf of what is in the better interests of the majority of your neighbors or compatriots. This presumption should be displaced, of course, if there are generalized or case-specific instances of untoward or inappropriate relationships of politicians or planners with developers or blatant disregard of the economic weaknesses of a proposed new use.

Further, we are seeing a general souring on transfers to government if it on-transfers land to a multinational corporation owner, overseas prime contractor, or even a foreign country operator of the concession on the locals' land (e.g., commonly done in public–private partnerships). Is it *right* (or possibly acceptable or logical) that riparian or mining rights in near-desert countries or isolated islands should be controlled by foreign corporations from boardrooms outside the affected lands?

There are many international and domestic solutions already at hand, a good start being for the last remaining major capital-exporting and engineering countries to quickly accede to the Multilateral Convention Against Bribery and Corruption. While they are doing that their companies would be well advised to ascribe to binding best industry practices in order to bid on projects. Project sponsors and financiers should hire independent, third-country quantity surveyors and quality control firms to oversee works and integrity of materials used (for instance, unimpeachable Norwegian expertise for checking the structural integrity of hydroelectricity and dam construction). These guarantors or watchdogs of quality and propriety may come from within

the industry, sector associations, international organizations, or regional cooperatives: it matters little their genesis so long as they are perceived as bona fide intermediaries and their seal of "good housekeeping" is sought out to cement lasting deals that are genuinely viewed as equitable for all parties.

At the time of writing, even isolated and expansive areas where one would have expected little opposition in the past have come into controversy. The inland railway from Brisbane to Melbourne in Australia has run into protest from over 300 affected large landholders and pastoralists who object to the disruption of construction and low pricing. Therefore, alternative routes building on the repurposing of an existing legacy track are being offered. Many, though not all, of these evils might be reduced by greater attention to due diligence, independent auditing, safeguards against inappropriate valuation, and transparent timing of rezoning and conversion without insiders' benefitting.

It is now beyond doubt that sponsors in the developing world will need to become especially sensitive and imaginative to put through their infrastructure routes with the willing acceptance of the existing residents of the areas being served or passed through. We might anticipate that novel indexes measuring ease of securing rights of way (Table 1) could someday become one of many illuminating ways to predict the chances of major infrastructure projects proceeding with less risk of local opposition.

To round out this exploration, I should like to return to the philosophical enquiries that grounded the key questions we addressed

Table 1: Potential Indicators for an Ease of Rights-of-Way Project/Country Index

High-low Trust Level Country	Population Density per Square Kilometer	Land Registration Efficiency	Indigenous Issues Remain	Rule of Law	Speed Disputes Resolved	Corruption Index
Country A+	Light density	5	1	4	3	2
Country B	Heavy density	2	4	1	1	5
Country C–	Medium density	4	0	2	4	3

Notes:
- More complicated permutations might also be anticipated where a low-ranked construction company was operating internationally in a higher-indexed country site and vice versa.
- Integers and letter grades are entered as placeholders for illustrative purposes, as suitable indexes, proxies, sentiment surveys, and data have yet to be identified at this preliminary stage of theory.

Source: Author.

from the outset. The philosopher Gary Watson has made these observations about Nagel's conception of *moral luck*:

> [T]he problem arises from an apparent clash between an "internal" "subjective" view of ourselves, as agents, unified centers and sources of activity, and an "external", "objective" view from which one's behavior appears as "part of the course of events".... To adopt a mechanistic stance (whether deterministic or not) would be to take a standpoint from which one's agency is indiscernible. *The problem of free will is part of the problem of finding room in the world for ourselves* (Watson 1982, p. 14, emphasis added).

About 25 years ago, the author wondered from the vantage of the United Nations University how for Asia and the Pacific, a region rich in cultural diversity, states and international organizations should perceive and effectively deal with cultural factors in their development programs (Theeravit and Stillman 1995). As Fukuyama reminded us, cultural distinctiveness has played and will continue to play an important role in Asia's success in upgrading its development status (Fukuyama 1995, p. 335). Law and financial engineering are not always going to be a complete substitute for trust for often cultural virtues must underpin the development of a widely accepted legal, business system. Binding rules, shared concepts, and impartial courts are not always needed, but knowing they are there for everyone's benefit and guaranteeing fairness is reassuring and ultimately indispensable as society becomes more sophisticated and diverse.

Tellingly, Nassim Nicholas Taleb, author of *The Black Swan*, wrote, "he trusts everyone except those who tell him they are trustworthy" (Taleb 2010, p. 67). If governments and sponsors were instead to explain to their affected landowners that they are guaranteed to be accountable by legitimate and impartial arbiters and honest brokers (Stillman 2008), the persistent struggle to achieve more efficient and equitable land use balances might become an easier and less confrontational road for everyone.

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Q

Equitable Land Use for Asian Infrastructure

Developing Asia's demand for high-quality, integrated infrastructure requires a steady but equitable supply of land. However, obtaining rights over land can be complicated by hurdles imposed by geography, settlement patterns, conflicting cultures, sociopolitical factors, and land use problems unique to each country.

Equitable Land Use for Asian Infrastructure identifies policies that can balance the rights and interests of first peoples, informal settlers, and rural landowners against the development imperatives of land procurement for the greater public good. The collected chapters propose and assess promising models that might be customized to local conditions, such as long-term land leasing with options to buy. This timely volume will be insightful for policy makers, practitioners, academics, and students interested in instructive case studies of the state of Asian land registration, eminent domain, and redevelopment in situations of vulnerable communities.

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