



Work-in-Progress: Not for Quotation

Title: Special Evaluation Study on ADB's Contribution to Inclusive Development through Assistance for Rural Roads

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I. Background

A. Inclusive Development

1. The Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank (ADB) 2008–2020¹ states that ADB's corporate vision will continue to be "An Asia and Pacific Region Free of Poverty," and its mission will be to help its developing member countries (DMCs) reduce poverty and improve living conditions and quality of life. The Strategy also recognizes that not only the pace but also the pattern of growth matters. Inclusive growth is one of the three development agendas² that ADB will focus its support for over the next 12 years. Inclusive growth is expected to (i) create and expand economic opportunities, and (ii) broaden access to these opportunities.³ An implicit assumption is that inclusive growth leads to inclusive development.

2. There is, however, no single agreed definition of "inclusive development." World Bank,⁴ for example, considers that inclusive development is about improving the incomes and lives of all members of society, particularly the poor. It depends on generating economic growth, sharing its benefits with the poor, and enhancing their access to basic services. An Inter-American Development Bank paper suggests that it refers to the formulation and implementation of policies, plans, programs, projects, and actions for the human and socioeconomic development, which ensure and make feasible the ideal of equal opportunities and the exercise of rights—civil, political, economic, social, and cultural—for every person, regardless of his/her social status, gender, physical, or mental condition and ethnic affiliation.⁵ It (i) gives a value to the contribution of every human being in the development process; (ii) considers the human being as the subject and main beneficiary of development; (iii) does not discriminate but acknowledges the importance of differences, appreciates diversity and transforms it in an advantage, a chance, and a right; (iv) aims at equality: it is guided by the principles of equity and justice; and (v) fights poverty, and gives priority to the more disadvantaged groups. Similarly, the 54th session of the United Nations Conference on Trade

¹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

² Other two agendas are environmentally sustainable growth and regional integration.

³ Ali, I. and J. Zhuang. 2007. Inclusive Growth toward a Prosperous Asia: Policy Implications. *ERD Working Paper Series No. 97*. Manila argued for equal access.

⁴ Available: [http://inweb18.worldbank.org/eap/eap.nsf/Attachments/Advanced+Report+Chapter+Two/\\$File/conn_049-074.pdf](http://inweb18.worldbank.org/eap/eap.nsf/Attachments/Advanced+Report+Chapter+Two/$File/conn_049-074.pdf)

⁵ Available: <http://www.iadb.org/int/jpn/seminars/disa/en/additional/glossary.htm>

and Development adopted Sen's definition and stated that inclusive development requires the reduction in poverty, unemployment, and underemployment; bringing lagging countries into global knowledge systems and global value-chains; and ensuring that marginalized communities have access to housing, health, education, and other social services are able to exercise their civic, civil rights, and are able to expand their "capacities and capabilities."⁶ Sachs⁷ supports Sen's views, and goes further and argues that all citizens must enjoy equal access to welfare programs aimed at compensating for natural or physical inequalities—for the disabled, mothers and children, and the elderly.

3. In a recent report,⁸ the Commission on Growth and Development argues that economic growth is a necessary condition for the achievement of a wide range of objectives that people and societies care about; including poverty reduction, health, productive employment, and the opportunity to be creative. The report argues that all kinds of things that really matter to people seem to depend heavily on the availability of resources and income, so that they don't spend most of their time desperately trying to keep their families alive. However, Cook⁹ contends that growth alone does not guarantee sustained poverty reduction, and it may also create threats to social cohesion that in turn can undermine growth. While development thinking remains dominated by a "growth-first" paradigm, Asian experience illustrates the important role of government policy in creating pro-poor growth, providing public goods and social protection mechanisms, and creating the institutional conditions for more inclusive and equitable development. Similarly, India's 11th Five Year Plan (2007–2012)¹⁰ is based on broad vision including several interrelated components: rapid growth that reduces poverty, and creates employment opportunities; access to essential services in health and education, especially for the poor; equality of opportunity; empowerment through education and skill development; employment opportunities underpinned by the National Rural Employment Guarantee; environmental sustainability; recognition of women agency; and governance.

4. More recently, Fernando¹¹ identified six conditions for inclusive rural development. These include: (i) opportunities for the poor to gainfully employ themselves, and improve their quality of life, need to be provided; (ii) the ability of poor households to take advantage of the opportunities must be improved and ensured; (iii) access to adequate health services must be provided for the rural population, particularly to the low-income households; (iv) special well-designed and targeted programs need to be implemented to assist the disadvantaged groups of rural people, including women, to enable them to participate actively in development;¹² (v) governments must clearly recognize the vital role they must play to achieve inclusive development; and (vi) it is necessary to introduce effective social safety net programs to address the issue of the poorest, and the most vulnerable groups in rural areas, including

⁶ Sen, A. 2000. *Development as Freedom*, New York: Knopf: cited in TD/B/54/7, United Nations Conference on Trade and Development, Trade and Development Board, 54th session, Geneva, 1–11 October 2007.

⁷ Sachs, I. 2004. Inclusive Development and Decent Work for All. *International Labour Review*.

⁸ Commission on Growth and Development. 2008. The Growth Report: Strategies for Sustained Growth and Inclusive Development. Available: http://www.growthcommission.org/index.php?option=com_content&task=view&id=96&Itemid=169.

⁹ Cook, S. 2006. Structural Change, Growth and Poverty Reduction in Asia: Pathways to Inclusive Development. *Development Policy Review*, 24(s1): 51–80.

¹⁰ http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11_v1/11v1_ch1.pdf

¹¹ Fernando, N.A. 2008. Rural Development Outcomes and Drivers: An Overview and Some Lessons. *East Asia Department's Special Studies*: pages 78–79. ADB. Manila.

¹² Governments need to ease economic and social infrastructure constraints on overall and rural economic growth, protect and conserve natural resources, improve and protect security of land tenure, develop institutions that are critical to inclusive development, including dynamic rural financial markets, facilitate the process of off-farm labor migration and implement policies and programs targeted to address social inequalities.

women in particular. In addition, legal identity can be an important part of a larger reform agenda for promoting inclusive development.¹³

5. ADB, as such, does not have a working definition for “inclusive development.” However, Article 2 (ii) of the ADB Charter states that one of the six functions of ADB is “to utilize the resources at its disposal for financing development of DMCs in the region, giving priority to those regional, subregional, as well as national projects and programmes which will contribute most effectively to the harmonious economic growth of the region as a whole, and having special regard to the needs of the smaller or less developed member countries in the region.”¹⁴ Obviously, the emphasis is on harmonious economic growth. The second pillar of ADB’s 1999 Poverty Reduction Strategy¹⁵ was “inclusive social development,” and it continued to be recognized in ADB’s 2004 Enhanced Poverty Reduction Strategy.¹⁶ In his speech to the Board of Governors in 2004, ADB President Chino stated that ADB was established in 1966 to serve as the focal point for inclusive development and regional cooperation in Asia and the Pacific.¹⁷ The notion of inclusive social development also featured prominently in the Long-Term Strategic Framework (LTSF, 2001–2015). In December 2007, ADB’s Managing Director General in his speech¹⁸ elaborated on the inclusive development concept and outlined three dimensions (economic, social, and political) to bridge development gaps between the rich and the poor, and argued for a more inclusive development process. The economic dimension would seek to create conducive environment in ensuring that poor and low-income households have the ability and opportunity to participate in, and benefit from, the growth process. The social dimension would require investments in health, education, human resource development, and social safety nets to eliminate social inequalities; promote gender equality and women’s empowerment; and bring more people, especially the poor, into the process of growth. And the political dimension would call for improving the ability and opportunity for poor and low-income people, including women and ethnic minorities, to effectively participate in the political processes. As stated earlier (para. 1), ADB’s Strategy 2020 focuses on inclusive growth by (i) creating and expanding economic opportunities, and (ii) broadening access to these opportunities. While it does not make specific mention of inclusive development, the implications are inherent in underlying assumptions. However, development literature point out that economic growth is a necessary, but not a sufficient, condition for inclusive development.

B. Role of Rural Infrastructure in Socioeconomic Development

6. Approaches to rural development in the Asia and the Pacific region has gone through several changes; and current efforts include area-based approach to poverty reduction, integrated rural development, community-based and -driven development, participatory development, and local development program approach.¹⁹ In all these approaches, rural infrastructure have played an important role in the development process, and has specifically strengthened the foundation of agriculture which is a pace setter of economic growth in many

¹³ ADB. 2007. *Legal Identity for Inclusive Development*. Manila.

¹⁴ Available: <http://www.adb.org/Documents/Reports/Charter/chap01.asp>.

¹⁵ Available: http://www.adb.org/Documents/Policies/Poverty_Reduction/Poverty_Policy.pdf

¹⁶ Available: http://www.adb.org/Documents/Policies/Poverty_Reduction/2004/prs-2004.pdf

¹⁷ Available: http://www.adb.org/annualmeeting/2004/Speeches/chino_opening_address.html

¹⁸ Available: <http://www.adb.org/Documents/Speeches/2007/ms2007089.asp>

¹⁹ ADB. 2002. *Impact of Rural Roads on Poverty Reduction: A Case Study-Based Analysis; United Nations Development Program (UNDP)*. Manila; ADB. 2000. *Rural-Urban Linkages: An Emerging Policy Priority*. Manila; Mansuri, G. and V. Rao. 2004. Community-Based and -Driven Development: A Critical Review. *World Bank Policy Research Working Paper*; Prichett and Woolcock. 2002: cited in ADB. 2004. *Special Evaluation Study on the Effectiveness of Participatory Approaches*. Manila; UNCDF. 2004. *Local Government Initiative: Pro-poor Infrastructure and Service Delivery in Rural Asia*.

DMCs.²⁰ Fernando²¹ argues that rural infrastructure contributes to inclusive rural development in two ways: (i) it provides rural people with access to markets and basic services; and (ii) it influences rural economic growth and employment opportunities, and thereby, incomes and social development. Improved access to information and productive and social services is directly linked to the provision and or improvements of rural roads.

7. The role of rural infrastructure in socioeconomic development has been widely recognized in the literature. A joint study²² conducted by ADB, Japan Bank for International Cooperation, and the World Bank highlights the role of infrastructure, and argues that infrastructure reinforces inclusive development through economic growth plus sharing the benefits to reduce poverty. Investments in infrastructure not only accelerate growth, but also have strong linkage effects with other complementary inputs such as human capital, access to finance, and adoption of new technology. With improved connectivity, for instance, economic and social development literally moves into the areas connected. On the other hand, improved institutional performance reduces the “transaction costs,” which, in turn, increases the productivity as well as the rate of investment via favorable investment climate effects.²³ Using a rapid diagnostic survey, Kuhnle²⁴ observed that rural infrastructure had positive contribution; such as increased traffic and mobility, reduced transport rates, increased employment, saved time, increased land values, increased income, created income generating opportunities, increased participation in marketing activities, and improved access to education, health, markets, social interaction, and water supply and sanitation (WSS). The 2008 World Development Report²⁵ notes that public investment to expand access to rural infrastructure and services will be critical to reducing transaction costs and physical losses.

8. While inclusive development has not been an explicit focus in its operations, ADB has tried to address the notion of inclusiveness through a number of policies, strategies and initiatives.²⁶ In addition, ADB’s LTSF for 2001–2015 emphasized inclusive social development, including social support programs and policy and reform agendas promoting equity and empowerment, especially for women and disadvantaged groups.²⁷ However, a recent evaluation study²⁸ noted that the overall assessment of the LTSF was highly relevant, while ADB’s response and initial results were rated medium in all areas,²⁹ except inclusive social development (rated low). Nevertheless, ADB’s contribution to inclusive development has not

²⁰ Bhatia, M.S. 1999. Rural Infrastructure and Agricultural Growth. *Economic and Political Weekly*: A-43-A48.

²¹ Fernando, N.A. 2008. *Rural Development Outcomes and Drivers: An Overview and Some Lessons*. ADB. Manila.

²² ADB, JBIC, and the World Bank. 2005. *Connecting East Asia: A New Framework for Infrastructure*. Washington, DC.

²³ World Bank. 2007. Jharkhand: Addressing the Challenges of Inclusive Development. Report No. 36437-IN, Washington, DC.

²⁴ Kuhnle, R. 2005. *Rural Infrastructure Development and Poverty Reduction: Example of Bangladesh*, ADBI, Tokyo. Available: <http://www.adbi.org/files/2005.07.08ccp.infrastructure.poverty.bangladesh.pdf>.

²⁵ World Bank. 2008. *World Development Report 2008: Agriculture for Development*. pages 133–134. Washington, DC.

²⁶ ADB. 1992. *Medium-Term Strategic Framework (1992–1995)*. Manila; ADB. 1992. *Medium-Term Strategic Framework (1995–1998)*. Manila; ADB. 1999. *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy*. Manila; ADB. 2004. *Enhancing the Fight Against Poverty in Asia and the Pacific: The Poverty Reduction Strategy of the Asian Development Bank*. Manila; Policy and strategy papers relating to population, forestry, energy, indigenous peoples, involuntary settlement, information disclosure, inspection function, and capacity building.

²⁷ ADB. 2001. *Social Protection Strategy*. Manila; ADB. 2001. *Gender Action Plan 2001–2003*. Manila; ADB. 2002. *Education Policy*. Manila; ADB. 2005. *Development, Poverty and HIV/AIDS: ADB’s Strategic Response to a Growing Epidemic*. Manila.

²⁸ ADB. 2007. *Long-Term Strategic Framework: Lessons from Implementation (2001–2006)*. Manila.

²⁹ The LTSF strategic areas were sustainable economic growth, inclusive social development and governance for effective policies and institutions.

been systematically analyzed. The proposed evaluation will focus on contribution of ADB assistance to achieving the inclusive development objective by supporting the construction, rehabilitation and maintenance of rural roads.³⁰ Evaluation of other types of rural infrastructure are ongoing (rigorous impact evaluation of rural WSS in Pakistan) and planned for 2009 (rigorous impact of irrigation).

9. The evaluation approach paper is divided into nine sections. Section II highlights the importance of rural roads, and summarizes selected studies that have attempted to assess impacts due to rural roads. Section III presents a summary of key lessons from ADB operations of projects dominated by rural roads, followed by a discussion of key issues and/or challenges associated with the implementation of such projects in Section IV. Sections V and VI provide rationale and objectives, and scope of the special evaluation study (SES), respectively. A conceptual framework for the evaluation is presented in Section VII, and evaluation methodology is discussed in Section VIII. The final section outlines resource requirements for the conduct of the SES and tentative milestones.

II. The Role of Rural Roads

10. Garmendia, et al.³¹ contend that the provision of infrastructure like rural roads lowers unit cost of production and services, and expands market opportunities thereby promoting economic growth. In India, Binswanger, et al.³² found investment in rural roads paved the way for financial institutions, and public infrastructure created greater fertilizer demand. In Viet Nam, De Walle and Cratty³³ found that rural roads significantly increased the availability of freight services in the project communes, although they had little impact on passenger transport. However, time needed to reach the closest hospital, in case of serious injury, declined substantially. The poorest households realized the strongest impact. Warr³⁴ found that improved road access alone decreased rural poverty by 13%. In Bangladesh, Khandker, et al.³⁵ noted that investments in rural roads reduced poverty significantly through higher agricultural production, higher wages, lower input and transportation costs, higher output prices, and education opportunities for children. The authors argued that road investments are pro-poor, and that the gains are proportionately higher for the poor than the non-poor. Similarly, Olsson (2006)³⁶ reported that road project substantially improved local area's regional network accessibility and production, employment, trade, competition, incomes, and mobility increased substantially in all major sectors and in new ones, and among households. ADB,³⁷ more specifically, highlighted that the economic benefits of rural road projects varied by income group. Improvements to the primary village network of paths, tracks, culverts, and access routes

³⁰ Rural roads dominated interventions account for nearly three-fourths of total support provided to rural infrastructure over 1996–2007, followed by rural WSS and waste management (9.3%), irrigation (14.2%), and rural (2%).

³¹ Garmendia, Estache, and Shafik. *Infrastructure Services in Developing Countries: Access, Quality, Costs, and Policy Reform. World Bank Policy Research Paper*. 2004.

³² Binswanger, H.P., S.R. Khandker, and M.P. Rosenzweig. 1993. How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India. *Journal of Development Economics*: cited in Operation Evaluation Department/ADB report, 2007. *Findings from Studies of Poverty Impacts of Road Projects*. Manila.

³³ De Walle, D. and D. Cratty. 2002. *Impact Evaluation of a Rural Road Rehabilitation Project*. World Bank. Washington, DC.

³⁴ Warr, P. 2005. *Road Development and Poverty Reduction: The Case of Lao PDR*. ADB Institute Discussion Paper No. 25.

³⁵ Khandker, S., Bakht, Z, and Koolwal, G. 2006. *The Poverty Impact of Rural Roads: Evidence from Bangladesh*. World Bank Policy Research Working Paper. Washington, DC.

³⁶ Olsson, J. 2006. *Responses to Change in Accessibility, Socio-economic Impacts of Road Investment: The Distributive Outcomes in Two Rural Peripheral Philippine Municipalities*. Department of Human Economic Geography, University of Goteburg, Series B, no. 110.

³⁷ ADB. 2002. *Impact of Rural Roads on Poverty Reduction: A Case Study-Based Analysis*. Manila.

that reduce the burden of basic household and productive tasks, as well as the increased availability of intermediate modes of transport with larger carrying capacity to collect water, firewood, etc., were likely to have a greater initial impact on the well-being of the poor, than improved availability of motorized transport services, which they do not or cannot afford to use. Cook et al.,³⁸ on the other hand, rejected the hypothesis that the poor and the non-poor benefit proportionately. They argued that transport infrastructure has always been seen as a public good and, thus, the benefits of which are available to all—poor or non-poor. A number of studies, however, provided support for labor-intensive rural public works have potential to reach the poor through job creation and maintenance of rural infrastructure, provided there is income gain to the poor and core labor standards are maintained.³⁹

11. One of ADB's SESs⁴⁰ found that the real impacts of rural road improvement varied significantly depending on the local context. In remote and poorly endowed mountainous areas in northern Viet Nam and Yunnan, upgrading isolated rural roads that did not connect to major road networks was neither a necessary condition nor an effective measure for poverty reduction. The reasons included (i) insufficient farmland per capita, and adverse farming conditions; (ii) lack of private firms which would invest even after the upgrading of rural roads; and (iii) migration as the main strategy of households for escaping poverty. The study noted that upgraded rural roads did not always attract private investors in mountainous areas where there were limited opportunities for high commercial agricultural growth. A great majority of those living in these regions rose out of poverty by migrating to more prosperous regions and working outside of agriculture, usually in manufacturing, construction, and services. In contrast, upgrading rural roads contributed significantly to poverty reduction in areas with high potential for commercial agriculture, i.e., where farmland was relatively abundant, the climate ideal, the water supplies sufficient, and the only key constraint was the lack of all-season roads. Furthermore, farmers would be willing and able to pay for infrastructure investment that brings them more benefits than costs if, for instance, long-term loans were available at low interest.

12. In the Lao People's Democratic Republic, Nakhavong⁴¹ noted that people with capital were most able to benefit from the new opportunities created by rural infrastructure and Mu and De Walle,⁴² confirmed evidence of considerable impact heterogeneity with a tendency for poorer areas to have conditions favoring higher impacts in Viet Nam, although impacts were also highly context specific as to geographic, community, and household factors. Similarly, Chowdhary and Torero⁴³ noted that paved rural roads created non-farm employment and income opportunities than non-paved roads and positive complementarity effects was observed when more than one form of infrastructure was available. However, Escobal and Ponce⁴⁴ found income expansion

³⁸ Cook C., Duncan, T., et al., ADB. 2005. *Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*. Manila.

³⁹ Ravallion, M. 1991. *Reaching the Rural Poor through Public Employment: Arguments, Evidence, and Lessons from South Asia*. The World Bank Research Observer, vol. 6, no. 2 (July 1991): pp. 153–175; Munters, P. 2003. *Jobs or Machines. Comparative Analysis of Rural Roads Work in Cambodia*; International Labour Organization. International Labour Organization. 1996. *Construction and Maintenance of Rural Roads by the Public and Private Sectors*.

⁴⁰ ADB. 2006. *Pathways Out of Rural Poverty and the Effectiveness of Poverty Targeting*. Manila.

⁴¹ Nakhavong, S. 2006. *Impact of the Rural Access Road Network on Poverty Alleviation in the Lao PDR*. United Nations Development Program (UNDP).

⁴² Mu, R. and De Walle D. World Bank. 2007. *Rural Roads and Poor Area Development in Viet Nam*.

⁴³ Chowdhury, S. and M. Torero. 2005. *Urban-rural Linkages in Bangladesh: Impact of Infrastructure and the Food Value Chain on the Livelihoods and Migration of Landless Households, Women and Girls in the Northwestern Region*. Mimeo, IFPRI, Washington, DC: cited in OED-ADB report, 2007. *Findings from Studies of Poverty Impacts of Road Projects*. Manila.

⁴⁴ Escobal, J. and Ponce, C. 2002. *The Benefits of Rural Roads: Enhancing Income Opportunities for the Rural Poor*. Working Paper. GRADE.

generated after rural road rehabilitation is not necessarily likely to translate into increased consumption because rehabilitation often lacks regular maintenance. In another ADB study covering Indonesia, Philippines, and Sri Lanka, Hettige⁴⁵ concluded that improved roads increased the general opportunities and the environment for buying and selling, particularly to visiting buyers and creation of seasonal transit markets. However, since many poor farmers in the area were indebted to the intermediaries, they had little scope for maneuver in deciding whom to sell and at what price. Improved access to roads, therefore, does not necessarily result in better prices for poor farmers unless complemented by other enabling factors.

III. Lessons from ADB Operations in Rural Roads

13. ADB assistance to DMCs has been directed towards construction and rehabilitation of rural roads and their operation and maintenance (O&M), capacity building, and governance. Some of the experiences from ADB operations suggest that rural roads have improved better access to market and administrative and service centers, improved livelihood opportunities, lowered vehicle operating costs, developed competitive markets, and strengthened community self-help and village-based maintenance system. On the other hand, a study undertaken by the Operations Evaluation Department (OED) (footnote 45) also highlights some of the challenges such as risks of sexual exploitation and drug use, and erosion of local traditional values observed in ADB projects.

14. ADB operations in rural roads have provided a number of useful lessons such as:

- (i) Rural roads should be upgraded only to a standard that is needed to connect them to the main road network.
- (ii) The O&M of rural roads should be part of the financing road and it should be incorporated early in the design and planning stage to ensure that O&M is included in budget planning. Similar lessons have been highlighted by other development agencies, including International Fund for Agricultural Development, Deutsche Gesellschaft für Technische Zusammenarbeit, Swedish International Development Agency, Swiss Development Corporation, World Bank and United Nations Capital Development Fund.
- (iii) Rural roads should be provided hand in hand with other complementary programs that promote rural-urban linkages. Diversifying livelihood opportunities for the poor to supplement existing subsistence level is one of the several examples of complementary programs.
- (iv) Strong institutional arrangements are vital to ensuring the long-term viability of any infrastructure (including rural roads) investment. The link between infrastructure impact and institutional reform has often been underestimated in the past.
- (v) There should be proper road planning so that rural access roads may be built to a higher technical standard and require less maintenance. Proper road planning should include (a) improving the selection criteria for rural access roads to provide a more equitable distribution of benefits, and a better fit between investment and sector needs; (b) developing new roads as a part of an exiting road network and investment program; and (c) integrating rural roads to district and provincial works and services.

⁴⁵ Hettige, H. 2006. *When Do Rural Roads Benefit the Poor and How? An In-depth Analysis Based on Case Studies*. ADB. Manila.

- (vi) Untested local contractors can perform adequately but they must be given ample time to allow for the steep learning curve and overcome the many constraints facing them. Engaging local contractors generates additional savings to enable new supporting activities and their performance has proved better than international ones.
- (vii) Devolving responsibility for rural roads maintenance to local communities is an important factor of success if supported by the technical expertise and capacity building of local authorities.
- (viii) Weak local fiscal base of local governments or unclear center-local financing arrangements, which if not properly addressed has a crucial negative impact on O&M of rural roads.
- (ix) If there is no competition, there is no incentive for transport providers to improve their service or pass on their cost savings to consumers. Competition is determined by potential demand for travel, users' proximity to a commercial center, and the government's commitment to regular maintenance and regulatory barriers, among others.⁴⁶
- (x) Success in sustaining the benefits from rural road projects depends upon governments maintaining an appropriate policy environment. Some of the key policy concerns include the decentralization of national government's responsibilities to local authorities, privatization of infrastructure facilities, and adherence to market-oriented and financial sustainable policies.

IV. Challenges/Key Issues Associated with Rural Roads

15. Rural roads have provided and are expected to provide further opportunities for inclusive development of rural areas. Reduced transaction costs in accessing improved technologies and services; expanding volume of production of goods and services; better market access; higher product prices for producers, and lower prices for consumers; production diversification based on comparative advantage; increased small and medium business and employment opportunities; improved access to social services (e.g., education, health, security, and WSS); increased participation in decision making and political representation; mainstreaming disadvantaged groups, including women and ethnic minorities; and community empowerment, are some of the potential opportunities that can be strengthened and enhanced.

16. The rural roads have faced several challenges. For example, a United Kingdom Department for International Development study⁴⁷ identified governance and institutional frameworks, high level of corruption, weak management systems, distorted public investment choices, diverted benefits from the poor, and neglected maintenance, as some of the key constraints. Human rights abuses have occurred in some cases as a result of displacement of people from shelter or livelihood opportunities. However, measures to mitigate these have proved too costly to implement. Other challenges include low level of demand for infrastructure, lack of competition among service providers, unclear linkages in rural-urban development policy, dominance of elites, lack of improved production technologies and allied services, lack of access to finance at the local level, and lack of other complementary services for infrastructure interventions to succeed. Several lessons drawn in ADB studies point that ADB project designs have been output-driven rather than outcomes, inclusiveness, and impacts. Very little is analyzed on how, and to what extent, the support for rural roads have contributed to inclusive

⁴⁶ ADB. 2002. *Impact of Rural Roads on Poverty Reduction: A Case Study-Based Analysis*. Manila.

⁴⁷ DFID. 2002. *Making Connections: Infrastructure for Poverty Reduction*.

development through backward and forward linkages and access and use in social and governance areas by project beneficiaries.

V. Rationale for the Study

17. The notion of inclusive development has been embedded in ADB's operations since its establishment, in one form or another, and ADB has delivered assistance to DMCs towards this end through policy dialogue and development interventions. These interventions have also evolved over time, and various options have been tried. Inclusiveness has featured prominently in ADB's Strategy 2020, as well as Asian Development Fund (ADF) X framework.⁴⁸ Thus, inclusive development will remain strategically relevant for ADB in the foreseeable future. One of the several ways ADB has contributed to inclusive development is through assistance for rural infrastructure largely dominated by rural roads, as provision of access to markets and services have opened up new economic and social opportunities. Rural roads-led interventions account for nearly three-fourths of ADB's assistance in rural infrastructure. However, this has not been evaluated. A rigorous impact evaluation of rural WSS sector projects in Pakistan commenced in 2008 and will be completed in 2009. In 2009, OED will initiate a rigorous impact evaluation of ADB's assistance in irrigation. Rural energy accounts for only 2% of ADB's rural infrastructure portfolio and, hence, is less topical at this stage but will be addressed after few years. Hence, the focus of the study targeted at rural roads is considered more appropriate.

18. A review of projects approved during 1996–2007 indicates that ADB has invested \$5.7 billion in rural infrastructure-related projects/programs comprising: (i) rural roads, agro-processing and markets (rural connectivity); (ii) rural WSS, and waste management; (iii) irrigation; and (iv) rural energy. These account for 74.5%, 9.3%, 14.2% and 2%, respectively. Investments in rural connectivity (\$4.31 billion) have covered 88 projects in 19 DMCs. Regional distribution of such projects shows that South Asia marginally leads Central and West Asia and Southeast Asia (32.67%, 32.29% and 32.14%, respectively), followed by East Asia (2.49%), and Pacific (0.41%). Twenty-seven of the 88 projects are funded from ordinary capital resources and the rest 69 from ADF. Eight projects received funding from both sources. The ordinary capital resources and ADF accounted for 46.3% and 53.7% of total resources approved for rural connectivity spread over five sectors (agriculture and natural resources; finance, industry and trade; law, economic management and public policy; transport and communication; and multisector). Project approval has fluctuated considerably from year to year, but a 3-year moving average shows volatility to a lesser extent except during 2000–2002 and 2001–2003.

19. ADB also financed \$75.74 million for 121 technical assistance (TA) projects in 25 countries. The regional distribution of TA funds shows that Southeast Asia took the largest share (42.4%), followed by Central and West Asia (25.3%), South Asia (21.5%), Pacific (6.5%) and East Asia (4.3%). The agriculture and natural resources dominated the sector distribution with 44.1% of the TA resources, followed by multisector (25.8%), and transport and communications (20.4%). The other two sectors received less than 10%. In addition, ADB also approved \$7.4 million to cover 13 regional TA projects. Furthermore, 13 DMCs also obtained \$265.1 million in grant resources, and three grants (\$1.0 million) were provided to support regional projects. The Japan Fund for Poverty Reduction has been the largest source of grant funds (42.5%), followed by ADF (29.5%), and United Kingdom (21.2%). Other sources of grant funds were Kuwait Fund (5.6%); Japan Fund for Information, Communication and Technology (0.75%), and Norway and Finland (0.56%) to support rural connectivity initiatives.

⁴⁸ Available at <http://www.adb.org/Documents/Reports/ADF/X/default.asp?p=adfreprt>

20. The positive contribution of rural roads has been well documented in reducing rural poverty. Also, the pros and cons of different types of rural roads/connectivity have also been examined. Usually, rural road projects are designed under a broad assumption that these would improve access and contribute to higher income and ultimately reduce poverty. The vast body of literature clearly points out that there will be no growth and no significant poverty reduction without major infrastructure improvements. However, it is also clear that successful infrastructure interventions, such as rural roads require complementary provisions, which tends to be context specific. Previous studies also point out that past efforts to assess impact of rural roads has been largely limited to establishing causal relationships with economic opportunities (including poverty reduction) and, in some cases, with access to services. Similarly, several studies have pointed out that rural roads in particular improved access to services but the level of improvement in access and associated benefits have not been estimated. Furthermore, contribution of rural roads to the local rural economy in ADB projects is not well documented. As a consequence, contribution of ADB's assistance to inclusive development largely remains less known (para. 8).

21. In the ADB's Strategy 2020, the importance of rural roads has been well recognized within the one of the five core areas of operations, infrastructure.⁴⁹ While continued ADB investment in rural roads in DMCs is imminent, it is important to understand how, and to what extent, does rural roads contribute to inclusive development so that effective policies and enabling interventions can be incorporated into the project designs and emphasized during implementation. The findings from the study will also provide input to the DMCs in allocating resources to priority areas ensuring inclusive development at the local, regional, and national levels.

VI. Objective and Scope of the Study

22. The SES will build on previous OED and ADB studies, and it will assess the extent to which ADB's assistance through rural roads has contributed to inclusive development in project areas. In doing so, it will seek to answer: (i) *How do rural roads improve access to inclusive development?* (ii) *What are the constraints and associated enabling factors for inclusive development?* (iii) *How sustainable are the mechanisms (including O&M) to inclusive development?* Services will include both economic and social. Economic services will comprise technology, markets and market information (inputs and outputs), value addition through agro-processing, and employment generation. Social services will focus on health, education, water, skill development, disability, and mainstreaming gender and disadvantaged groups. The SES will evaluate the performance of ADB assistance to rural roads in selected countries in terms of relevance, effectiveness, efficiency, impact and likely sustainability. To examine the effectiveness and economic impact of ADB assistance, the SES will undertake a value chain analysis.⁵⁰ The SES intends to undertake an in-depth analysis of backward and forward linkages associated with rural roads, and their impact on inclusive development. It will further analyze complementarity with other planned and unplanned investments within and outside the

⁴⁹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

⁵⁰ A value chain is a string of individuals, businesses, or collaborating players who work together to satisfy market demands for specific products or services. It is a concept from business management that was first described and popularized by Michael Porter in his 1985 best-seller, *Competitive Advantage: Creating and Sustaining Superior Performance*. Analytical approach to a value chain analysis has been extensively discussed in *Making Value Chains Work Better for the Poor, Market for Poor* (available: <http://www.markets4poor.org/?name=event&op=viewDetailNews&id=443>), and Kaplinsky, R. and Morris, M., *A Handbook for Value Chain Analysis* (mimeo).

scope of the Projects. The SES will adopt a working definition for inclusive development which is “equitable access to and utilization of economic opportunities and services aimed at improving quality of life.”

23. Since the value chain analysis is a new approach in ADB evaluations, due to the location advantage, it will be first piloted in the Philippines. The Cordillera Highland Agricultural Resource Management (CHARM, Loans 1421-PHI and 1422-PHI[Sf]) is proposed for the piloting exercise. CHARM’s infrastructure component included (i) farm-to-market access involving the rehabilitation of 150 km of access roads, construction of 100 m of reinforced concrete bridges, 300 m of low-level spillways, 286 m of foot bridges, and a 2.5 km tramway; (ii) community irrigation systems covering about 2,800 ha made up of rehabilitation of schemes with 1,066 ha, and new construction of 1,688 ha; and (iii) domestic water supply involving the installation of 63 domestic water supply schemes to about 3,260 households. The pilot study will focus on the analysis of CHARM’s first component.

24. After testing the methodology in the Philippines, the SES will be replicated in Bangladesh, Nepal, and Viet Nam. The specific projects in other countries will be determined towards the end of the pilot exercise, in consultation with the respective ADB Resident Mission. A list of potential projects in other four countries are: Third Rural Infrastructure Development (Loan 1581-BAN [Sf]) and Chittagong Hill Tracts Rural Development (Loan 1771-BAN [Sf]) in Bangladesh; Rural Infrastructure Development (Loan 1450-NEP [Sf]) and Road Network Development (Loan 1876-NEP [Sf]) in Nepal; and Rural Infrastructure Sector (Loan 1564-VIE[Sf]) and Central Region Livelihood Improvement (Loan 1883 [Sf]) in Viet Nam). The planned project performance evaluation of Viet Nam’s Rural Infrastructure Sector Project in 2008 will be aligned to feed into the proposed SES.

25. The SES has three limitations. First, it will assess contribution of ADB assistance to inclusive development from the perspective of rural roads. It does not include evaluation of other rural infrastructure such as irrigation, WSS, and energy. Second, due to the lack of baseline data, the SES will use a cross-sectional analysis of data collected at the time of evaluation. Finally, although the case study projects analyzed may also have had other components, the SES will focus on rural roads only.

VII. Conceptual Framework for the Evaluation Study

26. A logic model on page 13 is based on literature review, and demonstrates relevant linkages across inputs (relevance), outputs (efficiency), outcomes (effectiveness), and impact (inclusive development). The proposed SES will also focus on assessing economic, institutional, environmental, and social outcomes resulting from ADB assistance. The economic opportunities would include market development, increased income at the household level, lower consumer prices, development of new businesses, and opportunities for new investments in the project intervention area. Higher income are expected to arise from increase in productivity and volume of production, lower unit costs, lower marketing margins, and added revenues from processing activities.

27. The inclusive development will be analyzed by examining backward and forward linkages in facilitating access to and utilization of economic and social services for women, poor and other socially disadvantaged groups. The social services will include health, education, and gender mainstreaming. These are expected to contribute to better quality of life (e.g., improved health and human capital, gender equity and preservation/protection of local resources). In addition, the SES will also assess access to and utilization of infrastructure services and legal

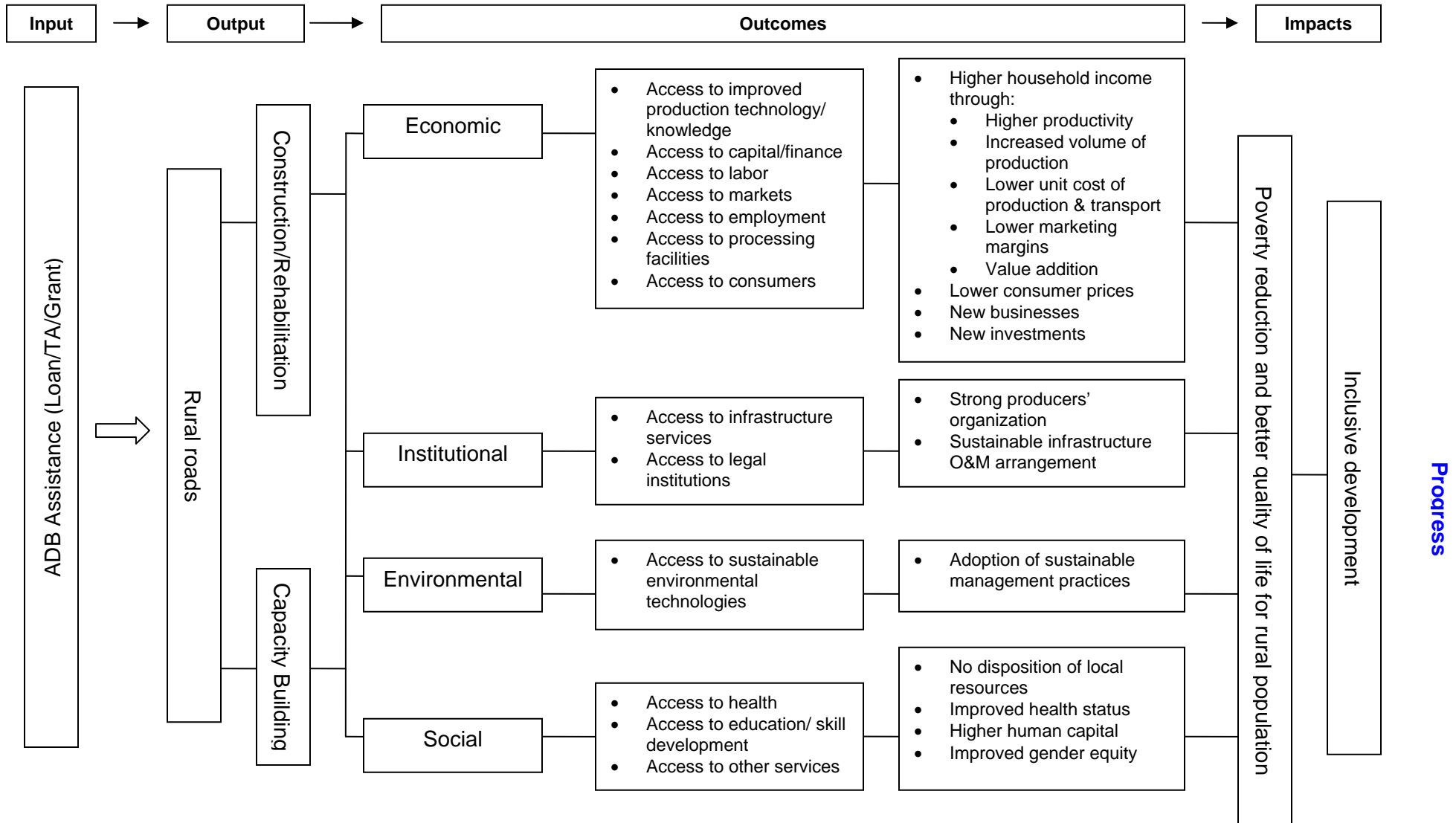
institutions, as well as to sustainable technologies in improving access to economic opportunities because these are deemed important for the sustainability of ADB assistance in the future.

VIII. Methodology and Data

28. Past efforts to assess outcomes and impact of rural roads have varied based on resource availability, including funding, expertise, and time. Attempts have been made to apply qualitative, quantitative, or mixed method approach.⁵¹ Time and funding requirements coupled with an interest to generate knowledge for wider application will not permit the conduct of a rigorous impact analysis at this stage. Hence, the SES will adopt a case study approach and apply relevance, effectiveness, efficiency, likely sustainability, and preliminary impacts as evaluation criteria. The SES will cover four case study countries: Bangladesh, Nepal, Philippines, and Viet Nam. The country selection is based on geographical representation, maturity of portfolio, geophysical conditions and level of development. While Pakistan has a largest portfolio, since OED is conducting a rigorous impact evaluation of WSS sector projects in 2008 and difficult security situation for field work, it is not proposed for the study. India has the second largest portfolio but since the projects are still ongoing and, hence, it is too early to subject them to evaluation.

⁵¹ ADB. 2002. *Impact of Rural Roads on Poverty Reduction: A Case Study-Based Analysis applied a combination of key informant interviews, participatory rural assessment, traffic analysis, household surveys and workshops*. Manila; Warr, P. 2005. *Road Development and Poverty Reduction: The Case of Lao PDR*. ADB Institute Discussion Paper No. 25. Applied econometric analysis using expenditure and consumption survey data; Nakhavong, S. 2006. *Impact of the Rural Access Road Network on Poverty Alleviation in the Lao PDR*. United Nations Development Program (UNDP) adopted before and after intervention method and calculated economic status using Gini coefficient analysis. Other studies applying quantitative analysis include Mu, R. and De Walle D. World Bank. 2007. *Rural Roads and Poor Area Development in Viet Nam*; Blobdal, N. 2007. *Evaluating the Impact of Rural Roads in Nicaragua*; Jacoby, H. and Minten, B. 2008. On Measuring the Benefits of Lower Transport Costs. *Policy Research Working Paper*. World Bank; Escobal, J. and Ponce, C. *The Benefits of Rural Roads: Enhancing Income Opportunities for the Rural Poor*. Working Paper. GRADE. 2002; Ravallion M. *Reaching the Rural Poor through Public Employment: Arguments, Evidence, and Lessons from South Asia*. The World Bank Research Observer: vol. 6, no. 2 (July 1991), pp. 153–175.

Logic Model to Assess the Contribution of ADB Assistance in Rural Roads to Inclusive Development



ADB = Asian Development Bank, O&M = operation and maintenance, TA = technical assistance.

29. The SES will be implemented in three steps using a mixed-method approach. First, a literature review, desk review of documents, reports, case studies, baseline data, progress reports, and other relevant document will be undertaken. This would include a detailed analysis of available project completion reports, technical completion reports, success rates, project completion validation reports, project performance evaluation reports, sector assistance program evaluation and special evaluation studies undertaken by OED over the study period, the review will include both completed and ongoing projects, including coverage description. Second, primary and secondary data will be collected during the field visits in study areas and will comprise key informant interviews with relevant stakeholders (ADB staff, government officials, local nongovernmental organization representatives, business community leaders, local leaders and traders), focus group discussions, a household survey and a local business survey.⁵³ Interviews will be conducted in communities connecting two road segments of each project evaluated and all key businesses and 100 households in each road segment will be interviewed. Sufficient care will be taken to ensure that women and disadvantaged groups are adequately represented in the household surveys. The field data collection exercise will focus on documenting contribution of rural roads to inclusive development outlined in the logic model. Third, a detailed analysis will be conducted to assess the ADB's contribution to inclusive development through rural roads using appropriate techniques. Findings based on field data will be triangulated with other available data and through follow-up interviews with selected key informants.

30. To assess the key aspects of development impact, the study will adopt a value chain analysis approach analyzing the backward and forward linkages. Backward linkages will include increase in farm productivity, reduction in unit production costs, increase in employment in the local community due to expansion in production and construction, local procurement of production inputs, contracting/subcontracting farming and better quality of life in the local community. The forward linkages will include market development, agro-processing, new infrastructure development, increased local and regional trade, increased business opportunities, off-farm employment and income opportunities, increased use of services and institutions by all groups of people, including women and other disadvantaged groups. The analysis will also map out key actors in the value chain and document benefits accruable to each group, including time and cost savings in accessing relevant services. Any unforeseen benefits/costs will also be determined.

31. The SES will require data on: (i) access and utilization variables for before and after intervention scenarios. These will include time, distance, mode of transportation, and costs; (ii) cost of production of main farm produce; (iii) local trade flow of major production and consumption goods and services; (iv) employment patterns over time, with noticeable increase in skilled workers; (v) location of major employment centers, markets for inputs and outputs, service institutions (including health centers, schools, community organizations, local government organizations); (vi) businesses, including turnover and number of employees; (v) rural infrastructure facilities; (vi) O&M arrangements for infrastructure, including any community involvement; and (vii) distribution of various actors in the value chain. Efforts will be made to collect gender disaggregated data.

32. To establish "before intervention" scenario, findings from earlier study or project's management information system and monitoring and evaluation database (if available) will be used. Available household level data will also be analyzed to establish this scenario. In absence

⁵³ Preliminary indications are that there will be need to collect primary data at the community and household level to ascertain intended outcomes and likely impacts.

of secondary data reflecting pre-project conditions, recall method will be adopted. The SES team will design questionnaires for household and local business surveys and use them to collect required data/information. After the completion of pilot study in the Philippines, the methodology will be fine-tuned and applied in other study countries.

33. The SES will generate three outputs: (i) a working paper based on literature review; (ii) an analytical paper based on value chain analysis; and (iii) special evaluation report on contribution to inclusive development due to rural roads based on (i) and (ii). The special evaluation report will be reviewed both internally and externally and discussed at a Development Effectiveness Committee meeting in 2009.

IX. Staffing and Scheduling

34. An Evaluation Specialist will lead the proposed SES under the overall guidance of Director, OED1. The SES will require input of two international consultants (2 person-months each) with strong background in value chain analysis and inclusive development. One domestic consultant (2 person-months) will be engaged for in-country case studies. An additional international consultant (1 person-month) for external peer review is also proposed. An Evaluation Officer and an Evaluation Assistant will assist the Team Leader in completing the SES. The Evaluation Officer will also take part in the field survey work during the pilot case study in the Philippines.

35. **Milestones.** The tentative milestones are:

Approach paper approval:	II September 2008
Working Paper-1 (desk review)	II December 2008
Field work and data analysis	I January–II April 2009
Working Paper-2 (value chain analysis)	II May 2009
SES Report	IV June 2009
Peer review	II July 2009
Inter-departmental review	IV July 2009
Editing	II August 2009
Director General Approval	IV August 2009