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Sector Synthesis
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Performance of ADB Assistance to Agriculture and Natural Resources—Evidence from Post-Completion Evaluations

Independent Evaluation Department
Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ANR	–	agriculture and natural resources
AusAID	–	Australian Agency for International Development
DMC	–	developing member country
EA	–	executing agency
EIRR	–	economic internal rate of return
FAO	–	Food and Agriculture Organization
ha	–	hectare
IED	–	Independent Evaluation Department
IFAD	–	International Fund for Agriculture Development
LTSF	–	long-term strategic framework
NZAID	–	New Zealand's Agency for International Development
PCR	–	project completion report
PPER	–	project (or program) preparatory evaluation report
PNG	–	Papua New Guinea
TA	–	technical assistance
UNDP	–	United Nations Development Programme

NOTE

In this report, "\$" refers to US dollars.

Director General	H. S. Rao, Independent Evaluation Department (IED)
Director	R. B. Adhikari, Independent Evaluation Division 1, IED
Team leader	S. Shrestha, Evaluation Specialist, Independent Evaluation Division 1, IED
Team members	A. Morales, Evaluation Officer, Independent Evaluation Division 1, IED V. Melo, Operations Evaluation Assistant, Independent Evaluation Division 1, IED

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EXECUTIVE SUMMARY

Growth in agriculture is recognized as the most effective means to reduce poverty in developing countries. Cross-country studies show that growth in gross domestic product originating from agriculture is at least twice as effective in reducing poverty as the growth in gross domestic product originating outside of agriculture. As large pockets of poverty are concentrated in rural areas, achieving the Millennium Development Goal target of reducing the incidence of poverty by 50% by 2015 will depend largely on poverty reduction in rural areas where agriculture is a major economic activity.

This synthesis report has been prepared to present key findings and lessons, and highlight major issues of relevance, regarding operations of the Asian Development Bank (ADB) in the agriculture and natural resources (ANR) sector. This synthesis study is based mainly on the performance evaluation of 25 loans (14 projects and 11 programs) completed by the Independent Evaluation Department (IED) from 2000 to 2009. Information from these reports is augmented by drawing upon previous synthesis reports prepared by IED on the ANR sector. The seven subsectors covered in the study are agricultural production and markets, agriculture and rural sector development, fisheries, forestry, livestock, land-based natural resources management, and water-based natural resources management.

This study seeks to answer the following five evaluation questions:

- (i) How successful have projects and programs been in promoting agricultural productivity growth, employment generation, and returns in developing member countries (DMCs)?
- (ii) How effective has ADB support been in addressing failures in the functioning of agricultural markets, including input and output chains?
- (iii) How well have operations and knowledge services been adapted to country conditions?
- (iv) How well have these operations been supported and coordinated by donors?
- (v) How well are developments cognizant of the environment and climate change?

Of the 25 projects and programs included in this synthesis report, the Independent Evaluation Department rated 44% as *successful*, 48% as *partly successful*, and 8% as *unsuccessful*. A higher percentage of programs was rated *successful* as compared to projects. The projects and programs were spread across subsectors, thus no clear subsector pattern could be determined. Of the two subsectors with the most projects (i.e., agricultural production and markets, and agriculture and rural sector development), equal numbers of loans were rated *successful* or *partly successful*. Of the two rated *unsuccessful*, both were projects falling in the livestock and agriculture and rural sector development subsectors.

The most successful projects had a common set of design and implementation features, including clear demand for the services provider, adequate attention to detailed project preparation, engaging in constructive interactions with the principal stakeholders, building on successful precedents, ensuring consistency with existing government plans and programs, adopting a flexible approach to project design and implementation, reducing susceptibility to external shocks, and adopting mitigation strategies to avoid unintended impact. Weaknesses in project design, problems of quality at entry, inadequate capacities in executing and implementing agencies, complex institutional structures coupled with limited budgets, and failure to take corrective actions quickly were among the factors that contributed to poor performance. Likewise, ANR projects and programs that were overambitious did not meet performance

expectations. Moreover, ANR policy reforms that were not owned and championed by the national authorities were not implemented effectively or were not sustained.

A summary of the findings on the five evaluation questions is presented below.

- (i) **Promotion of agricultural productivity growth, employment, and returns on investment.** The review indicated mixed performance on these criteria. Productivity growth was achieved by 51% of these loans, 62% were successful in generating employment, and only 30% were considered economically viable. Most of the projects had lower economic internal rate of return (EIRR) values at their project (or program) performance evaluation reports (PPERs) than at appraisal estimations, and only two projects were found to have generated economically viable rates of return. For the programs, EIRRs were not estimated; instead, the measures of efficiency used were indicators such as agriculture sector growth rates, agricultural incomes, and reduction in rural poverty levels.
- (ii) **Addressing market inefficiencies.** Sixty percent of the loans indicated improving the functioning of the market as an objective. Most of these loans comprised programs, which were directed toward correcting inefficiencies in the agricultural markets and/or reforming policies. About half of these loans (53%) reported important achievements in improving market conditions. Most of the policy changes aimed to improve market functions such as the removing subsidies and taxes and establishing better access to market services.
- (iii) **Adaptation of operations and knowledge services to country conditions.** Most ADB operations and knowledge services were relevant in meeting the needs of DMCs for sector development. Major sector policies and institutional reforms and direct development activities were successfully undertaken. Most of the loans were accompanied by additional funds, that is, advisory technical assistance (TA), which was provided mainly to generate knowledge and to develop capacity for enhancing the sustainability of outputs and outcomes. There were, however, some concerns regarding inadequacies in designs and overambitiousness of objectives at appraisal. These shortcomings contributed to limited ownership of the interventions by various stakeholders, coordination and implementation difficulties, and poor targeting of beneficiaries.
- (iv) **Support and coordination among development agencies.** Most of the ANR operations were executed with additional support from, and in close coordination with, other development agencies. This included cofinancing, implementation of advisory TA, follow-on activities by other development agencies in ADB's completed projects, and general information sharing among development agencies. These efforts were, in most cases, mutually beneficial to the partners involved. Design flexibility and joint implementation with partners were instrumental in filling in the financing gaps and in providing other support essential for achieving development results.
- (v) **Development interventions cognizant of the environment and climate change.** Environmental concerns are firmly embedded in all aspects of ADB operations, and every loan is assessed on its potential environmental impact at appraisal and actual impact at post-evaluation. For most operations, the environmental impacts were reported in broader terms, and climate change issues related to the ANR sector (e.g., effects of deforestation, land degradation, reduction in biodiversity, carbon sequestration, and greenhouse gas emissions) were also specified. Almost half of the loans reported having positive environmental impacts, and three indicated negative impacts on the environment. The remaining loans (accounting for 40% of the total) reported to have generated

neutral environmental impacts as a result of better design and implementation of suitable mitigation strategies where negative impacts were anticipated. Where negative environment impacts were noted, they were unanticipated impacts and resulted from inadequate mitigation responses.

Key lessons and their implications directly related to the evaluation questions are presented below.

- (i) **Agricultural productivity growth.** Gain in agricultural productivity is the ultimate source of economic benefits in both projects and programs. Given this, it is important to ensure that projects and programs support the development and delivery of key interventions that lead to improved productivity. A suitable combination of projects and programs that complement and reinforce the process of productivity gains needs to be established for different DMCs that vary in initial conditions and levels of economic growth.
- (ii) **Extension, credit, and the value chain approach.** The backward and forward links generated in the value chain are critical to improve productivity, generate employment, and improve the functioning of markets and ultimately incomes. Extension and credit have important roles in building and strengthening such links, yet these are handled mostly by unrelated or poorly connected institutions. Private sector participation can be crucial in improving the delivery of extension services and improving the value chain.
- (iii) **Realistic assessments of returns.** Substantially lower EIRR at PPERs than at the appraisal stage of most projects show a consistent pattern of overestimation of benefits. The economic internal rates of return estimates at PPERs indicate that most projects did not meet the economic efficiency criterion. A weakness in many projects is the lack of attention to collecting key information needed for full and realistic assessment of benefits. It is also noted that projects and programs generate substantial social benefits that are not easily measured and captured in EIRR estimates alone. Sector programs that are aimed at policy and institutional changes almost invariably require a longer time frame for the benefits to be realized, and assessments should be based on a suitable time frame.
- (iv) **Private and public sector efforts.** Most governments have recognized the need for privatization. However, progress toward privatization has been slower than anticipated, reflecting reluctance on the part of some governments to divest ownership rights. The private sector can be a potential key player in the provision of inputs, including credit and extension and the marketing of produce if market mechanisms are conducive. On the other hand, many of the DMCs borrowing for their ANR sectors have underdeveloped remote rural areas where there is no incentive for the private sector to work. There, the government's role continues to be critical to develop the ANR sector and to create conditions for the private sector to operate.
- (v) **Donor coordination and participation.** Increased donor participation in cofinancing, parallel financing, and post-project support is an effective way of mobilizing resources for achieving ADB development goals. In addition, such participation leverages other development partner and donors' areas of expertise and contributes to more effective strategies and better project and program design. Improved donor coordination, backed up by contingency planning in case donors change their priorities and funding commitments during implementation, is needed to ensure that key program components are adequately supported and implemented in a timely manner for synergy. There are, however, important challenges to translate these into effective coordination at the local level,

- especially in the context of decentralization. Steps are required to align project administration, monitoring, and reporting across the number of partners involved.
- (vi) **Functional monitoring and evaluation systems.** Functional monitoring and evaluation systems are needed, not only for promoting institutional learning, but also for detecting signs of problems early enough to implement suitable mitigation measures. The climatic variability in ANR operations puts an additional dimension of risk that increases the importance of monitoring and evaluation. Although ADB has been adhering to the formulation of design and monitoring frameworks to accompany project proposals, full compliance must be ensured to improve project tracking and performance during implementation and also post-completion.
- (vii) **Sustainable management of natural resources.** Environmental and natural resources management projects and programs are unlikely to be successful unless resource users and/or communities are able to obtain tangible economic benefits for meeting their immediate livelihood needs. The production of a positive environmental externality is not a sufficient condition for resource users' adoption of improved practices for resource management and environmental protection. While some forms of compensation and/or subsidies may initially encourage adoption of such practices, economic activities that provide sustainable income gains must be an integral part of environmental and resource management programs. This aspect will gain in importance for improving systems resiliency needed to cope with increased variability resulting from global climate change.

H. Satish Rao
Director General
Independent Evaluation Department

I. INTRODUCTION

1. Growth in agriculture is recognized as the most effective means to reduce poverty in developing countries. Cross-country studies show that growth in gross domestic product originating from agriculture is at least twice as successful in reducing poverty as growth in gross domestic product originating outside of agriculture.¹ As large pockets of poverty are concentrated in rural areas, achieving the Millennium Development Goal target of reducing the incidence of poverty by 50% by 2015 depends largely on poverty reduction in rural areas where agriculture is a major economic activity.²

2. Recently, interest in increasing agricultural production and developing agribusiness to meet urgent development objectives has been renewed. Yet this revival has occurred against the backdrop of a slowdown in agriculture productivity growth in recent decades as well as the 2008 food crisis. Climate change, and its adverse impacts on agriculture, has added further urgency to developing strategies to increase agricultural productivity on an environmentally sustainable basis. In addition, the Paris Declaration on Aid Effectiveness in 2005 and the Accra Agenda for Action in 2008 called for aligning development assistance to country priorities as well as harmonization among international agencies for aid effectiveness.³ This message is particularly significant in the current economically uncertain time.

3. An important poverty reduction strategy of the Asian Development Bank (ADB) has been to invest in the agriculture and natural resources (ANR) sector of its developing member countries (DMCs), and it has a long history of doing so in partnership with other development agencies.⁴ Although the focus and extent of support to some ANR subsectors have changed over time, the emphasis on the sustainable management of natural resources in pursuit of economic growth has grown steadily. Investments have been made in the form of loans, technical assistance (TA), and grants. A total of 528 projects and programs were supported from 1968 to 2008 (Appendix 1). Self-evaluation of 332 of these projects and programs indicated that their performance in generating desired outcomes and impacts has been varied.

A. Objectives and Scope

4. This report presents key findings and lessons and highlights major issues of relevance to ADB operations in the ANR sector. The Independent Evaluation Department (IED) has completed several ANR synthesis reports since the early 1990s, but this study departs from the format of previous reports by seeking to answer the following five broader evaluation questions.

- (i) How successful have projects and programs been in promoting agricultural productivity growth, employment generation, and returns in DMCs?
- (ii) How effective has ADB support been in addressing inefficiencies in the functioning of agricultural markets, including input and output chains?
- (iii) How well have operations and knowledge services been adapted to country conditions?
- (iv) How well have these operations been supported and coordinated by donors?

¹ World Bank. 2008. *World Development Report 2008: Agriculture for Development*. Washington, DC. p. 3, Figure 3.

² Eminent Persons Group. 2007. *Toward a New Asian Development Bank in a New Asia: Report of the Eminent Persons Group to the President of the Asian Development Bank*. Manila; and M. Thomas et al. 2006. *Rural Development in Asia: New Approaches to Rural Development and Poverty Alleviation through Sustainable Growth and Social Transformation*. London: Emerging Market Economics.

³ Organisation for Economic Co-operation and Development. The Paris Declaration and Accra Agenda for Action. http://www.oecd.org/document/18/0,3343,en_2649_3236398_35401554_1_1_1_1,00.html

⁴ ADB. 2007. *Rural Poverty Reduction and Inclusive Growth: Report of the Working Group on Rural Poverty*. Manila.

(v) How well are developments cognizant of the environment and of climate change?

5. These questions were chosen to cover emerging issues in sector development as well as issues pertaining to donor partnership and harmonization in the context of the Paris Declaration.

6. The report also builds on evaluative findings on agricultural investments made by other international financing institutes. These findings were presented at a workshop on agriculture and agribusiness development organized by the Evaluation Cooperation Group.⁵ A consolidated report of multilateral development banks based on these issues will be published later this year.

7. The report covers all subsectors of the ANR sector except for the irrigation, drainage, and flood control subsector, for which a separate synthesis report was completed in 2009.

B. Method and Data Sources

8. The main approach used in this study was to review and synthesize the findings of completed project (and program) performance evaluation reports (PPERs) in the ANR sector from 2000 to 2009. During this period, 25 PPERs were completed, and all are included in this study. Information from these reports is augmented by drawing upon the findings of the previous syntheses reports prepared by IED on the sector. These reports are representative of performance evaluation of 25% of completed projects and all program loans ADB-wide, and are good indications of the project (and program) performance of the ANR sector.⁶

9. The subsectors covered in the study are (i) agricultural production and markets, (ii) agriculture and rural sector development, (iii) fisheries, (iv) forestry, (v) livestock, (vi) land-based natural resources management, and (vii) water-based natural resources management. More than half of these loans fall under the first two subsectors—agricultural production and markets had eight, and agriculture and rural sector development had six.

10. Project and program loans are two modalities of lending at ADB. Project loans are targeted to specific interventions for sector development. ANR projects are directed to enhance agriculture, livestock, aquaculture, and forestry production on a sustainable basis. Program loans are policy-based lending and are major instruments to support policy and institutional reforms and to build capacity of institutions. Attribution of outcomes and impact are more difficult in program loans, because programs have sector-wide and intersector implications. The reviewed PPERs contained 14 projects and 11 programs, and the loans—approved from 1986 to 1998—were all completed between 1992 and 2002.

⁵ In 1996, the Evaluation Cooperation Group was established by the heads of evaluation in multilateral development banks to (i) strengthen the use of evaluation for greater effectiveness and accountability, (ii) share lessons from evaluations and contribute to their dissemination, (iii) harmonize performance indicators and evaluation methodologies and approaches, (iv) enhance evaluation professionalism within multilateral development banks and to collaborate with the heads of evaluation units of bilateral and multilateral development organizations, and (v) facilitate the involvement of borrowing member countries in evaluation and build their evaluation capacity. See The Evaluation Cooperation Group. https://wpqr1.adb.org/LotusQuickr/ecg/PageLibrary4825729000303ED0.nsf/h_Toc/a832c586e1b7d57d4825729000305677/

⁶ Prior to 2004, IED evaluated 25% of completed projects, and all completed programs. Since then, projects and programs have been evaluated selectively as inputs to other broader studies.

C. Country Contexts and Sector Constraints

11. The 25 loans provided support to 16 DMCs: (i) four loans in Sri Lanka; (ii) three loans each in Pakistan and the Philippines; (iii) two loans each in Bangladesh, Indonesia, and Nepal; and (iv) one loan in each of the remaining nine DMCs (i.e., Cambodia, Kazakhstan, Kyrgyz Republic, Mongolia, People's Republic of China, Uzbekistan, and Viet Nam, which were transitioning from centrally planned to market-oriented economies, as well as Papua New Guinea and Tonga). Total cost of these loans amounted to \$1,201.5 million. Ordinary capital resources funded 6 loans, while the Asian Development Fund funded 16 loans. A combination of ordinary capital resources and Asian Development Fund monies funded 3 loans.

12. In Bangladesh, Nepal, Pakistan, and Sri Lanka, the major constraints at the time of project or program design included (i) low cropping productivity and intensity; (ii) unstable yields; (iii) overexploitation of forests, floodplains, and other marginal lands; (iv) seasonal unemployment; and (v) general inefficiencies in functioning of the markets.⁷ The ANR sector needed to grow to meet rising domestic demand and to earn foreign exchange from export markets. However, productivity growth was constrained by various interventions that stifled private initiatives and distorted the market. Forestry resources were also degraded by indiscriminate and excessive exploitation.

13. In the Philippines, ineffective forest protection measures and logging regulations contributed to a decline of forest-based industries and loss of livelihoods. Indonesia was concerned about high population pressure and accorded greater importance to agricultural development, efficient use of natural resources, and preservation of the environment. Cambodia lacked the capacity to increase production of traditional crops due to land tenure insecurity, restricted access to markets, limited access to inputs, technical and management skills, lack of access to finance, and limited government budgetary support.

14. The transition from centrally planned to market-oriented economies destabilized the agricultural sector in countries such as Kazakhstan, Kyrgyz Republic, Mongolia, and Viet Nam. These countries experienced reduced farm outputs and incomes, loss of employment, and adverse impacts on terms of trade. Limited managerial skills, lack of technological improvement, and reduced capacity of agro-processing facilities resulted in sector inefficiency. Viet Nam followed the policy of liberalizing the rice and fertilizer trades, stabilizing rice prices, managing forestlands sustainably, improving financial intermediation, and reducing inequities in rural–urban incomes. Similarly, Mongolia's reforms were directed at improving the efficiency of the ANR sector, particularly the revival of the crop subsector, which had not performed well due to inappropriate policies.

15. Uzbekistan's potential for developing an internationally competitive agro-processing industry was constrained by outmoded equipment in former state-owned enterprises, lack of micro-processing, and inadequate financial resources. In the People's Republic of China, the government's priority had shifted from agricultural production to agricultural marketing, but the country lacked the capacity to generate off-farm employment by expanding agro-industrial activities, raising the value addition of agricultural products and improving the marketability.

16. In the Pacific island countries, Papua New Guinea suffered from outdated technologies; insufficient mobilization of land resources; inadequacy of extension, research, and institutional

⁷ The sector constraints identified in this section are those that are specific to the projects and programs. These are not the complete and exhaustive set of constraints for the sector as a whole.

support; shortages of trained manpower; and poor transport and marketing facilities. Fisheries and forest resources remained largely underdeveloped. Tonga also needed to resolve sector issues, such as reducing economic vulnerability, achieving equitable development in the different island groups, overcoming geographic and economic isolation, and improving sector performance through institutional strengthening.

II. SECTOR STRATEGIES, PORTFOLIO, AND HISTORICAL PERFORMANCE

A. Agricultural and Rural Development Strategies

17. In 1988, an ADB strategy paper on rural development stressed the need for targeted assistance to combat rural poverty (see Appendix 1 for an historical overview). Later, in 1999, rural development was again recognized as a priority with the adoption of a poverty reduction strategy.

18. The first long-term strategic framework (LTSF) 2001–2015 was laid out in broad terms to allow flexibility for adjustment in response to changing conditions. It was implemented through two medium-term strategies. Under the first (covering 2001–2005), ANR sector policies and institutional development were supported to promote growth and environmental sustainability. Under the second (for 2006–2008), an operational model was developed to build up a critical mass of expertise in few selected sectors in which ADB can become a leading provider of assistance to DMCs. The ANR sector fell mostly under group II, although there were some excepted subsectors.⁸ Sectors under group II were considered relevant for one or more of the five strategic priorities of the second medium-term strategy.⁹ The importance of ANR sector to the fourth strategic priority of managing the environment was highlighted.

19. ADB's current LTSF 2008–2020, Strategy 2020, focuses on three complementary strategic agenda: inclusive growth, environmentally sustainable growth, and regional integration.¹⁰ The core areas of support are infrastructure, environment, regional cooperation and integration, finance sector development, and education. Agriculture and rural development is identified as a second tier of operational areas to be supported, mainly through infrastructure for rural transport, irrigation and water systems, microfinance, natural resources management, and regional cooperation and integration. Strategy 2020's sustainable food security operational plan identified that there are complementarities between agricultural development and ADB's core operational areas, particularly environmental sustainability.¹¹

20. ANR sector issues that have direct and indirect links to environmental concerns include clean biofuel energy and food security, agricultural productivity growth and deforestation, sustainable natural resources management and protection of biological diversity, and intensive agricultural activities and greenhouse gas emissions. Examples of complementarity and/or competition with other core areas of operations include rural town and growth center development, small or medium-sized enterprise development, sanitary and phytosanitary standards and food safety, regional agriculture, and food trade facilitation.

⁸ The irrigation subsector was categorized in group I, and the fishery and livestock subsectors were categorized in the least-priority group III.

⁹ The five strategic priorities are (i) catalyzing investment, (ii) strengthening inclusiveness, (iii) promoting regional cooperation and integration, (iv) managing the environment, and (v) improving governance and preventing corruption.

¹⁰ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹¹ ADB. 2009. *Operational Plan for Sustainable Food Security in Asia and the Pacific*. Manila.

B. Sector Portfolio

21. From 1968 to 2008, ADB loans in the ANR sector totaled \$18.6 billion, or about 13% of total approved loans (Appendix 1). On average, the proportion of ADB lending to the ANR sector has been on a downward slide from 28% in the 1980s, 12% in the 1990s, to a low in recent years (2000–2008) of 8%.

22. The ANR loans supported 528 projects and programs. The ordinary capital resources (46.5%) and the concessionary Asian Development Fund (53.5%) were the sources of funding. Thirty-three DMCs received these ANR loans. The top five recipient countries were Bangladesh, People's Republic of China, Indonesia, Pakistan, and the Philippines, with a combined share of 67.9%. The top three subsectors supported were irrigation, drainage, and flood control (31.0%); agricultural production and markets (26.5%); and agricultural and rural sector development (12%).¹²

23. The ANR sector also received a total of 1,280 TA activities (655 advisory TA activities and 624 project preparatory TA activities), totaling \$598 million.¹³ This accounted for about 22% of all TA activities from 1968 to 2008. Thirty-six DMCs received TA support, with the combined share of the top five countries (i.e., Bangladesh, People's Republic of China, Indonesia, Pakistan, and the Philippines) being 47.8%. The top three subsectors supported by TA activities were water-based natural resources management (18.8%); agricultural production and markets (16.6%); and irrigation, drainage, and flood control (16.1%).

C. Historical Performance

24. From 1968 to July 2009, 332 projects and programs in the ANR sector were evaluated. Of these projects and programs, 44.3% were rated *successful* or higher, 41.0% were *partly successful*, and the remaining 14.8% were *unsuccessful* (Appendix 3). The evaluation reports of the 1990s had the highest percentage of projects and programs rated *successful* or higher (50.9%), while those of the 1970s had the lowest (34.7%).¹⁴ The irrigation, drainage, and flood control subsector had the highest percentage (59%) of projects and programs rated *successful* or higher, followed by water-based rural development subsector at 52.9%. Fifty percent of projects and programs in the forestry subsector were rated *unsuccessful*—the highest ratio of any category across all subsectors.¹⁵ By ADB country classification, projects and programs rated *successful* or higher areas are as follows: (i) group A, 44.8%; (ii) group B, 45.2%; and (iii) group C, 44.0% (Appendix 3).

25. IED has conducted four sector synthesis reports on the ANR sector since 1994. These reports were subsector-focused, pertaining to (i) forestry (1994),¹⁶ (ii) irrigation and rural

¹² The subsectors were based on the 2009 reclassification of ADB operations.

¹³ One TA activity was classified as both an advisory TA and project preparatory TA activity, accounting for less than 0.5% of total ANR TA. The distribution covered TA approved until 2008. Beginning in 2009, TA classification expanded from advisory TA and project preparatory TA to include regional development TA, regional policy and advisory TA, and regional capacity development TA.

¹⁴ The success rate for all ADB projects in the 1990s was about 70%.

¹⁵ Forestry projects were mostly rated in PPERs as *less effective* and *less sustainable*, with several having *negligible* impact (Appendix A4). The longer gestation period of forestry projects in generating various economic and environmental impacts could be a major reason for this.

¹⁶ ADB. 1994. *Sector Synthesis of Evaluation Findings in the Forestry Sector*. Manila.

development (1995),¹⁷ (iii) post-industrial crops and agro-industry (1996),¹⁸ and (iv) fisheries (1998).¹⁹

26. The forestry study demonstrated the importance of community participation in forest resources management and wood resources development on nonforestlands and farms, and highlighted the relevance and importance of agro-forestry technologies. The study emphasized the need to expand benefit and cost sharing arrangements to local communities early on in projects to generate successful outcomes. Careful project preparation—involving key stakeholders, including women and nongovernment organizations, and upstream agreements on implementation details, especially policy and institutional reforms—were found to be essential for timely, effective project implementation.

27. The irrigation and rural development study highlighted the complexity and challenges in implementing rural livelihood improvement projects. Projects were found to have contributed to improvements in agricultural productivity and farm incomes. Simpler and more process-oriented projects that elicit greater beneficiary participation at all stages of project planning and implementation were considered to further enhance agricultural production and to reduce poverty. The need to address issues relating to gender, poverty, and the environment more directly was similarly highlighted.

28. Support to investments in industrial crops and agro-industry was found to have generally helped improve land use, generate productive employment, and modernize and rationalize agro-processing industries. Such investments contributed to higher productivity growth, increased outputs and exports, and ultimately to improved living standards for farmers.

29. Investments in the fisheries sector have had somewhat mixed results. A fairly high proportion of marine fisheries projects have not succeeded, largely due to difficulties experienced by governments in efficiently operating harbors, ports, and cold-storage facilities. Aquaculture projects performed better, with more than one half of those evaluated deemed a success. Proper stock maintenance and attention to possible environmental and social consequences of development initiatives in fragile coastal zones were important factors contributing to successful results in this subsector.

30. In addition to these synthesis reports, eight special evaluation studies and several brief evaluation reports addressed specific ANR sector issues. Two IED annual evaluation reviews (2005 and 2006) reported sector ratings and critical success factors.²⁰ A synthesis of these studies is presented in Appendix 1.

31. A subsector synthesis report on irrigation and drainage, covering 18 projects from 1995 to mid-2009, was completed in 2009.²¹ The objectives of these projects were to increase farm incomes, improve living conditions, and generate additional employment opportunities through provision of and/or improvements in irrigation and drainage facilities to increase crop yields, augment cropping intensities, promote crop diversification, and expand productive areas. Most

¹⁷ ADB. 1995. *Sector Synthesis of Evaluation Findings in the Irrigation and Rural Development Sector*. Manila. Available at: <http://www.adb.org/Documents/PERs/SS-Irrig.pdf>

¹⁸ ADB. 1996. *Sector Synthesis of Post-Evaluation Findings in the Industrial Crops and Agro-Industry Sector*. Manila. Available at: <http://www.adb.org/Documents/PERs/SS-Industrial.pdf>

¹⁹ ADB. 1998. *Sector Synthesis of Evaluation Findings in the Fisheries Sector*. Manila. Available at: <http://www.adb.org/Documents/PERs/SS-Fisheries.pdf>

²⁰ ADB. 2005. *2005 Annual Evaluation Review*. Manila; and ADB. 2006. *2006 Annual Evaluation Review*. Manila.

²¹ ADB. 2009. *Sector Synthesis: Irrigation and Drainage*. Manila.

of the projects (88.9%) were designed with an irrigation component, 50% had a drainage component, while 38.9% had a combination of irrigation and drainage components.

32. In terms of assessment of project success based on evaluation criteria, 50.0% of the evaluated irrigation and drainage projects were rated *partly successful*, 44.4% *successful*, and 5.6% *unsuccessful*. The success or failure of a project largely depended on the soundness of project design, degree of stakeholder ownership, and the sustainability of operation and maintenance of project facilities. Active beneficiary participation in planning, implementing, and operating the project was another key factor of success.

33. All evaluated irrigation and drainage project, except one, exhibited increases in yield, cropping intensity, and expansion of area for cultivation. They also generated positive socioeconomic impacts such as increased farm incomes, improved access to markets, and social services. Drainage projects were reported to have positive effects on the environment, soil improvement, and improved health conditions as a result of removing stagnant water in depressions. The conversion of erosion-prone grassland and sparse secondary growth forest into irrigated rice fields also helped stabilize the environment and deterred farmers from further practicing shifting cultivation in the project area.

34. The economic internal rates of return (EIRRs) of the evaluated projects were generally lower than the appraisal estimates, except for one that almost equaled the appraisal estimate. The common factors for the lower-than-expected EIRRs were deterioration in the international price of rice at the time of the evaluation, considerable increase in the use of fertilizers, and reduction in incremental irrigation areas and lower incremental rice yields per hectare than projected at appraisal.

35. In most, women were found to be active in irrigation system repair and maintenance, even after project completion. The general consensus was that increased farm incomes benefited women, but the lack of benefit monitoring and evaluation data made it difficult to confirm the nature and/or extent of impacts.

III. MAIN FINDINGS

A. Assessment of Project and Program Performance

36. Of the 25 projects and programs included in this synthesis report, IED rated 44% as *successful* (Appendix 4), 48% as *partly successful*, and 8% as *unsuccessful*. The ratings given in the project (or program) completion reports (PCRs) were as follows: 4% *highly successful*, 48% *successful*, 40% *partly successful*, and 4% *unsuccessful*.²² Notwithstanding, these percentage differences, there is a fair degree of consistency in assessment across IED ratings in PPERs and regional departments in PCRs.²³ When analyzed in terms of absolute numbers, there is a difference of only one program under the *successful* rating. IED rated 11 project or programs as *successful*, compared to 12 by the regional departments. There was an exact match in the PPER and PCR ratings for the two thirds of the projects and programs (i.e., 17 out of 25).²⁴ IED upgraded the ratings to *successful* for the programs in Pakistan²⁵ and the Kyrgyz

²² One loan was not rated, accounting for 4% as *not rated*.

²³ Regional departments evaluate all of their completed project and programs in PCRs. IED evaluates a sample of the completed projects and programs in PPERs.

²⁴ The PCR did not rate ADB. 1988. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Philippines for the Forestry Sector Program*. Manila (Loans 889-PHI[SF] and 890-PHI). IED rated this project as *partly successful*.

Republic,²⁶ which were rated *partly successful* in their respective PCRs. IED downgraded the ratings of one program and four projects.

37. Higher percentages of programs (54%, or 6 out of 11) were rated *successful* as compared to projects (35%, or 5 out of 14). Of the two subsectors with the most projects (agricultural production and markets, and agricultural and rural sector development), about equal numbers were rated *successful* or *partly successful*. Of the two rated *unsuccessful*, both were projects in the livestock and agricultural and rural sector development subsectors. Fourteen loans included a separate assessment of gender issues, most of which indicated that the interventions have been beneficial.

38. The performance of ADB was rated *satisfactory* or higher in 68% of the projects and programs (or 17 out of 25). Close and sustained supervision, early diagnosis of problematic issues, flexibility in providing additional TA, and willingness to modify loan conditions were some of the reasons noted for satisfactory ratings of ADB performance. The performance of the borrower was rated *satisfactory* in 64% the projects and programs (Appendix 5). The major reasons for satisfactory rating of executing agency (EA) performance were capacity to secure support for highly contentious reforms, compliance with major loans covenants, implementation of activities without major delays, and timely submissions of financial audit statements. The Second Palawan Integrated Area Development Project in the Philippines rated ADB performance as *unsatisfactory*, and the EA performance *partly satisfactory* because of (i) limited beneficiary consultation; (ii) limited incorporation of lessons and issues of the predecessor project; (iii) repetition of some implementation problems encountered in the predecessor project; (iv) delayed feedback from review missions on important issues; (v) absence of midterm reviews; (vi) significant delays during early years due to approval procedures, budgetary constraints, and slow release of funds; (vii) focus on achieving physical targets rather than on generating the outcomes; and (viii) failure adjust the project to curb some of the unintended negative environmental impact.²⁷

39. The most successful ADB projects had a common set of design and implementation features, including clear demand for the services provided, adequate attention to detailed project preparation, constructive interaction with principal stakeholders, building on successful precedents, ensuring consistency with existing government plans and programs, adopting a flexible approach to project design and implementation, and reducing susceptibility to external shocks. Weaknesses in project design, problems of quality at entry, inadequate capacities of EAs and implementing agencies, complex institutional structure coupled with limited budgets, and failure to take corrective actions quickly were among the factors that contributed to poor project performance.²⁸ Likewise, ANR projects and programs that were overambitious did not meet performance expectations. Moreover, ANR policy reforms that were not owned and championed by national authorities were not implemented effectively or were not sustained.

²⁵ ADB. 2000. *Performance Audit Report: Agriculture Program in Pakistan*. Manila (Loan 1062-PAK[SF]).

²⁶ ADB. 2002. *Performance Audit Report: Agriculture Sector Program in Kyrgyz Republic*. Manila (Loan 1407-KGZ[SF]).

²⁷ ADB. 2002. *Performance Audit Report: Second Palawan Integrated Area Development Project in the Philippines*. Manila (Loans 1033-PHI [SF] and 1034-PHI). Available: <http://www.oecd.org/dataoecd/61/25/35248151.pdf>

²⁸ For a distillation of lessons learned from ADB projects, see the Evaluation Information System and the Project Evaluation Information System. Projects and IED reports from 1995 are available at <http://www.adb.org/Evaluation/default.asp>. These reports are categorized by year, report type, topic, and country.

B. Analysis of Key Evaluation Questions

40. This section attempts to answer the five evaluation questions based on the performance of the entire ANR loan portfolio evaluated by IED.²⁹ These projects and programs were designed and implemented on the basis of established criteria at that time. Hence, not all loans addressed all of these concerns directly. Appendix 6 provides a summary matrix of concerns addressed by each program and project. It is clear that almost all concerns were included in the projects and programs considered, although some did not include employment generation, functioning of markets, and donor support and coordination.

1. How Successful Have Projects and Programs Been in Promoting Agricultural Productivity Growth, Employment Generation, and Returns in Developing Member Countries?

41. **Agricultural productivity growth.** Eleven of the 14 projects (79%) had growth in agricultural productivity as a major objective. This objective figured prominently among projects largely due to ADB's overarching goal of poverty reduction. Evaluation evidence from these 11 projects indicated mixed success. Five projects (46%)³⁰ were able to foster productivity improvements, while six (54%)³¹ were unable to achieve productivity gains or sustain the gains. In successful cases, the productivity gains resulted from a combination of increased adoption of improved technologies, increased cropping intensities, increased access to rural infrastructure, better information dissemination, and active participation of beneficiaries. Some of the more prominent examples of productivity gains include (i) improvement of aquaculture technology that led to an increase in fishery exports by 52% and the doubling of prawn exports in Bangladesh;³² (ii) per hectare (ha) yield increases in sugarcane (13%), rubber (16%), and sisal (60%) in Guangdong, People's Republic of China;³³ (iii) expansion of trees in Sri Lanka by at least 17,000 ha;³⁴ and (iv) an increase in annual cereal yield by 1.50 tons per ha in Bangladesh—substantially larger than the gain of 0.33 tons per ha anticipated at appraisal.³⁵

²⁹ The evaluation questions were provided by the Evaluation Cooperation Group. Several donors and other development partners presented their findings on these issues at the workshop in December 2009 organized by the Evaluation Cooperation Group on agriculture and agribusiness development.

³⁰ These include ADB. 2002. *Performance Audit Report: Second Aquaculture Development Project in Bangladesh*. Manila (Loan 821-BAN[SF]); ADB. 2002. *Performance Audit Report: Guangdong Tropical Crops Development Project in the People's Republic of China*. Manila (Loan 1175-PRC); ADB. 2003. *Performance Audit Report: Participatory Forestry Project in Sri Lanka*. Manila (Loan 1183-SRI); and ADB. 2008. *Performance Evaluation Report: Small-Scale Water Resources Development Sector Project in Bangladesh*. Manila (Loan 1381-BAN[SF]).

³¹ These include ADB. 2001. *Performance Audit Report: Upazila Afforestation and Nursery Development Project in Bangladesh*. Manila (Loan 956-BAN[SF]); (ii) ADB. 2001. *Performance Audit Report: Livestock Development Project in Pakistan*. Manila (Loan 973-PAK[SF]); (iii) ADB. 2001. *Completion Report: Second Palawan Integrated Area Development Project*. Manila (Loans 1033-PHI[SF] and 1034-PHI); (iv) ADB. 2002. *Performance Audit Report: Second Barani Area Development Project in Pakistan*. Manila (Loan 1012-PAK[SF]); (v) ADB. 1997. *Performance Audit Report: Anqing Acrylic Fiber Project in the People's Republic of China*. Manila (Loan 1116-PRC); and (vi) ADB. 2006. *Performance Evaluation Report: Outer Islands Agriculture Development Project in Tonga*. Manila (Loan 1412-TON).

³² ADB. 2002. *Performance Audit Report: Second Aquaculture Development Project in Bangladesh*. Manila (Loan 821-BAN[SF]).

³³ ADB. 2002. *Performance Audit Report: Guangdong Tropical Crops Development Project in People's Republic of China*. Manila (Loan 1175-PRC).

³⁴ ADB. 2003. *Performance Audit Report: Participatory Forestry Project in Sri Lanka*. Manila (Loan 1183-SRI).

³⁵ ADB. 2008. *Performance Evaluation Report: Small-Scale Water Resources Development Sector Project in Bangladesh*. Manila (Loan 1381-BAN[SF]).

42. In contrast to the projects, all programs reviewed had improvements in agricultural productivity as a major objective.³⁶ All programs performed well in terms of this objective.³⁷ Eight of the 11 programs (73%) recorded improvements in agricultural productivity as well as the forestry subsector. For example, (i) compared to pre-project levels in 1995, grain production in Kazakhstan increased by 27% in 1999, and the share of private family farms in total grain production increased from 9% to 37%;³⁸ (ii) in Sri Lanka, the elimination of taxes and the privatization of government plantations catalyzed the rehabilitation of tea plantations resulting in historic production gains and an increase in exports;³⁹ (iii) in Nepal, food crops, cash crops, and fruits and vegetables posted annual average production increments of 2.3%, 6.6%, and 3.0%, respectively, while the total agriculture exports grew by 37%;⁴⁰ (iv) Viet Nam recorded substantial increases in the production and export of major crops, particularly rice whose production increased from 25 million tons in 1995 to 33 million tons in 2000, despite a 2.4% reduction in total cultivated rice area;⁴¹ (v) a gain in fuelwood production accruing to farm families in 1994 alone, as a result of community forestry in Nepal, was valued at \$265,000;⁴² and (vi) per ha rice yield in Cambodia increased from 1.79 metric tons in 1995 to 2.11 metric tons in 2001.⁴³

43. Some reasons that limited the attainment of productivity growth objectives in programs included the failure to correct distortions in the inputs market, such as the failure to deregulate the fertilizer and seed sectors in Pakistan; drought and the absence of post-privatization support resulted in the decline in wheat production in Mongolia; and design flaws due to the lack of detailed study on policy reform impacts, combined with policy reversal, resulted in disinvestment in some estate farms in Papua New Guinea.

44. The six projects with less success in attaining productivity targets were confronted with issues related to (i) deficiencies in design standards, particularly those related to rehabilitation works;⁴⁴ (ii) poor maintenance of infrastructure;⁴⁵ (iii) poor sustainability of credit schemes and extension systems;⁴⁶ (iv) complex institutional infrastructure;⁴⁷ (v) problems concerning crop

³⁶ Although forestry projects concentrate more on reforms and rehabilitation, reforestation has long-term objectives of increasing productivity. For example, the project objective of a loan in Nepal also mentioned the establishment of biogas plants and increasing the productivity and/or propagation of medicinal and aromatic plants in the forest areas. ADB. 1990. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Nepal for the Forestry Sector Program*. Manila (Loan 1040-NEP[Sf]).

³⁷ Generally, the complex nature of programs makes attribution difficult. For example, there might be government programs and policies that are geared toward the same objective but predate the ADB program. In some instances, there are cumulative donor initiatives that indirectly impact the targeted sector. Macroeconomic conditions, other sector activities, natural disasters, and other occurrences also affect program outcomes, particularly in agriculture. In essence, overall agricultural sector growth is a product of a confluence of factors that are difficult to isolate. Cognizant of these facts, the synthesis study highlights ADB's experience in attaining agricultural productivity growth, generating employment, socioeconomic returns, and addressing inefficiencies in the functioning of markets.

³⁸ ADB. 2001. *Performance Audit Report: Agriculture Sector Program in Kazakhstan*. Manila (Loan 1406-KAZ). However, this excludes 1998, as the country faced a severe drought during that time.

³⁹ ADB. 2001. *Performance Audit Report: Second Agriculture Program in Sri Lanka*. Manila (Loan 1127-SRI[Sf]).

⁴⁰ ADB. 2005. *Performance Audit Report: Second Agriculture Program*. Manila (Loan 1604-NEP[Sf]).

⁴¹ ADB. 2002. *Performance Audit Report: Agriculture Sector Program in Viet Nam*. Manila (Loan 1340-VIE[Sf]).

⁴² ADB. 2001. *Performance Audit Report: Forestry Sector Program in Nepal*. Manila (Loan 1040-NEP[Sf]).

⁴³ ADB. 2003. *Project Performance Audit Report: Agriculture Sector Program in Cambodia*. Manila (Loan 1445-CAM[Sf]).

⁴⁴ ADB. 2005. *Performance Audit Report: North Western Province Water Resources Development Project in Sri Lanka*. Manila (Loan 1166-SRI[Sf]).

⁴⁵ See footnote 44. This affected the purpose of the infrastructure.

⁴⁶ Footnote 44; ADB. 2001. *Completion Report: Second Palawan Integrated Area Development Project*. Manila (Loans 1033-PHI[Sf] and 1034-PHI); and ADB. 2001. *Performance Audit Report: Livestock Development Project in Pakistan*. Manila (Loan 973-PAK[Sf]).

suitability and mortality, which can be attributed to the conduct of the project preparatory TA;⁴⁸ (vi) lack of beneficiary participation in project design;⁴⁹ (vii) skewed benefit distribution favoring large landholders;⁵⁰ (viii) delays in most projects reviewed; and (ix) limited assessment and capability of EAs and implementing agencies.⁵¹

45. **Employment generation.** Employment generation in the ANR sector was an important objective of most projects considered. Twelve of the 14 projects (86%)⁵² explicitly indicated employment generation either as a project objective or as an expected output. Measuring the actual employment gains at the sector level is, however, challenging, given the long process chain that connects production and consumption. The gain in employment in one stage may be offset by the loss in other stages of the value chain. This difficulty is further compounded by the lack or inadequacy of data on employment.

46. At least 10 of the 12 projects (83%) reported contributing to employment generation directly or indirectly. Generally, the projects provided additional employment opportunities, particularly to marginal and subsistence farmers, directly during implementation and subsequently in farm and off-farm activities supported by the projects. In some projects, employment for women was also measured to give credence to gender issues, an ADB thematic concern. For instance, under the Rural Enterprise Development Project in Uzbekistan, 38% of those who directly gained employment through the project were women.⁵³ Similarly, women accounted for almost 45% of the new employment generated by the Guangdong Tropical Crops Development Project in the People's Republic of China. Significant additional employment was also generated as employment creation cascaded all the way from plantation to agro-processing enterprise workers.

47. The Participatory Forestry Project in Sri Lanka created an estimated 14,000 person-years of employment through plantation activities alone, exceeding the target of 11,000 person-years. Similarly, employment targets were surpassed in the Small-Scale Water Resources Development Sector Project in Bangladesh.⁵⁴ In addition, more than 300,000 people derived their incomes from shrimp farming and related activities in the Second Aquaculture

⁴⁷ See footnote 44. The complex structure increased transaction costs and contributed to expanding bureaucratic procedures.

⁴⁸ ADB. 2001. *Completion Report: Second Palawan Integrated Area Development Project*. Manila (Loans 1033-PHI[SF] and 1034-PHI). The cost overrun led to smaller project coverage than envisaged, while crops also suffered from diseases and mortality problems.

⁴⁹ This refers to the construction of communal irrigation system in the Second Palawan Integrated Area Development Project, which did not benefit from farmer participation.

⁵⁰ ADB. 2002. *Performance Audit Report: Second Barani Area Development Project in Pakistan*. Manila (Loan 1012-PAK[SF]). The large landowners benefited from small irrigation facilities and subsidies instead of the landless and female farmers.

⁵¹ In the case of the Outer Islands Agriculture Development Project in Tonga (ADB. 2006. *Performance Evaluation Report: Outer Islands Agriculture Development Project in Tonga*. Manila [Loan 1412-TON[SF]), the problem was the difficulty of applying large-scale assistance to a small and new organization.

⁵² The loan projects that did not explicitly indicate employment as an objective or expected output were the Second Land Resource Evaluation and Planning Project (ADB. 1991. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Indonesia for the Second Land Resource Evaluation and Planning Project*. Manila [Loan 1099-INO]) and the Capacity Building Project in the Water Resources Sector in Indonesia (ADB. 1994. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Indonesia for the Capacity Building Project in the Water Resources Sector in Indonesia*. Manila [Loan 1339-INO]), which were capacity-building projects.

⁵³ ADB. 2007. *Performance Evaluation Report: Rural Enterprise Development Project in Uzbekistan*. Manila.

⁵⁴ The appraisal target was 140,000 beneficiaries. Actual project achievement was 142,541 beneficiaries, notwithstanding an estimated 5,600 people who are now engaged in fish production.

Development Project in Bangladesh, including 266,000 people who were mostly unskilled and relatively poor.

48. At least 9 of the 11 programs (91%) explicitly and implicitly included employment generation as an objective, as an expected output, or as a concomitant result of activities. Based on evaluation evidence, only three of the 11 (27%) produced positive employment outputs, three (27%) resulted in the loss of jobs, and another three (27%) did not estimate employment results. For the two remaining programs, the PPERs admitted the difficulty of including activities for employment generation.⁵⁵ The Agriculture Sector Program in the Kyrgyz Republic showed that total agriculture employment rose from 47% in 1995 to 53% in 2001. The Forestry Sector Program in Nepal illustrated that the national and leasehold forestry, soil conservation, and watershed development components created about 510,000 person-days of employment annually, with a total wage bill of about \$353,000. This is in addition to another 2,800 jobs generated in the cultivation of medicinal and aromatic plants.

49. There were employment generation issues concerning two of the 12 projects (17%) as well. Under the Livestock Development Project in Pakistan, the limited number of beneficiary participants in the project resulted in limited employment, which was further exacerbated by a 2-year project delay in both project startup and the implementation of the animal-breeding component. The limited number of beneficiaries can also be attributed to the issue of landlessness, as landless people were unable to avail of livestock provided under the project.⁵⁶ The Outer Islands Agriculture Development Project in Tonga, on the other hand, was unable to measure employment gains, as this indicator was not included in PPER.

50. Loss of employment in some program components was imminent but could have been mitigated if alternative measures had been identified to cushion such impacts. Some examples are (i) the massive contraction of land areas (state farms) in Kazakhstan, resulting in a reduction of agricultural labor force from 1.08 million (1995) to 0.32 million (1999) (footnote 38); (ii) policy reforms in Papua New Guinea resulting in disinvestment in some estate sectors such as coffee, cocoa, and coconut, which halved employment in these farms;⁵⁷ and (iii) the handover of government plantations to the private sector in Sri Lanka, accompanied by a decline in the quality of social services (footnote 39). In addition, the closure of two sugarcane companies contributed to hardships of an estimated 14,000 cultivators formerly supplying those mills.

51. **Returns.** There are alternative ways of measuring societal returns from projects. One indicator of project success is the efficiency gain measured by the EIRR. However, EIRRs were not always estimated at appraisal, PCR, or PPER stages. Only 10 of the 14 (71%) PPER reported re-estimates of their EIRRs (Table 1). Most had lower EIRR values at the PPER than at appraisal or PCR.⁵⁸

⁵⁵ Since it was difficult for the program to include employment generation activities, the program was complemented by activities carried out by the Local Development Fund under the New Public Assistance Program as well as an employment-generation project financed by ADB. The latter was designed in 1993 and focused on Ulaanbaatar.

⁵⁶ ADB. 2001. *Performance Audit Report: Livestock Development Project in Pakistan*. Manila (Loan 973-PAK[SF]).

⁵⁷ ADB. 2001. *Performance Audit Report: Agriculture Sector Program in Papua New Guinea*. Manila (Loans 997-PNG[SF] and 998-PNG).

⁵⁸ EIRR estimates were based on full project cost.

Table 1: Economic Internal Rates of Return

Loan No.	Title	Appraisal (%)	PCR (%)	PPAR/PPER (%)
A. Agricultural Production and Markets				
1175-PRC	Guangdong Tropical Crops Development Project	23.2	13.1	10.3
1504-UZB	Rural Enterprise Development Project	35.3		
B. Agriculture and Rural Sector Development				
1012-PAK(SF)	Second Barani Area Development Project	24.0	10.1	4.1
1033(SF) and 1034-PHI	Second Palawan Integrated Area Development Project	17.8	11.0	3.7
1412-TON	Outer Islands Agriculture Development in Tonga	16.0	25.0	3.3
C. Fishery				
821-BAN(SF)	Second Aquaculture Development Project	23.0		
D. Forestry				
956-BAN(SF)	Upazila Afforestation and Nursery Development Project	22.9	28.3	9.3
1183-SRI	Participatory Forestry Project	13.0	30.0	15.0
E. Livestock				
973-PAK(SF)	Livestock Development Project	20.2	Negative	0.9
F. Land-Based Natural Resources Management				
915-PHI(SF)	Sorsogon Integrated Area Development Project	17.6	11.5	5.2
1099-INO	Second Land Resource Evaluation and Planning Project			
G. Water-Based Natural Resources Management				
1166-SRI(SF)	North Western Province Water Resources Development Project in Sri Lanka	16.2	13.7	11.4 ^a
1339-INO	Capacity Building Project in the Water Resources Sector in Indonesia			
1381-SRI (SF)	Small-Scale Water Resources Development Sector Project	(i) 21.0–50.0 (ii) 12.0–32.0		(i) (neg) to 169.7 (2003) (ii) (neg) to 182.0 (2004) (iii) 12.8–135.4

BAN = Bangladesh, INO = Indonesia, PAK = Pakistan, PCR = project (or program) completion report, PHI = Philippines, PPAR = project (or program) performance audit report, PPER = project (or program) performance evaluation report, PRC = People's Republic of China, SRI = Sri Lanka, TON = Tonga, UZB = Uzbekistan.

^a Rate is satisfactory for a rural sector project.

^b There was no economic internal rate of return (EIRR) estimate for this project. There was, however, three sets of EIRRs estimated for the 22 subprojects that the evaluation mission visited. The EIRR estimates for 2003 and 2004 were based on the data on area, production, and yield cited in the report. The estimate in 2006 were recalculated based on the costs and benefits updated to 2006 prices.

Sources: Project documents.

52. Eight projects registered lower EIRRs in their PPERs relative to appraisal estimations. The deviation ranged from 4.8% to 19.9%. The Second Barani Area Development Project in Pakistan and the North Western Province Water Resources Development Project in Sri Lanka, respectively, recorded the largest difference in EIRRs from appraisal and to PPER stage. Two projects did not recalculate EIRRs in their PCRs and PPERs, because the credit facility was not used for capital investment but mainly for financing the working capital: the Second Aquaculture Project in Bangladesh and the Rural Enterprise Development in Uzbekistan. In general, the lower EIRR estimates were attributed to (i) shortfalls in actual achievements, which included lower project outreach and low use of irrigation facilities (footnote 50); (ii) delayed benefits, limited availability of land among beneficiaries, and limited flow and nonsustained use of technologies (footnote 56); (iii) reduced project scope (footnote 52); (iv) lower crop yields;⁵⁹ (v) delayed operations and negative net profits (footnote 33); (vi) overestimation of incremental benefits; and (vii) exclusion of nonquantifiable benefits such as tree planting on roadsides, waterway embankments, and coastal areas (footnote 59); road components; and rural credit.⁶⁰

53. Using 12% as the cut-off value for PPERs, only two projects were found to have generated economically viable rates of return (footnotes 34 and 35).⁶¹ Thus, projects have generally underperformed in terms of acceptable returns criteria.

⁵⁹ ADB. 2001. *Performance Audit Report: Upazila Afforestation and Nursery Development Project in Bangladesh*. Manila (Loan 956-BAN[SF]); and footnote 51.

⁶⁰ ADB. 2001. *Performance Audit Report: Sorsogon Integrated Area Development Project in the Philippines*. Manila (Loan 915-PHI[SF]); and footnote 59.

⁶¹ ADB. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations*. Manila.

54. Some PPERs estimated returns in terms of per capita improvements, such as the Tropical Crops Development Project in Guangdong, which revealed that per capita incomes in the agricultural sector increased by 177%, and the Sorsogon Integrated Area Project in the Philippines, which indicated a 15% reduction in poverty levels due to the project.

55. Unlike projects where EIRRs are basically used as a measure of efficiency, agriculture sector growth rates and other performance variables (i.e., agricultural incomes and reduction in rural poverty levels) were used for ANR programs. Using program efficiency ratings as a measure of economic return for programs would show that only 46% of the loans were efficient. Evaluation findings confirm the difficulty of measuring returns, as only five of 11 (46%) programs were able to provide indicative figures. The figures were all positive, suggesting an overall good contribution to agricultural sector growth.⁶² The other programs, which did not have estimates, cited attribution problems due to the effect of exogenous variables, such as natural factors including climatic conditions and plant diseases, and overall macroeconomic conditions.

56. In summary, more than 80% of ANR projects and programs included agricultural productivity growth, employment generation, and returns on investment as one of their objectives. The review indicated mixed performance; productivity growth was achieved by 51%, 62% were successful in generating employment, and only 30% were considered economically viable. Most of the projects had lower EIRRs in their PPERs than at appraisal, and only two projects were found to have generated economically viable rates of return.⁶³ For programs, EIRRs were not estimated, but indicators such as agriculture sector growth rates, agricultural incomes, and reduction in rural poverty levels showed that almost 50% performed well under these criteria.

2. How Effective Has ADB Support Been in Addressing Failures in the Functioning of Agricultural Markets, Including Input and Output Chains?

57. **Functioning of markets.** ADB support for improving the functioning of markets, including input and output chains, was not very evident in the projects reviewed. This might be due to limited project scopes, which had little influence in making significant changes to overall market functions. Except for the Guangdong Tropical Crops Development Project, which included the establishment of a marketing center as an output, none of the projects mentioned marketing functions in their objectives or expected outputs. Nonetheless, three other projects indirectly had a market orientation, specifically on the input market. For instance, the important role of the private sector to effect changes in the input chain in terms of extension services provision was cited under the Livestock Development Project in Pakistan. The Second Aquaculture Development Project in Bangladesh also strengthened the input chain by having a credit line that was envisaged to complement extension services to finance investments in aquaculture development. The other two projects, the establishment of a marketing center in Guangdong (in the Guangdong Tropical Crops Development Project) and the rehabilitation of an input market in Uzbekistan by developing rural enterprises (in the Rural Enterprise Development

⁶² The average annual agriculture growth rates were: 8% (1996–2001) for the Agriculture Sector Programs in Kyrgyz Republic and Cambodia (ADB. 2003. *Project Performance Audit Report: Agriculture Sector Program in Cambodia*. Manila [Loan 1445-CAM(SF)]), 2% (1996–2000) for the Agriculture Sector Program in Viet Nam, which also reported that per capita expenditure increased by 30% while rural poverty fell from 66% to 45% for the period 1993 to 1998. The Second Agriculture Program in Nepal reported real gross domestic product growth of 3.2% and generated \$5.3 million annually as savings from removal of subsidies.

⁶³ EIRRs depend on the estimate of benefits. Delays may have relatively smaller effects on EIRRs, especially when the assessment period is longer. Commodity prices can also vary substantially through implementation and post-implementation periods, affecting the size of the benefit substantially.

Project), were not very successful in this regard. The depressed real estate market at the time of evaluation resulted in poor occupancy at the market center, while 43% (12 of the 28) of rural enterprises in Uzbekistan were underperforming at the time of evaluation.⁶⁴

58. As opposed to the projects, the nature of programs address market externalities well, including the input and output chains. Except for the two forestry programs,⁶⁵ all programs were directed toward correcting and reforming agricultural markets. Using PPER ratings as indicators, ADB's experience shows some degree of success, as 54% of programs were rated *successful* while 46% were rated *partly successful*. The agricultural production and markets subsector showed mixed results, as 50% of samples were rated either as *successful* or *partly successful*. The agricultural and rural sector development subsector appears to have greater success, as 80% (four of five) of the programs were rated *successful*, perhaps due to the relative success of programs in transition economies, with the exception of Mongolia. The agricultural and rural sector development programs had no incidence of policy reversals,⁶⁶ and most subsidies were removed, unlike in the agricultural production and markets subsector.

59. Most of the policy changes in the agricultural and rural sector development subsector were directed to the input market, including state withdrawal from production and marketing. For instance, in Nepal's Second Agriculture Program, the removal of subsidies for fertilizer and small tube wells resulted in an annual savings of \$6 million. The subsidy removal freed the quota system and resulted in increased fertilizer availability, which led to better yields. In Cambodia, the Agriculture Sector Program included 14 policy measures to revise the Land Law and to improve farmers' access to markets, inputs, finance, and technical advice. The program assumed that improvements in access to these basic elements would encourage farmers to adopt improved technologies. In Kyrgyz Republic, the Agriculture Sector Program strengthened the requisites for land reform and farm restructuring, catalyzing the development of procedures for resolving land disputes. The program also stipulated measures to transfer regulatory functions from former state-owned enterprises to the Ministry of Agriculture and Food, corporatize and privatize agricultural enterprises, and establish a market-based mechanism for agricultural inputs. As a result, small traders, market intermediaries, and competition in input supply and output marketing have emerged. Finally, in Kazakhstan, thanks to that Agriculture Sector Program, some of the positive steps that the government has taken toward market function improvements include encouraging the growth of an agricultural land market, strengthening farm workers' property rights in farm enterprises, and encouraging the efficient use of agricultural land and investment.

60. In summary, only 60% of projects and programs indicated improving the functioning of the market as an objective. Most are programs, which were directed toward correcting inefficiencies in agricultural markets and/or reforming policies. More than half of these (53%) reported important achievements in improving the market conditions.

⁶⁴ One of the reasons cited for underperformance was the unstable and inadequate supply of raw materials.

⁶⁵ Forestry loans indirectly addressed market-related concerns such as possible private sector participation in the leasehold forestry (footnote 42) and the revision of policies regarding public forest licensing (ADB. 2001. *Performance Audit Report: Forestry Sector Program in the Philippines*. Manila [Loans 889-PHI{SF} and 890-PHI]).

⁶⁶ Policy reversals were noted in the Second Agriculture Program in Sri Lanka, and the Agriculture Sector Program in Papua New Guinea.

3. How Well Have Operations and Knowledge Services Been Adapted to Country Conditions?

61. The assessment of the extent to which ADB operations and knowledge services (i.e., advisory TA) were adapted to DMCs' conditions is based on sector constraints discussed earlier (paras. 12–16) and the nature of support provided by ADB.

62. **Operations.** Eighty percent (20 out of 25) of the operations were assessed as *relevant* or *highly relevant*⁶⁷ (Appendix 4). The support provided was found to be mostly aligned to national development plans and priorities of the time. They were adapted to DMCs' general needs for increasing agricultural, livestock, and fishery produce, and sustainable management of natural resources in pursuit of reducing poverty. The strategies and approaches used—for policy and institutional reforms, promotion of technologies and incentive structures for increased crop production, community management of forestry and other natural resources, promotion of beneficiary participation, rural infrastructure development, and support to neglected areas—were suited to DMCs' needs and, in most cases, adapted to the country situations. The agricultural sector programs in Kazakhstan, Kyrgyz Republic, Mongolia, and Viet Nam provided critical financial and technical support for policy and institutional reforms in their transitions from centrally planned to market-oriented economies. The programs in Kazakhstan and Kyrgyz Republic were rated *highly relevant*, as stipulated reforms and loans covenants were speedily implemented, and served as catalysts for further related reforms.

63. Some projects, however, did not have complementary sets of interventions needed to generate the desired outcomes. The Agriculture Sector Program in Papua New Guinea, Second Agriculture Program in Sri Lanka, Second Barani Area Development Project in Pakistan, and the Outer Islands Agriculture Development in Tonga lacked cohesiveness and were thus assessed as *partly relevant*. The Rural Enterprise Development Project in Uzbekistan was rated *irrelevant*. The project in Tonga noted that the rural infrastructure provided (i.e., rural roads, storage, and market facilities) was inadequate to transport products efficiently through various marketing stages. In Papua New Guinea, the measures were not well tailored to the specific needs of the sector. The project in Uzbekistan failed to recognize and mitigate the risks associated with the financial sector in a transition economy. It was a poor choice for ADB's first loan to Uzbekistan, despite it being clearly identified as a government priority.

64. In Pakistan, the project design did not include measures to ensure that its intended target groups (i.e., smallholders, the landless, and women) received a proportionate share of benefits. This resulted in the capture of a significant amount of benefits by a small number of large landholders. Similarly, the Second Palawan Integrated Area Development Project in the Philippines and the Second Land Resource Evaluation and Planning Project in Indonesia excluded beneficiaries, leading to (i) inclusion of less-relevant components in project design, (ii) exclusion of key constraints in project areas, (iii) lack of ownership of facilities, and (iv) low participation of intended beneficiaries in project operations. The support to improve common-property natural resources, such as forests and fisheries, was inadequately focused on the root cause of resource depletion—poverty.⁶⁸ The focus did shift to improving production and promoting sustainable management practices in projects implemented later.

⁶⁷ The relevance criterion has four levels of assessment: (i) *highly relevant*, (ii) *relevant*, (iii) *partly relevant*, and (iv) *irrelevant*. Rural poverty reduction was used in this context as an indicator for quality-of-life improvement.

⁶⁸ ADB. 2001. *Performance Audit Report: Forestry Sector Program in the Philippines*. Manila (Loans 889-PHI[SF] and 890-PHI).

65. **Advisory technical assistance.** Advisory TA is mostly aimed at producing knowledge products. Thirty-eight advisory TA activities were provided to support 22 programs or projects (of the total 25) for institutional capacity building critical to operations, and to improve the likelihood of sustaining policy reforms (Appendix 7). In general, policy and institutional reforms included introduction and establishment of policies and institutions for more efficient operations in sector development. For example, advisory TA addressed distortions in agricultural production and markets such as commodity pricing, agriculture taxation, agriculture credit, rural savings, and fertilizer subsidy. Capacity development efforts were aimed at institutionalization of these reforms through training and development of manuals and information systems, monitoring and evaluation, extension services, and introduction of strategies and approaches to beneficiary participations in the sector development. All advisory TA was generally considered to be *relevant* and *successful*, except for one provided for the Forestry Sector Program to the Philippines.⁶⁹

66. Some examples of successful knowledge products delivered from advisory TA include (i) sector policy studies in the People's Republic of China, Kazakhstan, Papua New Guinea, and Viet Nam; (ii) master plans for agriculture and rural development in Pakistan, and livestock and forestry subsector in the Philippines; and (iii) policy advisories in Pakistan for deregulation of the fertilizer industry, and in the Philippines for the promotion of industrial tree plantations; and (iv) participatory approaches in Bangladesh, Kyrgyz Republic, Tonga, and Uzbekistan.

67. The flexibility shown by ADB in changing the scope of advisory TA in Sri Lanka for better adaptability to the country's needs paid high dividends. Changing the scope—from initiating privatization of identified agro-enterprises to developing a long-term strategy and legal framework for privatization of plantations—provided a framework that had a broader application.

68. In addition to the delivery of relevant outputs, ownership by various government agencies was an important factor in adoption and sustained use of such outputs. In Papua New Guinea, most of the recommendations on financial and tax reforms were not implemented with a change in the government. In fact, some of the changes introduced were contrary to what were agreed as suitable recommendations. In Nepal, the implementation of an equitable and efficient energy pricing policy under the Forestry Sector Program did not receive the necessary follow-up, as the concerned ministry was not involved in the advisory TA design and implementation.⁷⁰

69. In other cases, intended outcomes were realized at lower levels due to delays in institutionalizing various interventions, although the TA activities produced technically relevant outputs. The lack of institutionalization of outputs also led to limited provision of follow-up support and scaling up.⁷¹ Some reasons for lower levels of performance were delays in TA commencement,⁷² poor coordination between the EA and implementing agencies,⁷³ short

⁶⁹ ADB. 1988. *Technical Assistance to the Philippines for Rationalization of Wood-Based Industry*. Manila (TA 994-PHI) was *not relevant* and rated *unsuccessful*. Under an uncertain policy environment, the industry was reluctant to upgrade or to invest in new plants and equipment. The TA was also not effective in providing a framework for the development of wood-based industry.

⁷⁰ ADB. 1996. *Technical Assistance to Nepal for Implementation and Monitoring of the Agriculture Perspective Plan*. Manila (TA 2618-NEP).

⁷¹ ADB. 1995. *Technical Assistance to the Philippines for Community Mobilization and Development*. Manila (TA 1054-PHI) attached to the Sorsogon Integrated Area Development Project.

⁷² ADB. 1995. *Technical Assistance to Pakistan for Barani Farming System Training and Research*. Manila (TA 1357-PAK) attached to the Second Barani Area Development Project.

⁷³ ADB. 1995. *Technical Assistance to Sri Lanka for Institutional Strengthening of the North Western Provincial Council*. Manila (TA 1719-SRI) attached to the North Western Province Water Resources Development Project in Sri Lanka.

implementation periods (footnote 71), and slow implementation of TA recommendations.⁷⁴ Some of the TA activities were not adapted to country situations, such as the overly complex and impractical data collection systems developed for Sri Lanka.⁷⁵

70. In summary, most ADB operations and knowledge services were relevant in meeting the needs of DMCs for sector development. Major sector policies, institutional reforms, and direct development activities have been successfully undertaken. Most projects and programs were accompanied by additional funds, that is, advisory TA, which was provided mainly to generate knowledge and to develop capacity for enhancing the sustainability of outputs and outcomes. There were, however, some concerns regarding inadequacies in project designs and overambitious objectives at appraisal. These shortcomings contributed to limited ownership of the interventions by various stakeholders, coordination and implementation difficulties, and poor targeting.

4. How Well Have These Operations Been Supported and Coordinated by Donors?

71. The coordination of support among donors and development partners provided opportunities to tap into each other's expertise, which contributed to enhancing development effectiveness. Most of the operations, 72% or 18 out of 25 projects and programs, involved some forms of coordination with other development partners and donors. This support mainly involved cofinancing of assistance, implementation of advisory TA, follow-on activities by donors and/or development partners in ADB completed projects, and general information sharing among development agencies (Appendix 8). Over 20 development agencies provided some forms of support in ADB's operations. The most frequent partners were the Food and Agriculture Organization (FAO), International Fund for Agriculture Development (IFAD), United Nations Development Programme (UNDP), and the World Bank.

72. **Cofinancing.** IFAD provided 30% of the total project cost for the Small-Scale Water Resources Development Sector Project in Bangladesh and supported the development and institutionalization of beneficiary participatory approaches in operation and maintenance of small-scale irrigation schemes. IFAD's active participation in the project formulation phase in its area of expertise contributed to the development of effective strategies and approaches. IFAD also cofinanced the Second Barani Area Development Project in Pakistan, resulting in its more effective implementation.

73. **Parallel cofinancing.** ADB's coordination with bilateral agencies—New Zealand's International Aid and Development Agency (NZAID) in Tonga and the Australian Agency for International Development (AusAID) in Sri Lanka—was mutually beneficial and significantly contributed to the objectives of the respective agencies. AusAID's Food-for-Work Program in the Participatory Forestry Project in Sri Lanka provided incentives for rural households to become active participants in forestry activities, improving ADB operations. In Tonga, NZAID and ADB coordinated their efforts for the development of water supply and forestry programs and for establishing community funds on two islands.⁷⁶ The coordination and flexibility shown by NZAID

⁷⁴ ADB. 1995. *Technical Assistance to Kazakhstan for a Study on Rural Credit and Savings*. Manila (TA 2449-KAZ) attached to the Agriculture Sector Program.

⁷⁵ ADB. 1992. *Technical Assistance to Sri Lanka for Institutional Strengthening of the Forest Department*. Manila (TA 1777-SRI) attached to the Participatory Forestry Project.

⁷⁶ The NZAID Rural Development Program is a parallel initiative in Niuaus. It agreed, with the concurrence of ADB and the government, to set up funds for Niuaus at T\$25,000 per island. The government's Central Planning Department coordinates the administration of the funds, which conforms to NZAID requirements. However, as envisaged at

and ADB enabled continued support of these components, despite the fact that the Government of Tonga was unable to provide the necessary counterpart funds.

74. Support and coordination for post-project financing. Coordination among other development partners and donors also enabled continuation of critical support needed to scale up and/or to replicate the achievements from the ADB completed projects. IFAD financed the Barani Village Development Project, building on the achievements of ADB's Second Barani Area Development Project, to address constraints in rain-fed agricultural systems. The IFAD-supported project's design and implementation benefited from lessons from the ADB project and from well-trained government officials and field staff who continued with the new project operations.

75. The World Bank continued institutional strengthening in Indonesia initiated by ADB's Capacity Building Project in the Water Resources Sector in Indonesia.⁷⁷ In Pakistan, the European Union continues to work to develop the government's capacity on disease surveillance, following up the Livestock Development Project in Pakistan. ADB and other development agencies also initiated follow-up actions for the Outer Islands Agriculture Development in Tonga, including adoption of a sound sector policy framework, removal of impediments to investment in the sector, and establishment of private sector-driven infrastructure to facilitate sector operations.

76. Provision of technical assistance by other development agencies. ADB has worked closely with the United Nations in ANR operations. Two United Nations agencies in particular, UNDP and FAO, have financed TA for ADB projects in Bangladesh (TA 1142-BAN, attached to Loan 956-BAN [footnote 31]), Pakistan (footnote 56), and Sri Lanka (footnote 75). They provided supportive services in their areas of expertise, and such collaborations generated positive results. Capacity-building activities for beneficiary participation, community leaders, and the EA in the forestry subsector improved stakeholder awareness of the importance of institutional reforms in the Forest Department of Sri Lanka. UNDP's involvement in the Second Barani Area Development Project helped develop a master plan for Barani area development. FAO support in the Livestock Development Project in Pakistan served as a basis for the country's seventh development plan for the subsector.

77. Consultation with development partners. Close contact and information sharing between multilateral development banks have taken place where agencies have worked in the same subsectors and issues. During the implementation of the Second Aquaculture Development Project in Bangladesh, ADB and the World Bank actively shared information, as the World Bank was developing a project on aquaculture development in Bangladesh.⁷⁸ In another instance, the World Bank was supportive of an ADB project on farm enterprise development in the People's Republic of China, as the World Bank had established a prominent role in this field. The European Bank for Reconstruction and Development provided valuable information and advisory TA for strengthening the National Bank of Uzbekistan in the Rural Enterprise Development Project, the first ADB project in Uzbekistan.

appraisal, the island development committees and Ministry of Agriculture and Forestry would have stronger roles in community projects. Held at Tonga Development Bank offices, the funds were to be used for capital improvements that facilitate agriculture production, marketing, processing, handicrafts, or tourism.

⁷⁷ This involved the creation of the interministerial coordination team for water resources management in Indonesia, which replaced the Policy Analysis Management Support Team created within the EA of the ADB project.

⁷⁸ The project focused on financing shrimp ponds, marketing equipment and shrimp hatcheries, and shrimp extension services in two districts.

78. However, effective coordination of support from multiple partners, although highly beneficial, has its own challenges and can sometimes compromise development effectiveness. These difficulties include delays in partners' projects; coordination problems with multiple agencies, each of which follow their own internal processes; high transaction costs; implementing efficiencies (i.e., recruitment of consultants, and incorrect choices of beneficiary villages); and weaknesses in the design and efficiency in TA implementation resulting from coordination difficulties.

79. As an example, planned cofinancing from the European Union did not materialize in the Second Palawan Integrated Area Development Project in the Philippines. It had planned to finance the forestry and environment stabilization component in the ADB project through its Palawan Tropical Forestry Protection Program. The absence of this essential component in ADB's project, due to a 5-year delay in the European Union program, resulted in negative environmental impacts (para. 91.).⁷⁹ Similarly, in the Participatory Forestry Project in Sri Lanka, the World Bank had planned on supporting the adaptive research component—essential to help establish on-farm demonstrations for increased participation of private and public agencies in social forestry—but the component remained unfunded.⁸⁰ As a result, full benefits from the forestry subsector in Sri Lanka were not realized.

80. In the Second Aquaculture Development Project in Bangladesh, ADB was flexible and took prompt actions to provide an additional loan on a no-objection basis to fill the gap due to UNDP's withdrawal of planned support for consulting services, which were critical to implement subprojects.

81. In summary, most of the ANR operations were executed with additional support from and in close coordination with other development agencies. This included cofinancing, implementation of advisory TA, follow-on activities by other development agencies of ADB's completed projects, and general information sharing among development agencies. These efforts were, in most cases, mutually beneficial to all partners involved. Design flexibility and joint implementation with partners were instrumental in filling in financing gaps and in providing other support essential for achieving development results.

5. How Well Are Development Programs Cognizant of the Environment and Climate Change?

82. ADB's Environment Policy (2002) requires all operations to do an environmental assessment.⁸¹ This is one of the three safeguard policies at ADB. The types of assessment required depend on categorization of operations based on potential adverse environmental impacts. Four evaluated projects were in category B, as they were identified to have some adverse environmental impact.⁸²

⁷⁹ When the European Union finally decided on the project under the Palawan Tropical Forestry Protection Program, it did not provide links with the any of the ADB operations in the province.

⁸⁰ The World Bank had planned on financing about 2% of the total cost for the adaptive research through its project. However, it was canceled.

⁸¹ Adherence to the environment policies entail conduct of environmental impact assessments; compliance with the negative list of chemicals, where low quantity use was adopted only when necessary; disposal of hazardous chemicals; and integration of environment preservation and conservation measures.

⁸² Every screened operation is placed into the following categories: (i) category A—operations could have significant adverse environmental impacts; (ii) category B—operations could have some adverse environmental impacts, but of lesser degree or significance than those in category A; (iii) category C—operations are unlikely to have adverse environmental impacts; or (iv) category FI—where the operations involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The four category B loans are the Second Barani

83. For most operations, the environmental impacts were reported in broader terms, and climate change issues such as effects of deforestation, land degradation, reduction in biodiversity, carbon sequestration, and greenhouse gas emissions were also specified.⁸³ The majority of the operations reported no detrimental effects on the environment. Almost half of the operations (48%, or 12 out of 25) made positive environmental impacts with 40% (10 out of 25) having a neutral environmental impact. Three operations (12%, two in agricultural and rural sector development and one in fishery subsector) reported negative impacts (Appendix 9).

84. **Forestry subsector.** All operations in the forestry subsector contributed positively to the environment. Some specific benefit to the environment included increased carbon sequestration from increased forest cover on underutilized and degraded forestland; increased biodiversity and production of medicinal plants from increased forest cover; increased clean water supply from rehabilitation of watershed areas; reduced soil erosion in general and stabilization of wind-induced erosion-prone areas as a result of tree planting on roadsides, waterway embankments, and coastal areas; and balanced forest coverage by banning tree species that compete for water during the dry season. For example, the Participatory Forestry Project in Sri Lanka established 17,000 ha of additional forest cover and reclaimed 4,500 ha of protective woodlots, which contributed to soil conservation, erosion control, and water catchment protection.

85. In addition, necessary complementary institutional support was provided that enhanced decentralization, community participation in social forestry management, and capacity development in the government agencies. Some specific examples include (i) the Forestry Sector Program in the Philippines, in which the community participation and income-generating opportunities increased the ownership and maintenance of forests; (ii) the Upazila Afforestation and Nursery Development Project in Bangladesh, where awareness-building and publicity campaigns encouraged private sector participation in tree planting on private property, homesteads, and farms; and (iii) again in Sri Lanka, where the capacity development and institutional strengthening of concerned government agencies facilitated project implementation by encouraging local communities' participation in forest resources development and management.

86. **Livestock subsector.** In the livestock subsector, the Livestock Development Project in Pakistan promoted fodder varieties palatable to livestock, which increased livestock numbers and reduced the risk of polluting waterways as farmers partly substituted manure for chemical fertilizers; and improved safe disposal systems for effluents produced from milk- and meat-processing facilities.

87. **Land-based natural resources management subsector.** The environmental benefits in this subsector included positive impacts on marine resources and in the generation of essential outputs for sustainable management of natural resources. For example, in the Sorsogon Integrated Area Development Project in the Philippines, the establishment of artificial reefs and mangrove plantations cushioned the impact of population pressure on marine resources, reduced erosion of coastlines, and protected fishing villages. The Second Land Resource Evaluation and Planning Project in Indonesia produced maps, guides on cropping and

Area Development Project, Outer Islands Agriculture Development Project, Agriculture Sector Program in Cambodia, and the Second Agriculture Program in Nepal.

⁸³The environment (includes climate change) is identified as a core area of operation in Strategy 2020. Climate change significantly impacts agricultural productivity. It threatens the livelihood of farmers, and also risks undermining global food security. The ANR sector is also a significant contributor of greenhouse gas emissions and has the potential to play an important role in climate change mitigation.

sustainable land use, and strategies and guides for forestry and mining development that contributed to sustainable management of natural resources. The strategies also included guidelines on land use for reducing the risk of soil erosion, loss of soil fertility, siltation of water bodies, and downstream flooding.

88. **Water-based natural resources management subsector.** The Small-Scale Water Resources Development Sector Project in Bangladesh succeeded in mitigating potential negative impacts from the construction of small water management structures. The communities were successfully mobilized to maintain the system and to prevent soil erosion and siltation. The project also established an environmental monitoring program. Eleven laboratories were established for monitoring water quality while, at the same time, the floodplain fisheries utilized fish friendly structures and adopted improved system for sluice gate operation to facilitate fish migration.

89. **Agricultural production and markets, and agriculture and rural development subsectors.** Several projects in these subsectors reported positive environmental benefits. In the Second Agriculture Program in Sri Lanka, the lowering of plantation crop taxes contributed to better maintenance of neglected state plantations and marginal plantation lands, mitigating soil erosion. In the agriculture and rural development subsector, three projects reported positive contributions to the environment. The Second Barani Area Development Project in Pakistan adopted improved cultivation practices, which increased water retention and intensified vegetative cover; restricted civil works, such as small-scale mini-dams and ponds to lowered soil erosion risks; constructed roads on flat terrain that did not require cuts into steeply sloped areas; and developed a potable water supply that reduced the incidence of waterborne diseases. The Agriculture Sector Program in Kazakhstan focused on disposal of banned pesticides, amending regulations to be compliant with FAO recommendations for pesticide use, and policy recommendations for sustainable use of rangeland. Likewise, the Agriculture Sector Program in Kyrgyz Republic promoted environmental protection through improved management of grazing in natural pastures and forested areas, and biological pest control systems.

90. Some of the noteworthy measures taken to nullify possible negative environmental impacts included (i) strengthening the Environmental Unit of the Government of Papua New Guinea (footnote 57), (ii) compliance with environmental standards for processing factories such as installation of effluent treatment facilities' proper waste management systems (footnote 33), (iii) training on safe use of agrochemicals (footnote 51), and (iv) safe disposal of hazardous chemicals following best practice international protocols.

91. Some negative environmental impacts were documented in three DMCs—Bangladesh, Mongolia, and the Philippines—resulting mainly from failures to devise mitigation strategies for unanticipated impacts. The lack of effective monitoring, and changes in other donors' plans in the provision of essential complementary projects, contributed to the negative impacts. The Second Aquaculture Development Project in Bangladesh did not anticipate the outbreak of diseases and food-quality deterioration, which resulted from inadequate water management and heavy exploitation of snail for feed.⁸⁴ It also featured the use of a harmful chemical on the floodplains to eradicate predators.⁸⁵ In the Agriculture Sector Program in Mongolia, removal of distortions in meat pricing, provision of a subsidy on fodder supply, and provision of free

⁸⁴Per the PPER, the spontaneous use of snail meat as part of the feeding ration was not recommended under the project.

⁸⁵Rotenone was explicitly cited. The EA and consultants stated that its use was low, effect short, and any residue would have been diluted by inundation. The EA eventually agreed to use fingerlings.

livestock to families to create alternative employment opportunities contributed to unsustainable land use from overgrazing. The lack of follow-up and funding support to implement the livestock study recommendations aggravated the situation. The Second Palawan Integrated Area Development Project in the Philippines documented soil erosion and siltation of dams from road construction along the mountainous coastline, and provision of slope protection and watershed management in upstream areas would have mitigated these negative environmental impacts.⁸⁶ This project could have also taken active measures to control destructive fishing in the area.

92. In summary, environmental concerns are firmly embedded in all aspects of ADB operations, and every loan is assessed on its potential environmental impact at appraisal and post-evaluation. For most operations, the environmental impacts were reported in broader terms, and climate change issues related to the ANR sector (e.g., effects of deforestation, land degradation, and reduction in biodiversity) on soil carbon sequestration and greenhouse gas emissions were also specified. Almost half of the loans reported to have had positive environmental impacts, but three loans (12%) indicated negative impacts on the environment. The remaining loans (40%) reported to have generated neutral environmental impacts as a result of better design and implementation of suitable mitigation strategies where negative impacts were anticipated. Where negative environmental impacts were noted, they were unanticipated impacts and resulted from inadequate mitigation responses.

93. DMCs have also demonstrated strong commitment to implement pro-environment measures and to comply with international protocols on environmental protection and conservation. Nevertheless, increased vigilance and supervision during implementation and more rigorous analysis of the environmental impact of major sector policy reforms are areas that warrant continued attention.

IV. CONCLUSIONS AND IMPLICATIONS

A. Conclusions

94. Assistance to the ANR sector has been generally beneficial, achieving broader development goals and sustainable management of natural resources despite a low success rate of ANR projects and programs compared to other sectors in ADB. The operations and knowledge products have been adapted to DMCs' needs, and other development agencies have contributed to these achievements through their support and coordination with ADB's operations in areas of common interest. However, the returns on investment for most operations have been substantially lower than expected during appraisals. Overall performance could be improved by more rigorous problem diagnosis, reduced implementation delays, and faster adaptation to mitigate unintended outcomes. In most cases, operations over the review period have contributed to increasing productivity growth, employment, increasing income, and improving market function.

95. The main factors contributing to project success included clear demand for the services provided by the project or program, sustainability of benefits and outcomes, appropriateness of design, absence of adverse exogenous factors such as natural disasters (i.e., floods in Bangladesh), and strong government ownership.

⁸⁶ Largely a result of the non-implementation of the forestry and environment stabilization component of the Second Palawan Integrated Area Development Project, which was to be cofinanced by the European Economic Community.

96. Projects that had little success in achieving objectives were confronted with one or a combination of issues regarding inappropriate design for extending technology, overambitious project scope, limited number of beneficiaries, delays and complex institutional structure, cost overruns, poor maintenance of infrastructure, skewed benefit distribution favoring large landholders, weak institutional capabilities of participating agencies, and poor beneficiary participation.

97. The main factors determining the performance of programs included the congruence of most of the expected outputs, outcomes, and conditionalities with the government's development plan and priorities; greater involvement of the private sector in the marketing chain, including the provision of inputs and services;⁸⁷ strong government capability and ownership of reforms; better access to inputs including credit and extension, especially for previously highly subsidized inputs; better understanding of the policy environment, particularly the macro economy and agriculture; better preparatory studies on policy outcomes and impacts of proposed measures; and a stable political environment.

B. Lessons and Implications

98. **Agricultural productivity growth.** Gain in agricultural productivity is the ultimate source of economic benefits in both projects and programs. Thus, it is important to ensure that projects and programs support the development and delivery of key interventions that lead to rapid productivity growth. In the context of projects, such key interventions consist mainly of suitable, improved technologies that overcome key production constraints and information. In the context of programs, these relate to creation of an enabling environment through policy and institutional reforms. A suitable combination of projects and programs that complement and reinforce the process of productivity gains needs to be established for different DMCs that vary in initial conditions and levels of economic growth.

99. **Conducive policy environment and the functioning of markets.** Appropriate and stable sector policies are instrumental in improving the functioning of markets, including input and output chains. Government efforts to maintain macroeconomic stability were critical to the success of programs evaluated. Hence, programs for policy reforms and improving the functioning of markets should clearly be based on a thorough analysis of emerging trends in the economy and be in sync with the macroeconomic contexts.

100. **Realistic assessments of returns.** Substantially lower EIRRs at PPERs than at the appraisal stage of most projects show a consistent pattern of overestimation of benefits. The EIRR estimates at PPERs indicate that most projects did not meet the economic efficiency criterion. This points to the need to make realistic estimates of anticipated benefits and costs during appraisal through proper problem diagnosis and thorough analysis. A weakness in many projects is the lack of attention on systematically collecting key information needed for full and realistic assessment of benefits. Projects generate substantial social benefits that are not easily measured and captured in EIRR estimates alone. It is also important to ensure that project implementation is not unduly delayed. Realistic estimation of implementation time, design flexibility, adequate investment in building capacity of EAs, and timely implementation of mitigating actions where delays result from external factors are needed to avoid low rates of

⁸⁷ It is also noted that many of the DMCs borrowing for ANR sector have underdeveloped remote rural areas where there is no incentive for the private sector to work. There, the government's role continues to be critical to develop the agricultural and/or rural sector and to create favorable conditions for the private sector to operate.

return. Sector programs that are aimed at policy and institutional changes almost invariably require a longer time frame for the benefits to be realized.

101. **Extension, credit, and the value chain approach.** The backward and forward links generated in the value chain are critical to improve productivity, generate employment, and improve the functioning of markets and ultimately incomes. Extension and credit have critical roles in building and strengthening such links. For extension activities, lower-than-expected crop yields (including livestock) achieved under some of the post-evaluated projects indicate the need for a closer analysis of field operation strategies by examining the levels of funding provided and the mechanisms through which such services are delivered. Project experience suggests that the success of extension services in contributing to higher yields has been limited. Poor extension services were also translated into low levels of project acceptance and beneficiary participation. Post-evaluation findings also indicated that extension services would be more effective if they were integrated with other support services such as input delivery, credit, supply, and marketing. An important factor constraining the effectiveness of extension and credit was that these are handled mostly by unrelated or poorly connected institutions. Private sector participation can be crucial in improving the delivery of extension services and improving the value chain.

102. **Donor coordination and participation.** Increased donor participation in cofinancing, parallel financing, and post-project support is an effective way of mobilizing resources for achieving the development goals of ADB. In addition, such participation leverages other development partner and donors' areas of expertise and contributes to more effective strategies and better project and program design. Improved donor coordination backed up by contingency planning, in case donors change their priorities and funding commitments during implementation, is needed to ensure that key program components are adequately supported and implemented in a timely manner for synergy. Such contingency plans should be sufficiently flexible to accommodate unanticipated eventualities that adversely affect performance. The Paris Declaration provides the required platform for harmonization of development agencies. There are important challenges to translate these into effective coordination at the local level, especially in the context of decentralization. Steps are required to align project administration, monitoring, and reporting across a number of partners involved.

103. **Beneficiary ownership and participation.** Full participation of beneficiaries and their ownership of programs during design and implementation are key ingredients of success, especially for programs that require a high degree of social mobilization. ANR programs that are focused on environmental and resources management are specific examples where community participation is critically important. Such programs require a more realistic assessment of the time frame needed for social mobilization and specific strategies for accelerating this process. In fact, beneficiary participation should take place in all phases of the project cycle. Participation and involvement of the private sector should be encouraged in the provision of inputs and the marketing of outputs, as the private sector generally has a comparative advantage in providing these services.

104. **Stronger government ownership.** Government performance is a critical determinant of project success. If the government or the borrower has firm commitment to and ownership of the projects and programs, this will likely translate to a more favorable policy environment for implementation and operation, including the provision of counterpart funds. A stable policy environment discourages sudden policy reversals that negate initial project gains and that do not comply with the loan conditionalities. Some policy reform programs in transition economies such as in Cambodia, Kazakhstan, Kyrgyz Republic, and Viet Nam resulted in favorable

outcomes, as government commitments and support were evident during implementation. The timely provision of counterpart funds was also instrumental in avoiding project delays.

105. Sustainable management of natural resources. Environmental and natural resources management projects and programs are unlikely to be successful unless resource users and/or communities are able to obtain tangible economic benefits (e.g., increased incomes) for meeting their immediate livelihood needs. Production of a positive environmental externality is not a sufficient condition for resource users' adoption of improved practices for resource management and environmental protection. Examples abound where resource users have not taken up technically sound improved practices that protect the environment because they do not result in higher incomes. While some forms of compensation and/or subsidy may initially encourage adoption of such practices, economic activities that provide sustainable income gains must be an integral part of environmental and resource management programs. This aspect will gain in importance for improving systems' resiliency needed to cope with increased variability, resulting from global climate change.

106. Private and public sector efforts. Most governments have recognized the need for privatization. However, progress toward privatization has been slower than anticipated, reflecting reluctance on the part of some governments to divest ownership rights. Experience had shown also that private sector investment is not readily forthcoming unless pricing mechanisms are free of government control and the marketing and distribution of inputs and outputs have been deregulated.⁸⁸ In essence, the private sector can be a potential key player in the provision of inputs, including credit and extension, and the marketing of produce—if the market mechanisms are conducive. It is important to clearly build strategies and activities for promoting private sector participation in future ANR projects and programs. On the other hand, it is also recognized that many DMCs have underdeveloped remote rural areas where there is no incentive for the private sector to work. There, the government's role continues to be critical to develop the agricultural and rural sector and to create conditions for the private sector to operate.

107. Functional monitoring and evaluation systems. The importance of functional monitoring and evaluation system in ensuring project and program success cannot be overemphasized. Functional systems are needed not only for promoting institutional learning but also for detecting signs of problems early enough to implement suitable mitigation measures. The climatic variability in the ANR operations puts an additional dimension of risk that increases the importance of monitoring and evaluation. Although ADB has been adhering to the formulation of design and monitoring framework to accompany project proposals, full compliance must be ensured to improve project tracking and performance. There is a need to ensure that such activities are well-funded, institutionalized, and managed as an integral part of implementation and continuity post-project.

108. Project preparation and design. Evaluation findings highlight the importance of detailed preparation to ascertain the technical, economic, and financial viability of a project prior to appraisal. For developing more realistic performance objectives, it is important to ensure the adequacy and a high quality of preparatory studies at the appraisal stage. If necessary, relevant sector policy issues and likely outcomes (i.e., employment reduction) should be analyzed adequately (under TA), and the lessons incorporated at the design stage, particularly for programs. For projects, appraisal should consider a realistic design in terms of its complexity

⁸⁸The privatization of tea plantations in Sri Lanka, for instance, resulted in positive pay-offs. The plantations were able to replant and raise the overall efficiency, leading to historic production and export highs.

and institutional capability available for its implementation, potential institutional implication to ADB in terms of supervision, appropriate use of pilot projects in the case of projects involving technology adoption, the importance of undertaking detailed and realistic assessments of suitability of local conditions (i.e., crop suitability, pests, and diseases), and the institutional capability of EAs.

BACKGROUND AND PREVIOUS SYNTHESIS HIGHLIGHTS

A. Introduction

1. This appendix provides background information on the strategies and support of the Asian Development Bank (ADB) to the agriculture and natural resources (ANR) sector. It also includes a brief summary of past ANR sector synthesis studies conducted by the Independent Evaluation Department (IED).

B. ANR Sector Operations

1. ADB Strategies

2. ADB's approach to assisting the ANR sector has evolved over time, in line with changing developing member country (DMC) requirements and gradual adoption of best practices. In the 1960s and 1970s, DMC governments were viewed as principal agents for rural change, and the it's main role was to bring the benefits of the Green Revolution to poor rural farmers. ADB assistance was concentrated on building public sector capacity in ways that would complement the introduction of green technologies through investments in irrigation, farm-to-market transport, rural finance, and research and extension services.

3. Over time, a more diverse array of approaches to fostering rural progress was adopted. In 1988, a strategy paper on rural development was prepared, which highlighted the need for assistance tailored to varied challenges of each subregion as well as the need for improved policy and institutions to combat rural poverty.¹ More people-oriented approaches to ANR were put into effect to improve project performance. Attempts were made to nurture and harness the collective talents of rural stakeholders to promote a more balanced and socially inclusive pattern of growth and development.

4. Despite a more participatory, diverse, and decentralized approach to the sector, the slow rates of agriculture growth and persistent rural poverty of the 1990s challenged policy makers and development agencies alike. It soon became clear that the best available practices to foster ANR may be inadequate or inappropriate in the medium term as rapid urbanization, population growth, land conversion, environmental degradation, climate change, developed country protectionism, and other factors work against increases in production, incomes, and living standards in rural Asia and the Pacific. In response, a major stock-taking exercise was undertaken by ADB.

5. In 1998, ADB decided to undertake a study to examine the achievements and prospects of rural Asia, and to provide a vision for the future of agriculture and rural development in the next century. The objective of the study was to identify policy and investment priorities that would promote sustainable development and improve economic and social conditions in DMC rural sectors. The study was prepared in 1998–1999, and stressed that continued progress in

¹ ADB. 1988. *Sector Paper on Rural Development*. Manila. The following objectives for rural development policy were identified: (i) preventing further rural poverty; (ii) increasing production; (iii) distributing rural assets equitably; (iv) eliminating poverty through adequate wage employment, and productive assets and skills; (v) improving the quality of rural life through providing basic infrastructure and social services; (vi) enabling the rural poor to share control over their environment and the use of local resources to participate in all decisions affecting their lives; and (vii) strengthening existing rural institutions so that they play a progressive role in development and building new institutions that support self-sustained development.

ANR would be essential to combat poverty and improve living standards in Asia.² It identified a number of critical new challenges facing rural Asia, related to globalization, technological change, popular participation, natural resources management, demographic developments, and structural transformation. The study proposed a variety of new approaches for revitalizing the sector, including maintaining sufficient levels of investments in rural infrastructure, education, health, and agricultural research (particularly biotechnology); eliminating or reducing unnecessary public expenditures on subsidies that are either biased against rural areas or are favoring already well-off residents; adopting rationalized agricultural pricing policies that provide stability and reduce risk; undertaking institutional reforms; creating effective safety nets to protect vulnerable people; adopting macroeconomic policies that are conducive to long-term investments; improving natural resources management; and facilitating the roles of nongovernment organizations and civil society in implementing good governance reforms.³

6. Then, with the adoption of the poverty reduction strategy in 1999, ADB made reducing poverty its overarching goal.⁴ Under this strategy, assistance to the ANR sector was given higher priority since such interventions are more naturally targeted to benefit the poor, as poverty remains largely a rural phenomenon in Asia and the Pacific. In 2001, ADB formulated a long-term strategic framework (LTSF)⁵ to provide an overall vision for the institution, its strategic goals, and its fundamental operating principles. It endorsed a vision of Asia and the Pacific free of poverty and recognized that economic growth is essential for poverty reduction. It also found that unleashing the potential of the poor will contribute to growth and enhance the quality of life for all. In the context of ANR, the LTSF stated that rural development will remain a priority as a majority of the poor resides in rural areas.

7. The LTSF was implemented by two medium term strategies, each lasting 5 years, anchored in the poverty reduction strategy and Millennium Development Goals. Under the first,⁶ the ANR sector was supported to promote growth and environmental sustainability through policy and institutional strengthening of DMCs. However, in the second,⁷ the ANR sector, with the exception of irrigation subsector, was identified under group II,⁸ while the livestock and fisheries subsectors were classified under group III. d

² ADB. 2000. *Rural Asia: Beyond the Green Revolution*. Manila. ADB staff and international experts prepared the study under the guidance of an interdepartmental ADB steering committee.

³ To support ADB operations, ADB has also promulgated sector policies focusing on selected ANR subsectors and other ANR-related sectors. These include policies on forestry (1995), agriculture and natural resources research (1995), fisheries (1997), water (2001), and the environment (2002). IED has conducted evaluations on (i) the Fisheries Policy, recommending its cancellation; and (ii) the Agriculture and Natural Resources Research Policy, which has been reviewed twice with the same conclusion of increasing and continuing support to agricultural research.

⁴ ADB. 1999. *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy of the Asian Development Bank*. Manila.

⁵ ADB. 2001. *Moving the Poverty Reduction Agenda Forward In Asia and the Pacific: The Long-Term Strategic Framework of the Asian Development Bank (2001–2015)*. Manila. The LTSF, approved in March 2001, defined three core areas of intervention in ADB's efforts to reduce poverty: (i) sustainable economic growth; (ii) inclusive social development; and (iii) governance for effective policies and institutions. These three core areas were complemented by three cross-cutting themes to broaden and deepen the impact: (i) promoting the role of the private sector in development; (ii) supporting regional cooperation and integration for development; and (iii) addressing environmental sustainability.

⁶ ADB. 2001. *Medium-Term Strategy (2001–2005)*. Manila.

⁷ ADB. 2006. *Medium-Term Strategy (2006–2008)*. Manila.

⁸ Based on the second medium-term strategy, a few sectors have been identified as ADB core operational sectors (group I) where ADB will build up a critical mass of expertise to act as a leading provider of assistance (financing and expertise). The identification of these sectors is based on (i) relevance of the sector for the strategy; (ii) demand for ADB assistance in the sector as reflected in external and internal consultations, and the sector composition of ADB's portfolio and pipeline; and (iii) ADB's track record and capability to deliver quality projects in

8. Amidst the changing global context, particularly significant shifts in development, aid, and financial landscapes, ADB formulated a new long-term strategic framework for 2008–2020 (Strategy 2020).⁹ Strategy 2020 focuses ADB operations on five core specializations: (i) infrastructure, (ii) environment, including climate change; (iii) regional cooperation and integration; (iv) financial sector development; and (v) education. The second tier of operational areas where ADB assistance is required on a limited scale includes agriculture, disaster and emergency assistance, and health. In the context of ANR, Strategy 2020 stated that support to the sector and rural development will focus mainly on infrastructure to include rural transport, irrigation and water systems, and microfinance. These efforts will be complemented by measures on natural resources management and regional cooperation activities relating to agricultural trade and investments in the Greater Mekong Subregion through partnerships with other development agencies and nongovernment organizations. The environment and climate change focus is expected to increase ANR assistance that would mitigate deforestation and promote sustainable management of natural resources. These investments, coupled with other forms of ANR initiatives, are envisioned to mitigate the challenges of declining agricultural productivity, climate change-associated risks, and food security.

2. Agriculture and Natural Resources Loan Portfolio

9. From 1968 to 2008, ADB approved 528 projects in the ANR sector totaling \$18.6 billion, or around 13% of total approved loans (Tables A1.1 and A1.2). They were funded through ordinary capital resources (46.5%) and the concessionary Asian Development Fund (53.5%) (Table A1.3). Among the 33 DMCs that received ANR loans, Bangladesh, People's Republic of China, Indonesia, Pakistan, and the Philippines were the top five recipients with a combined share of 67.9% as of the end of 2008. The single largest subsector for ADB assistance has been irrigation, drainage, and flood control,¹⁰ followed by the agricultural production and markets, cornering 26.5% or \$4.9 billion of total sector lending.

9. The proportion of ADB assistance for the ANR sector increased in the 1970s and early 1980s, but has fallen ever since. From 1968 to 1986, the share of ADB lending to the ANR sector rose from about 5% of total loans to a high of 35%. This reflected heavy ADB support for public investment in irrigation, rural infrastructure, and green revolution-related institutions. During the late 1990s and 2000s, ANR lending is on the decline, falling to as low as 3% of ADB total loans in 2007. This was mainly attributed to a decline in the number of projects; average project size; and a sharp reduction in large, new irrigation projects. On average, the proportion of ADB lending allocated to ANR was about 8% of ADB's total portfolio 2000–2008, which is relatively lower than the average of 12% in the 1990s, 28% in the 1980s, and 23% in the 1970s.

the sector, as reflected in the Independent Evaluation Department reports. Since ADB's capacity in group II sectors will be more selective and limited than for group I sectors, partnerships will play a particularly important role for leveraging the impact of ADB operations in these sectors.

⁹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

¹⁰ The new subsectors were based on the 2009 reclassification of ADB assistance.

Table A1.1: ADB Loans to the Agriculture and Natural Resources Sector, 1968–2008

Year	Loan Amount ANR Sector (\$million)	Total Lending ADB (\$million)	Share of ANR to total ADB Lending (%)	No. of Projects ANR	No. of Projects ADB
Total	18,566.87	138,291.64		528.00	2,078
Percent			13.43		
Average					
Average (by decade)					
1968–1979	128.86	554.80	23.23	10	35
1980–1989	597.42	2,171.19	27.52	18	50
1990–1999	640.22	5,287.36	12.11	13	60
2000–2008	516.01	6,338.73	8.14	11	62

ADB = Asian Development Bank, ANR = agriculture and natural resources.
Sources: ADB databases.

**Table A1.2: Sector Distribution of ADB Loans
(as of July 2009)**

Sectors	Amount	%
Agriculture and Natural Resources	18,661.87	13.13
Education	6,016.33	4.23
Energy	26,639.74	18.74
Finance	17,706.61	12.46
Health and Social Protection	3,625.92	2.55
Industry and Trade	4,205.47	2.96
Public Sector Management	9,279.44	6.53
Transport and ICT	34,985.00	24.62
Water and Other Municipal Infrastructure and Services	12,717.70	8.95
Multisector	8,286.46	5.83
Total	142,124.54	100.00

ADB = Asian Development Bank, ICT = information and communication technology.

Source: ADB databases.

**Table A1.3: Subsector Distribution of Agriculture and Natural Resources Sector Loans by
Type of Funding
(as of December 2008)**

Subsector	OCR	% Share	ADF	% Share	Total	% Share
Agricultural Production and Markets	2,409.12	27.88	2,510.35	25.29	4,919.47	26.50
Agriculture and Rural Sector Development	932.342	10.79	1,288.82	12.98	2,221.16	11.96
Fishery	622.567	7.21	540.946	5.45	1,163.51	6.27
Forestry	361.3	4.18	630.24	6.35	991.54	5.34
Irrigation, Drainage, and Flood Control	2,457.09	28.44	3,249.85	32.74	5,706.94	30.74
Land-Based Natural Resources Management	991.69	11.48	583.37	5.88	1,575.06	8.48
Livestock	118.2	1.37	264.58	2.67	382.78	2.06
Water-Based Natural Resources Management	747.421	8.65	858.98	8.65	1,606.40	8.65
Total	8,639.73	100.00	9,927.14	100.00	18,566.87	100.00
% Share to Total	46.53		53.47			

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = ordinary capital resources.
Source of Basic Data: ADB databases.

10. The ANR sector is one of the major recipients of ADB technical assistance (TA) resources. From 1967 and 2008, the ANR sector received 1,280 TA grants (655 advisory and

operational and 624 project preparatory TAs)¹¹ amounting to \$598 million,¹² accounting for 22% of all TA grants that were provided as of end 2008 (Table A1.4). The water-based natural resources management subsector was the largest recipient of ANR TA. Thirty-six DMCs received TA for the ANR sector. Bangladesh, People's Republic of China, Indonesia, Nepal and the Philippines were the top five recipients, accounting for 47.8% of total ANR TA.

Table A1.4: Technical Assistance by Type
(1967–2008)

Year Approved	Advisory Technical Assistance		Project Preparatory Technical Assistance		Grand Total	
	No.	Amount (\$'000)	No.	Amount (\$'000)	No.	Amount (\$'000)
Total	655	346,238.2	624	251,498.4	1,280	597,984.6
Average						
1967–1979	4	848.8	10	1,748.4	12	2,328.2
1980–1989	17	8,125.3	19	4,878.9	36	13,029.0
1990–1999	28	15,367.5	20	9,422.9	48	24,790.4
2000–2008	18	11,141.8	14	9,916.4	32	21,058.3

Note: Includes one 1983 technical assistance activity amounting to \$248, which has both advisory and project preparatory components.

Source: ADB databases.

11. In the last decade (1999–2008), the sector received \$191 million or 14% of TA approved by ADB. During this period, the ANR sector also received additional \$418 million or 10% of total grant-financed projects.¹³

3. Review of Previous Sector Synthesis and Related Studies

12. A cursory review of IED studies reveals that the performance of the ANR sector has been directly or indirectly assessed through a number of its products, including special evaluation studies, annual evaluation reviews, sector synthesis, and other publications that feature ANR projects as case studies. Generally, ADB's experience shows that ANR assistance has positive effects on rural poverty reduction, sustainable use of natural resources, rural productivity, employment, incomes, and living standards. Project benefits often spill over to those who do not directly participate in the project. For example, rising productivity in food production has generally caused food prices to fall, conveying benefits mainly to the poor, urban workers, and consumers.

13. **Special evaluation studies.** The objectives of a special evaluation study on the agriculture and social sectors¹⁴ were to clarify the major causes of project success and to draw

¹¹ There was one TA classified as both advisory and project preparatory and accounted for less than 0.5% of total ANR TA. The distribution covered TA approved until 2008, as the 2009 classification has now expanded the TA types.

¹² As of July 2009, total accumulated ANR TA reached \$615 million. Beginning in 2009, the TA classification has expanded from advisory and project preparatory TA. To simplify the analysis, and given the scope of the study time frame, the discussions focused mainly on TA approved until the end of 2008.

¹³ The amount was based on the sector classification prior to 2009. As of December 2008, under the new classification system, the ANR sector has already received \$634 million or 15.5% of total grant-financed projects.

some suggestions on project performance. It found that project performance is affected by favorable macroeconomic environments, borrower performance, government capacity and commitment, and adequate appraisal at the project design stage.

14. Another special evaluation study was undertaken to determine if the appropriate framework was applied in designing and implementing projects in the irrigation and forestry subsectors.¹⁵ Study lessons and findings included that (i) government and stakeholder support are essential to achieve effective participatory processes in irrigation and forestry projects, (ii) participatory projects require rigorous stakeholder analysis and more careful preparation than top-down projects, (iii) relevant policies for participatory resources management should be present for effective participation, (iv) loan-financed projects may not offer the best funding modality for innovative participatory projects given the risk of disbursement delays emanating from the absence of enabling policy, (v) establishment of water user associations should ensure adequate representation among stakeholders and that the processes are well understood, and (vi) government support is required to expand pilot activities. However, another special evaluation study mentioned that participatory approaches to be successful should have a definite purpose.¹⁶ The study reiterated that it was not the application of a standard package of participatory approaches that made project interventions more relevant or sustainable, but the design of intervention, which should be based on a thorough understanding of local realities in the project areas.

15. **Annual evaluation reviews.** The 2005 annual evaluation review focused on development results and took a retrospective analysis of the performance of public sector projects.¹⁷ The ANR sector findings revealed that there is a low probability of success in ANR projects as evidenced by the 47% success rate of evaluated ANR projects in the 1980s and 1990s. The review also noted that (i) inadequate project design or quality-at-entry was a problem, given the complex nature of preparing and implementing ANR projects; (ii) projects are people-centered, and, given varying local conditions, there is no "blue-print" approach and solution across DMCS and across ANR projects; (iii) the institutional structure is complex, and institutions are often quite weak, particularly at the local level, and suffer from human resources weaknesses and budget constraints; (iv) large coverage areas and complex components affect project success; and (v) macroeconomic conditions (e.g., changes in commodity prices) adversely affect project outcomes. The review recognized the daunting challenges in the sector and the need to learn from experiences not only from ADB but from other organizations as well. It identified possible solutions in improving ANR project performance, including a process approach with the flexibility to adapt the project design to incorporate lessons during implementation; building stronger partnerships, and identifying and replicating examples of best practice; simplifying project design and focusing on smaller projects; and greater involvement of resident missions.

16. Meanwhile, the 2006 annual evaluation review focused on the key factors affecting project success across various sectors.¹⁸ The irrigation and drainage subsector was chosen to

¹⁴ ADB. 1998. *Special Evaluation Study: Factors Affecting Project Performance in the Agriculture and Social Sectors*. Manila.

¹⁵ ADB. 2003. *Special Evaluation Study: Participatory Approaches in Forest and Water Resources Operations in Selected Developing Member Countries*. Manila.

¹⁶ ADB. 2004. *Special Evaluation Study: Effectiveness of Participatory Approaches in Rural Development Projects*. Manila. The study found that, as practiced in ADB-financed projects, participatory or bottom-up approaches do not necessarily offer an effective solution to problems encountered in earlier projects.

¹⁷ ADB. 2005. *Annual Evaluation Review 2005*. Manila.

¹⁸ ADB. 2006. *Annual Evaluation Review 2006*. Manila.

represent the ANR sector. The subsector findings identified the following as key determinants of project success: (i) an enabling environment covering the legal, policy, and institutional framework; (ii) effective and long-term partnerships; (iii) project ownership; (iv) good quality-at-entry; (v) stakeholder participation at all project stages; (vi) adequate water supply reaching end-users; (vii) flexibility of project design; (viii) effective quality control systems for civil works and internal and external audits; (ix) building the systems for effective operation and maintenance; and (x) effective project administration in the form of regular review missions and proactive participation in problem solving.¹⁹

17. **Sector synthesis.** Implementation experience has differed from subsector to subsector. ADB support for investments in industrial crops and agro-industry, for example, has generally helped improve land use; generated productive employment; modernized and rationalized agro-processing industries; and ultimately contributed to higher productivity, output, and exports. Most projects improved living standards for farmers by raising incomes and providing better access to education, health, sanitation, and housing.²⁰

18. ADB investments in the fisheries sector have had a mixed record. A fairly high proportion of the marine fisheries projects have not succeeded, largely due to difficulties experienced by governments in efficiently operating harbors, ports, and cold-storage facilities. Aquaculture projects have performed better, with more than half of those evaluated deemed a success. For projects and programs in fisheries to succeed, proper stock maintenance is required, as is careful attention to the possible environmental and social consequences of development initiatives in fragile coastal zones.²¹

19. ADB project support in the forestry sector demonstrates the importance of community participation in forest resources management and wood resources development on nonforestlands and farms, and of the relevance and importance of agro-forestry technologies. Where local communities are involved in forest development, cost and benefit sharing arrangements need to be settled early in the project phase. Careful project preparation involving key stakeholders, including women and nongovernment organizations, and upstream agreements on implementation details, especially policy and institutional reforms, are essential for timely and effective project implementation.²²

20. In the integrated rural development sector, provision of physical irrigation infrastructure did not always result in projects attaining their original targets. Project performance has been affected by weaknesses in project formulation and technical design. These shortcomings resulted in changes to project scope, which often led to delays and cost underruns or overruns and reductions in expected project benefits. In the 1980s, the efficiency of irrigation systems became an issue of increasing concern. The pervasive problem of inadequate operation and maintenance funds and rapid deterioration of the conditions of public irrigation schemes and

¹⁹ ADB. 2008. *Best Practices in Irrigation and Drainage*. Manila. Based on the 120 projects rated at the end of 2005, this group had a success rate of 56%. The irrigation and drainage subgroup had a success rate of 55%. The assessment of factors contributing to the success of irrigation and drainage projects was based on the analysis of 21 projects approved between 1969 and 1988 and rated *successful* or *generally successful* in their respective project performance evaluation reports and/or project completion reports. The review also drew on recent literature, IED's Post Evaluation and Information System, and selected ADB studies, particularly those undertaken by IED to substantiate review findings.

²⁰ ADB. 1996. *Sector Synthesis of Post-Evaluation Findings in the Industrial Crops and Agro-industry Sector*. Manila. Available at: <http://www.adb.org/Documents/PERs/SS-Industrial.pdf>

²¹ ADB. 1998. *Sector Synthesis of Evaluation Findings in the Fisheries Sector*. Manila. This document is available at <http://www.adb.org/Documents/PERs/SS-Fisheries.pdf>

²² ADB. 1994. *Sector Synthesis of Evaluation Findings in the Forestry Sector*. Manila.

flood protection facilities were common features of irrigation systems in many DMCs. These posed serious risks to the sustainability of projects. Lack of sustainability has its roots in inadequate public finance for maintaining publicly owned infrastructure. Other critical issues affecting the irrigation sector include lack of complete project awareness and ownership by farmers, inadequate water management structures, weaknesses in government agencies, weak policy environment, inappropriate policies, tremendous intersector competition for water, inadequate water quality-control mechanisms, low operation and maintenance cost recovery, and low returns to farmers growing food crops under irrigation.²³

21. Finally, ADB assistance to integrated rural development projects has had a mixed record. DMCs with robust rural institutions have been able to accommodate the more complex planning and coordination requirements posed by multisector investment operations, whereas others have been subject to frequent changes in project scope and design. Recent approaches to integrated rural development projects combine support for sustainable livelihoods with support for a limited range of investments selected and partly implemented by local communities.

²³ ADB. 1995. *Sector Synthesis of Evaluation Findings in the Irrigation and Rural Development Sector*. Manila. Available at: <http://www.adb.org/Documents/PERs/SS-Irrig.pdf>

BACKGROUND INFORMATION ON SELECTED PROJECTS AND PROGRAMS

Loan No.	Country	Project Title	PPAR No.	Project Costs			Loan Amount			PPTA		ADTA		Project Completion (estimated)	Project Completion (actual)	Project Delay (years)	Project Delegated (Yes/No)
				Appraisal (\$ million)	Actual (\$ million)	Actual/ Appraisal	Approved (\$ million)	Actual (\$ million)	Actual/ Expected	No.	Amount (\$ '000)	No.	Amount (\$ '000)				
A. Agricultural Production and Markets																	
0997/98	PNG	Agriculture Sector Program	PE-569	80.0	80.0	100.0	80.0	80.0	100.0			4	1120	31-Dec-91	30-Jun-92	0.50	No
1062	PAK	Agriculture Program Loan	PE-551	400.0	416.4	104.1	198.4	198.4	100.0			1	300	30-Jun-93	30-Jun-94	1.00	No
1127	SRI	Second Agriculture Program	PE-575	60.0	30.1	50.2	60.0	30.1	50.2			1	100	30-Jun-94	31-Dec-96	2.51	No
1175	PRC	Guangdong Tropical Crops Development Project	PE-592	109.7	139.7	127.3	55.0	55.0	100.0	1	420	1	800	30-Nov-97	31-May-98	0.50	No
1340	VIE	Agriculture Sector Program	PE-602	78.9	78.9	100.0	78.9	78.9	100.0			3	1578	30-Jun-97	30-Jun-98	1.00	No
1504	UZB	Rural Enterprise Development	PE-694	87.0	no data		50.0	45.6	91.2	1	100	1	830	13-Jun-02	13-Jun-02		No
B. Agriculture and Rural Sector Development																	
1012	PAK	Second Barani Area Development Project	PE-599	59.8	51.3	85.8	25.0	22.8	91.2			2	1991	31-Dec-97	31-Dec-98	1.00	No
1033/34	PHI	Second Palawan Integrated Area Development Project	PE-611	73.5	83.5	113.6	58.0	58.4	100.6	1	355	1	295	31-Dec-96	31-Dec-98	2.00	No
1406	KAZ	Agriculture Sector Program	PE-579	100.0	100.0	100.0	100.0	100.0	100.0			3	2114	31-Dec-97	31-Dec-97		No
1407	KGZ	Agriculture Sector Program	PE-604	40.0	37.9	94.8	40.0	37.9	94.8	1	600	2	2185	31-Dec-97	31-Dec-97		No
1409	MON	Agriculture Sector Program	PE-606	35.0	33.0	94.3	35.0	33.0	94.3	2	475	3	1624	31-Dec-98	31-Dec-98		No
1412	TON	Outer Islands Agriculture Development	PE-687	5.7	4.6	80.8	3.6	3.3	90.1	1	430	3	1525	31-Dec-00	31-Dec-00		Yes
1445	CAM	Agriculture Sector Program	PE-623	30.0	28.4	94.7	30.0	28.4	94.7			2	2015	30-Sep-99	05-Sep-00	0.93	No
1604	NEP	Second Agriculture Program	PE-655	50.0	48.9	97.8	50.0	48.9	97.8	1	94	4	3030	31-Dec-00	31-Dec-00		No
C. Fishery																	
0821	BAN	Second Aquaculture Development Project	PE-613	60.0	38.3	63.8	45.5	30.7	67.5	1	330			30-Jun-92	31-Dec-96	4.51	No
D. Forestry																	
0889/90	PHI	Forestry Sector Program	PE-587	240.0	238.3	99.3	120.0	118.3	98.5	2	456	3	2344	31-Dec-92	31-Dec-93	1.00	No
0956	BAN	Upazila Afforestation and Nursery Development Project	PE-571	50.4	46.8	92.9	43.5	40.9	94.0	1	150	1	2529	30-Jun-94	31-Dec-95	1.50	No
1040	NEP	Forestry Sector Program	PE-557	40.0	21.0	52.4	40.0	21.0	52.4			2	698	31-Dec-95	15-Jul-96	0.54	No
1183	SRI	Participatory Forestry Project		25.0	24.1	96.3	10.5	7.9	75.2	1	350	1	822	31-Dec-98	30-Jun-00	1.50	No
E. Land-Based Natural Resource Management																	
0915	PHI	Sorsogon Integrated Area Development Project	PE-558	30.1	29.9	99.3	24.1	22.9	95.0	2	425	1	100	28-Feb-95	31-Dec-97	2.84	No
1099	INO	Second Land Resource Evaluation and Planning Project	PE-597	95.0	83.8	88.2	57.0	52.4	91.9	1	323			31-Dec-96	31-Mar-98	1.25	No
F. Livestock																	
0973	PAK	Livestock Development Project	PE-642	55.0	30.6	55.6	43.0	23.9	55.6	1	75	1	188	30-Jun-96	30-Jun-98	2.00	No
G. Water-Based Natural Resource Management																	
1166	SRI	North Western Province Water Resources Management	PE-658	40.0	22.4	56.0	30.0	17.3	57.7	1	400	1	400	31-Dec-98	30-Sep-00	1.75	No
1339	INO	Capacity Building Project in the Water Resources Sector	PE-709	46.2	23.0	49.7	27.7	18.3	66.2	1	600			30-Jun-00	29-Nov-02	2.42	No
1381	SRI	Small-scale Water Resources Development Sector	PE-689	66.0	51.2	77.6	32.0	27.3	85.3	1	500	2	7000	30-Jun-02	31-Dec-02	0.50	Yes
Average				78.3	72.6	86.4	53.5	48.1	85.8	357.8	1526.7					1.5	

ADB = Asian Development Bank, ADTA = advisory technical assistance, BAN = Bangladesh, CAM = Cambodia, INO = Indonesia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, M = million, MON = Mongolia, NEP = Nepal, PAK = Pakistan, PHI = Philippines, PNG = Papua New Guinea, PPAR = project (or program) performance audit report, PPTA = project preparatory technical assistance, PRC = People's Republic of China, SRI = Sri Lanka, TA = technical assistance, TON = Tonga, UZB = Uzbekistan, VIE = Viet Nam.

Note: ^a This loan has two PPTAs, since the other is a supplementary PPTA.

Source: ADB database on listing of Loan, TA, Grant, and Equity Approvals.

PERFORMANCE OF AGRICULTURE AND NATURAL RESOURCES SECTOR PROJECTS
(1968–2009)

Table A3.1: Performance of Evaluated Projects and Programs in the Agriculture and Natural Resources Sector, 1968–June 2009

Item	Number of Rated Projects and Programs				Proportion (%)		
	Highly Successful, Generally Successful, Successful	Partly Successful	Un- successful	Total	Highly Successful, Generally, Successful, Successful	Partly Successful	Un- successful
Program and Project Loans by Decade							
1960s	4	2	0	6	66.7	33.3	0.0
1970s	26	33	16	75	34.7	44.0	21.3
1980s	59	57	20	136	43.4	41.9	14.7
1990s	56	43	11	110	50.9	39.1	10.0
2000s ^c	2	1	2	5	40.0	20.0	40.0
Total	147	136	49	332	44.3	41.0	14.8
Subsector Classifications^b							
Agricultural Production and Markets	33	43	14	90	36.7	47.8	15.6
Agriculture and Rural Sector Development	15	12	1	28	53.6	42.9	3.6
Fishery	13	17	12	42	31.0	40.5	28.6
Forestry	11	12	3	26	42.3	46.2	11.5
Irrigation, Drainage, and Flood Control	49	29	5	83	59.0	34.9	6.0
Land-based Rural Development	13	15	2	30	43.3	50.0	6.7
Livestock	4	4	8	16	25.0	25.0	50.0
Water-based Rural Development	9	4	4	17	52.9	23.5	23.5
Total	147	136	49	332	44.3	41.0	14.8
Regional Department							
CWRD	28	13	3	44	63.6	29.5	6.8
EARD	3	2	2	7	42.9	28.6	28.6
PARD	4	10	9	23	17.4	43.5	39.1
SARD	44	47	11	102	43.1	46.1	10.8
SERD	66	60	23	149	44.3	40.3	15.4
Graduate Economies	2	4	1	7	28.6	57.1	14.3
Total	147	136	49	332	44.3	41.0	14.8

CWRD = Central and West Asia Department, EARD = East Asia Department, PARD = Pacific Department, SARD = South Asia Department, SERD = Southeast Asia Department.

Notes: ^a Based on aggregate results of project or program completion reports, validation reports, and project or program evaluation reports using validation report or project or program evaluation report ratings in all cases where available.

^b Agriculture projects or programs based on 2009 sector classification.

^c The number of rated projects in 2000s is too few to make performance comparison with other years.

Source of Basic Data: Independent Evaluation Department Database, 2009.

Table A3.2: Performance of Evaluated Projects and Programs Approved since 1968 in Agriculture Sector, by Developing Member Country

Country	Number of Rated Projects and Programs				Proportion (%)			
	Highly Successful, Generally Successful	Partly Successful	Un-successful	Total	Highly Successful, Generally Successful	Partly Successful	Un-successful	Total
Group A^c								
Bhutan	1	0	0	1	100.0	0.0	0.0	100.0
Cambodia	1	0	0	1	100.0	0.0	0.0	100.0
Kyrgyz Republic	1	0	0	1	100.0	0.0	0.0	100.0
Lao PDR	1	3	2	6	16.7	50.0	33.3	100.0
Mongolia	0	1	0	1	0.0	100.0	0.0	100.0
Myanmar	3	1	1	5	60.0	20.0	20.0	100.0
Nepal	17	13	3	33	51.5	39.4	9.1	100.0
Samoa	1	1	2	4	25.0	25.0	50.0	100.0
Solomon Islands	0	0	2	2	0.0	0.0	100.0	100.0
Tajikistan	1	0	0	1	100.0	0.0	0.0	100.0
Tonga	0	1	1	2	0.0	50.0	50.0	100.0
Vanuatu	0	1	0	1	0.0	100.0	0.0	100.0
Subtotal	26	21	11	58	44.8	36.2	19.0	100.0
Group B								
Bangladesh	17	16	4	37	45.9	43.2	10.8	100.0
Federated States of Micronesia	0	1	0	1	0.0	100.0	0.0	100.0
Pakistan	24	12	3	39	61.5	30.8	7.7	100.0
Papua New Guinea	3	4	1	8	37.5	50.0	12.5	100.0
Republic of the Marshall Islands	0	0	1	1	0.0	0.0	100.0	100.0
Sri Lanka	9	18	4	31	29.0	58.1	12.9	100.0
Uzbekistan	0	1	0	1	0.0	100.0	0.0	100.0
Viet Nam	4	4	0	8	50.0	50.0	0.0	100.0
Subtotal	57	56	13	126	45.2	44.4	10.3	100.0
Group C								
Cook Islands	0	0	1	1	0.0	0.0	100.0	100.0
Fiji Islands	0	2	1	3	0.0	66.7	33.3	100.0
Indonesia	29	29	10	68	42.6	42.6	14.7	100.0
Kazakhstan	2	0	0	2	100.0	0.0	0.0	100.0
Malaysia	11	10	1	22	50.0	45.5	4.5	100.0
Philippines	13	10	9	32	40.6	31.3	28.1	100.0
PRC	3	1	2	6	50.0	16.7	33.3	100.0
Thailand	4	3	0	7	57.1	42.9	0.0	100.0
Subtotal	62	55	24	141	44.0	39.0	17.0	100.0
Graduated DMC								
Republic of Korea	2	4	1	7	28.6	57.1	14.3	100.0
Subtotal	2	4	1	7	28.6	57.1	14.3	100.0
Total (Overall)	147	136	49	332	44.3	41.0	14.8	100.0

DMC = developing member country, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Notes: ^aBased on aggregate results of project (or program) completion reports, validation reports, and project (or program) evaluation reports using validation report or project (or program) evaluation report ratings in all cases where available.

^bAgriculture projects or programs based on 2009 sector classification.

^cDMC grouping based on Asian Development Bank. 2008. *Classification and Graduation of Developing Member Countries*. Operations Manual. OM A1/BP. Manila.

Source: Independent Evaluation Department Database, 2009.

RATINGS OF SELECTED PROJECTS AND PROGRAMS

Table A4: Summary of Ratings for Post-Evaluated Loans and Technical Assistance by Subsector, 2000–2008

Loan Nos.	Country	Title	Type of Funding	Date	Project Completion Report Overall Rating	Project (or Program) Performance Evaluation Report					
						Overall	Relevance	Effectiveness	Efficiency	Sustainability	Impact
A. Agricultural Production and Markets											
997(SF) and 998	PNG	Agriculture Sector Program	ADF, OCR	Jul 2001 ^a	Partly Successful	Partly Successful	(Partly Relevant) ^b	(Less Effective)	(Inefficient)	Unsustainable	(Negligible)
1062(SF)	PAK	Agriculture Program	ADF	Oct 2000 ^a	Partly Successful	Successful	Relevant	Less Effective	No Rating	Likely	(Negligible)
1127(SF)	SRI	Second Agriculture Program	ADF	Aug 2001 ^a	Partly Successful	Partly Successful	(Partly Relevant)	Less Effective	No Rating	(Less Likely)	No Rating
1175	PRC	Guangdong Tropical Crops Development Project	OCR	May 2002	Generally Successful	Successful	Relevant	Effective	Efficient	Likely	Significant
1340(SF)	VIE	Agriculture Sector Program	ADF	Sep 2002 ^a	Highly Successful	Successful	Relevant	Effective	Efficient	Most Likely	(Significant)
1504	UZB	Rural Enterprise Development	OCR	Dec 2006	Successful	Partly Successful	Irrelevant	Less Effective	Less Efficient	Less Likely	(Negligible)
B. Agriculture and Rural Sector Development											
1012(SF)	PAK	Second Barani Area Development Project	ADF	Aug 2002	Partly Successful	Partly Successful	Partly Relevant	Less Effective	Less Efficient	Likely	Moderate
1033(SF) and 1034	PHI	Second Palawan Integrated Area Development Project	ADF, OCR	Dec 2002	Partly Successful	Partly Successful	Highly Relevant	Less Effective	Less Efficient	Less Likely	Moderate
1406	KAZ	Agriculture Sector Program in Kazakhstan	OCR	Nov 2001 ^a	Generally Successful	Successful	Highly Relevant	Effective	Efficient	Likely	(Negligible)
1407(SF)	KGZ	Agriculture Sector Program	ADF	Oct 2002 ^a	Partly Successful	Successful	Highly Relevant	Effective	Less Efficient	Likely	Moderate
1409(SF)	MON	Agriculture Sector Program	ADF	Nov 2002 ^a	Partly Successful	Partly Successful	Relevant	Less Effective	Efficient	Less Likely	Significant
1412	TON	Outer Islands Agriculture Development in Tonga	OCR	Jul 2006	Successful	Unsuccessful	Partly Relevant	Less Effective	Inefficient	Less Likely	No rating
1445(SF)	CAM	Agriculture Sector Program	ADF	Jul 2003 ^a	Successful	Successful	Relevant	Ineffective	Efficient	Likely	Significant
1604(SF)	NEP	Second Agriculture Program in Nepal	ADF	Dec 2004 ^a	Successful	Successful	Relevant	Effective	Efficient	Likely	Moderate
C. Fishery											
821(SF)	BAN	Second Aquaculture Development Project	ADF	Dec 2002	Generally Successful	Successful	Relevant	Effective	Efficient	Less Likely	Significant

Loan Nos.	Country	Title	Type of Funding	Date	Project Completion Report Overall Rating	Project (or Program) Performance Evaluation Report						
						Overall	Relevance	Effectiveness	Efficiency	Sustainability	Impact	
D. Forestry												
889(SF) and 890	PHI	Forestry Sector Program	ADF, OCR	Dec 2001 ^a	No Rating	Partly Successful	Relevant	Effective	No Rating	Unsustainable	Significant	
956(SF)	BAN	Upazila Afforestation and Nursery Development Project	ADF	Sep 2001	Partly Successful	Partly Successful	Relevant	Less Effective	Less Efficient	Less Likely	Negligible	
1040(SF)	NEP	Forestry Sector Program	ADF	Feb 2001 ^a	Partly Successful	Partly Successful	(Relevant)	Less Effective	No Rating	(Less Likely)	(Moderate)	
1183	SRI	Participatory Forestry Project	ADF	Apr 2003	Successful	Successful	Relevant	Effective	Efficient	Likely	Significant	
E. Livestock												
973(SF)	PAK	Livestock Development Project in Pakistan	ADF	May 2004	Unsuccessful	Unsuccessful	Relevant	Ineffective	Inefficient	Less Likely	Negligible	
F. Land-Based Natural Resources Management												
915(SF)	PHI	Sorsogon Integrated Area Development Project	ADF	Dec 2000	Generally Successful	Successful	Relevant	Effective	Less Efficient	Likely	Moderate	
1099	INO	Second Land Resource Evaluation and Planning Project	OCR	Aug 2006	Partly Successful	Partly Successful	Relevant	Less Effective	Less Efficient	Less Likely	Significant	
G. Water-Based Natural Resources Management												
1166(SF)	SRI	North Western Province Water Resources Development Project in Sri Lanka	ADF	Dec 2004	Successful	Partly Successful	Relevant	Less Effective	Less Efficient	Less Likely	Moderate	
1339	INO	Capacity Building Project in the Water Resources Sector in Indonesia	OCR	Aug 2006	Successful	Partly Successful	Relevant	Less Effective	Less Efficient	Less Likely	Potentially Significant	
1381(SF)	BAN	Small-scale Water Resources Development Sector Project	ADF	Dec 2007	Successful	Successful	Highly Relevant	Effective	Efficient	Likely	(Significant)	

ADB = Asian Development Bank, ADF = Asian Development Fund, BAN = Bangladesh, CAM = Cambodia, INO = Indonesia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, NEP = Nepal, OCR = ordinary capital resources, PAK = Pakistan, PHI = Philippines, PNG = Papua New Guinea, SRI = Sri Lanka, TON = Tonga, UZB = Uzbekistan, VIE = Viet Nam.

^a Program loans.

^b The ratings in parenthesis are the Independent Evaluation Department (study team) analysis based on the review of the project or program performance evaluation report.

Source: ADB project (or program) completion report, project (or program) performance audit reports, and project (or program) performance evaluation reports.

PERFORMANCE RATING OF THE ASIAN DEVELOPMENT BANK AND EXECUTING OR IMPLEMENTING AGENCIES

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
A. Agricultural Production and Markets			
997(SF)- and 0998-PNG: Agriculture Sector Program			<ul style="list-style-type: none"> (i) The supervision of the loans was considered ineffective due mainly to the wide scope of the activities. (ii) A follow-up mission was not undertaken after the release of the second loan tranche.
1062-PAK(SF): Agriculture Program	Satisfactory	(Less than satisfactory)	<ul style="list-style-type: none"> (i) ADB provided significant input during program formulation and preparation. (ii) Missions were undertaken during implementation dealt largely with loan administration matters, monitoring to meet the conditionalities for the second tranche release, and issues on compliance with the covenants. (iii) A technical mission dispatched toward the end of the program period, however, did not ensure effective implementation. (iv) Politically sensitive policy reforms were poorly implemented. (v) Numerous changes in government led to inconsistencies in adoption of policy reforms and weak commitment in reform implementation. (vi) Performance related to promoting agriculture exports, price subsidy removal, and private sector participation was less than satisfactory.
1127-SRI(SF): Second Agriculture Program	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB closely supervised implementation and supported in timely provision of small-scale TA. (ii) The EA exerted leadership reforms and sought to secure continued political support for highly contentious reforms.
1175-PRC: Guangdong Tropical Crops Development Project	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB was prompt and responsive in dealings with the EA and undertaking design change. (ii) The effect of trade liberalization on project crops and comparative advantage should have been anticipated at appraisal. (iii) An issue on presswood could have been addressed earlier. (iv) Major loan covenants were complied with. (v) The project was implemented without major delays, and the financial audit statement was submitted promptly.
1340-VIE(SF): Agriculture Sector Program	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) There was good continuity, and adequate ADB staff support was provided. (ii) Flexibility in provision of additional TA and modifying two policy conditions contributed to program success. (iii) The government managed the policy process well. (iv) Effective resolutions to problems encountered during operations were promptly determined. (v) Adequate support to TA consultants was provided.

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
1504-UZB: Rural Enterprise Development Project	Less than satisfactory	Less than satisfactory	<ul style="list-style-type: none"> (i) Project processing was fast-tracked and deemed inappropriate given that this was a first loan to Uzbekistan and the challenges faced by the financial sector. (ii) ADB project supervision was generally adequate, except the monitoring of subproject performance and handling of nonperforming loans. (iii) The benefit M&E suspension, in relation to the SME Development Project, was not addressed. (iv) The National Bank of Uzbekistan's rating was viewed in terms of (a) limited capacity to identify, appraise, and monitor SME projects; (b) less-than-satisfactory recovery of subloans; (c) suspension of the benefit M&E system; and (d) governance issues of the previous management.
B. Agriculture and Rural Sector Development			
1012-PAK(SF): Second Barani Area Development Project	Less than satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB designed the project based on the government's initiatives and long-term strategy for rain-fed area development. (ii) ADB mobilized cofinancing from other donors and was flexible on the need to adjust the targets. (iii) ADB should have given more attention to developing measures to ensure appropriate distribution of benefits (e.g., large landholders crowded out small farmers). (iv) Implementation supervision could have been more effective with less frequent turnover of supervisory staff. (v) The Agency for Barani Area Development and other line agencies implemented the project largely as designed. (vi) The agencies gave more attention to achievement of physical targets (which became the basis for assessing agency performance) compared to distribution of project benefits.
1033(SF)- and 1034-PHI: Second Palawan Integrated Area Development Project	Unsatisfactory	Less than satisfactory	<ul style="list-style-type: none"> (i) ADB's performance and flexibility to adjust the design was hampered by the (a) non-use of a participatory approach (not commonly used at time of project preparation), (b) limited beneficiary consultation, (c) absence of a rigorous evaluation of the predecessor project, (d) untimely feedback from review missions on important issues, and (e) absence of a midterm review. (ii) Supervision of the project improved in its last year but was too late to alter outcomes. (iii) The EA's proactive participation in project design could have avoided the repetition of implementation problems encountered in the predecessor project. (iv) Significant implementation delays in the early years were due to approval procedures, budgetary constraints, and slow release of funds in initial years. (v) The EA gave more attention to the achievement of physical targets rather than to project benefits.

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
1406-KAZ: Agriculture Sector Program	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB closely coordinated with the government during program preparation. (ii) Review missions worked closely with counterparts on the program reporting system and promptly addressed implementation issues. (iii) ADB missions and TA consultants, however, overlooked important issues affecting targeted reform measures. (iv) The EA secured close cooperation with implementing agencies and did not experience opposition to the reforms. (v) The government consistently supported the requisites of the program objective of attaining a market-oriented agriculture sector.
1407-KGZ(SF): Agriculture Sector Program	Less than satisfactory	Less than satisfactory	<ul style="list-style-type: none"> (i) ADB relied heavily on consultants for program supervision due to ADB staff resource constraints. (ii) ADB staff members were tasked with fact-finding, appraisal, and review of other projects. (iii) The EA considered the program as general budgetary support instead of solely for the agriculture development.
1409-MON(SF): Agriculture Sector Program	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB actively encouraged government participation. (ii) The project preparatory TA strengthened capacity of government staff to implement the program. (iii) The review mission worked closely with government. (iv) The government actively participated in project design and showed strong ownership of most reforms.
1412-TON: Outer Islands Agriculture Development Project	Less than satisfactory	Less than satisfactory	<ul style="list-style-type: none"> (i) Project funds were released on time. (ii) ADB was flexible on the need for TA revisions, reallocation of loan proceeds, and in procurement of telecommunication facilities. (iii) ADB underperformed in monitoring and supervision; implementation problems were not resolved (e.g., road construction and shipping) or response was delayed (e.g., privatization and funding). (iv) Some forecasts on agriculture were considered unrealistic and project design was poorly formulated. (v) Except for telecommunications, other components had significant delays in startup due to difficulty in raising counterpart funds. (vi) A financial plan to sustain the operation and use of facilities and equipment was not produced. (vii) The government failed to meet its commitment on staffing and to resolve two agencies' conflict on duplication of functions; and benefit M&E surveys and assessments were not carried out.
1445-CAM(SF): Agriculture Sector Program	Satisfactory	Satisfactory	<ul style="list-style-type: none"> (i) ADB preparatory missions had active participation by the government. (ii) ADB closely supervised implementation, and ADB contributions were well recognized in the success of the land reform. (iii) The government actively participated in design and implementation, and formation of task forces to implement the reforms during the program period

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
			proved to be effective but prevented the integration of reform measures into regular government functions. (iv) The government remained committed to implement the reforms after loan closing with continued provision of funding support.
1604-NEP(SF): Second Agriculture Program in Nepal	Highly satisfactory	Satisfactory	(i) ADB maintained primary headquarters staff members' continuity from pre-program approval to program completion. (ii) The Nepal Resident Mission significantly contributed to program implementation and monitoring through active participation, continuity in supervision, and local knowledge. (iii) The government actively participated in program design and implementation and demonstrated strong commitment to pursue program reforms despite political uncertainty and change.
C. Fishery 821-BAN(SF): Second Aquaculture Development Project	Less than satisfactory	Less than satisfactory	(i) ADB provided significant staff and financial resources but had some shortcomings such as (a) failing to anticipate environment risks (e.g., carrying capacity and diseases); and (b) lack of appropriate action on the result of the assessment of hatchery construction, which caused unnecessary investment. (ii) Government performance fell short of expectations due to (a) major delays in project startup, (b) noncompliance with two critical loan covenants, and (c) failure to provide adequate funding for the operation and maintenance of the hatcheries and demonstration farms.
D. Forestry 889(SF)- and 890-PHI: Forestry Sector Program	(Satisfactory)	(Satisfactory)	(i) ADB should have ensured outcome-oriented policy reform measures. (ii) The performance of the EA and implementing agencies could have been better.
956-BAN(SF): Upazila Afforestation and Nursery Development Project	Satisfactory	Less than satisfactory	(i) ADB provided significant resources from project preparation to implementation: (a) thorough appraisals, (b) timely inputs to the Forest Department, and (c) follow-up action on project completion report recommendations. (ii) ADB continued to provide advice to the Forest Department through the Coastal Greenbelt Project and the Forestry Sector Program. (iii) ADB's shortcomings were (a) inadequate project design on benefit sharing; (b) review missions' insufficient attention to socioeconomic considerations, including arrangements concerning the participants; and (c) inadequate attention to the management of the plantations, despite the Community Forestry Project experience. (iv) The EA generally complied with the loan covenants. (v) The EA's major shortcomings were in (a) plantation management, operation, and maintenance, including specific actions for timely harvests, benefit distribution, and replanting; and (b) inaction on project completion

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
			report recommendations.
1040-NEP(SF): Forestry Sector Program	(Satisfactory)	(Satisfactory)	(i) ADB's close supervision did not help implement the program effectively. (ii) There was no evidence that frequent changes in ADB staff administering the program had significantly affected the continuity in program monitoring. (iii) Implementing agencies fulfilled their targets while the Department of Forests did not; political and administrative difficulties partly accounted for the lack of commitment.
1183-SRI: Participatory Forestry Project	Satisfactory	Satisfactory	(i) The rating represented ADB's supervision and response to project problems. (ii) ADB shortcomings were noted in (a) selection of appropriate species of trees for farmers' woodlots; (b) recognizing the Forests Department's insufficient extension skills on sound silviculture; and (c) M&E component. (iii) The EA generally followed the implementation arrangements and complied with most of the loan covenants.
E. Livestock 973-PAK(SF): Livestock Development Project	Less than satisfactory	Unsatisfactory	(i) ADB supervision was insufficient, considering the complex design and early indications of difficulties in disbursements. (ii) ADB did not insist on establishing progress indicators and performance targets during implementation and took time to react to poor implementation performance, which made redirection of activities and reallocation of funds difficult. (iii) ADB maintained constant dialogue with the government on rationalization of animal health services, which led to a positive outcome within the project. (iv) The EAs had limited experience to implement internationally funded development projects that were complex and broad in both scope and geographic focus. (v) Difficulties encountered included (a) provincial staff interfering in recruitment, (b) poor coordination between the animal health disciplines (breeding and health), and (c) inadequate project management and guidance from the steering committees. (vi) The EAs' poor performance caused considerable delays that deferred potential benefits well into the implementation period.
F. Land-Based Natural Resources Management 915-PHI(SF): Sorsogon Integrated Area Development Project	Satisfactory	Satisfactory	(i) Project implementation was closely monitored. (ii) Review missions contributed to the overall improvement in later stages of project implementation and in project staff capacity. (iii) ADB was responsive on matters relating to disbursement, and took initiative in coordinating with the government's oversight agencies. (iv) ADB did not act proactively on other issues such as termination of certain contracts that contributed to prolonged delays.

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
1099-INO: Second Land Resource Evaluation and Planning Project	(Satisfactory)	(Satisfactory)	<p>(v) Most EA and project management unit staff performed well in project management.</p> <p>(i) Review missions were reasonably regular and contributed to the implementation of a complex and demanding project.</p> <p>(ii) The EAs provided necessary resources and support during implementation, however, their choice of trainees was mostly inappropriate.</p> <p>(iii) The directorate general of regional development had little technical capability and was poorly placed to support and coordinate activities in the provinces.</p> <p>(iv) The sustainability in provincial land-use mapping is at risk due difficulty in providing funds to the Badan Pertanahan Nasional (National Land Agency) provincial offices after project completion.</p> <p>(v) The large number of EAs complicated coordination.</p>
G. Water-Based Natural Resources Management			
1166-SRI(SF): North Western Province Water Resources Development Project in Sri Lanka	Satisfactory	Satisfactory	<p>(i) Good supervision during project implementation ensured meeting physical targets.</p> <p>(ii) Effective review missions occurred.</p> <p>(iii) The government ensured counterpart funds on a timely basis and provided sufficient staff resources even during strict staffing restrictions and cuts.</p> <p>(iv) The provincial government had multiple commitments and was unable to fulfill its commitments to this project. An adequate needs assessment of institutional capacity at project preparation would have identified these limitations.</p>
1339-INO: Capacity Building Project in the Water Resources Sector in Indonesia	Satisfactory	Satisfactory	<p>(i) The review missions provided valuable support and direction to the project. For example, the midterm review was effective in fast-tracking implementation.</p> <p>(ii) ADB's shortcomings included (a) failure in instilling a sense of belonging to the project and in improving the level of commitment of provincial managers; (b) inadequate intensity and consistency in project monitoring; and (c) lack of assistance in developing outcome indicators and in establishing impact measurement mechanisms.</p> <p>(iii) The EA exerted efforts to implement the project efficiently in a difficult institutional and fiscal environment.</p> <p>(iv) The central project office was established on time and was generally staffed by capable personnel throughout project implementation; however, full staff complement was achieved with significant delay.</p> <p>(v) The EA encountered difficulties in relation to the complexity of the project and to the reorganization within the Ministry of Public Works.</p>
1381-BAN(SF): Small-Scale Water Resources Development Sector Project	Satisfactory	Satisfactory	<p>(i) ADB conducted regular review missions and gave timely advice to the government.</p> <p>(ii) The midterm review contributed to the establishment of stronger oversight mechanisms for monitoring of construction quality, and for observing more realistic time frame for preparation and implementation of the</p>

Loan No. and Project Title	Rating		Findings of the Project (or Program) Performance Reports
	ADB	Executing or Implementing Agency	
			<p>remaining subprojects.</p> <p>(iii) The government was highly committed to the project and accorded high priority to the development of small-scale water resources through provision of counterpart funds.</p> <p>(iv) EA support was fundamental to the project's success. It (a) provided helpful recommendations during the midterm review; (b) coordinated and established cooperation among a number of government agencies; (c) helped institutionalize beneficiary participation, particularly in operation and maintenance; (d) provided quality staff and continuity; and (e) retained trained staff members and provided continuity for the follow-on project.</p>

ADB = Asian Development Bank, EA = executing agency, M&E = monitoring and evaluation, SME = small or medium-sized enterprise, TA = technical assistance.

Note: The project (or program) performance audit reports and project (or program) performance evaluation reports did not indicate the ratings. These ratings are derived based on the descriptive assessment on the topic.

Sources: Project (or program) performance audit reports and project (or program) performance evaluation reports.

MATRIX OF CONCERNS AND ISSUES ADDRESSED IN SELECTED PROJECTS AND PROGRAMS

Table A6: Project Loans: Agricultural Productivity, Employment, Economic Returns, and Market Functions

Loan No.	Country	Project Title	Agriculture Productivity Growth	Employment Generation	Economic Returns	Functioning of Markets	Environment	Knowledge Services	Harmonization and Coordination
A. Agricultural Production and Markets									
997(SF) and 998	PNG	Agriculture Sector Program	✓	✓	✓	✓	✓	✓	✓
1062(SF)	PAK	Agriculture Program	✓	a	✓	✓	✓	✓	✓
1127(SF)	SRI	Second Agriculture Program	✓	✓	✓	✓	✓	✓	✓
1175	PRC	Guangdong Tropical Crops Development Project	✓	✓	✓	✓	✓	✓	✓
1340(SF)	VIE	Agriculture Sector Program	✓	a	✓	✓	✓	✓	✓
1504	UZB	Rural Enterprise Development Project		✓	c	b	✓	✓	✓
B. Agriculture and Rural Sector Development									
1012(SF)	PAK	Second Barani Area Development Project	✓	✓	✓		✓	✓	✓
1033(SF) and 1034	PHI	Second Palawan Integrated Area Development Project	✓	✓	✓		✓	✓	e
1406	KAZ	Agriculture Sector Program	✓		✓	✓	✓	✓	✓
1407(SF)	KGZ	Agriculture Sector Program	✓	✓	✓	✓	✓	✓	✓
1409(SF)	MON	Agriculture Sector Program	✓		✓	✓	✓	✓	✓
1412	TON	Outer Islands Agriculture Development in Tonga	✓	✓	✓		✓	✓	✓
1445(SF)	CAM	Agriculture Sector Program	✓	✓	✓	✓	✓	✓	✓
1604(SF)	NEP	Second Agriculture Program in Nepal	✓	a	✓	✓	✓	✓	
C. Fishery									
821(SF)	BAN	Second Aquaculture Development Project	✓	✓	c	b	✓		e
D. Forestry									
889(SF) and 890	PHI	Forestry Sector Program	✓	✓	✓	a	✓	✓	✓
956(SF)	BAN	Upazila Afforestation and Nursery Development Project	✓	✓	✓		✓	✓	✓
1040(SF)	NEP	Forestry Sector Program	✓	✓	✓	a	✓	✓	✓
1183	SRI	Participatory Forestry Project	✓	✓	✓		✓	✓	✓
E. Livestock									
973(SF)	PAK	Livestock Development Project in Pakistan	✓	✓	✓	b	✓	✓	✓

Loan No.	Country	Project Title	Agriculture Productivity Growth	Employment Generation	Economic Returns	Functioning of Markets	Environment	Knowledge Services	Harmonization and Coordination
F. Land-Based Natural Resources Management									
915(SF)	PHI	Sorsogon Integrated Area Development Project	✓	✓	✓		✓	✓	
1099	INO	Second Land Resource Evaluation and Planning Project					✓		
G. Water-Based Natural Resources Management									
1166(SF)	SRI	North Western Province Water Resources Management	✓	✓	✓	-	✓ ^d	✓	
1339	INO	Capacity Building Project in the Water Resources Sector							✓
Loan 1381(SF)	BAN	Small-scale Water Resources Development Sector Project	✓	✓	✓	-	✓	✓	✓

BAN = Bangladesh, CAM = Cambodia, INO = Indonesia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, NEP = Nepal, PAK = Pakistan, PHI = Philippines, PNG = Papua New Guinea, PRC = People's Republic of China, SRI = Sri Lanka, TON = Tonga, UZB = Uzbekistan, VIE = Viet Nam.

^a Not mentioned as part of the objective or expected output but is implicit as one of the outcomes of private sector participation. In the case of Viet Nam, employment was used as an indicator of growth, but no measure was given.

^b Marketing functions were affected indirectly and were concentrated on services such as the provision of credit and extension.

^c The project performance audit report did not estimate the economic internal rate of return.

^d There is no information on environmental impact.

^e Arrangements for cofinancing were made but not realized.

Source: Independent Evaluation Department.

CONTRIBUTION OF ADVISORY TECHNICAL ASSISTANCE IN AGRICULTURE AND NATURAL RESOURCES OPERATIONS

Loan No. and Title	Advisory Technical Assistance	Main Contributions
A. Agricultural Production and Markets		
997(SF)- and 998-PNG: Agriculture Sector Program	TA 1237-PNG: Review of Commodity Stabilization Fund Schemes	Reviewed the operations and mechanisms of commodity pricing and stabilization in Papua New Guinea. The recommendations made in the reviews were generally relevant and appeared to have gained wide acceptance. However, the change of government meant that it did not have the ownership of these TA outputs, and the recommended measures were not implemented.
	TA 1238-PNG: Review of Agricultural Taxation and Tariff Systems	Reviewed the country's existing taxation and tariff systems, particularly as they applied to agriculture, and recommended tax and tariff measures to stimulate investment in agriculture. The main findings were that (i) smallholders did not pay income tax, and (ii) the tax system was more favorable to agriculture compared to other sectors. However, the protective tariffs provided to Papua New Guinea manufacturers impacted negatively on the agriculture sector.
	TA 1239-PNG: Agricultural Credit and Rural Savings Study	Found that smallholders had negligible access to credit, and that there were high risks and costs for lending in agriculture in Papua New Guinea. Most of the recommendations of these TA findings have been ignored, except for the provision of a second rural finance TA activity in 1992.
	TA 1240-PNG: Agriculture Sector Program Implementation and Strengthening Department of Agriculture and Livestock's Farm Management Information System	Contributed to the development of database systems, staff training, and surveys. The survey results contributed to important decision making in installing market and management information systems, and preparing a comprehensive farm budgeting manual. The recommendation for an adequate level of long-term staffing for farm management and statistics functions was not implemented. Hence, these systems have not been well maintained.
1062-PAK(SF): Agriculture Program	TA 1438-PAK: Study on Policies for Fertilizer Importation and Marketing	Recommended (i) termination of subsidies to government agencies involved in fertilizer imports and distribution, (ii) promotion of extension activities by the public and private sectors on the use of balanced fertilizers, and (iii) termination of fertilizer price fixing and subsidies for public sector transport companies. In addition, it also recommended the establishment of a regulatory body to monitor fertilizer quality, prevent adulteration, and prevent exploitative pricing by private and public sector marketers.
1127-SRI(SF): Second Agriculture Program	TA 2315-SRI: Support to Public Enterprises Reform in the Agriculture Sector	Contributed to the development of a long-term strategy for privatization of public institutes, formulation of divestiture procedures, and development of a legal framework for privatization of plantations. It was successful in stemming operating losses; transforming long-term ownership rights to the private sector; and securing political, labor union, and public support for privatization efforts.
1175-PRC: Guangdong Tropical Crops	TA 1740-PRC: Policy Studies and Institutional	Recommended (i) introducing quality payment schemes for sugarcane and sugar beets (serving as an incentive to

Loan No. and Title	Advisory Technical Assistance	Main Contributions
Development Project	Strengthening for the Ministry of Agriculture	state farms to produce sugarcane with high sugar content), (ii) establishing a rubber replanting fund, and (iii) establishing marketing and market information systems to provide daily price statistics to farmers. The recommendation on a pricing and marketing study was adopted, helping the concerned department make crop production and factory management more efficient. The executing agency's exposure to commercial operation practices, decentralized farms, and agro-processing enterprise operations continued cost reduction through labor-saving production and continued support for research and development.
1340-VIE(SF): Agriculture Sector Program	TA 2224-VIE: Rice Market Monitoring and Policy Options Study	Collected good-quality primary and secondary data, and undertook a rigorous analysis to provide a much clearer understanding of rice markets in Viet Nam. The TA contributed to the development of a spatial equilibrium model to explore policy scenarios that provided confidence to decision makers that liberalizing the rice trade would not have negative impacts on regional disparities and food security. It also provided a model for policy work in support of program lending.
	TA 2225-VIE: Land Information System and Agricultural Taxation Study	Conducted field surveys, and identified problems with data collection, recording, and reporting related to land registration. Recommendations were made to facilitate the consolidation of fragmented holdings and to enhance the integrity of the allocation, registration, and transfer processes. Many of these recommendations have since been implemented. A comprehensive set of recommendations to enhance the agricultural land taxation system was prepared. However, the Ministry of Finance decided to exempt all but large commercial farmers from taxes from 2003 to 2010, reflecting the poor compliance rate.
	TA 2540-VIE: Agricultural Policy and Programs Support	The findings of this TA led to rewording two of the second tranche release conditions, thereby enabling tranche release.
1504-UZB: Rural Enterprise Development Project	TA 2714-UZB: Institutional Strengthening of National Bank of Uzbekistan	Developed the Entermod project appraisal system and benefit M&E systems, but these were of limited use. Integrated credit procedures into bank procedures, but credit skills taught have been lost. The TA helped the Bank of Uzbekistan understand the need for good software to support its operations. The bank has continued to implement more prudent practices for the classification, provisioning, and recovery of problem loans. However, the weaknesses in lending operations, portfolio management, and management information systems remain.
B. Agriculture and Rural Sector Development 1012-PAK(SF): Second Barani Area Development Project	TA 0708-PAK: Master Plan for Barani Area Development	Findings were used in the design of the Second Barani Area Development Project.

Loan No. and Title	Advisory Technical Assistance	Main Contributions
1033(SF)- and 1034-PHI: Second Palawan Integrated Area Development Project	TA 1357-PAK: Barani Farming System Training and Research	Contributed to the development of beneficiary community groups, and provided training on farming systems. There was no follow-up monitoring or assistance; hence, many efforts have been eroded.
1406-KAZ: Agriculture Sector Program	TA 1380-PHI: Agro-Processing and Rural Enterprises	Completed expected outputs, but failed to achieve the broad objective of attracting investors. The investors deemed the cost of investment in agro-processing in Palawan high due to high cost of electricity, high transport costs, small size of local markets, and small volume of newly introduced crops.
1406-KAZ: Agriculture Sector Program	TA 2448-KAZ: Study on Market Reform in the Agriculture Sector	Clarified major policy areas, and provided critical analyses concerning the second tranche release, particularly those related to legal reforms. The analysis covered (i) wheat production, marketing, and pricing; (ii) operations of the program; (iii) legal and institutional reforms, including farm privatization, land reform, and farmers' associations; (iv) water pricing policy; (v) strategies for rangelands and livestock development; (vi) pesticide management and regulations; (vii) the development of a statistical system for the sector; (viii) wool production and marketing; and (ix) rural socioeconomic conditions.
1407-KGZ(SF): Agriculture Sector Program	TA 2449-KAZ: Study on Rural Credit and Savings	Provided policy recommendations to reform rural credit and savings services, including a 5-year plan to strengthen and reorient rural financial services through strengthening existing commercial banks, and establishing voluntary credit unions to serve the needs of small rural savers and borrowers. It also proposed the development of lending facilities, secondary-level banking, and credit unions, albeit adoption was slow.
1407-KGZ(SF): Agriculture Sector Program	TA 2356-KAZ: Strengthening the Implementation of Agriculture Sector Reforms	Contributed to management of sector reforms and development of an information system for policy analyses.
1407-KGZ(SF): Agriculture Sector Program	TA 2450-KGZ: Reorganization and Strengthening of the Ministry of Agriculture and Food	Refocused on initiatives to secure incremental financing to restructure and to strengthen key public services through major investment projects. However, the downsizing and reduction of available resources predominated the transition.
1409-MON(SF): Agriculture Sector Program	TA 2451-KGZ: Building Capacity for the Formation and Management of Water User Associations	Developed the legal framework for WUAs, and demonstrated the modalities to their formation. The TA initiatives led to the acceptance of the necessity of WUA development, and increased the awareness and capacity of ministry staff and domestic consultants on WUA formation through training and pilot WUA development.
1409-MON(SF): Agriculture Sector Program	TA 2457-MON: Institutional Strengthening in the	Increased the government's commitment to WUAs, and led to the formulation of the new WUA law that provided options for the voluntary establishment, management, and operation of WUAs.
1409-MON(SF): Agriculture Sector Program	TA 2457-MON: Institutional Strengthening in the	Provided valuable inputs to the Ministry of Agriculture and Cooperatives and facilitated the implementation of program measures. The support was provided through the analysis

Loan No. and Title	Advisory Technical Assistance	Main Contributions
	Agriculture Sector	of four agricultural institutions and preparation of an action plan for agricultural research and extension. However, the institutional capacity of the ministry remained weak.
	TA 2458-MON: Strengthening Land-Use Policies	Assisted the Ministry of Nature, Environment and Tourism in developing a legal basis for land registration. It provided recommendations on zoning, land-use management, environmental monitoring, and also conducted training for relevant government agencies. The TA also facilitated capacity building in land cadastre, survey, mapping, and registration, and contributed to the enactment of a cadastre survey and land cadastre law in 1999.
1412-TON: Outer Islands Agriculture Development in Tonga	TA 1712-TON: Review of Operations of the Ministry of Agriculture and Forestry	The TA findings illustrated that the Ministry of Agriculture and Forestry was an effective organization that generally fulfilled its mandate. It also recommended some structural reorganization necessary to undertake its changing role in an environment of increasingly commercialized agriculture production. The ministry accepted the recommendation, and Capacity Strengthening of the Ministry of Agriculture and Forestry was provided to assist in implementing the changes.
	TA 2467-TON: Capacity Strengthening of the Ministry of Agriculture and Forestry	Contributed to improving the restructuring of units within the Ministry of Agriculture and Forestry. The links among farmers, extension workers, and specialist support staff improved, as did coordination of support services. Restructuring also enabled the ministry to recruit more highly qualified staff members, funded by the savings arising from reductions in the number of unqualified support personnel.
	TA 2468-TON: Institutional Strengthening of Tonga Trade	Supported marketing studies for priority commodities and industry profiles. Tonga Trade participated in and staged trade fairs, and carried out trade missions to promote Tonga's produce. Industry organizations were promoted, and the Kava Council was established. The TA was also useful in making export sales, notably Tonga's stockpile of vanilla. It facilitated in the establishment of information support systems (e.g., intranet and websites) and establishment of venues (e.g., trade fairs and industry groups).
1445-CAM(SF): Agriculture Sector Program	TA 2591-CAM: Agriculture Sector Program	Supported implementation of sector-level strategies, decrees, and regulations through a long-term program adviser and short-term experts who facilitated communications between ADB and the government.
1604-NEP(SF): Second Agriculture Program in Nepal	TA 2618-NEP: Implementation and Monitoring of the Agriculture Perspective Plan	Assisted the government in an investment strategy for the agricultural perspective plan, featured in the Ninth Five-Year Plan (1997-2002). It also contributed to the development of the medium-term investment plan for the agriculture sector that extended into the Tenth Five-Year Plan (2003-2007). The TA strengthened the Independent Analytical Unit within the Nepal Planning Commission to monitor the agricultural perspective plan's inputs and outputs, and to advise the government on interministerial coordination and policy issues.

Loan No. and Title	Advisory Technical Assistance	Main Contributions
C. Forestry 889(SF)- and 890-PHI: Forestry Sector Program	TA 3008-NEP: Institutional Reforms in the Agriculture Sector	Provided technical and advisory services to facilitate institutional reform. Strengthened the capacity of the fertilizer unit of the Ministry of Agriculture and Cooperatives to estimate fertilizer supplies and consumption, phased out public intervention in the fertilizer trade, reorganized the Agriculture Inputs Corporation and Nepal Food Corporation, and built institutional capacity for better pesticide management.
	TA 992-PHI: Strengthening of DENR's System for Selection, Appraisal and Monitoring of Forestation Projects	Contributed to (i) assessing the effectiveness of forestation efforts; (ii) identifying the practicality of using small-camera aerial photography instead of remote sensing as a tool for monitoring planting programs; (iii) monitoring contracts, and raising the awareness of DENR of the need for better project appraisal, and (iv) capacity building in inspection chart mapping of 177 nongovernment organization and DENR staff members.
956-BAN(SF): Upazila Afforestation and Nursery Development Project	TA 993-PHI: Master Plan for Forestry Development	Contributed to the development of the master plan for forestry development that was relevant to achievable goals and objectives for the forestry sector. It also made a positive contribution to capacity building and institutional strengthening.
	TA 994-PHI: Rationalization of Wood- Based Industry	Contributed to collection and analysis of much-needed statistical data on the forest industry's capacity, location, and competitiveness. However, the recommendations for intervention in the industry were unrealistic for operations in the Philippines.
	TA 1142-BAN: Upazila Afforestation and Nursery Development	Contributed to (i) training and advisory services; (ii) financing of land resources and socioeconomic surveys; and (iii) production of numerous training materials, handbooks, and guidelines related to nursery development, communications, participatory agroforestry, and forestry extension. The materials were used for skills development of forestry department staff and other target groups.
1040-NEP(SF): Forestry Sector Program	TA 1393-NEP: Monitoring and Evaluation of Program Activities	Contributed to the designed of an M&E system, and obtained data to measure the results of the program. The training received by the counterpart staff in and the data gathered under the TA helped the government prepare its own project completion report. However, the usefulness of current M&E system is limited to monitoring physical progress of projects and programs.
1183-SRI: Participatory Forestry Project	TA 1777-SRI: Institutional Strengthening of the Forest Department	Contributed to the production of good-quality manuals on the establishment and management of tree seed sources, seed collection, and technology development. It also helped organize trainings. The manuals were used in selection of seed production areas in the field. It also contributed to development of an M&E system. However, it was not implemented, as the department considered it to be overly complex and impractical for collecting physical, financial, and socioeconomic data.

Loan No. and Title	Advisory Technical Assistance	Main Contributions
D. Livestock		
973-PAK(SF): Livestock Development Project in Pakistan	TA 804-PAK: Livestock Sector Study	The project performance evaluation report did not mention contribution of this advisory TA except for basic data. Per the project completion report, the TA recommended a major role for the private sector in future livestock development activities, with the role of the government limited to providing the appropriate policy framework. The study's findings, together with the recommendations of the government's National Commission on Agriculture, provided the direction for development of the livestock sector under the Seventh Five-Year Plan.
E. Land-Based Natural Resources Management		
915-PHI(SF): Sorsogon Integrated Area Development Project	TA 1054-PHI: Community Mobilization and Development	Contributed to the development of community groups into financially self-sustaining units, and organized them to participate in accessing credit, accumulating savings, obtaining production inputs, and marketing of goods and services. However, these organized communities were not operating at the time of the project performance evaluation report.
F. Water-Based Natural Resources Management		
1166-SRI(SF): North Western Province Water Resources Development Project in Sri Lanka	TA 1719-SRI: Institutional Strengthening of the North Western Provincial Council	Contributed to strengthening of capacity in planning data collection for balanced regional development. However, these efforts were not sustained, and the use of some approaches and the planning formats as designed by the TA has been abandoned.
1381-BAN(SF): Small-Scale Water Resources Development Sector Project	TA 2564-BAN: Beneficiary Participation and Project Management	Contributed to the development of beneficiary participation as an integral part of the project cycle, and enhanced the Local Government Engineering Department and its institutional capability to mobilize beneficiaries. Other contributions included (i) introduction of participatory rural appraisals into the subproject cycle; (ii) training programs on these appraisals for water management in cooperative associations and related topics, and (iii) preparation of guidelines and on-the-job training for environmental assessments (for social safeguards that included mitigation, compensation, and monitoring plans). A benefit M&E system was set up and used in effective M&E reports for three successive fiscal years (2003–2005). The database set up for this benefit M&E has been continuously maintained under the follow-on project. Most of the staff members trained under the project were still with the organization during the preparation of the project performance evaluation report.

ADB = Asian Development Bank, DAL = Department of Agriculture and Livestock, DENR = Department of Environment and Natural Resources, M&E = monitory and evaluation, TA = technical assistance, WUA = water user association.

Sources: Project (or program) performance audit reports and project (or program) performance evaluation reports.

DONOR SUPPORT AND COORDINATION IN ASIAN DEVELOPMENT BANK OPERATIONS IN THE AGRICULTURE AND NATURAL RESOURCES SECTOR

Loan No. and Title	Agency	Type of Support and Coordination	Main Contribution
A. Agricultural Production and Markets			
997(SF)- and 998-PNG: Agriculture Sector Program	AusAID and other aid agencies, EU, OECF, and World Bank	Cofinancing and coordination	<p>AusAID and other unspecified aid agencies provided support to the Department of Agriculture and Livestock's research expansion to cover food and minor crops. The National Agriculture Quarantine and Inspection Authority (a government-owned corporation) was also established with assistance from AusAID. OECF provided cofinancing equivalent to \$20 million.</p> <p>In conjunction with the ADB project, a more wide-ranging program of stabilization and structural adjustment was prepared for support by the World Bank and a structural grant by EU.</p>
1062-PAK(SF): Agriculture Program	USAID and World Bank	Consultation	<p>ADB consulted with other aid agencies, such as USAID and World Bank, to promote consistency in program considerations, covenants, and conditionalities. Coordination with these agencies was particularly close with respect to the identification and formulation of needed sector reforms. The program complemented a World Bank agriculture sector adjustment loan and a USAID agricultural sector support program.</p>
1127-SRI(SF): Second Agriculture Program	IMF, USAID, and World Bank	Consultation	<p>Extensive consultations were undertaken during loan processing, particularly with IMF, USAID, and World Bank, as these agencies were also involved in similar program activities.</p> <p>Close consultation among ADB, the government, and World Bank helped firm up the sequencing of reforms on plantation crop taxation and on the restructuring of state plantation corporations.</p> <p>USAID was involved in Sri Lanka agriculture extension rationalization and seed policy, and was critical of an ADB study on the rationalization of agriculture extension in terms of adequacy of scope and coordination efforts with other aid agencies. USAID eventually supported the program after correspondence with ADB.</p>
1175-PRC: Guangdong Tropical Crops Development Project	World Bank	Consultation	<p>ADB closely coordinated with the World Bank, since it had previously supported four projects involving the same executing agency.</p>
1340-VIE(SF): Agriculture Sector Program	None		

Loan No. and Title	Agency	Type of Support and Coordination	Main Contribution
1504-UZB: Rural Enterprise Development Project	EBRD	Consultation	The executing agency's experience with previous EBRD assistance provided the rationale for the project and justified the design of associated TA involving a credit line to the executing agency for onlending to small and medium-sized enterprises.
B. Agriculture and Rural Sector Development			
1012-PAK(SF): Second Barani Area Development Project	IFAD and UNDP	Cofinancing and support for advisory TA, respectively	IFAD cofinanced about 30% of the total project cost. UNDP funded two advisory TA activities, which were administered by ADB.
1033(SF)- and 1034-PHI: Second Palawan Integrated Area Development Project	EEC	Coordination	The forestry and environmental stabilization component was expected to be financed and implemented by the EEC financed project, however, it could not be undertaken as the EEC project was delayed.
1406-KAZ: Agriculture Sector Program	FAO	Compliance with FAO regulations on pesticides	Guidelines on pesticide disposal were prepared in conformity with the FAO regulations.
1412-TON: Outer Islands Agriculture Development in Tonga	NZAID	Cofinancing	NZAID supported counterpart funding for water supply and forestry subprojects on two separate islands.
1445-CAM(SF): Agriculture Sector Program	AusAID and other aid agencies	Consultation	ADB worked closely with the aid agencies during program design. AusAID has provided long-term support for agricultural research and extension in Cambodia since 1995.
C. Fishery			
821-BAN(SF): Second Aquaculture Development Project	UNDP and World Bank	Consultation and cofinancing	ADB worked in close consultation with the World Bank, which had previously funded a shrimp culture project in Bangladesh in 1986. UNDP financed the component on consulting services.
D. Forestry			
889(SF)- and 890-PHI: Forestry Sector Program	FDIDC and OECF	Cofinancing and support for advisory TA	OECF provided cofinancing in the amount of \$120 million, and FDIDC funded TA on the formulation of a forestry development master plan. Coordination with AIDAB, USAID, and the World Bank was undertaken in loan processing through consultations during the reconnaissance and appraisal missions. Coordination was further reinforced during implementation as part of the consultative process for the follow-on loans.
956-BAN(SF): Upazila Afforestation and Nursery Development Project	FAO and UNDP	Support for advisory TA	UNDP supported a grant for training of participants, community leaders, and selected forestry department staff members. ADB administered the grant.
1040-NEP(SF): Forestry Sector Program	Unspecified aid agencies	Coordination	ADB coordinated with other aid agencies during fact-finding and appraisal missions, and helped establish (with the government) the Forestry Sector Coordinating Committee prior to loan effectiveness. Difficulties were encountered in discussing concerns of aid

Loan No. and Title	Agency	Type of Support and Coordination	Main Contribution
1183-SRI: Participatory Forestry Project	AusAID and World Bank	Cofinancing	agencies since the committee had a large membership with varied interests. AusAID funded the Food-for-Work Program, which served as an incentive for farmers to participate in social forestry. Collaboration with the World Bank involved its commitment to fund the adaptive research project component. However, the facility that was to support the component was closed by the time the project was able to submit proposals.
E. Livestock 973-PAK(SF): Livestock Development Project in Pakistan	EU and FAO	Post-project support and cofinancing, respectively	FAO was requested to support advisory TA for the livestock sector study attached to the project. FAO has established a partnership with ADB, backed up by years of joint involvement in various studies on the subsector in Pakistan. EU support was obtained to further develop Pakistan's livestock disease surveillance.
F. Water-Based Natural Resources Management 1339-INO: Capacity Building Project in the Water Resources Sector in Indonesia	World Bank	Post-project support	World Bank and the Government of the Netherlands supported an interministerial coordination team for water resources management that replaced the policy analysis management support team created under the project.
1381-BAN(SF): Small-Scale Water Resources Development Sector Project	IFAD	Cofinancier and support for advisory TA	Both IFAD and the Government of the Netherlands actively participated from project formulation. IFAD cofinanced the project; the government supported a TA for beneficiary participation and project management.

ADB = Asian Development Bank, AIDAB = Australian International Development Assistance Bureau, AusAID = Australian Agency for International Development, EBRD = European Bank for Reconstruction and Development, EEC = European Economic Community, EU = European Union, FAO = Food and Agriculture Organization, FDIDC = Finnish Department for International Development Co-operation, IFAD = International Fund for Agriculture Development, IMF = International Monetary Fund, NZAID = New Zealand's International Aid and Development Agency, OECF = Overseas Economic Cooperation Fund, TA = technical assistance, UNDP = United Nations Development Programme, USAID = United States Agency for International Development.

Sources: Project (or program) performance audit reports and project (or program) performance evaluation reports.

ENVIRONMENTAL IMPACT ASSESSMENT

Loan No. and Project Title	Environmental Impact	Project Preparatory Audit Report or Project Preparatory Evaluation Report Findings
A. Agricultural Production and Markets		
997(SF)- and 998-PNG: Agriculture Sector Program	Neutral	The development policy letter pledged to strengthen the Environmental Unit within the Department of Environment and Conservation to carry out impact assessments on projects throughout the country. This occurred, primarily through external assistance starting in 1994. The program also intended to make agricultural inputs more affordable by removing tariffs, leading to increased use of fertilizers and chemicals that may have had adverse environmental consequences. However, this measure was short-lived, and therefore any impact was limited. It is doubtful that the program affected land use, yet the prominence of sustainable land-use issues in activities of the National Agricultural Research Institute was positive for the environment and reflected growing recognition of the need to consider environmental issues.
1062-PAK(SF): Agriculture Program	Neutral	The policy measures to increase funding for water-logging and salinity control and the proper use of fertilizers were assumed generate a positive impact on the environment. According to information from nongovernment organizations and field visits, however, the policy measures had no significant impact on the environment. No environmental impact monitoring occurred, so it is not possible to determine the environmental impact.
1127-SRI(SF): Second Agriculture Program	Positive	Some improvement in land use occurred, due to a lower plantation crop tax burden and reversal of the neglect of state plantation lands under public enterprises. Private sector managers tended to keep marginal plantation lands out of production, which contributed to reduced soil erosion.
1175-PRC: Guangdong Tropical Crops Development Project	Neutral	The project had no major environmental impacts: (i) agro-processing enterprises, except for sisal, did not produce substantial waste; (ii) factories strictly followed People's Republic of China national environmental standards; (iii) effluent treatment facilities were set up in the latex-processing factory; (iv) sisal factories had proper waste management and recycling systems; (v) fiber waste was used as fertilizer; and (vii) sisal juice was condensed and sold as chemical input.
1340-VIE(SF): Agriculture Sector Program	Neutral	The program was unlikely to impact the environment. However, the lack of any environmental monitoring was a concern.
1504-UZB: Rural Enterprise Development Project	Neutral	The project did not harm the environment. Subprojects used anaerobic methods to treat liquid effluents and aerobic methods to treat gaseous effluents, procedures that met European Union standards.
B. Agriculture and Rural Sector Development		
1012-PAK(SF): Second Barani Area Development Project	Positive	The project positively impacted the environment with negligible negative influence. Most of the irrigation structures, such as mini dams and ponds, were small, as were land-reclamation interventions, such as gully plugs and land leveling. The increased use of wells and lift pumps may have lowered the water table in some locations, but the significance was difficult to assess after several years of continued low rainfall. Improved cultivation had an impact on augmenting water retention and intensifying vegetative cover. Roads

Loan No. and Project Title	Environmental Impact	Project Preparatory Audit Report or Project Preparatory Evaluation Report Findings
		<p>constructed were mainly on flat or low undulating terrain, normally not requiring cuts into steeply sloped areas. Finally, a potable water supply reduced incidences of waterborne diseases.</p> <p>The project could have generated a better environmental impact. Most of the water and soil conservation works took place in localized areas without taking into account the large catchment or subcatchment area. In addition, the social forestry component was unable to direct tree planting to the most critical areas due to its focus on plant nurseries.</p>
1033(SF)- and 1034-PHI: Second Palawan Integrated Area Development Project 1406-KAZ: Agriculture Sector Program	Negative	Road construction on mountainous coastline and watershed management in upstream areas led to destructive fishing, siltation, and soil erosion.
	Positive	The government complied with the loan agreement concerning safe pesticide use and strengthened legislation for environmental protection.
1407-KGZ(SF): Agriculture Sector Program	Positive	The program stipulated four measures to promote sustainable management of forests and upland pastures, and to enhance biological control of cotton pests. The grazing in forest areas was controlled, but other measures on environmental protection were only partially accomplished.
1409-MON(SF): Agriculture Sector Program	Negative	<p>At appraisal, it was anticipated that policy reforms under the program would have no negative impact on the environment. The removal of distortions in meat pricing and a subsidy on fodder supply would reduce pressure on the environment and encourage improved management of forage resources.</p> <p>However, these assumptions were proved invalid. Overgrazing and grassland degradation increased, as the number of herders more than doubled in the early 1990s and continued to increase up to 2001. This was partly the result of families who had been provided with free animals in the drive to privatize the industry and as alternative employment opportunities became limited. The number of animals also increased substantially in response to market opportunities for cashmere. While the negative environmental impact was due mainly to livestock privatization conducted before the program began, a better environmental impact could have been achieved if a rigorous assessment study on the livestock subsector was conducted.</p>
1412-TON: Outer Islands Agriculture Development in Tonga	Neutral	The project was classified as environmental category B, and a few project activities had the potential to generate significant environmental effects. The project ensured adherence to preservation measures such as education to farmers on the safe use of agrochemicals. Minor soil erosion was recognized in an initial environmental assessment, but the actual impact was negligible.
1445-CAM(SF): Agriculture Sector Program	Neutral	The program focused on policy reforms, and did not generate significant environmental impacts. The quality standards for agricultural materials could have had a more positive environmental impact had the Bureau of Agricultural Materials Standards had the capacity to implement them effectively.

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1604-NEP(SF): Second Agriculture Program in Nepal	Neutral	Use of fertilizer was quite low; therefore, there was no risk from runoff-induced environmental problems, such as sediment and contamination. Although the safe disposal of obsolete pesticides was not accomplished, the government took some steps to use international protocols to address the disposal of the most persistent and hazardous types.
C. Fishery 821-BAN(SF): Second Aquaculture Development Project	Negative	<p>The project did not foresee the need for preventive actions against possible disease outbreaks and food-quality hazards in shrimp aquaculture. Environmental risks and additional stress on ponds' carrying capacity due to spontaneous expansion of the shrimp and prawn culture included inadequate water management and heavy exploitation of snails for feed, despite promotion of environment friendly aquaculture practices and low use of fertilizers and feed supplements. There was a need for a spatial plan, taking into account production potential, technology options, environmental carrying capacity, and management.</p> <p>The Asian Wetland Bureau of the University of Malaya also criticized the project on its chemical use (e.g., rotenone) to eradicate predators on floodplains. However, the executing agency and consultants stated that such use was low, the chemical agent effectiveness was short, and any residue would be diluted by inundation. Eventually, the executing agency agreed to use fingerlings to avoid the use of harmful chemicals. There were no adverse environmental impacts from carp farming.</p>
D. Forestry 889(SF)- and 890-PHI: Forestry Sector Program	Positive	<p>The program contributed to some definite and lasting environmental benefits, especially in areas where communities had a sense of ownership either through improved access to clean water supplies from watershed protection or where they had tenurial instruments that would allow some future income-generating opportunities while still maintaining forests.</p> <p>Environmental benefits included reduced run-off of water during storm events, reduced soil erosion, reduced siltation of streams, and some contribution to biodiversity. The ecological benefits of the mangrove plantations were increased fish populations, reduced wave erosion of coastlines, and more shelter from strong winds in otherwise exposed areas.</p> <p>An unanticipated benefit of the program was a reduction in the extent of the broad-scale fires associated with cattle grazing. The cancellation of many grazing leases over large areas to allow the land to be used for reforestation projects and watershed rehabilitation had probably been one of its most significant environmental benefits. Grazing land decreased from 442,000 ha in 1987 to 153,000 ha in 1999.</p>
956-BAN(SF): Upazila Afforestation and Nursery Development Project	Positive	Project activities were consistent with environmental preservation and conservation measures as follows: (i) tree cover was reestablished on underutilized land and degraded forestland; (ii) tree planting on roadsides and waterway embankments, including coastal areas, stabilized erosion-prone areas and served to reduce wind-induced soil erosion and as protection against storms; (iii) awareness-building and publicity campaigns encouraged private initiatives for tree

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		planting on private property, homesteads, and farms; (iv) increased tree cover positively impacted carbon sequestration; and (v) the government banned several tree species in response to health reasons and the competing uses of water during the dry season.
1040-NEP(SF): Forestry Sector Program	Positive	The establishment of forest plantations (as part of reforestation activities) is expected to reduce erosion from 32 to 6 tons per ha per year.
1183-SRI: Participatory Forestry Project	Positive	Some of the positive environmental impacts were (i) establishment of almost 17,000 ha of forestry coverage, and (ii) establishment of 4,536 ha of woodlot that contributed to soil conservation and erosion control and water catchment protection in the reclaimed area. However, some of these measures may not have been sustainable, as adequate support was not extended for maintenance and protection.
E. Livestock		
973-PAK(SF): Livestock Development Project in Pakistan	Positive	Specific activities that contributed positively to the environment were (i) adoption of appropriate fodder varieties that enhanced soil fertility; (ii) improved soil fertility with increased use of organic fertilizers; (iii) less use of inorganic fertilizers, reducing the possibility of polluting waterways; and (iv) reduced pollution and safe disposal from milk chilling and slaughterhouses.
915-PHI(SF): Sorsogon Integrated Area Development Project	Positive	Construction of artificial reefs contributed to regenerating fishery resources. Also, road and irrigation systems were rehabilitated.
1099-INO: Second Land Resource Evaluation and Planning Project	Positive	Project outputs such as a database and maps of environmentally sensitive areas, land suitability, and land use were essential tools for the formulation of sustainable long-term development plans in the provinces. These maps are useful guides for sustainable development and forest management in areas that were affected by environmental degradation through erosion, loss of soil fertility, siltation of water bodies, and downstream flooding.
F. Water-Based Natural Resources Management		
1166-SRI(SF): North Western Province Water Resources Development Project in Sri Lanka	Neutral	Positive impacts included improved water management in many rehabilitated irrigation schemes, successful promotion of integrated pest management among some farmer organizations, a marginal increase in groundwater recharge in the vicinity of some rehabilitated tanks, and a marginal increase in tank wetland habitats for much of the year. Negative impacts included a marginal increase in the use of agricultural chemicals in some irrigation schemes, a minor increase in groundwater extraction from dug wells, and a slight increase in water extraction from rivers for pump irrigation.
1339-INO: Capacity Building Project in the Water Resources Sector in Indonesia	No information	The project preparatory evaluation report did not have a section on the impact of the project on the environment.

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1381-BAN(SF): Small-Scale Water Resources Development Sector Project	Positive	Pro-environment measures were well integrated into the project design and operations: (i) an environmental monitoring program was established, (ii) three regional and eight greater district laboratories were set up to monitor water quality in 11 selected subprojects, (iii) the subprojects designed fish friendly structures and adopted an improved system for sluice gate operations to facilitate fish migration during critical periods, and (iv) an initial environmental examination and environmental monitoring program for each subproject were prepared.

ha = hectare.

Sources: Project (or program) performance audit reports and project (or program) performance evaluation reports.