

## Foreword

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The Asian Development Bank (ADB) formally adopted poverty reduction as its overarching goal in 1999, underlining ADB's systematic approach to poverty reduction by promoting policy reforms, assisting the development of overall physical and institutional capacity, and designing projects and programs to better target poverty. ADB's high level of commitment is also reflected in the increasing number of its pro-poor programs and projects.

In its effort to reduce poverty, ADB also recognizes the importance of remaining accountable to both donors and the public. Development institutions such as ADB should be able to account for how well they are using better project designs to achieve better outcomes, spending resources more efficiently, implementing programs according to plan and learning from their experiences, and examining as well as minimizing any adverse effects of their programs. ADB and other development institutions should be able to answer more specific questions about their programs and projects, such as: whether they produced the intended benefits; whether overall impact, isolated from other possible impacts, was positive; how much of the benefits went to the poor; and what the transmission mechanisms of the effects were.

However, there is still very little known about the actual impact of many programs and projects on the lives of the poor. This knowledge gap exists despite the increasing awareness that good poverty impact analyses (PIAs) will help improve resource allocation—which is especially important for the resource-scarce developing countries. The gap remains partly because it is difficult to conduct a PIA—even if a project specifically targets the poor. Identifying the poor and measuring the actual impact of a project involves technical complexities, and isolating the impact without selection and other biases further add to the difficulty. The overall cost of conducting PIAs can also be seen as anti-poor since the resources needed for them could be used for helping the poor in other ways. Political considerations further complicate the problem and there is also the issue of whether PIA should be done before or after a project. To be effective, however, impact analysis should begin with project design and continue throughout the project cycle.

Regarding methodology, there is an urgent need for better PIA tools. Current methods of measuring poverty impacts by examining the distribution of the net present value of project's benefits that go to the poor, offer only partial impact analysis and ignore the project's economy-wide and other effects. In addition, current practices to derive a baseline and to measure the likely impact on the poor based on household income and expenditure surveys are problematic. Conducting such surveys requires substantial time

and resources. Furthermore, the survey's geographical coverage is often too broad and the surveys' timing and main concerns may also be incompatible with the project's purpose. This makes the survey results less useful; and it makes conducting PIA at the project level in a specific location very difficult. PIAs using the existing household survey data may accordingly suffer from misattributions in terms of timing, topical relevance, and geographical coverage. Moreover, as there is no standard approach to conducting PIAs, each PIA must be tailored to a specific project, country, and institutional context. This calls for specific surveys and tools relevant to specific projects or policy interventions.

In response to the situation highlighted above, the Economics and Research Department (ERD) of ADB has developed PIA frameworks through a series of research studies, generating knowledge useful for designing better poverty-reducing programs. The frameworks cover three critical areas for identifying the poor at the household level, over a specified geographical area, and for PIA in an economy-wide context. This special volume is intended to disseminate part of the research outputs to policy makers, project managers, planners, and the general public.

Given the progress reported in this book, the key challenges ahead are to adopt more comprehensive impact analysis by providing more complete and rigorous macro-micro linkages, giving greater consideration to the dynamic aspects of policy interventions and their impacts on the overall economy and targeted groups, and better integrating long-term and inclusive growth in the modeling approach. The modeling tools should also be able to provide scenario and sensitivity analyses for better and more complete information about the overall likely impacts.

It would also be very useful to make the tools more user-friendly and developed in such a way that they can be applied to address different topics, sectors, and countries. As partly demonstrated in the poverty reduction integrated simulation model (PRISM) described in this book, linking various modeling frameworks at global, national, local, sector, household, and individual levels can be done. Therefore, expanding PRISM to include other countries and to link with global and sectoral models would be desirable. Additionally, in each part of this modeling framework, an independent link to a geographic information system (GIS) application can be established for spatial analysis. With this complete modeling framework in place, wide-ranging impact analyses can be conducted in a systematic and comprehensive manner by considering all important coverage levels—from global to individual.

To better tackle poverty, ADB needs to learn from its experiences, make good use of its knowledge of best practices, and build from its successes. The right information from PIA can be used to redesign, improve, or even eliminate programs which are poorly designed and would not reach their intended beneficiaries—or those that are wasteful. As other researchers, such as Judy Baker (2000) and Martin Ravallion (2005), have likewise pointed out, the knowledge gained from impact evaluation will also provide critical inputs to the appropriate design of future programs and projects. Governments and donor agencies therefore need to learn from PIA to enable them to identify the kinds of policies and projects that are most likely to succeed, including factors that contribute to that success. The research discussed in this book is a small step in this direction.



Ifzal Ali

Chief Economist  
Asian Development Bank  
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## Preface

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Poverty is a deprivation of minimum essentials and opportunities to which every human being is entitled. ADB views poverty as an unacceptable human condition that can and must be eliminated by public policy and action (ADB 1999). Fighting poverty has therefore become the most urgent challenge—it is also a daunting challenge since poverty remains a global problem. Fortunately, various levels of stakeholders are evidently concerned about poverty reduction, making it the ultimate goal of many institutions, including ADB. This concern has also made considerations on pro-poor and inclusive growth, as well as on other poverty-reducing policies, extremely important.

Fueled by mounting pressures on governments and donor agencies to broaden their development strategies and better monitor development contributions and poverty reduction results, PIA have received considerable attention in recent years. The Development Assistance Committee (DAC) of the OECD has, for instance, developed a guideline for harmonizing PIA among donor agencies. The DAC-PIA is a simplified version of the World Bank's Poverty and Social Impact Analysis (PSIA) tool to examine a project in the context of a national poverty reduction strategy, benefits to stakeholders that includes targeted groups, transmission channels of systemic poverty reduction, and project impact contributions on MDGs and other strategic development goals. PSIA is mandatory for all sovereign sector investments financed by ADB and summaries of PSIA results are part of all ADB public sector loan documents (see the respective sections of the ADB poverty website <http://www.adb.org/poverty/tools-innovations.asp> for more information). Furthermore, ADB also tracks direct and indirect poverty reduction contributions of all its operations through its project classification system.

It is recognized that good PIAs help in better allocating resources that benefit the poor. Many attempts to conduct PIAs have, however, mostly suffered from insufficient analytical rigor, faulty questions, and the use of wrong time frames (Baker 2000). As a result, there is no comprehensive PIA that can be used as an example of how it should be conducted.

Progressing from the current situation, ERD has developed five different tools that can be used for PIA. The developments and application examples of the tools are presented in this book, which covers: (i) poverty predictor modeling for identifying the poor at the household level; (ii) poverty mapping for identifying the poor over geographical areas or developing poverty indicators at lower administrative levels that cannot be produced using household surveys; (iii) computable general equilibrium (CGE) modeling for assessing the economy-wide effects and distributional implications of wide-

ranging issues; (iv) CGE-microsimulation modeling for further assessing the impacts at the household level; and (v) PRISM for integrating CGE-microsimulation modeling and poverty mapping with a GIS application. The first two tools presented in the first part of the book can be used at the project level while the other three tools presented in the second part are more relevant for PIA at the national or sectoral levels.

The book begins by discussing PIA and the three important aspects of identifying the poor, identifying and measuring the program impacts, and conducting PIA in the CGE modeling framework. The succeeding discussions are organized around the five different tools developed in this study.

Part 1 addresses the issue of identification of the poor at the household level and over a geographical area which is conducted through poverty predictor modeling and poverty mapping, respectively. Chapters 1 through 5 discuss poverty predictor modeling in Indonesia, the People's Republic of China (PRC), and Viet Nam; followed by validations of their poverty predictor variables through pilot surveys. The identification was conducted by estimating the poverty predictor variables based on household survey data, transforming the predictor variables into a short questionnaire, and then pilot-testing the questionnaire on household samples consisting of those selected in the previous national survey and the newly selected households. This was done to cross-check and validate the poverty predictor modeling results. Moreover, different ways of classifying the poor based on independent assessments were also carried out to further validate the poverty predictor variables and provide local poverty assessments. This participatory approach can complement the survey results that may contain errors due to respondents' memory recall and other sampling and nonsampling errors. Chapter 6 discusses poverty mapping in Indonesia and a GIS application based on the results. It highlights poverty mapping's usefulness in generating reliable poverty estimates at the district level, which otherwise cannot be estimated from the existing household survey due to its limited sample size and coverage area. The poverty indicators are then presented in dynamic maps using a "traffic-light" classification system and interactively linked with other variables in a GIS application of a poverty-reduction information system for monitoring and analysis (PRISMA). Other poverty-related variables used include access to safe water, education, health, and so on. Accordingly, the interactive and dynamic maps of poverty indicators can be overlaid with the graphs of other poverty-related variables to examine their spatial association.

Part 2 summarizes case studies of developing and applying CGE modeling framework for poverty impact analysis. Chapter 7 and 8 discuss the

developments and applications of individual country CGE models to examine the poverty effects of trade liberalization in Indonesia and infrastructure development in the PRC. The models were developed specifically for each country to represent the main feature of the economy with some important characteristics such as an open economy with foreign trade and international capital transactions, multiple sectors and factors, and relatively disaggregated household groups. Chapter 9 presents a case study of developing and using CGE-microsimulation to assess economic and poverty impacts on trade liberalization in Indonesia. The simulations are consistent with those in the CGE paper discussed in Chapter 7 to highlight the different results between CGE and CGE-microsimulation models. In the latter for instance, poverty impact can be measured at the household level so that the commonly used Foster-Greer-Thorbecke (FGT) poverty indicators can be calculated. Chapter 10 demonstrates how PIA is conducted in the integrated simulation approach by using PRISM. Trade liberalization effects on the Philippine economy are addressed by showing how further trade reform will benefit the economy and the poor.

The final section summarizes the main findings and their policy implications. Key challenges for the future are also highlighted. More detailed suggestions on making a comprehensive PIA an integral part of the evaluation system are provided, including the need to use some sensitivity analyses at the entry, monitoring, and assessment stages.

The book is written for at least four different groups of audiences. Firstly, it is for policy makers and planners, who decide how PIA should be conducted and, more importantly, how public resources should be allocated across competing needs. Secondly, it is intended for project managers or project economists, who can use PIA to critically improve their current and future projects' performance. Thirdly, it is for PIA practitioners, who are directly responsible for the development and applications of poverty impact evaluation tools. Lastly, it can be useful for researchers working in the area of impact analysis and other interested parties that could use the information in their various endeavors to help reduce poverty.

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## List of Contributors

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**Douglas H. Brooks**

Asian Development Bank Institute  
dbrooks@adbi.org

**Erwin Corong**

Economics Department  
De La Salle University – Manila  
coronge@dlsu.edu.ph

**Caesar Cororaton**

International Food Policy Research Institute  
C.Cororaton@cgiar.org

**Bayu Krisnamurthi, Anna Fatchia, Lusi Fausia, Yoyoh Indaryanti,  
and Dewi Setyawati**

Center for Agricultural and Rural Development Studies, Indonesia.  
pspipb@indo.net.id

**Mary Ann C. Magtulis**

Statistical Research and Training Center  
Quezon City, Philippines  
research@srtc.gov.ph

**Linh Nguyen**

Social and Environment Department  
General Statistical Office of Viet Nam.  
nblinh@gso.gov.vn

**Joakim Rylander**

Commonwealth Close #09-183  
Singapore  
joakim@informap.com.sg

**Li Shantong**

Development Research Center,  
The State Council People's Republic of China  
shangtong@drc.gov.cn

**Guntur Sugiyarto and Eric B. Suan**

Economics and Research Department  
Asian Development Bank, Philippines  
gsugiyarto@adb.org; esuan@adb.org

**Uzair Suhaimi and Dudy Sulaeman**

Badan Pusat Statistik, Indonesia

uzair@mailhost.bps.gov; dudy@mailhost.bps.gov

**Sudarno Sumarto, Daniel Suryadarma and Asep Suryahadi**

SMERU Research Institute, Indonesia

ssumarto@smeru.or.id

**Pingping Wang**

Rural Survey Organization

National Statistic Bureau of China

wangpp@stats.gov.cn

**Sangui Wang and Heng Wang**

Institute of Agricultural Economics and Development

Chinese Academy of Agricultural Sciences, PR China

wangsg@mail.com; wangheng89@163.com

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## Abbreviations

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ADB	– Asian Development Bank
BPS	– Central Board of Statistics ( <i>Badan Pusat Statistik</i> )
CGE	– computable general equilibrium
DDA	– Doha Development Agenda
ERD	– Economics and Research Department
FGT	– Foster-Greer-Thorbecke
GDP	– gross domestic product
GIS	– geographic information system
HCR	– headcount ratio
NBS	– National Bureau of Statistics
NCR	– National Capital Region
PIA	– poverty impact analysis (or assessment)
PCA	– principle components analysis
Podes	– village census ( <i>Potensi Desa</i> )
PPM	– poverty predictor modeling
PRC	– People’s Republic of China
PRISM	– poverty reduction integrated simulation model
PRISMA	– poverty-related information system for monitoring and analysis
RETA	– regional technical assistance
RHG	– representative household group
ROW	– rest of the world
RSO	– Rural Survey Organization
SAM	– social accounting matrix
SP	– population census ( <i>Sensus Penduduk</i> )
SMERU	– Social Monitoring and Early Response Unit
SUSENAS	– National Socioeconomic Survey ( <i>Survey Sosial Ekonomi Nasional</i> )
TRP	– tariff reform program
VIF	– variance inflation factor
VHLSS	– Vietnam Household Living Standard Survey
VLSS	– Vietnam Living Standard Survey
WTO	– World Trade Organization