



# Completion Report

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Project Number: 34331  
Loan Number: 2134-PAK(SF)  
November 2012

## Pakistan: Sustainable Livelihoods in Barani Areas Project

## CURRENCY EQUIVALENTS

Currency Unit		–	Pakistan rupee/s (PRe/PRs)	
			<b>At Appraisal</b>	<b>At Project Completion</b>
			15 Nov 2004	31 March 2012
PRe1.00	=		\$0.0166	\$0.01102
\$1.00	=		PRs60.34	PRs90.68

## ABBREVIATIONS

ABAD	–	Agency for Barani Areas Development
ADB	–	Asian Development Bank
CBO	–	community-based organization
CCB	–	citizen community board
DPIC	–	district project implementation committee
DPMU	–	district project management unit
EIRR	–	economic internal rate of return
FIRR	–	financial internal rate of return
GAD	–	gender and development
hhs	–	households
MSI	–	medium-scale infrastructure
NGO	–	nongovernment organization
O&M	–	operation and maintenance
OFIG	–	off-farm income generation
PC-I	–	planning commission document-I
PMU	–	project management unit
RSP	–	rural support program
SDR	–	special drawing right
SSI	–	small-scale infrastructure
TA	–	technical assistance
VUDC	–	village and union development component

## WEIGHTS AND MEASURES

ha	–	hectare
km	–	kilometer
kV	–	kilovolt

## GLOSSARY

barani	–	rain-fed
tehsil	–	subdistrict
zila	–	district

## NOTES

- (i) The fiscal year (FY) of the government and its agencies ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 30 June 2000.
- (ii) In this report, "\$" refers to US dollars.

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## BASIC DATA

### A. Loan Identification

1.	Country	Pakistan
2.	Loan Number	2134(SF)
3.	Project Title	Sustainable Livelihoods in Barani Areas Project
4.	Borrower	Islamic Republic of Pakistan
5.	Executing Agency	Agency for Barani Areas Development (ABAD)
6.	Amount of Loan	SDR27,207,000
7.	Project Completion Report Number	1372

### B. Loan Data

1.	Appraisal	
	– Date Started	18 September 2004
	– Date Completed	29 September 2004
2.	Loan Negotiations	
	– Date Started	17 November 2004
	– Date Completed	17 November 2004
3.	Date of Board Approval	14 December 2004
4.	Date of Loan Agreement	10 January 2005
5.	Date of Loan Effectiveness	
	– In Loan Agreement	10 April 2005
	– Actual	13 April 2005
	– Number of Extensions	1
6.	Closing Date	
	– In Loan Agreement	30 June 2011
	– Actual	16 July 2012
	– Number of Extensions	1
7.	Terms of Loan	
	– Interest Rate	1% during the grace period and 1.5% thereafter
	– Maturity (number of years)	32
	– Grace Period (number of years)	8
8.	Terms of Relending (if any)	Not applicable
	– Interest Rate	
	– Maturity (number of years)	
	– Grace Period (number of years)	
	– Second-Step Borrower	
9.	Disbursements	

#### a. Dates

Initial Disbursement	Final Disbursement	Time Interval
16 September 2005	16 July 2012	82 months
Effective Date	Original Closing Date	Time Interval
13 April 2005	31 March 2012	83 months 13 days

## b. Amount (SDR million)

Category or Subloan	Original Allocation	Last revised Allocation	Amount Canceled <sup>a</sup>	Net Amount Available	Amount Disbursed	Undisbursed Balance <sup>b</sup>
Development funds – VUDC	12.675	7.643	5.032	7.643	7.194	0.448
Development funds – TPA	6.653	7.173	(0.520)	7.173	6.343	0.830
Vehicles	0.424	0.422	0.002	0.422	0.213	0.210
Equipment and supplies	0.063	0.062	0.001	0.062	0.051	0.011
DLA support	1.063	0.636	0.427	0.636	0.636	0.000
Agricultural research	0.000	0.000	0.000	0.000	0.000	0.000
International consultant	0.748	1.020	(0.272)	1.020	0.754	0.266
National consultants	1.282	1.114	0.168	1.114	0.851	0.264
Off-farm income generation	0.427	0.389	0.038	0.389	0.266	0.122
Literacy through skills training	0.850	0.862	(0.012)	0.862	0.750	0.112
RSPs guided GFST	0.000	0.000	0.000	0.000	0.000	0.00
National consultants	0.274	0.325	(0.051)	0.325	0.197	0.128
Consultant support	0.053	0.063	(0.010)	0.063	0.060	0.003
Project vehicles operations	0.272	0.274	(0.002)	0.274	0.089	0.185
Interest charge	0.654	0.654	0.000	0.654	0.475	0.179
Unallocated	1.242	0.000	1.242	0.000	0.000	0.000
Project office building	0.015	0.008	0.007	0.008	0.007	0.001
Project staff salaries	0.512	0.601	(0.089)	0.601	0.230	0.371
<b>Total</b>	<b>27.207</b>	<b>21.246</b>	<b>5.961</b>	<b>21.246</b>	<b>18.116</b>	<b>3.130</b>
<b>Total \$ Equivalent</b>	<b>41.000</b>	<b>32.853</b>	<b>9.311</b>	<b>32.853</b>	<b>28.116</b>	<b>4.723</b>

() = negative.

DLA = district line agency, GFST = group formation and skills training, RSP = rural support program, TPA = targeted poverty alleviation, VUDC = village and union development component.

<sup>a</sup> Cancellation date is 21 November 2011.<sup>b</sup> For final cancellation.

10. Local Costs (Financed)
- Amount (\$'000)
  - Percent of Local Costs
  - Percent of Total Cost

20,314.0  
58.8  
47.9

**C. Project Data**

## 1. Project Cost (\$'000)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	12,000.0	7,801.0
Local Currency Cost	46,600.0	34,595.0
<b>Total</b>	<b>58,600.0</b>	<b>42,396.0</b>

## 2. Financing Plan (\$'000)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	8,800.0	7,828.0
ADB Financed	40,000.0	27,377.0

Beneficiaries Contribution	8,800.0	6,453.0
<b>Total</b>	<b>57,600.0</b>	<b>41,658.0</b>
<hr/>		
IDC Costs		
Borrower Financed	0.0	0.0
ADB Financed	1,000.0	738.0
Beneficiaries Contribution	0.0	0.0
<b>Total</b>	<b>58,600.0</b>	<b>42,396.0</b>

ADB = Asian Development Bank, IDC = interest during construction.

### 3. Cost Breakdown by Project Component (\$'000)

Component	Appraisal Estimate	Actual
<b>A. Base Cost</b>		
1. Village and Union Development Component	35,800.0	21,762.0
2. Targeted Poverty Alleviation	14,200.0	14,036.0
3. Literacy Through Skills Training	1,000.0	1,261.0
4. Institutional and Implementation Support	4,900.0	4,599.0
<b>Subtotal (A)</b>	<b>55,900.0</b>	<b>41,658.0</b>
<b>B. Contingencies</b>		
1. Physical Contingencies	400.0	0.0
2. Price Escalation	1,300.0	0.0
<b>Subtotal (B)</b>	<b>1,700.0</b>	<b>0.0</b>
<b>C. Interest During Implementation</b>	<b>1,000.0</b>	<b>738.0</b>
<b>Total</b>	<b>58,600.0</b>	<b>42,396.0</b>

### 4. Project Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants (Firms)		
1. National Rural Support Program	Jun 2005	8 Sep 2005
2. Punjab Rural Support Program	Jun 2005	8 Sep 2005
3. Socio Engineering	Jun 2005	3 Dec 2007
4. Landell-Mills	Jun 2005	11 Feb 2008
5. Adult Basic Education Society	Dec 2006	27 Jan 2009
Date of Contract with Consultants (Individuals)		
1. Project Management (International)	Jun 2005	3 May 2006
2. Financial Administration Specialist	Jun 2005	12 Jan 2007
3. Project Management (Domestic)	Jun 2005	8 Aug 2006
4. Community Development (Domestic)	Jun 2005	1 Aug 2006
5. Monitoring and Evaluation Specialist	Jun 2005	1 Dec 2006
6. Information Technology Specialist	—	1 Feb 2007
7. Gender and Development Specialist	—	22 Feb 2012
Completion of Engineering Designs		
Civil Works Contract		
Date of Award	Jun 2006	Various dates <sup>a</sup>
Completion of Work	Dec 2010	Various dates
Equipment and Supplies		
Dates		
First Procurement	Jan 2005	5 Mar 2006
Last Procurement	Jun 2006	2 Jan 2010
Completion of Equipment Installation <sup>b</sup>	—	—

## Start of Operations

Completion of Tests and Commissioning

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Beginning of Start-Up

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Other Milestones

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— = not applicable.

<sup>a</sup> A total of 4,028 civil works contracts were awarded during the project period (619 under medium-scale infrastructure schemes, and 3,409 under community executed small-scale infrastructure schemes).

<sup>b</sup> No equipment installation was involved.

Source: ADB Loan Financial Information System.

## 5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 13 April 2005 to 31 December 2010	Satisfactory	Satisfactory
<b>Overall Project Rating</b>		
From 1 January 2011 to 31 March 2012 <sup>1</sup>	On Track	

Source: ADB Historical Project Performance Reports, and Project Record in eOperations.

## D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members <sup>a</sup>
Fact-finding	17 July–7 August 2004	8	148	a,b,c,d,e,f,g,h
Appraisal	18–29 September 2004	7	77	a,c,d,j,k,l,m
Inception	5–16 August 2005	2	22	a,n
Review 1	28 March–4 April 2006	3	24	a,n,o
Special loan administration	17–22 July 2006	3	18	p,q,r
Review 2	5–11 December 2007	1	6	p
Midterm review	24 November–6 December 2008	2	24	p,s
Review 3	10–19 August 2009	2	18	p,s
Review 4	22–29 April 2010	2	14	p,s
Review 5	12–24 January 2011	2	24	p,s
Review 6	20–25 June 2011	2	12	p,s
Project completion review	23 April–5 May 2012	3	36	t,u,v,w

<sup>a</sup> a = project economist, b = nongovernment organization specialist, c = institutions and policy consultant, d = environment specialist, e = natural resources management specialist, f = enterprise development specialist, g = social development and resettlement specialist, h = programs officer, j = counsel, k = economist, l = rural infrastructure specialist, m = monitoring and evaluation specialist, n = assistant project analyst, o = senior project implementation specialist (infrastructure), p = project implementation officer, q = senior project assistant, r = senior disbursement assistant, s = assistant project analyst, t = senior project officer, u = project analyst v = agriculture economist (staff consultant), w = gender specialist (consultant).

Source: ADB mission aide memoires; back-to-office reports.

<sup>1</sup> Effective 1 January 2011, the project performance report system was replaced with an Oracle-based eOperations projects database, whereby there are no more separate ratings of development objectives and implementation progress. The new system provides an overall project rating.



## I. PROJECT DESCRIPTION

1. The Sustainable Livelihoods in Barani Areas Project was directed to vulnerable groups in *barani*<sup>1</sup> (rain-fed) areas, which are isolated from service providers and rural infrastructure in 10 districts of Punjab Province.<sup>2</sup> According to the Asian Development Bank (ADB)-assisted project preparatory technical assistance<sup>3</sup> (TA) estimates at the time of appraisal, the *barani* areas of these districts had a population of 3.2 million living in about 2,500 villages located in 200 union councils. About 47% of the rural population in the project districts was below the poverty line, while around 50% of the population over 5 years of age in the *barani* areas of the project districts has never been to school. Growth in the agriculture sector was below 5% for most of the 1990s, and due to a prolonged and serious drought in 2001 and 2002, poor yields and complete crop failure forced many farmers into debt and a shift to off-farm occupations. The primary problem faced by *barani* areas is a lack of access to water for crop and livestock production (average yields on *barani* lands are only 30%–50% of those on irrigated lands), resulting in lower and uncertain crop yields and livestock productivity.

2. Other factors adding to rural poverty identified in the project design were impeded access to markets, inputs, and services due to inadequate or nonexistent transport infrastructure; lack of access to electricity, with negative consequences for the productive potential of both agriculture and off-farm sectors; health and productivity constraints arising from limited access to potable water; a limited range of alternative, high-value crops or crop varieties specially adapted to *barani* areas; inadequate and poorly managed rangelands for livestock; loss of productive land due to erosion; poor access to agriculture and livestock advisory and support services; and low levels of literacy, which impede access to new technologies or the adoption of alternative income-earning activities.

3. The project was based on the nongovernment organization (NGO)–government partnership community development model, tested and proven successful by several ADB-financed projects, including the Second Punjab Barani Areas Development Project, the Bahawalpur Rural Development Project, and the Dera Ghazi Khan Rural Development Project.<sup>4</sup> A demand-driven and process approach was adopted for investments to enhance the livelihood and quality of life of about 350,000 households living in the project area. The project also intended to increase incomes of 70,000 vulnerable households. The project covered those districts and parts of districts that have *barani* land but were not covered by a *barani* or area development projects. Additionally, the project added the newly local government system into implementation arrangements. The total number of *barani* union councils were 200 at appraisal, which later on increased to 2010 due to administrative changes in local governments.

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<sup>1</sup> The term *barani* refers to areas outside of the command of the extensive irrigation systems upon which most of Pakistan's agricultural productivity is based.

<sup>2</sup> The project included the districts of Bhakkar, Chakwal, Gujrat, Jhelum, Khushab, Layyah, Mianwali, Narowal, Rawalpindi and Sialkot.

<sup>3</sup> ADB. 2003. *Technical Assistance to the Islamic Republic of Pakistan for Preparing Sustainable Livelihoods in Barani Areas Project*. Manila.

<sup>4</sup> ADB. 1990. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Islamic Republic of Pakistan for Second Barani Area Development Project*. Manila; ADB. 1996. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Islamic Republic of Pakistan for Bahawalpur Rural Development Project*. Manila; ADB. 1997. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Islamic Republic of Pakistan for Dera Ghazi Khan Rural Development Project*. Manila.

4. The objectives of the project were to (i) enhance access to land, water, markets, services, agriculture inputs, technologies, and employment for the population of the *barani* areas; and (ii) strengthen governance structures, aid the process of devolution, and build capacity within local governments to plan and implement development activities. The project framework included the goal of improved quality of life, reduced poverty, and better natural resource management. The project comprised four outputs: (i) village and union development; (ii) targeted poverty alleviation; (iii) literacy through skills training; and (iv) institutional and implementation support. The project outputs were expected to benefit the vulnerable and poverty-affected groups identified by partner NGOs.

5. The executing agency was the Agency for Barani Areas Development (ABAD), part of the Planning and Development Department, Government of Punjab. Key implementing agencies included the district governments of the 10 project districts, which implemented the village and union development component and the literacy through skills training component. Two national NGOs, the National Rural Support Program and the Punjab Rural Support Program, implemented the targeted poverty alleviation component. The Adult Basic Education Society, another national NGO, provided supervision and technical support toward the implementation of the literacy through skills training component.

6. This project completion report is based on findings of the ADB project completion review mission (23 April–4 May 2012), ABAD's project completion report<sup>5</sup> and the Government of Punjab's project evaluation report,<sup>6</sup> and ADB and ABAD's records.

## II. EVALUATION OF DESIGN AND IMPLEMENTATION

### A. Relevance of Design and Formulation

7. At appraisal, the project's outcome (i.e. poverty reduction and capacity building of local governments) and impact (i.e. enhanced access to land, water, markets, services, agriculture inputs, technologies, and employment) were consistent with the poverty reduction strategies of ADB and the government. The thematic objective (i.e. sustained economic growth and governance) was also relevant to the country strategy and program.<sup>7</sup>

8. The TA's analysis took into account the multidimensional nature of rural poverty in the project area as well as the capacity of district line agencies and rural support programs (RSPs). The types of proposed outputs were relevant to the target area and groups, and most were incorporated into the project design. The report and recommendation of the President to the Board of Directors (RRP) for the proposed loan documented analyses of the agriculture sector including *barani* agriculture, government plans and policies, and lessons learned from similar projects. A key lesson incorporated into the project design was the application of a participatory, demand-driven approach for targeting the poor and ensuring sustainability. Other lessons included a decentralized project management model, and promoting small and affordable technologies at village level. The design provided selection criteria for various interventions to ensure that benefits are not captured by local elites. The project benefits, impacts, and risks as assessed at appraisal were also relevant.

<sup>5</sup> Government of Punjab, Planning and Development Department. June 2012. *Project Completion Report, Sustainable Livelihoods in Barani Areas Project*. Lahore.

<sup>6</sup> Government of Punjab, Directorate General Monitoring and Evaluation, Planning and Development Department. 2012. *Sustainable Livelihoods in Barani Areas Project, Evaluation Report of Sustainable Livelihoods in Barani Areas Project*. Lahore.

<sup>7</sup> ADB. 2000. *Country Strategy and Program: Pakistan, 2002–2006*. Manila.

9. The project's secondary objective was to strengthen local governance structures, aid the devolution process, and build the capacity of local governments to implement development activities (para. 4). The project design acknowledged the lack of technical capacity of the district line agencies and union councils. However, the support offered to union councils was consultant intensive, which caused delays in implementation due to a lengthy recruitment process. Allocation of support fund to district line agencies (7% of total cost of a medium-scale scheme) was overestimated.

10. The gender and development (GAD) strategy, did not include many quantitative targets. As a result, achievements were much greater compared with the appraisal targets. The flip side of using a demand-driven approach is that GAD targets cannot be fixed at appraisal. Therefore, the design dealt with this issue through targeted interventions for women and girls, such as the establishment of women's community-based organizations (CBOs) and a "literacy through skills training" program.

11. Given the multisector nature of outputs, ABAD was the right choice as the executing agency. It had the required mandate and an established system of interagency coordination from provincial to district levels. The decentralized model of project management helped successfully link the district line agencies and community organizations.

12. The outputs, targets, selection criteria, stakeholder consultation and participation, risks, and costs, as appraised, were generally relevant. However, the estimates for households (hhs) covered under each component were not accurate and actually exceeded the total number in the project area (457,143); the appraisal estimates were 370,000 hhs in each union council for the village and union development component and 500,000 hhs for the targeted poverty alleviation component. The estimates also did not correspond to the number of CBOs. A total of 4,500 CBOs were to have been formed, with a membership of 68,000 hhs. Given that all of the benefits were to be delivered through CBOs and historically around 30% of the beneficiaries are CBO member households, these estimates should have been around 136,000 hhs.

13. The design depended on five prerequisites that delayed implementation: (i) a high level of community participation; (ii) high beneficiary funding estimated at \$8.8 million—15% of the total project cost and 20% of the cost of each subproject; (iii) minimum staffing with 100% financing by the government and limited field offices; (iv) recruitment of consultants, including 2 firms, 5 individual consultants, 3 NGOs, an unspecified number of research and extension institutions, and an unspecified number of consultants for studies and surveys; and (v) financing of medium-scale infrastructure (MSI) schemes through district government accounts. The project lost an initial 3 years due to these preparatory activities and the pending approval of a reduction in the beneficiary funding requirements (which occurred on 1 April 2009). However, because of the overall design strength and minor changes in the project scope and implementation arrangements, the project was successfully completed.

14. The project played an important role in developing new technologies and models of subprojects that were widely replicated by communities, the Government of Punjab, and the district governments. Examples included literacy through skills training, biogas technology, sand dunes stabilization, public water filtration plants, and oxidation ponds.

## **B. Project Outputs**

15. Project framework (Appendix 1), summary of level 2 indicators (Appendix 2), and GAD achievements (Appendix 3) were assessed against performance targets as presented in the RRP. All outputs and targets were relevant and accomplished or surpassed, except for a small activity

of directed agriculture research under the targeted poverty alleviation component. This activity was replaced with small-scale interventions due to similarity of objectives. Following are component and activity wise targets and achievements.

## 1. Village and Union Development

16. The component was designed to provide financing for MSI schemes to help improve livelihoods in the *barani* areas. The appraisal targets included (i) two to four MSI schemes in 200 union councils covering 1,800 community and/or village groups representing 370,000 households, (ii) support to district line agencies, and (iii) support to union councils. The total appraised cost of this component was \$35.712 million (64% of the project's base cost).

17. **Medium-scale infrastructure.** This sub-component was highly relevant to meeting community needs and achieving project objectives. However, implementation was delayed by 2.5 years due to a lengthy consultant recruitment process and the inability of communities to share costs, which was a requirement for approval of schemes. The requirement of cost sharing by communities was dropped for public infrastructure schemes and mode of procurement of civil works was converted from national competitive bidding to the shopping method. The standard bidding documents and first contracts were approved by ADB.

18. Achievements surpassed the targets. A total of 619 schemes were awarded with a total investment of \$17.91 million. Of these, 609 were completed in 210 union councils benefitting 1,814 villages and 122,665 hhs. There were 858,654 direct beneficiaries, 22% of whom were women. A total of 11,464 water user associations, citizen community boards, and project committees representing 153,516 hhs planned, implemented, and are operating these schemes. Of the remaining 10 awarded schemes, 4 were dropped before mobilization of contractors due to conflicts between CBOs, contractors, and line agencies. The other 6 were nearly complete at project completion, and will be completed by district governments using their own resources.

19. The sectoral distribution of the 609 completed schemes is as follows: 250 micro-irrigation schemes (41%); 85 drinking water supply schemes (14%); 65 rural roads schemes (11%); 51 improved agriculture production and marketing schemes (8%); 49 social forestry schemes (8%); 43 soil conservation schemes (7%); 30 energy schemes (5%); and other schemes, including off-farm income generation (OFIG), fish farms, and orchards. A total of 115 schemes had primary GAD objective (19%), involving 18% of total investment.

20. The quality of civil works construction, their operational status, and benefits were satisfactory. The evaluation of 36 randomly selected schemes described in the Government of Punjab's evaluation report showed that the quality of civil works of 25% of the schemes was highly satisfactory, 53% satisfactory, and 22% partly satisfactory. The survey team found 86% of schemes operational at the time of their visit. All of the schemes met intended objectives with the following ratings: 19% highly satisfactory, 53% satisfactory, 17% partly satisfactory, and 11% below average. The subprojects' economic internal rates of return (EIRRs) ranged from 20% to 41%, with most clustering near 25% or higher as compared to appraisal estimates that ranged from 13% to 36%.

21. **Support to district line agencies.** The project allocated \$2.53 million to assist the district line agencies to implement the MSI schemes. The support was to be determined during the evaluation of the union council's proposals. As designed at appraisal, it was to embody approximately 7% of a subproject's cost and include contracted incremental staff, equipment, or training. These requirements were to be estimated and included in the PC-Is submitted to the District Development Committees for approval. Minor changes were made in the implementation

arrangements and the scope of this fund to include three additional items: (i) operating cost covering vehicle and office operating costs, (ii) project allowance to core line agencies staff working on subprojects, and (iii) travel and daily subsistence allowance to core line agencies staff working on subprojects. However, these guidelines were not fully complied with throughout the project period; in particular, the provided project allowance was not used according to approved guidelines. ABAD therefore suspended withdrawals from the fund from 2010 onwards, with exceptional payments for some of the completed subprojects. Final payments were made at project completion after careful assessments. The project used a total of \$0.761 million (30% of the allocation).

22. **Support to union councils.** One of the key project objectives was to strengthen governance structures, aid the process of devolution, and build the capacity of local governments to plan and implement development activities. The project included consulting services comprising 1,080 person-months (later revised to 1,646 person-months) provided by a national firm to support identification and approval of MSI schemes. At project completion, a total of 1,642 person-months were used, including 323 person-months of district supervisors and/or engineers and 1,319 person-months of union council supervisors. The consultants assisted the union councils, identified a total of 1,899 schemes, prepared concept papers for 1,524 schemes, supported approval of 813 PC-Is by district line agencies, and facilitated the signing of 703 partnership agreements with community organizations. The consultants also supported the implementation and monitoring of awarded schemes, the training of line agencies, and the verification of small-scale infrastructure (SSI) schemes before payments were issued to RSPs.

## 2. Targeted Poverty Alleviation

23. The component was generally relevant except for an overestimation of household coverage. It was targeted at small groups of more than 10 beneficiaries. Appraisal targets included the establishment of 4,500 CBOs (40%–50% of women's CBOs) with a total membership of 68,000 to undertake 10–12 community-managed SSI schemes in each of the 200 union councils, combined with community training, enterprise development, and access to credit to about 500,000 hhs. Minor changes in this component included revising an activity (directed agriculture research) and decreasing the targets of another activity (off-farm employment opportunities) due to overlap with other components.

24. Achievements surpassed the appraisal targets. Key achievements included a total of 8,918 CBOs with 144,157 members in 206 union councils, and an average of 17 SSI schemes in each of the 206 union councils combined with community training in enterprise development and access to credit to about 285,425 hhs. The component was completed at a cost of \$14.03 million (99% of the appraised cost). Following are activity-wise achievements.

25. **Community mobilization.** A total of 8,918 CBOs were formed (188% of the appraisal target) in 2,375 villages in 206 union councils. Of these, 3,003 were women's CBOs (34%) and 1,307 were mixed-gender CBOs (15%) with more than 98% women members. Total membership in these CBOs was 144,157, 48% of whom were women. Total savings of the CBOs were \$0.16 million and the savings of women's CBOs were \$0.06 million (40% of the total). For sustainability purposes, these CBOs were organized into an apex structure of 819 village organizations, 36 local support organizations, and 63 citizen community boards (CCBs). In addition, a total of 57,772 CBO's office bearers and activists, 44% of whom were women, were trained in basic and advanced village development planning, community mobilization, fund management and account keeping, and gender mainstreaming skills.

**26. Community managed small-scale infrastructure and other interventions.**

Achievements surpassed the appraisal targets of SSI schemes (10–12 in each of the 200 union councils). A total of 3,409 schemes (an average of 17 schemes per union council) were completed, with a community cost share of 22%. These schemes directly benefited a population of 545,524, 30% of whom were women. A total of 1,364 schemes were executed by women and mixed-gender CBOs (40%), and 864 had primary GAD objectives (25%), with an investment of \$1.60 million (19% of total investment). The sectoral distribution of completed schemes was as follows: 44% for micro-irrigation; 13% for drinking water supply; 12% for sewerage and drainage; 11% for roads, pavements, and culverts; 8% for horticulture; 6% for poultry development; 5% for biogas plants; 1% for soil conservation; and 1% for OFIG. In addition to the 3,409 schemes completed with project financing, the CBOs completed an additional 1,081 schemes at a cost of \$4.40 million, financed by themselves and other donors.

27. The subcomponent was efficient and successful in improving livelihoods and increasing productivity. According to ADB's project completion review mission estimates, the subprojects' EIRRs at completion ranged from 24% to 46%, with most clustering around 29% or higher. Completion cost was \$13.58 million, 106% of the appraisal cost of \$ 12.88 million. The 4% cost overrun was due to a change in the scope of this subcomponent to cover more villages and an increase in unit costs in line with current market rates.

28. The quality of civil works construction and operational status of these schemes were satisfactory. The schemes also satisfactorily met objectives. The Government of Punjab's evaluation of 70 schemes shows that all were operational and properly maintained by the community organizations. The quality of civil works of the schemes was rated 9% highly satisfactory, 80% satisfactory, and 11% partly satisfactory. All of the schemes met intended objectives with the following ratings: 7% highly satisfactory, 80% satisfactory, 3% partly satisfactory, and 10% were below average.

29. **Access to microcredit.** Microcredit funds were provided by the RSPs with their own resources. The project only provided service delivery costs of \$32.09 per loan, amounting to 3% of the total amount disbursed, or \$0.70 million. A total of \$22.54 million was disbursed through 161,525 loans to 97,528 farmers and entrepreneurs. Sectoral distribution was as follows: 43% for enterprise development, 43% for livestock development, 14% for agriculture input, and 0.3% for small-scale infrastructure development. Of the \$22.54 million that was disbursed, \$15.55 million (69% of the total) was provided to women. Recovery of these loans at the time of project completion was 92%, and the program is being continued by RSPs.

30. **Off-farm employment opportunities.** Appraisal targets included providing market-oriented training to 20,000 to 30,000 women and men including enterprise development support through links established with microfinance institutions. This activity was redesigned due to an overlap with similar activities under other components and an inadequate allocation for a proper market-oriented, professional training program. The activity was revised during the ADB midterm loan review as an OFIG training and employment program following an institutionalized approach, and targets were reduced to 3,796 people.

31. Key achievements under this component include the following. In addition to a dedicated OFIG training and employment program, loans totaling \$9.66 million were provided for enterprise development, of which 67% of the funds were disbursed to women. A total of 33 OFIG training and production interventions (2 MSI schemes and 31 SSI schemes) were supported by the project. The types of interventions included 1 football stitching center, 1 surgical instrument training and production center, 183 floor grinding mills, 2 production and marketing centers of

handmade fans, and 269 embroidery machine units. In addition, the project also upgraded 6 public sector vocational training institutions.

32. A total of 18,422 women and men were trained and provided with employment opportunities under the project, including 350 under medium-scale schemes, 471 under small-scale schemes, 13,827 under the literacy through skills training component, and 3,774 under the OFIG program. The surgical instruments production and football stitching centers are each comprised of a 6-month course for 50 persons. At project completion, a total of 350 youths trained in these two centers were employed in industries or had established their own home-based production units. It is expected that these centers will provide training and employment to 200 people every year. The 31 SSIs provided training and employment opportunities to 471 people, earning an annual net income of \$2,558 per job. Under the literacy component, market-based skills were imparted to 13,827 women and girls.

33. Under the OFIG program, a total of 3,774 people, 56% of whom were women, were trained for up to three months in 23 trades related to construction, automobiles, electronics, home appliances repairs, and computer applications. Trainees were provided with kits to start their own business. According to ABAD's records, a total of 2,578 jobs were created through this program. A before and after comparison (according to the Government of Punjab evaluation report, footnote 6) shows that employment among respondents increased from 18% to 29%. Similarly, self-employment increased from 35% to 40%, and unemployment decreased in the area from 47% to 31%. An assessment of income levels shows that 8% of the sampled beneficiaries were earning at market rates and 92% were earning below market rates.

### **3. Literacy Through Skills Training**

34. The appraisal targets included literacy and basic skills training to 12,000 women and girls, group formation and establishing links with microcredit programs. The component was relevant and completed successfully. Minor revisions were made in implementation arrangements to provide for design and implementation support by a domestic NGO. The component was implemented by the district governments (the Department of Literacy and Non-Formal Education) with technical backstopping consulting services of 509 person-months by a domestic NGO.

35. A total of 618 centers (three centers per union council) were established and 618 female teachers were trained to impart a basic literacy program. In addition, skills trainers were employed for 2,472 person-months to train women and girls in income-generation skills. A total of 13,868 women and girls (116% of appraised targets) completed a 6-month literacy and livelihood skills program. Of these, 13,827 were trained for 1.5 months in the following trades: 60% in tailoring, 28% in embroidery, 12% as beauticians, and 0.5% in fabric painting. The socioeconomic status of the students at enrollment was as follows: 66% were 15–25 years old, 22% were 26–35, and 12% were 36–45; 55% were single; 23% were employed; and 61% were from farming households. A resource center was established in the Department of Literacy and Non-Formal Education in each project district to strengthen their capacity. Teaching and skills training kits were also provided to the Department of Literacy and Non-Formal Education to run similar programs with government resources. An impact study of 1,980 students after 8 months of training shows that 52% of women implemented the learned skills for income generation and others used it for expenditure saving. The project helped develop an innovative and successful model of combining literacy with technical skills training, which was appreciated and replicated by the Government of Punjab and the Japan International Cooperation Agency.<sup>8</sup>

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<sup>8</sup> Adult Basic Education Society. 2011. *Project Completion Narrative Report: Provision of Supervision and Technical Backstopping Services for Literacy Through Skills training Component of SLBAP*. Rawalpindi.

#### 4. Institutional and Implementation Support

36. This component included provisions for (i) the establishment of a small project management unit (PMU) in ABAD and 6 district project management units (DPMUs); (ii) NGO services; (iii) technical and management consulting services; (iv) capacity building of the PMU, DPMU, line agencies and NGOs; (v) studies and surveys; (vi) support for transport, equipment, and incremental staff salaries; and (vii) support to the ABAD for the project performance management system. The component was generally relevant to achieving project objectives but the capacity of PMUs and field offices did not match project requirements. Given the multisector and demand-driven nature of the project as well as the intensive coordination requirements across 10 districts, the number of field offices and staff and the expertise at the PMU were revised to match the project requirements.

37. **Project offices and implementation arrangements.** Minor revisions were made in implementation arrangements, including that (i) the number of DPMUs was increased from 6 to 10; (ii) additional technical staff was provided to the PMU and DPMUs; (iii) salaries were increased to avoid high turnover; (iv) salaries' financing arrangement was revised from 100% government share to 70% (loan proceeds) and 30% (government share); and (v) inputs of individual international consultants were reduced due to security problems in Pakistan, and these inputs were converted into national consulting services or regular staff positions. All envisaged offices were established, and most staff and consultants were recruited. Three domestic NGOs were hired, including two RSPs for implementation of the targeted poverty alleviation component and the Adult Basic Education Society to supervise and monitor implementation of the adult literacy through the skills training component. All planning, approval, and coordination forums were established and functional, including the project steering committee, two staff recruitment committees for different grades, the procurement committee, and district project implementation committees. The executive district officers of the finance and planning department were appointed as district project coordination officers in all 10 districts. The project steering committee held a total of 10 meetings during the project period.

38. **Studies and surveys.** The design allocated funds for studies and surveys without specifying terms of reference and level of inputs; they were subsequently developed during implementation. Studies and surveys completed by the project include (i) a baseline survey, (ii) livelihoods assets tracking surveys, and (iii) a project evaluation at closing. These outputs were, however, not fully factored into project planning and reviews.

39. **Project management consulting services.** The project provided for 42 person-months (international) and 357 person-months (national) of technical and project management consulting services to support project start-up and assist the executing and implementing agencies. Minor adjustments were made in the types of expertise and inputs, and the total scope was revised to 430.1 person-months (28.9 international and 401.2 national). A total of 385.1 person-months were used (97% of appraisal targets), including 28.1 person-months (international) and 357 person-months (national). Performance of the consultants was generally satisfactory, but a period of 2 years was lost in recruitment, which negatively affected project start-up. The outputs of consultants were not fully used by the PMU and ABAD, which explains why the consultants-based project management model was not successful. If consultants do not have counterpart staff in the PMU, it is difficult to make meaningful use of their expertise.

40. **Project performance management system.** The system could not be fully developed due to the lack of availability of international consultants because of security problems in Pakistan. In addition, the original design did not include a qualified staff position. An incremental staff position was added in the revised implementation arrangement in 2009, but it was too late to



establish a system. The project, however, did have an unreliable MSI tracking system and a scattered database for the other components, maintained by implementing agencies and NGOs.

### **C. Project Costs**

41. The project cost estimates were generally adequate. The project's appraised cost was \$58.6 million, including taxes and duties, of which \$12.0 million (20%) was to represent the foreign currency cost and \$46.6 million (80%) the local cost. The financing arrangement was as follows: a \$41.0 million ADB loan from the Asian Development Fund (covering 70% of the overall cost); \$8.8 million from the government (15%); and another \$8.8 million (15%) from beneficiaries. The project was completed at a cost of \$42.4 million (72.0% of the appraised cost). ADB financed \$28.1 million (66.3%) of the actual costs as compared to the 70% share estimated at appraisal; the government financed \$7.8 million (18.5%) as compared to the 15% share estimated at appraisal, and the beneficiaries' contribution was \$6.5 million (15.2%) as compared to the 15% share estimated at appraisal. Details of project costs at completion are provided in Appendix 4. A surplus loan amount of \$9.31 million was canceled in November 2011 for the following reasons: (i) savings resulting from exchange rate depreciation of the Pakistan rupee against the US dollar and an increase in the US dollar value of the loan; (ii) lower spending on MSI schemes due to fixed union council-wise allocation in the PC-I and RRP, and (iii) a reduction in associated funds provided to line agencies for design and implementation of MSI schemes.

### **D. Disbursements**

42. An imprest account and the statement-of-expenditure procedure were used for payments. All payments of less than \$50,000 were paid out of the imprest account, which ensured timely release of payments to contractors. Direct payments were made to consultants, NGOs, and vehicle suppliers. The annual contract awards and disbursements under the project are provided in Appendix 5. Overall, disbursement performance was negatively affected by the flow of funds through Account-IV. Since ABAD does not have a presence at the district level, it arranged funding to district governments of schemes through Account-IV instead of through a dedicated sub-account as envisaged under the project.

43. The disbursement of imprest funds would have been faster if ABAD had followed the design and opened a special drawing account for district governments instead of using Account-IV, which is a regular district government account. The project suffered throughout from delays in the liquidation of advances for civil works by the district governments. Some of these funds were used by the district governments for other purposes but later on reimbursed for project activities. Moreover, payments of contractors' bills were often delayed due to freezes on development expenditures from Account-IV.

### **E. Project Schedule**

44. The project was designed to last 6 years starting in the first quarter of 2005, but the actual implementation period was 6 years and 9 months (Appendix 6). The loan became effective within the stipulated period, but overall implementation was delayed due to a freeze on development expenditures before the 2008 elections and after the 2010 floods. Additionally, recruitment time of consultants was not properly factored into the project design, and 2.5 years were lost in the recruitment of implementation consultants to launch the village and union council development component, which was the largest component costing \$28.96 million (63% of the total project baseline cost). On average, 252 days are required to complete recruitment of a firm through competitive bidding, but the design envisaged only 180 days. The technical and management consultants' recruitment was delayed by 3.5 years. The floods also affected the work on awarded

schemes due to physical conditions in the area and the involvement of line agency staff in the rehabilitation of public infrastructure in flood-affected areas, which limited their time to implement project activities. The loan closing date was therefore extended for 9 months from 30 June 2011 to 31 March 2012.

## **F. Implementation Arrangements**

45. The assessments of executing and implementing agencies' capabilities at appraisal were generally accurate. However, the design did not recognize the need for a full PMU and a DPMU for each district to deal with the complex nature of multisector interventions spread over 10 districts, which involved intense coordination with multiple line agencies, NGOs, and consultants. The number of incremental staff positions and the expertise of staff were less than the project requirements. The decentralized model of project management matched the project requirements. However, it was consultant-intensive, which was inefficient due to high costs and a lengthy recruitment process. The international consultants also could not provide their input in time due to their other commitments and security problems in Pakistan. However, partner NGOs had the required institutional mandates and technical capacities to deliver project outcome and outputs. These issues were resolved through minor revisions in implementation arrangements, including that (i) the number of DPMUs was increased from 6 to 10 offices; (ii) additional technical staff was provided to PMU and DPMUs; (iii) salaries were increased to avoid high staff turnover, and the financing arrangement for salaries was revised to derive from loan proceeds (70%) and the government (30%) rather than 100% from the government; and (iv) inputs from international consultants were reduced and converted into national consulting services or regular staff positions.

## **G. Conditions and Covenants**

46. The loan effectiveness and disbursement conditions were few and simple in nature. The conditions of loan effectiveness were met, and the loan was declared effective within 3 months of its signing. All covenants were relevant. The project's overall compliance with key social, financial, environmental, economic, and other implementation-related covenants was generally satisfactory (Appendix 7), except for noncompliance with covenants related to a dedicated project account and the establishment of a consultative forum including political representatives, both at the district level.

## **H. Related Technical Assistance**

47. The component of literacy through skills training was linked with the technical assistance (TA) for Non-Formal Primary Education and Functional Literacy for Rural Women in Selected Barani Areas of Punjab. The TA supported the preparation and pre-testing of teaching materials to be used by the project. The TA was closed on 31 December 2007 and was rated satisfactory. A separate TA completion report was prepared and approved on 24 December 2009.<sup>9</sup>

## **I. Consultant Recruitment and Procurement**

48. Consultants were recruited and goods and works were procured according to the provisions of the loan agreement (Schedule IV and V), ADB's *Guidelines on the Use of Consultants*, and ADB's *Procurement Guidelines*. ADB took steps to ensure compliance with the ADB guidelines including (i) review and approval of standard bidding documents, bid evaluation

<sup>9</sup> ADB. 2009. *Technical Assistance Completion Report: Non-Formal Primary Education and Functional Literacy for Rural Women in Selected Barani Areas of Punjab*. Manila.

report, and draft contracts for each district; (ii) post-reviews of bidding procedures and civil work contracts during 10 loan review missions; (iii) review and approval of shortlist and request for proposal for all consultants' contracts and ABAD's technical evaluation reports, financial evaluation reports, final ranking, draft negotiated contracts; and (iv) checking of quality and the use of goods and services during loan review missions.

49. The mode of procurement of civil works under MSI schemes was changed from national competitive bidding to the shopping method since these small contracts were below \$100,000. Most of the consulting packages were developed at appraisal for 1,479 person-months (42 international and 1,437 national). However, inputs and terms of reference of contracts with the three NGOs and individual consultants for studies and surveys were developed during implementation. All envisaged consultants were recruited (Appendix 8) and a total of 2,536.1 person-months (28.1 international and 2,508 national) were utilized (89% of total).

#### **J. Performance of Consultants, Contractors, and Suppliers**

50. The performance of consultants including NGOs was satisfactory, except for that of international consultants who could not provide desired inputs due to security problems in Pakistan. Most of the deliverables were accomplished, except for the proposed management information system, which could not be established due to a lack of input by the international project management specialist. All small-scale civil works contracts were procured through community participation and completed on time. The quality of civil works was satisfactory. Medium-scale civil works contracts were awarded to small contractors and were completed on time following an initial delay.

#### **K. Performance of the Borrower and the Executing Agency**

51. The performance of the borrower and the executing agency (ABAD) was generally *satisfactory*. After an initial delay, ABAD supervised the project efficiently. However, ABAD could have played a more active role in resolving delays in the liquidation of project funds by district governments, the appointment of project staff, and the approval of revised PC-I. The project steering committee and other committees efficiently and diligently made policy decisions and conducted compliance reviews and approvals. Despite its small size, ABAD's project management unit fulfilled management and coordination targets, including procurement and management of contracts, implementation, and monitoring and evaluation. Counterpart financing was highly satisfactory, and ABAD submitted all audit reports. Overall performance of the implementing agencies was generally *satisfactory*, despite systemic financial problems faced by the district government, which caused delays in the transfer of funds to line agencies and the clearing of payments to contractors.

#### **L. Performance of the Asian Development Bank**

52. ADB's overall performance was *satisfactory*. ADB expedited implementation and ensured compliance with loan conditions and covenants, trained ABAD staff in disbursement and procurement guidelines, reviewed and processed approvals for proposed minor changes in project scope and implementation arrangements, and held dialogues with the government to resolve policy issues negatively affecting the project. A total of 10 review missions were carried out, including the midterm review mission in 2008 and the project completion review mission in April 2012. ADB extended the loan for 9 months to complete medium-scale infrastructure schemes that were delayed due to the 2010 floods.

### III. EVALUATION OF PERFORMANCE

#### A. Relevance

53. Overall, the project was *highly relevant* to ADB's objective of poverty reduction and consistent with the needs of the target group, ADB's country strategy and program, and the government's strategies for rural development and the agriculture sector. The thematic objective of sustained economic growth and governance was relevant to ADB thematic objectives, and the government's commitments to fostering economic growth and improving local governance. The community participation system created under the project increased the capacity of target communities to take the lead in realizing their own priorities with the help of the local development administration system. It also improved accountability and transparency in the use of public funds. All development objectives have been fully achieved despite a challenging macroeconomic situation, but systemic disparities between richer urban areas and poorer rural areas remain unresolved.

54. The project outcome and outputs were *highly relevant* to the problems faced by poor settlements largely dependent on rain-fed agriculture. All the appraised activities were relevant and helped increase agriculture productivity, water use efficiency, access to services, and incomes. All the appraisal targets were generally surpassed except for a small activity of directed agriculture research, which was dropped. However, the issues faced by the farmers related to research and extension were addressed through small-scale interventions and community training. Implementation delays caused by the recruitment of consultants could have been avoided by placing regular staff positions in the PMU and DPMUs. Key changes approved during project implementation included (i) waiving beneficiary funding requirement for medium-scale public infrastructure schemes; (ii) revising procurement of all civil works under medium-scale schemes from national competitive bidding to the shopping method; (iii) increasing the number of DPMUs from 6 to 10 and strengthening the capacity of the PMU and DPMUs; (iv) extending the loan closing date for 9 months to allow for completion of awarded schemes that were delayed due to floods in 2010; (v) revising directed agriculture research activity due to overlap with other components; and (vi) canceling a surplus loan amount of \$9.31 million.

#### B. Effectiveness in Achieving Outcome

55. The project was *effective*. The outputs contributed to the improved, sustainable use of natural resources with the help of local government and enhanced community infrastructure. The project contributed to an increase in production and change in cropping pattern in favor of high income crops attributed to higher water availabilities, higher fertilizer application, and better cultural practices. Compared to the base year (2005), the production significantly increased in 2012 as follows: wheat by 171%, maize by 238%, berseem fodder by 326%, vegetables by 441%, and orchards by 496%. The increase in crop production over "without project" situation was as follows: wheat by 12%, maize by 73%, berseem fodder by 124%, and vegetables by 44%. Purchase of nitrogenous fertilizers (mainly urea) increased by 244%, and use of phosphatic fertilizer increased by 209% over 2005 due to increased water availability. However, the project faced completion-delay due to floods in 2010 in the project area and start-up delay due to minor design problems.

#### C. Efficiency in Achieving Outcome and Outputs

56. The project was highly efficient. It was completed at 72% of the appraisal cost and was able to surpass appraised targets for all components. The subprojects implemented proved to be more pro-poor and less exclusionary than comparable government schemes in the same

localities. The overall project EIRR was 25.3%, compared to the appraisal estimate of about 20% (Appendix 9). The higher rate of return was mainly due to low-cost implementation and better returns for all schemes. The economic analysis included EIRRs for 22 medium-scale and 11 small-scale schemes. The EIRR for microfinance was calculated, but neither the cost nor returns were factored into overall project returns because funds were provided by RSPs from their own resources and the project only provided for delivery costs.

57. The financial internal rates of return (FIRRs) cluster around 25% (Table A9.5) and are generally higher than the appraisal estimates, which fall in the range of 8.8% to 37.6%. The overall FIRR is 24.4%, contributed to by MSI schemes and (16.1%) and SSI schemes (8.3%). The FIRR for microcredit is 55% and its benefit-cost ratio at a 15% discount rate is 1.98.

#### **D. Preliminary Assessment of Sustainability**

58. The sustainability of the project is *most likely*. Of the 609 completed medium-scale schemes, 329 schemes (54%) were executed by community organizations and 518 schemes (85%) were maintained by community organizations. The remaining 91 schemes (15%)—mainly roads, livestock veterinary centers, and large water supply schemes—were operated and maintained by the district governments and municipal administrations. A total of 2,546 water user associations, CCBs, and O&M committees were established by the project for the sustainable use of medium-scale schemes. In addition to providing training for skilled workers, including masons, electricians, and plumbers, the project has also trained 8,434 community activists in the operation and maintenance of MSI schemes. All of the small-scale schemes are being operated and maintained by CBOs. Further, all community organizations established under the project are registered bodies and qualify for assistance from RSPs, district governments, and other funding agencies. The project has trained 57,772 community leaders to run these CBOs, maintain MSI schemes, and undertake new initiatives.

#### **E. Impact**

59. **Overall impact.** The overall impact is rated as *highly positive*. The project achieved all intended targets and benefits. The 293,000 beneficiaries were from vulnerable groups, including landless subsistence farmers and women. According to the project completion review mission's estimates, the overall poverty impact ratio is 1.25, indicating that the project activities have been generally pro-poor. The infrastructure schemes addressed local needs and ensured increased access by local communities to increased social and economic opportunities. In particular, the biogas plants, with a poverty impact of 1.11, and the sand dunes stabilization subproject, with a poverty impact of 1.25, helped poor households increase their incomes. The benefits of the micro-irrigation schemes included (i) a 21% increase in overall cropping intensity; (ii) changes in the cropping pattern in favor of high-value crops; (iii) yield improvements of 7% for wheat, 13% for maize, 23% for gram, 8% for groundnut, 7% for vegetables and 130% for orchards; and (iv) an overall 91% increase in net income. The fish ponds transformed lands that were virtually barren and increased income by \$1,500 per hectare.

60. **Employment.** The project generated employment opportunities regularly, including 29,774 person-months of input in project offices, consulting firms, and partner NGOs. Of these, 20% person-months were contracted to female staff. Around 3.5 million person-days of employment (divided between 18,000 people) were created annually, generally in farm-related activities, with more than 60% due to micro-irrigation and the establishment of orchards. Other opportunities included (i) off-farm employment in civil works contracts under the project for skilled and unskilled labor, and (ii) jobs through OFIG skill training and enterprise development through microcredit.

61. **Direct benefits of infrastructure schemes.** Water sector benefits included new and improved drinking water supply to a total of 21,906 hhs, including new piped water connections to 4,370 hhs, un-piped water to 10,300 hhs, and improved piped water connections to 7,236 hhs. A total of 46.76 kilometers (km) of water supply networks were installed. In addition, a total of 7,929 hhs were provided with new piped and un-piped sanitation connections. A total of 27,654 ha of land were improved through flood management and irrigation schemes.

62. Transport sector interventions connected 31,703 hhs to road networks via 124.58 km of rural roads, including asphalt roads, jeepable tracks, concrete roads, soling roads, and trail paths. Rural electrification schemes connected 531 new households through the installation and upgrading of 29.24 km of transmission lines. Agriculture and horticulture sector interventions directly benefited 25,433 farmers through improved productivity of 22,447 ha of land as a result of improved land fertility, additional land brought under cultivation, the establishment of fruit orchards, and the growing of vegetables. The yearly net income of fruit orchards on 321 ha after maturity is \$0.59 million on full maturity after year 5 from the time of planting (at a rate of PRs148,065 per ha). Tractor ownership increased by 2.7% according to the evaluation report of the Government of Punjab.

63. Biogas plants saved women from the drudgery of making dung cake and collecting and burning fuel wood. A total of 2,517 biogas plants provide alternate fuel to 2,517 hhs, saving \$0.33 million annually (estimated at PRs10,500 per hh). The demonstration impact of this intervention was highly positive. According to ABAD's estimates, the communities constructed approximately 5,000 plants using their own resources. The government has included this intervention in its annual development plan.

64. The two OFIG schemes under medium-scale schemes have been highly beneficial to local youths. The football stitching and surgical instruments training and production centers trained 350 youths, with most employed in these industries or working from home under contract. Their yearly net income is estimated at \$47,000. In addition, 417 jobs were created by 31 small-scale schemes including flour grinding machines, the production and marketing of handmade fans, and machine embroidery, each with a net annual income of \$2,558 per job.

65. The sand dunes stabilization schemes in the Thal Desert proved to be model investments. A total of 26,278 farmers directly benefited from the planting of eucalyptus in waterlogged areas of the Chenab–Jhelum link canal in the Noorpur Thal Desert area as well as indigenous species on dry lands in other districts. A total plantation of 2,030 ha of plantation for sand dunes stabilization, shelterbelts, and farm forestry was raised with total yearly net income of \$0.95 million through the sale of eucalyptus crops to local match and paper industries and for use as fuel wood. These plantations also increased the production of grass, fodder, brush, and fuel woods. Based on the success of these schemes, the community planted more than 1,000 ha with their own resources in Nurpur Thal alone. Most of these plantations have been taken on lease by the match and pulp industry.

66. **Environmental and social safeguards.** At appraisal, the project was not anticipated to have impacts on resettlement and indigenous peoples as defined by ADB and the project was rightly rated as category B for the environment. The project had positive impacts on the workload of women through water supply, sanitation, biogas, and rural electrification subprojects. Literacy, microcredit, CBOs formation and training improved the status of women.

## IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

### A. Overall Assessment

67. Overall, the project is rated *highly successful* because all four components achieved their physical targets, objectives, and level 2 indicators despite systemic problems, including (i) an inconsistent flow of funds, (ii) the suspension of project activities due to a freeze on development funds before the 2008 elections and after floods in the project area in 2010, (iii) disruptions in project operations due to political crises and elections during 2007–2008, (iv) administrative changes in local government, (v) project design complications, and (vi) extension in loan closing date to complete schemes that could not be completed on schedule due to floods in the project area. The project was mostly implemented as designed at appraisal. However, minor changes were made in implementation arrangements.

### B. Lessons

68. In order for it to be efficiently implemented, a multisector area development project covering multiple districts must have (i) ABAD as the executing agency, since it has the essential mandate; (ii) a decentralized project management model with dedicated staff and market-based salaries and benefits; (iii) flexible, demand-driven design of interventions; (iv) minimum beneficiary funding requirements; (v) fewer consultants and more regular staff; (vi) clear and realistic GAD targets; (vii) a duration of at least 8 years; (viii) pre-selection of NGOs at appraisal to avoid start-up delays; (ix) flexibility in loan extension and responsiveness to security crises and natural disasters; (xi) a dedicated sub-account for district governments; and (xii) a project performance management system designed at appraisal. The combination of a line agencies' support fund, a project allowance for concerned line agencies staff, and community participation ensured the accountability of line agencies and contractors.

### C. Recommendations

69. **Project specific recommendation.** Pre-selection of RSPs at appraisal was successful and helped keep the project start-up on schedule. Overall, the consulting services were over-designed and recruitment cause project start-up delay. Instead of consultants, using incremental staff would have been more efficient for project start-up.

70. **Future monitoring.** The executing agency should monitor the O&M of medium-scale schemes and ensure completion of the six ongoing schemes.

71. **Timing of the project performance evaluation report.** The project will be ready for a performance evaluation in 2014.

72. **General recommendations.** A more socially responsible approach needs to be adopted for community participation based on the idea that it is the state's responsibility to provide basic services to citizens. In Pakistan, this responsibility is being fulfilled by the state to an extent in urban areas where communities do not directly share costs of public infrastructure. In rural areas, on the other hand, public amenities of similar quality and scale are not provided, but the communities are required to directly share their costs. Given the preexisting inequalities between rural and urban areas in incomes and public amenities, asking poor rural communities to cost share and assume O&M responsibilities for medium-scale public infrastructure is unjustifiable. In addition, these schemes also require specialized technical skills and incur high O&M costs.

## PROJECT FRAMEWORK

Design Summary	Performance Target at Appraisal	Achievements at Completion
<b>Impact</b> 1. Improved quality of life	Increased farm productivity	<p>The crop yields were too low in base year (2005), primarily due to nonavailability of water and drought. The yields increased significantly compared to base year mainly due to increased water availability. The micro-irrigation schemes under the project improved farm productivity. Overall increase in yields was 37% for wheat, 53% for maize, 8% for gram, 189% for groundnut, 17% for vegetables and 152% for orchards. The increase in yields over "without project" situation was 7% for wheat, 13% for maize, 23% for gram, 8% for groundnut, 7% for vegetables and 130% for orchards.</p> <p>21% increase in overall cropping intensity and changes in the cropping pattern in favor of high-value crops</p> <p>An overall 91% increase in net farm income due to irrigation schemes under the project</p>
2. Reduced poverty	Increase in employment and enterprises	<p>3.5 million person-days of employment were created annually, generally in farm-related activities generated by the project, with more than 60% due to micro-irrigation and the establishment of orchards.</p> <p>18,422 women and men were trained and provided with employment opportunities under all project components. Other opportunities included: (i) off-farm employment in civil works contracts under the project for skilled and unskilled labor, and (ii) jobs through enterprise development under microcredit program.</p>
3. Better natural resources management	Increase in per capita income and improved social welfare	<p>According to Pakistan living standards measurement (PSLM) survey, average per capita income per year increased by 33% from \$242.85 in 2006 in rural areas of Punjab province to \$322.88 in 2011.</p> <p>21,906 households (hhs) were provided with new and improved drinking water supply facilities and 7,929 hhs were provided with improved sanitation.</p> <p>2,517 biogas plants provide alternate fuel to 2,517 hhs, saving \$0.33 million annually (estimated at \$132.88 per hh). The communities replicated the model and constructed additional 5,000 plants using their own resources. The government has included this intervention in its annual development plan.</p> <p>Transport ownership increased in treatment group after project intervention as compared to controlled group: car by 4.5%, cycle by 2.1%, tractor by 2.7%, motorcycle by 4.5% (the Government of Punjab evaluation report).</p>



Design Summary	Performance Target at Appraisal	Achievements at Completion
<p><b>Outcome</b> Enhanced access to land, water, markets, services, agriculture inputs, technologies, and employment for the population of the <i>barani</i> areas</p>	<p>Increased crop and livestock production by 15—20% in target areas</p>	<p>Compared to base year (2005), the production significantly increased in 2012: wheat by 171%, maize by 238%, berseem fodder by 326%, vegetables by 441% and orchards by 496%. The increase in crop production over "without project" situation was: wheat by 12%, maize by 73%, berseem fodder by 124%, and vegetables by 44%.</p> <p>The production increased over the 'without project' situation due to higher water availabilities under 'with project' situation, higher fertilizer application and better cultural practices. Production for gram and sorghum decreased due to change in cropping pattern in favor of high income crops attributed to availability of irrigation water. The area under rice decreased due to its high delta requirements.</p> <p>Significant increase over 'without project' situation was observed for fodders (berseem &amp; maize) to meet increased livestock fodder requirements and for orchards that fetch comparatively higher income.</p> <p>Agriculture and horticulture sector interventions directly benefited 25,433 farmers through improved productivity of 22,447 ha of land as a result of improved land fertility, additional land brought under cultivation, the establishment of fruit orchards, and the growing of vegetables. The yearly net income of fruit orchards on 321 ha alone after maturity is \$0.59 million on full maturity after year 5 from the time of planting (at a rate of PRs148,065 per ha).</p> <p>27,654 ha of land were improved through flood management, irrigation and drainage schemes.</p> <p>\$1,500 per hectare income was generated by lands transformed into fish farms, which were virtually barren. A total of 8,140 fish farms were constructed, producing 250 tons fish per year benefiting 4,849 farmers.</p> <p>20,280 farmers were provided with 832 disc harrows, which improved the fertility of 21,687 ha of land. Another 61 ha of land was brought under cultivation.</p> <p>Community seed banks were constructed, providing facility to 2,665 farmers and seed to 243 ha of farms.</p> <p>3,522 kilograms of improved seed was provided, vegetables were grown on 111 ha, fruit plants were grown on 181 ha, and an additional 49 ha were brought under cultivation for fruit plantation.</p> <p>125 farmers trained in improved fruit and vegetable</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>production and water courses were developed for tunnel technology; orchards were developed on 164 ha; and 12,071 farms benefited from horticulture schemes.</p> <p>Livestock related subprojects included provision of chillers and veterinary dispensaries. There was no intervention aimed at increasing livestock production. Livestock Census was carried out in FY2006 in Pakistan and since then, it has not been updated.</p> <p>770 farmers benefited from milk chiller with milk storage capacity of 3,350 liters.</p> <p>4,151 farmers benefited from veterinary dispensaries and service centers at project closing. In addition, 2,450 animals were also treated and dewormed.</p> <p>30,723 women received 105,336 improved breed birds.</p> <p>Average number of vehicles of various type per kilometer of road length improved by the project (PCR mission estimates) is as follows: 244 trips per months for cars, 266 trips per month for tractors, 128 trips per month motor bikes, 376 trips per month for pickups, and 22 trips per month for trucks and or loaders.</p> <p>The project contributed 29 km of distribution lines and provided 531 new electricity connections to 581 hhs. Overall data on percentage increase in electricity covered for target union councils (UCs) was not available.</p> <p>Purchase of nitrogenous fertilizer (mainly urea) increased by 244% and phosphatic fertilizer increased by 209% over 2005</p> <p>13,678 ha of area benefited, out of which 2,401 has is the new area brought under plough.</p> <p>Most of the seeds used are own farm production.</p> <p>According to PSLM survey, average percentage health provider contacts by population fallen sick or injured during last two weeks increased from 93.2% in 2005 in rural areas of 10 project districts to 94.7% in 2012.</p> <p>According to PSLM survey, the average gross enrollment rate at primary level (age 5-9) increased by 0.4% for males and 3.3% for females in rural areas of 10 project districts in 2012 as compared to 2005.</p> <p>According to PSLM survey, overall literacy rate (10 Years &amp; Older) increased from 47% in 2005 in rural of Punjab to 70% in 2011; and for females it increased</p>
	Increased traffic on targeted union roads	
	Increased electricity coverage in <i>barani</i> village (% of households) in targeted unions	
	Increased agriculture input sale in union markets	
	Increased use of health and education services in targeted unions (number of health provider contacts; enrollment rate for girls and boys)	
	Increased level of literacy	

Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>35% to 53%.</p> <p>According to the Government of Punjab evaluation report, by average, number of school going children (above 5 years) in treatment group increased by 0.56% after project as compared to controlled group.</p> <p>According to PSLM survey, average adult literacy rate (population aged 15 years and above) increased from 53% in 2005 in rural areas of 10 project district to 57.9% in 2011; and from 37.8% to 45.3% for females.</p>
<p><b>Outputs</b></p> <p><b>1. Village and Union Development Fund</b></p> <p>1.1 Community-based medium-scale initiatives</p>	<p>By the end of the project, two to four significant development interventions (e.g., rural link roads, jeepable tracks, market improvement, rural electrification, water storage, water conveyance, water conservation, range management, agriculture improvement) are undertaken by 1,800 community and/or village groups representing 370,000 households in each of the 200 UCs.</p>	<p>609 MSI schemes were completed in 210 UCs covering 1,814 villages, 11,464 community organizations, and/or village groups representing 153,516 hhs.</p> <p>115 schemes (19%) completed were with primary GAD objectives and 18% of total investment was spent on schemes with GAD objectives.</p> <p>8,434 community activists were trained in natural resource management and O&amp;M of medium-scale schemes.</p> <p>Following are level 2 indicators:</p> <p><b>Medium-scale interventions</b> The 609 completed schemes included 250 micro-irrigation schemes (41% of total); 85 drinking water supply schemes (14%); 65 rural roads (11%); 51 improved agriculture production and marketing schemes (8%); 49 social forestry schemes (8%); 43 soil conservation schemes (7%); 30 energy schemes (5%); and others, including OFIG schemes, fish farms, and orchards.</p> <p><b>Micro-irrigation.</b> Interventions included 6 oxidation ponds, 4 dug wells, 3 irrigation ponds, 18 mini dams, 1 protection wall, 47 PVC linings, 48 shallow tube wells, 121 water course linings, and 2 water storage tanks.</p> <p>2,147 ha of land were brought under cultivation, 12,077 ha were improved by irrigation, and 20 ha were improved by flood management.</p> <p><b>Agriculture and horticulture development.</b> Interventions included 37 diesel engine conversions and electrification of tube wells under 2 schemes, 832 disc harrows under 43 schemes, 5 community seed banks, 1</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>model agriculture farm, 7 orchards, 4 tunnel technology schemes, and 21 soil conservation schemes.</p> <p><b>Fish farms.</b> 8 schemes were completed and 140 farms were constructed.</p> <p><b>Energy.</b> It included 21 biogas schemes and 9 village electrification schemes.</p> <p>1,422 biogas plants were provided to 1,422 households and 29 km of distribution lines provided 531 new electricity connections to 581 hhs.</p> <p><b>Drinking water supply, drainage, and sanitation.</b> Schemes included 5 distribution systems, 2 distribution systems and storage, 7 hand pump schemes, 9 roof water harvesting systems, 15 submersible pump schemes, 34 water filtration plants, 13 water storage tanks and distribution systems, and 8 drainage and sanitation subprojects.</p> <p>Facilities included a 16.6 km piped water supply network, 130 submersible pumps, 169 hand pumps, and 110 water filtration pumps.</p> <p>1,292 new hhs were connected to piped water, 5,833 new hhs were connected to un-piped water, and 5,080 hhs received improved water supplies.</p> <p>266,400 gallons of water and 163,200 gallons of treated water were provided per day to 224,236 people.</p> <p>881 households received new piped sanitation connections.</p> <p><b>Roads.</b> Subprojects included 36 asphalt roads of 41.24 km in length, 2 jeepable tracks of 6.5 km in length, 20 concrete roads of 15.84 km in length, and 7 soling roads of 8 km in length.</p> <p>24,410 hhs benefited from road subprojects.</p> <p><b>Sand dunes stabilization and shelterbelt plantation.</b> 49 schemes were completed benefiting 26,278 farmers. 2,030 ha of plantations were raised as shelterbelts, sand dunes stabilization, and farm forestry with a total yearly income of \$0.95 million from the 5th year onwards through the sale of eucalyptus crops to local match and paper industries and for use as fuel wood. In addition, 1,000 ha of shelterbelts were raised by community organizations with their own resources. Most of these plantations have been taken on lease by the match and pulp industry.</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
	At least 20% of the population of each union belongs to a community organization.	<p><b>Livestock and dairy development.</b> Schemes included 1 milk chiller scheme and 6 veterinary dispensaries and service centers.</p> <p>34% of households belonged to CBOs.</p> <p>Of total 457,143 hhs in project UCs, 115,326 hhs are members of 8,918 CBOs formed by RSPs, and 38,190 hhs are members of 2,546 water user associations, citizen community boards, and project management committees formed by the project for medium-scale interventions.</p>
1.2 District line agencies support	By the end of the project, line agencies are strengthened and provide adequate support to UCs and CBOs to identify and implement development Interventions.	<p>1,642 person-months consulting services including 323 person-months of project quality supervisors and district supervisors and 1,319 person-months of project facilitators were utilized to strengthen the line agencies and UCs.</p> <p>The consultants assisted the UCs in identifying 1,899 schemes, preparing concept papers for 1,524 schemes, vetting 1,194 schemes, supporting approval of 813 PC-I by district line agencies, and helping sign 703 partnership agreements with CBOs.</p> <p>Workshops were held to train project staff, consultants, and staff of RSP and line agency. The workshops included 1 induction workshop, 3 project formulation and approval trainings, 8 workshops for line agencies on the PC-I formulation, and 16 workshops for community leaders on project formulation.</p> <p>A \$0.761 million support fund was provided to district governments to strengthen line agencies and to pay for operational costs of MSI schemes.</p>
1.3 RSP support to union councils	The RSPs in the project area are strengthened to upscale their outreach and facilitate target groups to initiate poverty focus interventions.	<p>CBOs were organized into an apex structure of 819 village organizations, 36 local support organizations, and 63 citizen community boards. These apex organizations are registered entities, which qualify them to receive public funds.</p> <p>1,081 schemes costing \$4.40 million were completed by CBOs community organizations with financing from other donors and 9% of funds were spent on schemes with GAD as their primary objective.</p> <p>19 training workshops were held to train RSP staff.</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
<p><b>2.Targeted Poverty Alleviation Fund</b></p> <p>2.1 Group-based small-scale initiatives</p>	<p>By the end of the project, 4,500 CBOs (men and women) are formed with a total membership of 68,000 to undertake 10-12 small-scale community infrastructure schemes in each of the 200 unions, combined with community training, enterprise development and access to credit to about 500,000 households over the project period.</p>	<p>There was an average of 17 SSI schemes in each of the 206 UCs combined with community training in enterprise development and access to credit to about 285,425 hhs.</p> <p><b>1. Community mobilization</b> 8,918 CBOs were formed (188% of the appraisal target) in 2,375 villages in 206 UCs.</p> <p>Of total CBOs formed, 3,003 were women's CBOs (34% of the appraisal target) and 1,370 were mixed-gender CBOs (15%) with more than 98% female members.</p> <p>Total CBO membership was 144,157 people, of whom 48% were women.</p> <p>Total CBO savings were \$0.16 million and the savings of women CBOs were \$0.06 million (40% of the total).</p> <p>57,772 CBO's office bearers and activists, 44% of whom were women, were trained in basic and advanced village development planning, community mobilization, fund management and account keeping, and gender mainstreaming skills.</p> <p><b>2. Small-scale infrastructure and other interventions</b> 3,409 SSI schemes were completed in 206 UCs benefiting 77,932 households. The Level 2 indicators are as follows:</p> <p>1,364 schemes were executed (40% of the total) by women's and mixed-gender CBOs, 864 of which had GAD objectives (25%) with an investment of \$1.60 million (19% of the total investment at completion).</p> <p>The project completed 1,517 micro-irrigation schemes, 429 drinking water supply schemes, 402 sewerage and drainage schemes, 363 roads schemes, 259 horticulture schemes, 195 poultry development schemes, 165 biogas schemes, 48 soil conservation schemes, and 31 OFIG schemes.</p> <p>In addition to schemes financed by the project, a total of 1,081 schemes totaling \$4.40 million were completed with financing from other donors and. Of these funds, amount, 9% were spent on schemes with GAD objectives</p> <p><b>Micro-irrigation schemes.</b> These included 45 dug wells, 459 piped irrigation schemes, 6 sprinkle irrigation schemes, 1,001 water course linings, and 6 tube wells.</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>329 km of water course were constructed, 379 km of irrigation pipes were laid, and 74 dug wells, 12 sprinklers, and 6 tube wells were constructed.</p> <p>11,097 ha of additional land were brought under cultivation and 12,488 farmers were trained.</p> <p><b>Water supply, sanitation, and drainage.</b> Schemes included 147 new water distribution networks, 87 schemes involving the rehabilitation of distribution networks and storage tanks, 24 water supply extensions, 7 rainwater harvesting schemes for general purposes, 3 water filtration plant schemes, 161 hand pumps, 351 street pavement, 47 drainage schemes, 1 sewerage tank, and 3 schemes involving the construction of pond boundary walls.</p> <p>9,701 hhs benefited from water supply schemes and 7,048 hhs benefited from sewerage and drainage schemes.</p> <p>30 km of pipes were laid and rehabilitated, 533 hand pumps were installed, and 541 storage tanks were constructed.</p> <p>3,078 new hhs were connected to piped water, 4,467 hhs were connected to un-piped water, and 2,156 hhs were provided with an improved water supply.</p> <p>326,990 gallons of water were supplied and 1,500 gallons of water were treated each day.</p> <p>7,013 hhs received new un-piped sanitation connections, 35 hhs received new piped sanitation connections, 39 km of streets were paved, and 10 km of drains were constructed.</p> <p><b>Roads.</b> It included 175 concrete road schemes, 94 soling road schemes, 62 culvert schemes, and 32 trail path schemes.</p> <p>Facilities included 27 km of concrete roads, 23 km of soling roads, 3 km of trails, and 1,610 culverts.</p> <p>5,309 hhs benefited.</p> <p><b>Biogas.</b> 1,095 biogas plants were constructed under 169 schemes, benefiting 1,095 households.</p> <p><b>Agriculture, horticulture, and poultry development.</b> 48 soil conservation schemes, 60 improved vegetable production schemes, 199 fruit plantation schemes, and 195 poultry rearing schemes were completed.</p> <p>645 ha of land were protected through soil conservation</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>schemes, benefiting 6,272 farmers.</p> <p>180,545 farmers benefited from horticulture interventions.</p> <p>3,522 kilograms of improved seed was provided, vegetables were grown on 111 ha, fruit plants were grown on 181 ha, and an additional 49 ha were brought under cultivation for fruit plantation.</p> <p>30,723 women received 105,336 improved breed birds.</p> <p><b>OFIG schemes.</b> Interventions included 14 flour grinding mill schemes, 2 handmade fan production and marketing schemes, and 15 sewing and/or embroidery machine schemes.</p> <p>3,563 people benefited, 53% of whom were women.</p> <p>183 flour grinding machines were installed, 288 persons were trained, and 471 jobs were generated.</p> <p><b>3. Access to microcredit</b> \$22.54 million amount was disbursed through 161,525 loans to 97,528 farmers and entrepreneurs.</p> <p>The loans portfolio was divided thusly: 43% for enterprise development, 43% for livestock development, 14% for agriculture input, and 0.3% for small-scale infrastructure development.</p> <p>Of the total \$22.54 million disbursed, \$15.55 million (69% of the total) was provided to women. The rate of loan recovery at project completion was 92%.</p>
2.2 Off-farm employment opportunities	About 20,000–30,000 men and women receive market-oriented training and enterprise development support through linkages established with institutions.	<p>The concept and related activities were revised during ADB mid-term review due to duplication with other components. The revised scope included an OFIG training program, and targets were revised to 3,796. 3,774 people, 56% of whom were women, were trained for up to 3 months in 23 trades related to construction, automobiles, electronics, home appliance repair, and computer applications, and were provided with kits to start their own business.</p> <p>6 public vocational training institutions were upgraded.</p> <p>33 OFIG training and production centers (2 MSI and 31 SSI schemes) were financed under the project.</p> <p>18,422 women and men were trained and provided with employment opportunities under all project components including 350 under medium-scale interventions, 471 under small-scale interventions, 13,827 under the</p>



Design Summary	Performance Target at Appraisal	Achievements at Completion
		<p>literacy through skills training component, and 3,774 under the OFIG training program.</p> <p>\$9.66 million in microcredit was disbursed by RSPs from their own resources for enterprise development; 67% of this amount was disbursed to women.</p>
2.3 Directed agriculture research	<p>Farmers have been able to identify the specific problem areas.</p> <p>Research funding was accessed by researchers and solutions were provided.</p>	<p>This activity was revised due to duplication with training and SSI schemes as well as considerable start-up delays caused by problems in the recruitment of suitable research institutions. Private research institutions were not available and most public institutions lacked capacity and were barred from participating in competitive bidding. Given the similar objectives of the directed agriculture research (i.e., increasing livestock and farming productivity), the scope of SSI schemes was increased and the activity of directed agriculture research was replaced with it.</p> <p>6 sprinkler irrigation projects were completed.</p> <p>3,522 kg seed, agriculture and horticulture extension services were provided under 66 schemes to promote high value vegetable production and introducing tunnel technology. In addition, fruit orchard was established on 199 ha introducing new varieties of citrus.</p>
<b>3. Literacy Through Skills Training</b>	<p>12,000 women and girls are provided with training in literacy and basic skills.</p> <p>Poor and marginal, especially women, groups have been formed and are active.</p>	<p>13,868 women and girls (116% of appraised targets) completed a 6-month literacy and livelihood skills program. In addition, 13,827 women and girls were trained for 1.5 months, 60% in tailoring, 28% in embroidery, 12% as beauticians, and 0.5% in fabric painting.</p> <p>618 centers (3 centers per UC) were established and 618 female teachers were trained. Female skill trainers were provided with 2,472 person-months of job opportunities. In addition, 618 literacy teachers were also recruited for 3,708 person-months.</p> <p>10 support groups were established.</p> <p>Most of learners were already members of CBOs.</p>
<b>4. Project Management Support</b>	Project staff is in place and operational.	<p>All envisaged offices were established, staff was recruited, vehicles and equipment were procured, and committees were established.</p> <p>4,633 person-months were utilized by management, technical, and support staff of the PMU and DPMUs. 161 staff of the PMU and line agencies were trained in the use of GPS in mapping, project orientation, <i>barani</i> cultivation in project districts, the development of mini dam command areas, and a training needs assessment</p>

Design Summary	Performance Target at Appraisal	Achievements at Completion
	International and national consultants have been identified and hired and are in place.	<p>of OFIG.</p> <p>385.1 person-months were utilized (28.1 international and 357 national) by consultants, fulfilling 97% of the appraised targets.</p> <p>The key outputs of consultants included sector strategies, implementation guidelines and checklists for review of PC-I, design standards for all types of subprojects and monitoring tools, case studies in their respective sectors, review of PC-I of MSI schemes, regular field monitoring of MSI schemes and staff training, and guidelines for financial disciplines.</p>

ABAD = Agency for Barani Areas Development, CBO = community-based organization, DPMU = district project management unit, GAD = gender and development, GPS = global positioning system, ha = hectare, hhs = households, km = kilometers, MSI = medium-scale infrastructure, NGO = nongovernment organization, O&M = operation and maintenance, OFIG = off-farm income generation, PC-I = planning commission document-I, PMU = project management unit, PSLM = Pakistan social and living standards measurement survey, RSP = rural support program, SSI = small-scale infrastructure and other interventions, UC = union council.

Note: Level 2 indicators are given in Appendix 2.

Sources: Asian Development Bank estimates; Executing Agency's Project Completion Report; Pakistan social and living standards measurement surveys by Pakistan Bureau of Statistics (<http://www.pbs.gov.pk>); Planning and Development Department, Government of Punjab; and PPTA data for base year available on ADB record.

## SUMMARY OF LEVEL 2 INDICATORS

Sector and Indicators	Unit	MSI Schemes	SSI Schemes	Other Interventions	Total
<b>1. Water</b>					
a. Water supply pipes installed or upgraded; length of network	km	17	30	–	47
b. New households connected to water supply (piped)	hhs	1,292	3,078	–	4,370
c. New households connected to water supply (not piped)	hhs	5,833	4,467	–	10,300
d. Already connected households with improved piped water supply	hhs	5,080	2,156	–	7,236
e. Households served with new piped sanitation connections	hhs	881	35	–	916
f. Households served with new sanitation (not piped)	hhs	–	7,013	–	7,013
g. Land improved through flood management	hectare	3,400	645	–	4,045
h. Land improved through irrigation and drainage services	hectare	12,463	11,146	–	23,609
<b>2. Transportation</b>					
a. Rural roads, jeepable tracks, soling roads, concrete roads and trails built or upgraded	km	72	53	–	125
b. Culverts	number	–	1,610	–	1,610
c. Beneficiaries	hhs	24,410	7,293	–	31,703
<b>3. Energy</b>					
a. Transmission lines installed or upgraded	km	29	–	–	29
b. New households connected to electricity	hhs	581	–	–	581
<b>4. Finance</b>					
a. Microfinance loan accounts opened	number	–	–	161,525	161,525
b. Amount disbursed	\$ million	–	–	23	23

– = not applicable, hhs = households, km = kilometer, MSI = medium-scale infrastructure, SSI = small-scale infrastructure.

Source: ADB project completion review mission estimates.

## GENDER AND DEVELOPMENT ANALYSIS

### A. Introduction

1. Taking into account the significant contributions of women to the rural economy and also the inequalities they face, the project was designed with a gender-inclusive approach to ensure that women participate in and benefit from all interventions.

2. To maximize positive impacts on women's lives, a gender and development (GAD) strategy was formulated at the time of project appraisal. Key features of the strategy were (i) female participation in community organizations, and their active engagement in the planning, implementation, and monitoring of rural infrastructure schemes; (ii) upgrading their socioeconomic status through improved literacy and income generating skills; and (iii) providing them with better access to resources and services.

### B. Methodology

3. This ex post GAD analysis of the project summarizes achievements at completion juxtaposed with commitments made at appraisal. The analysis is based on two perspectives: (i) activities undertaken by women CBOs, and (ii) activities with primary GAD objectives. The analysis is based on field investigations conducted during the project completion report mission, the executing agency's project completion report, secondary data, and project records of ADB and the executing agency.

### C. Gender Assessment

4. **Relevance of gender strategy.** The overall project design was *highly relevant* in addressing the needs and issues faced by women living in *barani* areas, with overall achievements surpassing GAD targets (Table A3.1). Gender-based quantitative outcomes and outputs for medium and small-scale interventions were not included in GAD strategy, but the strategy of forming women's CBOs to set a GAD agenda was effective. The interventions of literacy, skills training, microcredit, water supply, and biogas also had positive impacts on the lives of women. Given the overall strength of women's CBOs WCOs and the commitment of RSPs, the project performed well and had positive impacts on the lives of rural women.

5. **Impact on gender relations at the institutional level.** Encouraging a high rate of women participation in CBOs was a successful strategy to ensure access by women to project resources through improved leadership skills, funds management, and monitoring. Women's CBOs executed 29% of the completed schemes. More than 19% of MSI schemes costing \$3.0 million (18% of the total cost of completed schemes), had primary GAD objectives. Similarly, 864 SSI schemes were with primary GAD objectives (25% of total completed schemes) with an investment of \$1.60 million (19% of total investment). The participation of women in CBOs improved their access to microcredit; \$15.55 million in loans was disbursed to women (69% of the total). Of the 57,772 CBO's office bearers and activists trained by the project, 44% were women. These activities had a positive impact on gender relations CBO level as they spurred recognition of women's representation and changed the culture of segregation, decision making, and power relations.

6. **Employment and income generation.** The project generated employment opportunities on regular basis, creating 29,774 person-months of employment in project offices,

consulting firms, and partner NGOs. Female staff was contracted for 20% of these person-months. In addition, women's employability was improved through off-farm income generating skill training and access to microcredit. While there was insufficient data on project impacts related to women's economic empowerment, at the end of the project evaluation, impact studies and project completion review assessments suggested that the project improved women's access to economic opportunities and well-being. The Government of Punjab's evaluation report noted a significant decline in the unemployment rate of the sample women beneficiaries from 77% to 43%.<sup>1</sup> According to an assessment undertaken by the National Rural Support Program, 84% of the women trained in stitching and/or embroidery and 74% of women with beautician and parlor management skills were employed.<sup>2</sup> The project completion review mission found through interviews with beneficiaries that the earnings of women who received beautician and parlor management training ranged from PRs5,000 to PRs15,000 per month. Also, the majority of the women interviewees indicated that they now have better control over their income, resulting in higher levels of self-confidence and assertiveness in household decision making. In Punjab, women are largely independent in spending their income derived from livestock and selling dairy products.<sup>3</sup> Under the project, more than 60% of loans were disbursed to women for livestock, which directly contributed toward income and economic autonomy for women.

7. The project qualifies as a model gender-inclusive rural development project and can be replicated with minor adjustments in implementation arrangements and quantifiable targets. Future rural development projects in Pakistan should include proper professional diploma courses for educated women with better value in job market such as medical technicians, dental technician, lady health visitor, computer operator, primary school teaching etc. These kinds of diploma courses serve a dual purpose: (i) they provide jobs, resulting in improved social status for educated women, and (ii) they enable improved service delivery to rural women and girls. Production and training units at the grassroots level, such as football stitching and surgical instruments centers established for men and boys, are other good examples of initiatives that allow for the development of marketable skills. Similar initiatives for women and girls should be included in future projects.

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<sup>1</sup> Government of Punjab, Directorate General Monitoring and Evaluation, Planning and Development Department. 2012. *Sustainable Livelihoods in Barani Areas Project, Evaluation Report of Sustainable Livelihoods in Barani Areas Project*. Lahore.

<sup>2</sup> Landell Mills Development Consultants, 2011, OFIG and Literacy Through Skills Training Final Report.

<sup>3</sup> Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), International Labour Organization (ILO), 2009, Gender Pathways out of Poverty Rural Employment.

**Table A3.1 PROJECT GENDER AND DEVELOPMENT ACHIEVEMENTS**

<b>Provisions At Appraisal</b>	<b>Achievements at Completion</b>
<b>Community Mobilization and/or Group Formation</b> 40%–50% of community organizations formed under the project will consist of women.	<p>3,003 women's CBOs were formed (34% of the total) and 1,370 mixed-gender CBOs comprised of more than 98% female members were formed (15% of the total).</p> <p>There were 68,731 women members of CBOs (48% of the total) and savings of women's CBOs equaled \$0.06 million (40% of the total).</p> <p>25,133 women's CBO office bearers and activists (44% of the total) were trained in basic and advanced village development planning, community mobilization, fund management and account keeping, and gender mainstreaming skills.</p>
<b>Agriculture and Natural Resources Management</b> Engage women's CBO members in training and/or extension of crop and vegetable demonstration plots, activities related to seed banks, the improvement of water course linings, farmer schools, and research activities. Women will be engaged in activities related to agriculture, pastoral land, soil conservation and water resource management, and training in extension services.	<p>32,045 women benefited from SSI schemes of vegetable seeds.</p> <p>563 SSI schemes were awarded to women's CBOs (31% of total agriculture and natural resource management related SSI schemes), including 216 horticulture schemes (83%), 332 micro-irrigation schemes (22%), and 15 soil conservations schemes (31%).</p> <p>The project ensured 20% participation of women in water user associations and fish farm management groups under MSI schemes.</p>
<b>Livestock</b> Train women members of CBOs in livestock extension services and develop them as veterinary workers.	<p>Due to the inherent disadvantages that women face in the target areas, mainly culture of seclusion and low levels of education, livestock extension skills were not imparted. However, following interventions in livestock and poultry development were undertaken.</p> <p>\$5.56 million microcredit funds were provided to women for livestock and dairy development (67% of the total funds disbursed for livestock and dairy development).</p> <p>195 SSI schemes were completed to promote improved poultry breeding and to improve women's incomes and family nutrition and 30,723 women were each provided a package of six 6-week old birds.</p>
Women are the primary beneficiaries for activities related to household energy needs and the preparation of organic fertilizer and biogas plants.	<p>2,517 biogas plants were constructed under 165 SSI schemes and 21 MSI schemes, resulting in annual savings of \$0.29 million (estimated at PRs9,000 per household or PRs22.65 million per year). These biogas plants provide alternate fuel to 2,517 hhs, saving women from making dung cakes, collecting and burning fuel wood, and living in unhygienic conditions. 5,000 plants were constructed by communities with their own resources after their successful project experiences. The Government of Punjab has also included this intervention in its annual development plan for FY 2013.</p>
<b>Rural Access Roads</b> The strategy proposed that women	<p>There is little or no evidence of participation in the consultation for planning of rural roads by women. Roads, however, have</p>

Provisions At Appraisal	Achievements at Completion
groups participate in the consultation for planning of rural roads.	significantly improved women's mobility and access to social services (e.g., schools and hospitals) markets, and social networking opportunities. Of 221,922 beneficiaries, 92,772 (42%) were women.
<p><b>Off-Farm Activities</b> 50% of the targeted beneficiaries of the off-farm earning activities and skills training will be women.</p> <p>Create linkages with microfinance institutions for microenterprise development</p>	<p>2,110 women (comprising 56% of total persons trained) were trained in off-farm income generation skills in various trades.</p> <p>59,690 women were linked with microcredit facilities (61% of total beneficiaries).</p> <p>\$15.55 million in loans were disbursed to women (69% of the total).</p> <p>28,385 women (comprising 28% of the total borrowers) received loans for microenterprise.</p> <p>1,876 women received embroidery machines under 15 SSI schemes.</p> <p>5,603 person-months of jobs were contracted to women professionals during project implementation (19% of the total).</p>
<p><b>Literacy Through Skills Training</b> Targets included literacy and skills training of about 12,000 rural women.</p>	<p>13,868 women and girls (116% of appraised targets) completed a 6-month literacy and livelihood skills program.</p> <p>Of these, 13,827 women and girls were trained for 1.5 months, 60% in tailoring, 28% in embroidery, 12% as beauticians, and 0.5% in fabric painting.</p> <p>618 centers (3 centers per union council) were established and 618 female teachers were trained; female skill trainers were provided with 2,472 person-months of job opportunities.</p> <p>6,180 person-months of jobs were provided to women literacy teachers and skill trainers.</p> <p>Women's literacy resource centers were established in all 10 districts, providing multimedia facilities, televisions, overhead projectors and screens, and resource libraries with manuals on literacy and skill training.</p> <p>The model was replicated by the Government of Punjab and the Japan International Cooperation Agency.</p>
<p><b>Linkages Between Women's Groups Citizen Community Boards and Government Agencies</b> Rural support programs will link women's CBOs and citizen community boards with government agencies in order for them to participate in planning and implementing project activities.</p>	<p>115 MSI schemes had primary objective of gender and development (19% of total completed schemes).</p> <p>980 SSI schemes were executed by women's CBOs (29% of all completed schemes) and 864 SSI schemes had with primary GAD objectives (25% of all completed schemes).</p> <p>\$1.59 million was invested in SSI schemes with primary GAD objectives (19% of total investment).</p> <p>\$2.99 million was invested in MSI schemes with primary GAD objectives (18% of total investment).</p>

Provisions At Appraisal	Achievements at Completion
<p><b>Capacity Building and Institutional Development</b> Capacity building of district line agencies will include support to the gender reform action plan under the Decentralization Support Program.</p>	<p>The elected local government bodies were dissolved after the 2008 elections and the Decentralization Support Program was closed on 30 June 2006. Support was not available under the gender reform action plan.</p> <p>There were few women working with line agencies, except for health and education departments.</p> <p>The National Rural Support Program conducted gender mainstreaming training for 136 staff members, with women staff making up more than 50% of the participants.</p>
<p><b>Monitoring Indicators</b> A gender disaggregated database will be included in the project monitoring system. The database will be disaggregated by socio-economic characteristics of households to measure the respective involvement of men and women from poor households and vulnerable groups. Community monitoring and evaluation will ensure that the targeting criteria are being followed and that project benefits reach the poor.</p>	<p>A gender disaggregated reporting system was established for the monitoring project on quarterly progress.</p> <p>Community-level household poverty ranking exercises included gender-specific data.</p> <p>Situational analysis reports and socio-economic profiles of targeted union councils included gender analysis</p>
<p><b>Gender and Development Support</b> The consulting services package included provisions for: (i) an international social impact consultant to address all gender-related social issues, (ii) a domestic consulting organization/gender specialist to work over the first 4 years of the project to ensure that gender concerns are addressed; and (iii) 3 full-time social impact/gender specialists assigned to the PMU.</p>	<p><b>Consultants.</b> 3.9 person-months of an international consultant (social and gender); 1 person-month of a national consultant to conduct gender evaluation at project completion; and 62 person-months of community mobilization and gender specialist at the PMU.</p> <p><b>Staff.</b> 171 person-months were utilized by gender and social impact officers at the PMU.</p> <p>5,447 person-months were utilized by gender specialists and female social organizers of (accounting for 36% of total person-months, including management, technical, and support staff).</p> <p>509 person-months were utilized to provide supervision and technical backstopping services by a national NGO nongovernment organization to line agencies to implement the literacy through skills component.</p>

GAD = gender and development, MSI = medium-scale interventions, PMU = project management unit, SSI = small-scale infrastructure and other interventions.

Source: ADB project completion review mission estimates.



## PROJECT COSTS

**Table A4.1: Project Costs by Financier**  
(\$ million)

Source	At Appraisal				At Completion			
	FE	LC	Total	Percent	FE	LC	Total	Percent
Asian Development Bank	12.0	29.0	41.0	70.0	7.8	20.3	28.1	66.3
Government	0.0	8.8	8.8	15.0	0.0	7.8	7.8	18.5
Beneficiaries	0.0	8.8	8.8	15.0	0.0	6.5	6.5	15.2
<b>Total</b>	<b>12.0</b>	<b>46.6</b>	<b>58.6</b>	<b>100.0</b>	<b>7.8</b>	<b>34.6</b>	<b>42.4</b>	<b>100.0</b>

FE = foreign exchange, LC = local currency.

Sources: ADB project completion review mission estimates; ADB Loan Financial Information System.

**Table A4.2: Project Costs by Components**  
(\$'000)

Item	At Appraisal			At Completion		
	Local	Foreign	Total	Local	Foreign	Total
<b>A. Village and Union Council Development Component</b>						
1. Community-based medium-scale initiatives	24,850	6,213	31,063	16,364	2,796	19,160
2. District Line Agencies support	2,035	494	2,529	1,105	0	1,105
3. Support to Union Councils	2,075	45	2,120	1,498	0	1,498
<b>Subtotal (A)</b>	<b>28,960</b>	<b>6,752</b>	<b>35,712</b>	<b>18,966</b>	<b>2,796</b>	<b>21,762</b>
<b>B. Targeted Poverty Alleviation</b>						
1. Group-based small-scale poverty alleviation	10,300	2,575	12,875	10,807	2,778	13,584
2. Directed Agriculture Research	389	97	486	0	0	0
3. Off-farm income generation support	874	0	874	452	0	452
<b>Subtotal (B)</b>	<b>11,563</b>	<b>2,672</b>	<b>14,235</b>	<b>11,258</b>	<b>2,778</b>	<b>14,036</b>
<b>C. Literacy Through Skills Training</b>	968	17	985	1,261	0	1,261
<b>D. Institutional and Implementation Support</b>	3,892	1,038	4,930	3,109	1,489	4,599
<b>Total Base Cost</b>	<b>45,383</b>	<b>10,479</b>	<b>55,862</b>	<b>34,595</b>	<b>7,063</b>	<b>41,658</b>
<b>E. Contingencies</b>						
Physical Contingencies	317	28	345	0	0	0
Price Contingencies	1,295	81	1,376	0	0	0
<b>Subtotal (E)</b>	<b>1,612</b>	<b>109</b>	<b>1,721</b>	<b>0</b>	<b>0</b>	<b>0</b>
Interest during Construction	0	985	985	0	738	738
<b>Total Project Cost</b>	<b>46,995</b>	<b>11,573</b>	<b>58,568</b>	<b>34,595</b>	<b>7,801</b>	<b>42,396</b>

Sources: ADB project completion review mission estimates; ADB Loan Financial Information System.

**ANNUAL CONTRACT AWARDS AND DISBURSEMENT**  
(\$ million)

<b>Year</b>	<b>Contract Awards</b>			<b>Disbursements</b>		
	<b>Projected</b>	<b>Actual</b>	<b>Percent</b>	<b>Projected</b>	<b>Actual<sup>a</sup></b>	<b>Percent</b>
2005	0.120	0.000	0%	0.600	1.502	250%
2006	2.750	12.594	458%	2.150	1.700	79%
2007	3.000	3.616	121%	2.030	3.596	177%
2008	6.400	2.898	45%	4.000	5.404	135%
2009	6.000	2.637	44%	5.000	6.119	122%
2010	8.200	3.202	39%	7.500	5.496	73%
2011	2.360	2.559	108%	4.500	4.742	-
2012	-	2.732	-	-	0.229	-
<b>Total</b>	<b>28.830</b>	<b>30.238</b>	<b>105%</b>	<b>25.780</b>	<b>28.788</b>	<b>135%</b>

<sup>a</sup> Includes outstanding imprest advance of \$0.669 million.

Source: ADB Loan Financial Information System.

**PROJECT SCHEDULE**  
(At appraisal versus at completion)

Activity	Calendar Year																							
	2005				2006				2007				2008				2009				2010			
<b>1. Village and Union Development</b>																								
Recruitment of UC Organizers																								
Training and Orientation of Organizers																								
Publicize Project in Districts UCs and Villages																								
Organize Villages to Prepare Proposals for Funding																								
Assist UCs to evaluate and Vet Proposals																								
Assist Districts To Evaluate and Vet Proposals																								
Provide Support to UCs to monitor Implementation																								
Ensure Efficient and Effective Implementation at Field Level																								
Ensure Active O&M																								
<b>2. Targeted Poverty Alleviation</b>																								
Recruitment of RSPs																								
Training of Additional Staff																								
Identification of Focus Villages																								

Activity	Calendar Year																							
	2005				2006				2007				2008				2009				2010			
Organize Men's and Women's CBOs																								
Identify and Implement Field Activities																								
Identify Agricultural Research and Seed Multiplication Needs																								
Sponsor Research and Seed Multiplication																								
Identify Off-Farm Income Opportunities																								
Sponsor and Guide Off-Farm Training																								
<b>3. Literacy Through Skills Training</b>																								
Local NGOs Identified																								
Skills Development Training																								
<b>4. Line Agency Support</b>																								
Recruitment of Consultants																								
Procurement of PCU/ District Vehicles and Equipment																								
Identification of Line Agency Needs Based on VUDC Components																								
Line Agency Equipment, Vehicles, Staff, etc Effectively Procured																								
Use of Procured Items Monitored																								

CBO = community-based organization, NGO = nongovernment organization, PMU = project management unit, O&M = operation and maintenance, RSP = rural support program, VUDC = village and union development component.

Sources: Report and Recommendations of the President for Sustainable Livelihoods in Barani Areas Development Project, ADB project completion review mission estimates.

 Actual  Appraisal

## STATUS OF COMPLIANCE WITH LOAN COVENANTS

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
<b>LOAN AGREEMENT (LA)</b>		
In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 6 to this Loan Agreement.	L.A. Article IV, Section 4.01	Complied with.
The Borrower shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, and any relevant records and documents.	L.A. Article IV, Section 4.02	Complied with.
The Borrower shall take all action, which shall be necessary on its part to enable Punjab to perform its obligations under the Project Agreement and shall not take or permit any action, which would interfere with the performance of such obligations.	L.A. Article IV, Section 4.03	Complied with.
<b>Executing Agency</b> The Agency for Barani Areas Development (ABAD) shall be the Project Executing Agency and shall be responsible for overall Project coordination and monitoring.	L.A. Schedule 6, para. 1	Complied with.
<b>Implementation</b> The respective district governments within the Project Area shall implement and be responsible for the operational management of the VUDC. Each district government shall appoint an EDO at the latest, within one month of the Effective Date as the district Project coordinator to coordinate and implement VUDC. It shall also coordinate the participation of the district government in the implementation of the Project activities.	L.A. Schedule 6, para. 2	Complied with.
ABAD shall implement the other three components described in Schedule 1 to this Loan Agreement. ABAD shall appoint in each district within the Project Area, at the latest, within one month of the Effective Date, a district Project manager and a district Project accountant, with the tasks to: (i) support and guide the respective district government in the implementation of VUDC, (ii) consolidate accounts and support in preparation of SOEs and (iii) coordinate and monitor the implementation of the targeted poverty alleviation and the literacy through skills training component.	L.A. Schedule 6, para. 3	Complied with.
<b>Protect Management Unit (PMU)</b> The PMU, which shall be set up in ABAD's head office in Rawalpindi shall be headed by a full-time Project director and staffed by deputy Project director, two full time accountants, three environmental compliance officers, three social and gender compliance officer, a Project benefit monitoring officer and appropriate administrative staff. The PMU shall be fully staffed, at the latest, within one month of the Effective Date.	L.A. Schedule 6, para. 4	Complied with. The number of environmental officer and social impact officer positions was greater than project requirements since these jobs were also done by consultants. Therefore, one position each was filled. Most key positions remained filled during the project period.
It shall have the responsibility to perform the following tasks: (i) prepare the overall Project implementation plan and consolidated work plan, (ii) support and brief district governments and union administrations on the intent scope and implementation arrangements of the Project, (iii) provide overall inter-agency, RSP/NGO and inter-district coordination, (iv) establish Project performance monitoring system, (v) manage accounting systems for the overall Project and coordinate flow of funds, (vi) ensure the environmental and social compliance of all Project activities, and (vii) prepare all the relevant reports under the Project.	L.A. Schedule 6, para. 5	Complied with.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
<p>Protect Steering Committee (PSC)</p> <p>The PSC shall be chaired by the chairman of the P&amp;D Board and members shall consists of the secretaries of the Department of Local Government and Rural Development, Department of Finance, Department of Agriculture, Department of Livestock and Dairy Development, Department of Forestry, Wildlife and Fisheries, Department of Communications and Works, Department of Education, Department of Literacy and Non Formal Education, Department of Housing, Urban Development and Public Health. Engineering, the DG of ABAD, and representatives of the participating RSPs. The DCO of each district under the Project Area may participate in the PSC meeting, as required. The PSC shall review the progress of the Project and resolve any implementation issues at the provincial level. It shall meet as required but at least once every six months.</p>	L.A. Schedule 6, para. 6	<p>Complied with.</p> <p>The project steering committee held a total of 10 meetings during the project period.</p>
<p>District Project Implementation Committee (DPIC)</p> <p>The DPIC shall be established in each district within the Project Area and chaired by the respective DCOs and consist of, inter alia, the respective district Project coordinator as the secretary, the respective district Project manager, the Union Nazirms within the respective district and a representative of the RSP responsible for social mobilization within the respective district. On any matter concerning a particular union, the chair of the DPIC shall invite the respective union nazim to participate in its deliberation. The chair of the DPIC may nominate any other members deems necessary to be included in the DPIC.</p>	L.A. Schedule 6, para. 7	Complied with.
<p>The DPIC shall have the following tasks: (i) supervise and monitor the activities of the VUDC, (ii) identify and address issues in Project implementation at the district level, (iii) ensure cooperation and collaboration of the district government and TMA line agencies, (iv) ensure the interventions selected under the targeted poverty alleviation component is in accordance to the agreed criteria, and (iv) ensure establishment of oversight committees, and assess progress in preparation of bye-laws required under the Project to ensure the presence of proper monitoring and accountability mechanisms.</p>	L.A. Schedule 6, para. 8	Partly complied with. DPICs were established, but they were not effective in identifying and addressing project implementation issues at the district level.
<p>Project Consultative Forum</p> <p>The Project Consultative Forum shall be established within one year of the Effective Date, made up of elected representatives of the districts within the Project Area, representatives of civil society and other key stakeholders to be selected by Punjab. The Forum shall consult with ABAD on the implementation and progress of the Project on semi-annual basis.</p>	L.A. Schedule 6, para. 9	Not complied with. The executing agency believed that the consultative forum will facilitate the capture of benefits by district elected representatives. In addition, it believed that the forum would interfere with approved selection criteria.
<p>The Services of RSP and NGO</p> <p>ABAD shall engage the RSPs operating within the Project Area to implement for the respective districts, the activities under the targeted poverty alleviation component. ABAD shall enter into an agreement with each of the respective RSPs to formalize arrangements for the up-scaling of their activities under the Project. The activities of the RSPs under the Project shall be under the coordination of the district Project manager. The RSPs shall also be required to submit semi-annual report to the respective <i>zila council</i> and union councils on the implementation of its activities under the Project.</p>	L.A. Schedule 6, para. 10	Substantially complied with. Agreements were signed with RSPs, and the district project managers coordinated their activities. However, RSPs did not submit semi-annual reports to the <i>zila</i> and union councils on the implementation of their activities under the project.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
<p>ABAD shall engage domestic local NGOs with local experience to undertake the literacy and skills based training component. The local NGOs shall be responsible for identifying the particularly vulnerable and poverty-affected groups within the villages and form WCO from within these groups. The terms of partnership with the WCO shall be developed by the local NGO prior to the initiation of any activity in the village. The selection of skills based activities to be promoted along with literacy training by the local NGO, shall be based upon the proposals submitted by the WCO. The local NFGO shall operate under the coordination of the district Project manager in consultations with the district RSP.</p>	L.A. Schedule 6, para. 11	Complied with.
<p><b>Eligibility Criteria</b> The Borrower shall ensure that the funds allocated under the Project for the implementation of the VUDC shall only be disbursed to the eligible district within the Project Area that have fulfilled the following criteria</p> <ul style="list-style-type: none"> <li>(i) the adoption by the union council within the district of the bye laws on the house rules and procedures.</li> <li>(ii) the establishment by the union councils within the districts of the committees for monitoring and accountability of the use of public funds.</li> <li>(iii) The establishment by the zila council of the committees for monitoring and accountability of the use of public funds.</li> <li>(iv) The adoption by the zila council of the necessary bye laws which outline the necessary mechanisms to ensure transparency and public access to information and public accountability on the use of public funds.</li> <li>(v) The adoption by the union councils within the district of the necessary bye laws which outline the necessary mechanisms, to ensure transparency and public access to information and public accountability on the use of public funds.</li> <li>(vi) The establishment by the district administration of effective complaint cell to allow public grievances to be addressed properly, and</li> <li>(vii) The establishment by the union administrations within the districts of effective complaint cell to allow public grievances to be addressed properly.</li> </ul>	L.A. Schedule 6, para. 12	Complied with.
<p><b>Selection of VUDC Proposals</b> The Borrower shall ensure that any proposals for VUDC shall only be approved if the beneficiaries and the concerned union clearly specify the amount of their contribution. The beneficiaries and the union are also required to indicate the arrangements for its operation and maintenance and provide written commitment on their willingness to comply with these arrangements.</p>	L.A. Schedule 6, para. 13	Complied with. The community share was later dropped from public infrastructure under medium-scale infrastructure schemes under the VUDC.
<p>The Borrower shall ensure that proposals submitted under the VUDC shall be examined in accordance with the established environmental assessment and review procedures and within the environmental impact assessment framework. The framework shall be developed within the first six months of the Effective Date</p>	L.A. Schedule 6, para. 14	Complied with.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
with the assistance of the international environmental consultant. Proposals with a negative environmental impact that cannot be mitigated to the satisfaction of ADB shall not be included in the Project.		
The Borrower shall ensure that proposals under the VUDC shall be examined within the resettlement framework. The framework shall be developed and agreed within the first six months of Project implementation with the assistance of the international social impact consultant. Proposals with a negative resettlement impact that cannot be mitigated to the satisfaction of ADB shall not be included in the Project.	L.A. Schedule 6, para. 15	Complied with.
The Borrower shall ensure that any proposals for groundwater development intervention under the Project shall undertake groundwater resource assessment and approved by the Department of Irrigation and Power and the P&D Board. Any proposals on groundwater extraction by deep tubewells or turbine pumps shall not be considered by the Project.	L.A. Schedule 6 para. 16	Complied with.
The Borrower shall ensure that Punjab shall establish appropriate framework for the operation and maintenance of all investments made under VUDC within six months of the Effective Date.	L.A. Schedule 6, para. 17	Complied with.
Criteria The Borrower shall ensure that Punjab shall establish develop-the selection criteria, to the satisfaction of ADB, for the interventions to be financed under the targeted poverty alleviation component within three one months of the Effective Date	L.A. Schedule 6, para. 18	Complied with.
Counterpart Funds The Borrower shall ensure that Punjab shall transfer adequate counterpart funds to ABAD in its annual budget to implement effectively the components under the Project other than VUDC, and that these funds are released in a timely manner.	L.A. Schedule 6, para. 19	Complied with.
The Borrower shall ensure that Punjab shall transfer adequate counterpart funds in a line account dedicated for the effective implementation of the planned activities under the VUDC, to the districts within the Project Area that have met the eligibility criteria as provided under paragraph 12 of Schedule 6 to this Loan Agreement.	L.A. Schedule 6 para. 20	Partly complied with. Counterpart funds were provided but were not kept in a dedicated account. Project funds were kept in the regular district government account (Account IV).
Project Performance Management System The Borrower shall ensure that within one year of the Effective Date, a project performance management system shall have been established. The indicators on the specific location and intervention shall have been developed within six months of the Effective Date as the basis for monitoring the implementation and impact of the Project. The Project shall focus on a few most critical indicators that are relatively easy to collect, and are in consonance with the Project framework. The PMU shall undertake site-specific studies such as benchmark survey, periodic monitoring and impact studies, and stakeholders' consultation.	L.A. Schedule 6, para. 21	Partly complied with. A proper project performance management system could not be established due to the lack of availability of international consultants because of security problems in Pakistan. The project, however, had a scattered system maintained by the PMU and NGOs. The PMU undertook a baseline study, 7 livelihoods assets tracking surveys, 8 sector studies, multiple case studies, and a project completion evaluation.
The union council through its monitoring committees shall be responsible for the monitoring of the VUDC. The RSPs/service providers shall be responsible for the monitoring of the targeted poverty alleviation component. Notwithstanding this, The PMU	L.A. Schedule 6, para. 22	Complied with.



Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
shall be responsible for the overall monitoring of the entire components and other relevant stakeholders shall be responsible for monitoring the other components.		
<p>Safeguard Policies</p> <p>The Borrower shall ensure that no site will be selected which would involve land acquisition or land conversion that might generate involuntary resettlement effects, including loss of income, resources or assets for the non-titled. In the event that these are unavoidable the Borrower shall prepare resettlement plans in accordance with the resettlement framework agreed between the Borrower and ADB. The Borrower must review and approve the resettlement plan of any civil works contracts, which require land acquisition and/or cause involuntary resettlement. The resettlement plan shall be disclosed to affected persons. Compensation and resettlement assistance shall be paid to affected persons prior to their dispossession and displacement.</p>	L.A. Schedule 6, para. 23	Complied with.
<p>The Borrower shall ensure that all environmental mitigation measures identified in the initial environmental examination are incorporated into the Project design and implemented in accordance with the Borrower's environmental laws and regulations and ADB's Environmental Policy. The Borrower shall further ensure that both the compliance to the environmental mitigation measures and environmental monitoring results collected throughout the Project shall be provided in the quarterly reports submitted by the Borrower to ADB.</p>	L.A. Schedule 6, para. 24	Complied with.
<p>Gender</p> <p>The Borrower shall ensure the timely development and effective implementation of the Gender Action Plan to ensure the equitable and full participation of women in Project activities.</p>	L.A. Schedule 6, para. 25	Complied with.
<p>Vacant Posts</p> <p>The Borrower shall ensure that within one year of the Effective Date, all relevant vacant posts in key line district offices within the Project Area shall be filled with full time staff. The key line district offices are to include the offices of works and services which responsibility include environment, agriculture, community development, literacy, and finance and planning.</p>	L.A. Schedule 6, para. 26	Complied with.
<p>Project Review</p> <p>ABAD and ADB will jointly review the Project semi-annually to assess implementation progress.</p>	L.A. Schedule 6, para. 27	Complied with.
<p>Midterm Review</p> <p>ABAD and ADB shall conduct midterm review at the end of three years of Project implementation. The midterm review shall include a comprehensive evaluation of the Project implementation arrangements and Project progress to date and consultations with the district development committees, the line agencies, union council representatives and targeted beneficiaries. The midterm review shall, as necessary, include the recommendation for adjustments to the Project scope, implementation arrangements and cost estimates</p>	L.A. Schedule 6, para. 28	Complied with.
<b>PROJECT AGREEMENT (PA)</b>		
(a) Punjab shall carry out the Project with due diligence and efficiency, and in conformity with sound administrative, financial, engineering, environmental, sustainable	P.A. Section 2.01	Complied with.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
<p>development and governance practices.</p> <p>(b) In the carrying out of the Project and operation of the Project facilities, Punjab shall perform all obligations set forth in the Loan Agreement to the extent that they are applicable to Punjab.</p>		
<p>Punjab shall make available, promptly as needed, the funds, facilities, services, equipment, land and other resources, which are required, in addition to the proceeds of the Loan, for the carrying out of the Project.</p>	P.A. Section 2.02	Complied with. However, the project faced problems during times of financial crunch that resulted from floods and the legally mandated freezing of public funds before elections, which eliminated their use by ruling parties to influence constituents.
<p>(a) In carrying out of the Project, Punjab shall employ competent and qualified consultants and contractors, acceptable to the ADB, to an extent and upon terms and conditions satisfactory to ADB.</p> <p>(b) Except as ADB may otherwise agree, all goods and services to be financed out of the proceeds of Loan shall be procured in accordance with the provisions of Schedule 4 and Schedule 5 to the Loan Agreement. ADB may refuse to finance a contract where goods or services have not been procured under procedures substantially in accordance with those agreed between the Borrower and ADB or where the terms and conditions of the contract are not satisfactory to ADB.</p>	P.A. Section 2.03	Complied with.
<p>Punjab shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. Punjab shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.</p>	P.A. Section 2.04	Complied with.
<p>(a) Punjab shall take out and maintain with responsible insurers, or make other arrangements satisfactory to ADB for, insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice.</p> <p>(b) Without limiting the generality of the foregoing, Punjab undertakes to insure, or cause to be insured, the goods to be imported for the Project and to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such goods.</p>	P.A. Section 2.05	Complied with.
<p>Punjab shall maintain, or cause to be maintained, records and accounts adequate to identify the goods and services and other items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, its operations and financial condition.</p>	P.A. Section 2.06	Complied with.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
<p>(a) ADB and Punjab shall cooperate fully to ensure that the purposes of the Loan will be accomplished.</p> <p>(b) Punjab shall promptly inform ADB of any condition which interferes with, or threatens to interfere with, the progress of the Project, the performance of its obligations under this Project Agreement or the accomplishment of the purposes of the Loan.</p> <p>(c) ADB and Punjab shall from time to time, at the request of either party, exchange views through their representatives with regard to any matters relating to the Project, Punjab and the Loan.</p>	P.A. Section 2.07	Complied with.
<p>(a) Punjab shall furnish to ADB all such reports and, information as ADB shall reasonably request concerning (i) the Loan and the expenditure of the proceeds thereof; (ii) the goods and services and other items of expenditure financed out of loan's proceeds.</p> <p>(b) Without limiting the generality of the foregoing, Punjab shall furnish to ADB quarterly reports on the execution, operation and management of the Project facilities. Such reports shall be submitted in such form and in such detail and within such a period as ADB shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the quarter under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter.</p> <p>(c) Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as ADB may agree for this purpose, Punjab shall prepare and furnish to ADB a report, in such form and in such detail as ADB shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by Punjab of its obligations under this Project Agreement and the accomplishment of the purposes of the Loan.</p>	P.A. Section 2.08	Complied with.
<p>(a) Punjab shall (i) maintain separate accounts for the Project; (ii) have such accounts and related financial statements (balance sheet, statement of income and expenses, and related statements) audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; and (iii) furnish to ADB, promptly after their preparation but in any event not later than 6 months after the close of the fiscal year to which they relate, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds as well as on the use of the procedures for imprest account/SOE), all in the English language. Punjab shall furnish to ADB such further information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.</p> <p>(b) Punjab shall conduct its business in accordance with sound administrative, financial, environmental, sustainable development &amp; governance practices, and under supervision of competent and experienced management and personnel.</p>	P.A. Section 2.09	Complied partly and with delay. An imprest account was maintained and audits were carried out and received at ADB. However, these were delayed by 1–2 months because the government's fiscal year is July–June so audits can only be initiated after July.

Covenant	Reference in Loan and / or Project Agreement	Status of Compliance
Punjab shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, all other plants, sites, works, properties and equipment of Punjab, and any relevant records and documents.	P.A. Section 2.10	Complied with.
<p>(a) Punjab shall, promptly as required, take all action within its powers to maintain its corporate existence, to carry on its operations, and to acquire, maintain and renew all rights, properties, powers, privileges and franchises which are necessary in the carrying out of the Project or in the conduct of its business.</p> <p>(b) Punjab shall at all times conduct its business in accordance with sound administrative, financial, environmental, sustainable development and governance practices, and under the supervision of competent and experienced management and personnel.</p> <p>(c) Punjab shall at all times operate and maintain its plants, equipment and other property, and from time to time, promptly as needed, make all financial, engineering, environmental, sustainable development, governance and maintenance and operational practices.</p>	P.A. Section 2.11	Complied with.
Except as ADB may otherwise agree, Punjab shall not sell, lease or otherwise dispose of any of its assets which shall be required for the efficient carrying on of its operations or the disposal of which may prejudice its ability to perform satisfactorily any of its obligations under this Project Agreement.	P.A. Section 2.12	Complied with.
Except as ADB may otherwise agree, Punjab shall apply the proceeds of the Loan to the financing of expenditures on the Project in accordance with the provisions of the Loan Agreement and this Project Agreement, and shall ensure that all goods and services financed out of such proceeds are used exclusively in the carrying out of the Project.	P.A. Section 2.13	Complied with. However, in some districts, advance funds provided for MSI schemes through Account -IV were used for other non-project activities but were later on reimbursed for project activities.

DCO = district coordination officer, DG = director general, EDO = executive district officer, MSI = medium scale infrastructure, NGO = non government organization, PMU = project management unit, P&D = planning and development, RSP = rural support network, SOE = statement of expenditure, TMA = tehsil municipal administration, VUDC = village and union council development component, WCO = women community organizations.

Source: ADB project completion review mission findings.

## UTILIZATION OF CONSULTING SERVICES INPUTS

Consulting Services	Person Months					
	At Appraisal		Revised		At completion	
	International	National	International	National	International	National
<b>A. Technical and Project Management Consultants</b>						
<b>1. Through Firm</b>						
a. Groundwater Assessment Specialist (International)	6.0		6.0		7.1	
b. Environmental Impact Specialist (International)	3.0		3.5		3.8	
c. Social and Gender Impact Specialist (International) <sup>a</sup>	3.0		3.9		3.5	
d. NRM Specialist and Team Leader		36.0				32.5
e. Water Conservation Specialist		36.0				28.2
f. Agriculture Specialist		36.0				35.0
g. Rural Engineer		72.0				72.0
h. Livestock Specialist		36.0				17.9
i. Off-farm Employment Specialist		36.0				36.0
<b>Total (Through Firm)</b>	<b>12.0</b>	<b>252.0</b>	<b>13.4</b>	<b>211.0</b>	<b>14.4</b>	<b>221.6</b>
<b>2. Individual Consultants</b>						
a. Project Management Specialist (International)	24.0		10.5		8.7	
b. Financial Management Specialist	6.0		5.0		5.0	
c. Project Benefit Monitoring and Evaluation Specialist		21.0		51.3		24.0
d. Project Administration Specialist		48.0		47.9		25.2
e. Community Development		36.0		68.0		62.0
f. Information Technology Specialist				18.0		17.7
g. Public Administration Specialist and Deputy Team Leader <sup>b</sup>				1.5		1.5
h. Rural Infrastructure Specialist <sup>b</sup>				1.5		1.5
i. Project Economist				1.0		1.0
j. Gender and Development Specialist				1.0		1.0
k. Civil Engineer and Team Leader <sup>b</sup>						1.5
<b>Total (Individual Consultants)</b>	<b>30.0</b>	<b>105.0</b>	<b>15.5</b>	<b>190.2</b>	<b>13.7</b>	<b>135.4</b>
<b>Subtotal (A)</b>	<b>42.0</b>	<b>357.0</b>	<b>28.9</b>	<b>401.2</b>	<b>28.1</b>	<b>357.0</b>
<b>B. Union Council Support</b>						
1. District Supervisors (Project Quality Supervisors)		180.0		327.0		323.0
2. Union Council Supervisors (Project Facilitators)		900.0		1,319.0		1,319.0
<b>Subtotal (B)</b>		<b>1,080.0</b>		<b>1,646.0</b>		<b>1,642.0</b>
<b>C. Literacy Through Skills Training</b>						
1. Project Coordinator				24.0		24.0
2. Skill Development Specialist(s) for curriculum review				3.0		3.0
3. Community Education Specialist(s) for curriculum review				2.0		2.0
4. Master Trainers				480.0		480.0
<b>Subtotal (C)</b>				<b>509.0</b>		<b>509.0</b>
<b>Total Consultancy Inputs</b>	<b>42.0</b>	<b>1,437.0</b>	<b>28.9</b>	<b>2,556.2</b>	<b>28.1</b>	<b>2,508.0</b>

NRM = natural resource management.

<sup>a</sup> Input of 3.5 person-months provided by female expert.<sup>b</sup> Financed using government's own resources for preparation of project completion and evaluation report.

Source: ADB project completion review mission estimates.

## **ECONOMIC AND FINANCIAL ANALYSES**

### **A. Introduction**

1. This economic reevaluation was conducted at the close of the project to estimate the anticipated economic and financial returns based on actual costs and benefits and to compare those with the returns estimated at the appraisal stage. This reevaluation generally follows the methodology adopted at the appraisal.

### **B. Methodology and Approach**

2. The analysis is based on quantifiable and non-quantifiable assessments of interventions made and their impact on household income, economic viability, and the distribution of project benefits. The data for the benefits was collected for the “with project” and “without project” scenarios. Project information for the without scenario was primarily collected on a recall basis. The analysis is based on primary and secondary information, field investigations (including discussions with beneficiaries), and input by relevant sector field staff. A total of 22 MSI schemes, 11 SSI schemes, and 6 microcredit loans were randomly selected and studied. The microcredit funds were provided by the RSPs from their own resources, and the project only provided for service delivery costs. The analysis therefore includes benefits accrued from microcredit disbursements, but neither the cost nor the returns are factored into overall project returns.

3. The economic analysis is based on the following assumptions: (i) constant 2012 prices; (ii) a capital opportunity cost of 15%; (iii) a lifespan of 10 to 15 years for various subprojects; (iv) a world price numeraire and a standard conversion factor (SCF) of 0.9; (v) a shadow exchange wage rate (SWR) of 0.75 (applied to non-skilled labor to reflect the current employment situation in the rural areas); (vi) specific cost conversion factors (computed for key categories based on estimated shares of foreign exchange and labor) for wheat, rice, maize, and chemical fertilizers; (vii) exclusion of transfer payments such as taxes, subsidies, duties, and financial charges (e.g., interest); and (viii) import parity and/or export parity prices are applied for tradable goods. Changes in project-related goods and services have an insignificant impact on prices as the area is generally in deficit and additional demand for goods and services is small relative to the overall economy.

4. Separate economic analyses were conducted for the three subcomponents (MSI schemes, SSI schemes and microcredit) aggregated for similar schemes in accordance with the broad classification into various subsectors. Appraisal estimates were combined for all schemes irrespective of their classification as MSI or SSI. However, for the purpose of comparison, this evaluation provides ranges of appraisal estimates for each type of scheme. All new types not included in the appraisal have also been evaluated. MSI and SSI schemes are similar in nature, except that MSI schemes have a higher scale of investment and level of benefits.

5. The conversion rate used in the analysis is PRs79.02 to \$1.00 (average exchange rate of loan transaction). The total operational cost (including salaries, vehicles, equipment, consulting services, and office operation cost) was considered in estimating the overall economic internal rate of return (EIRR) of the project.

### C. Economic Analysis of Selected Schemes

6. Table A9.1 presents a summary of the EIRR for various MSI schemes, Table A9.2 provides the EIRRs for SSI schemes, and Table A9.3 provides the EIRR for selective microcredit loans. Following are key sector-specific details of the economic analysis.

7. **Micro-irrigation.** The micro-irrigation schemes aimed to increase irrigation water facilities under MSI and SSI schemes. These included dug wells, shallow tube wells, water course linings, water storage tanks, irrigation ponds, and mini dams. The impact of these interventions included: (i) an overall increase in cropping intensity by 21%, (ii) changes in cropping patterns in favor of high-value crops, (iii) yield improvements of 7% for wheat, 13% for maize, 23% for gram, 8% for groundnut, 7% for vegetables and 130% for orchards; and (iv) an overall 91% increase in net income. The combined EIRR at completion for irrigation schemes under MSI and SSI schemes ranged between 27% and 41%, as compared to the appraisal estimates of 12.9%–31.5%. At completion, the EIRR for SSI schemes ranged between 27% and 34%. For MSI schemes, it ranged between 30% and 41%, with average of 30%.

8. **Agriculture, horticulture, and social forestry.** Agriculture subprojects included the provision of disc harrows and the conversion of diesel operated tube wells to electric powered motors. The aggregated EIRR of this component is 25%. In the horticulture subsector, a total of 456 hectares (ha) were planted with fruit orchards and vegetables. The fruit plants were not bearing yet, but it is estimated that the returns will surpass all other crops and vegetables. Based on returns on adjacent lands, the EIRR derived is 33%.

9. In the social forestry subsector, a total of 2,030 ha were planted, mostly stabilizing sand dunes. The returns include grasses and the sale of firewood and logs for industrial use (i.e., match sticks, chip board, pulp etc.) at an interval of about 5 years. Previously, the land yielded little and was only sporadically planted with gram. The EIRR at completion was estimated at 28.0% as compared to the appraisal estimate of 22.6%, which calculated for sand dune stabilization.

10. Soil conservation subprojects included the construction of spurs, protection and retaining walls, outlets, and spillways. Key benefits included reduced flood erosion and increased production. The EIRR at completion was 32.1% for MSI schemes and SSI schemes as compared to the appraisal estimate of 31.5%, which calculated for drainage outlets.

11. **Fish ponds.** A total of 10.2 ha were used to raise five different species of fish, using land that was previously barren due to sodicity. Community organizations managed 140 ponds that were established under 8 MSI schemes, benefiting 693 hhs. The total annual fish production of these ponds was 250 tons and the EIRR for this MSI scheme was estimated at 41%.

12. **Drinking water supply.** Subprojects in this sector included water reservoirs and distribution systems, hand pumps, tube wells, water filtration plants for cleaner water, and rehabilitation of distribution networks. The purpose of these subprojects was to reduce the time involved in fetching water and to improve health. The benefits incorporated into the economic analysis at completion included the value of time savings in water collection, the productive use of saved time—especially that of women—and reduced health costs. As such, the average time savings for each scheme has been valued in terms of the rural market wage rate of women in farming activities. Based on these benefits, the EIRR at completion was 20% for MSI schemes

and 29% for SSI schemes as compared to the appraisal estimate of 29.4 combined for SSI and MSI schemes.

13. **Alternate energy and rural electrification.** A total of 2,517 biogas plants were constructed (1,422 as MSI schemes and 1,095 as SSI schemes) leading to cost savings on fuel wood and gas cylinders and labor saving, with the slurry used as manure. Annual savings per household were about \$136. The rural electrification subsector included 531 new connections through 29 kilometers (km) of distribution lines in 11 villages under MSI schemes. Key benefits included cost savings on kerosene oil, lanterns, and accessories. Incremental energy use was taken as 40%. The EIRR is estimated at 23% as compared to the appraisal estimate of 19%.

14. **Livestock, dairy, and poultry development.** This subsector included (i) the establishment of 6 veterinary dispensaries and service centers as well as 1 milk chiller with a 3,350-liter capacity as MSI schemes and (ii) the distribution of 17,556 poultry units of 6 birds each (5 hens and 1 cockerel, aged 6 weeks) as SSI schemes. Benefits included breed improvement, artificial insemination, improved milk production, and a decrease in mortality. The EIRR was 32% for MSI scheme and 29% for SSI scheme implemented under the poultry development subsector.

15. **Roads.** The type of MSI schemes included asphalt roads, concrete roads, jeepable tracks, soling roads, culverts, and trail paths. Similar SSI schemes were carried out except for asphalt roads. The objective was to provide easy all-weather movement of people, cheaper farm inputs, competitive produce incomes, and enhanced access to social services such as health care and education. The benefits included reduced vehicle operating costs, shorter travel time, and reduced transport and haulage charges. Increased land values were another benefit, but this was excluded because it is difficult to accurately attribute increases in land value to the subprojects. Savings in vehicle operating costs resulting from road improvements took into account the effect of higher travel speeds and reduced road roughness. Savings in personal travel time were based on work trips only. Incremental operation and maintenance costs were estimated at 2% of the capital cost of subprojects. The combined EIRR for SSI and MSI schemes ranged between 21.6% and 28.9% at completion as compared to appraisal estimates of 18.8% to 25.7%.

16. **Sewerage and drainage.** A number of streets and drains were improved, primarily as SSI schemes. The EIRR was 26% for MSI scheme and 28% for SSIs scheme.

17. **Off-farm income generation schemes.** Under the MSI schemes, a surgical training and production center and a football training and production center were established to provide training to youths, for employment in these industries or working from home under contract. Benefits included savings of trainees with local training facility and gainful employment. A total of 350 youths have been trained so far. Their yearly net income is \$31,898 for surgical instruments production and \$15,506 for football stitching. The aggregate EIRR for these two centers is 49%. Related SSI scheme included flour grinding machines and the production and marketing of handmade fans and electric sewing machines. The benefits are savings in training costs and increased rates of post-training employment. The EIRR at completion was 46%.

18. **Microcredit.** A total of \$22.54 million was distributed to 97,582 farmers and entrepreneurs. The credit was used for enterprise development, livestock and dairy development, agriculture inputs, and small-scale infrastructure for individual enterprise. The repayment is \$169 for each loan of \$152, due the following year. This review is based an assessment of a mobile repair shop, a barber shop, a grocery shop, the trading of handmade



bed sheets, and purchases of a washing machine and fertilizer. The EIRR at completion ranged between 52% and 83%, with an aggregate figure of 55%.

#### **D. Overall Project Returns and Sensitivity Analysis**

19. The weighted average EIRR details are given in Table A9.4. The EIRR at completion was 17.4% for MSI schemes and 7.9% for SSI schemes after accounting for the 18% implementation cost for each component. The aggregated EIRR for the overall project at completion was 25.3% as compared to appraisal estimates that ranged between 13% and 36% and clustered near 20%. The highest EIRR among MSI schemes is 49% for off-farm income generation (OFIG) followed by 41% for fish ponds and shallow tube wells. Among SSI schemes, the highest EIRR is 33% for orchard plantation (excluding OFIG and poultry).

20. A sensitivity analysis was performed for three scenarios that included a 10% increase in subproject cost, a 10% decrease in subproject benefits, and a simultaneous 10% increase in cost and a 10% decrease in benefits. In all three scenarios, the EIRR fell by 5%–15%, but maintained a very sound rate of return. The results are given in Tables A9.1 and A9.2. The EIRR is greater than 15% for all MSI schemes under the adverse conditions (a simultaneous 10% increase in costs and a 10% decrease in benefits) except for rural electrification, which results in an EIRR of 13%. The results are also very attractive for all SSI schemes except for poultry, which is sensitive to the cost of feed and the price of eggs. Lastly, switching values for cost increases and benefit decreases are provided in the table, and, again, the figures are very attractive for all schemes.

#### **E. Financial Assessment**

21. Financial analysis has been done for all selected schemes. Overall financial internal rate of return (FIRR) has been derived as done for overall economic returns (Table A9.5). The FIRRs cluster around 25% and are higher than the FIRRs calculated at the time of appraisal except for drinking water supply. The FIRR for the water supply SSI scheme is 31% against the appraisal estimate of 37.6%. The overall FIRR is 24.4%, with 16.1% of that contributed by MSI schemes and 8.3% by SSI schemes. The FIRR for credit advanced through the project is 55%, and its B:C at a 15% discount rate is 1.98.

#### **F. Distribution Analysis and the Poor**

22. Off-farm employment opportunities are limited in *barani* areas due to suppressed economic activity attributable to relatively low population density, poor means of communication, low levels of industry, and low levels of marketable surplus farm produce. The project has provided opportunities for off-farm employment and has contributed to increased production, which has led to the generation of related economic activity. For example, social forestry subprojects created jobs for cutting of trees and transport to the industrial centers, recently established in the area, which is attributed to the availability of timber and log in the area.

23. Different segments of the population have benefited from the project in various ways. In general, the farmers in *barani* areas own small amounts of land and can be categorized as poor. Even farmers owning comparatively larger farms (+25 acre), the productivity and income are not enough to sustain a family.

24. The residents of *barani* areas lack many resources, including access to clean drinking water, health services and an efficient road network. As such, more than three-quarters of the benefits from subprojects (e.g., drinking water and asphalt roads) directly affect the poor. Many

of the villages that lack a water supply or access to electricity are more remote and poorer than those that have already been covered. For access roads, the poor are likely to benefit from reduced fares, better prices of marketable produce, etc.

25. Based on the above and supplemented by interviews with affected persons, the poverty impact ratio is calculated by subproject category (Table A9.6). The poverty impact ratio falls in the range of 1.02 to 2.50 for various subprojects, with an average of 1.24 for MSI schemes, 1.53 for SSI schemes. The overall poverty impact ratio is 1.25 for the entire project.

**Table A9.1: Summary of Economic Returns for Medium-scale Infrastructure Schemes**  
(\$)

Year	Micro-Irrigation	Agriculture	Horticulture	Social Forestry	Soil Conservation	Fish Ponds	Drinking Water Supply	Energy	Livestock & Dairy	Roads	Sewerage & Drainage	OFIG
1	(31,465)	(40,879)	(3,068)	(21,752)	(30,171)	(26,701)	(66,303)	(1,140)	(52,220)	(98,128)	(34,364)	(160,653)
2	9,024	10,760	(767)	(16,354)	9,907	5,163	13,906	278	17,013	25,571	10,134	78,433
3	9,632	10,760	(767)	(16,354)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
4	9,834	10,760	467	(5,705)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
5	9,834	10,760	1,701	121,744	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
6	10,290	10,760	2,935	(16,354)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
7	10,290	10,760	3,675	(16,354)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
8	10,290	10,760	3,922	(16,354)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
9	10,290	10,760	4,169	(5,705)	9,907	14,275	13,906	278	17,044	25,571	10,134	78,433
10	10,290	10,760	4,169	121,744	9,907	14,275	13,906	278	17,044	25,571	13,571	79,315
11	10,229	10,760	4,169	(16,354)	9,907	-	13,906	278	17,044	-	-	77,547
12	10,229	10,760	4,169	(16,354)	9,907	-	13,906	278	17,044	-	-	77,547
13	10,229	10,760	4,169	(16,354)	9,907	-	13,906	278	17,044	-	-	77,547
14	10,229	10,760	4,169	(5,705)	9,907	-	13,906	278	17,044	-	-	77,547
15	10,229	11,930	4,169	121,744	9,907	-	29,610	459	17,044	-	-	143,933
NPV @ 15%	21,654	18,237	6,962	30,063	23,078	29,122	13,948	515	39,411	20,771	13,016	258,366
<b>EIRR</b>	30%	25%	33%	28%	32%	41.1%	20%	23%	32%	22%	26%	49%
<b>Sensitivity Analysis</b>												
+10% cost	26%	23%	31%	23%	29%	36%	17%	19%	25%	18%	21%	44%
-10% benefit	25%	22%	30%	23%	28%	36%	17%	19%	24%	18%	20%	43%
Both	21%	20%	28%	18%	25%	31%	15%	16%	17%	15%	15%	39%
<b>Switching Value%</b>												
Cost Increase	42%	51%	107%	30%	79%	74%	21%	30%	26%	22%	22%	138%
Benefit Decrease	30%	34%	52%	23%	44%	42%	18%	23%	21%	18%	18%	58%

(-) = negative, EIRR = economic internal rate of return, NPV = net present value, OFIG = off-farm income generation scheme.

Source: Asian Development Bank estimates.

**Table A9.2: Summary of Economic Returns for Small-scale Infrastructure Schemes**  
(\$)

Year	Micro-irrigation				Horticulture	Soil conservation	Drinking water supply	Energy	Poultry	Roads	Sewerage & drainage	OFIG schemes
	Dug well	Under-ground lining of water course	Open water course lining	Overall								
1	(71)	(3,803)	(3,876)	(7,750)	(341)	(2,847)	(3,272)	(523)	(22)	(3,962)	(8,930)	(1,904)
2	26	1,054	1,262	2,342	(85)	995	960	126	(6)	1,273	2,775	886
3	26	1,054	1,303	2,383	(85)	995	960	126	25	1,273	2,775	886
4	26	1,054	1,316	2,396	52	995	960	126	25	1,273	2,775	886
5	26	1,054	1,316	2,396	189	995	960	126	25	1,273	2,775	886
6	26	1,054	1,321	2,402	326	995	960	126	25	1,273	2,775	886
7	26	1,054	1,321	2,402	408	995	960	126	25	1,273	2,775	886
8	26	1,054	1,321	2,402	436	995	960	126	25	1,273	2,775	886
9	26	1,054	1,321	2,402	463	995	960	126	25	1,273	2,775	886
10	26	1,054	1,321	2,402	463	995	960	126	25	1,273	3,668	1,768
11	-	1,054	-	1,054	463	-	960	126	25	-	-	-
12	-	1,054	-	1,054	463	-	960	126	25	-	-	-
13	-	1,054	-	1,054	463	-	960	126	25	-	-	-
14	-	1,054	-	1,054	463	-	960	126	25	-	-	-
15	-	1,054	-	1,054	463	-	1,735	307	25	-	-	-
NPV @ 15%	45	1,941	2,049	4,036	774	1,655	2,029	197	82	1,837	3,969	2,238
EIRR	34%	27%	31%	29%	33%	32%	29%	23%	60%	29%	28%	46%
<b>Sensitivity Analysis</b>												
+10% cost	28%	22%	25%	24%	31%	28%	24%	21%	25%	25%	23%	28%
-10% benefits	28%	22%	25%	23%	30%	28%	24%	21%	22%	25%	22%	27%
Both	23%	18%	20%	19%	28%	24%	19%	18%	-13%	22%	17%	12%
<b>Switching Value%</b>												
Cost increase	43%	32%	35%	34%	107%	55%	14%	63%	14%	53%	26%	20%
Benefit decrease	30%	24%	26%	25%	52%	36%	16%	39%	12%	35%	21%	16%

() = negative, EIRR = economic internal rate of return, NPV = net present value, OFIG = off-farm income generation.

Source: Asian Development Bank estimates.

**Table A9.3: Summary of Economic Returns for Microcredit**  
(\$)

Year	Jandewali:barber shop	Jandewali: mobile repair	Alipur Syedan: agriculture Inputs	Pakhoke: grocery store	Mandranwala: trading	Mandranwala: washing machine	All
1	(1,499)	(997)	(308)	(1,975)	(569)	(287)	(5,634)
2	764	563	116	995	202	197	2,838
3	841	640	193	1,072	279	274	3,300
4	841	640	193	1,072	279	274	3,300
5	841	640	193	1,072	279	274	3,300
6	841	640	193	1,072	279	274	3,300
7	841	640	193	1,072	279	274	3,300
8	841	640	193	1,072	279	274	3,300
9	841	640	193	1,072	279	274	3,300
10	1,008	751	193	1,072	279	274	3,577
EIRR	53%	60%	53%	52%	43%	83%	55%
<b>Sensitivity Analysis</b>							
+10% cost	48%	54%	45%	46%	37%	73%	48%
-10% benefits	47%	53%	44%	46%	37%	72%	48%
Both	42%	47%	37%	41%	31%	62%	42%
<b>Switching value%</b>							
Cost increase	130%	142%	75%	128%	70%	134%	120%
Benefit decrease	56%	59%	43%	56%	41%	57%	54%

() = negative, EIRR = economic internal rate of return.  
Source: Asian Development Bank estimates.

Table A9.4: Overall Project Economic Returns and Sensitivity

Type of Intervention	Investment \$'000	Base EIRR	Adjusted EIRR	Sensitivity (-10% benefits)	Switching Value-Cost Increase	Switching Value- Benefits Decrease
<b>A. Medium-scale Infrastructure schemes</b>						
1. Micro-irrigation	6,005.8	30%	24%	25%	42%	30%
2. Agriculture	1,321.2	25%	24%	22%	51%	34%
3. Horticulture	242.5	33%	33%	30%	107%	52%
4. Social forestry	1,068.0	28%	27%	23%	30%	23%
5. Soil conservation	867.8	32%	31%	28%	79%	44%
6. Fisheries	233.0	41%	41%	36%	74%	42%
7. Drinking water supply	2,066.8	20%	18%	17%	21%	18%
8. Energy	625.0	23%	23%	19%	30%	23%
9. Livestock and dairy development	158.1	32%	32%	24%	26%	21%
10. Roads	1,977.0	22%	20%	18%	22%	18%
11. Sewerage and drainage	231.4	26%	26%	20%	22%	18%
12. Off-farm Income generation	109.1	49%	49%	43%	138%	58%
<b>All MSIs</b>	<b>14,905.7</b>	<b>33%</b>	<b>17.4%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>
<b>B. Small-scale infrastructure schemes</b>						
1. Micro-irrigation	3,839.2	29%	25%	23%	34%	25%
2. Horticulture	252.3	33%	33%	30%	107%	52%
3. Soil conservation	125.0	32%	32%	28%	55%	36%
4. Drinking water supply	863.5	29%	28%	24%	14%	16%
5. Energy	345.9	23%	23%	21%	63%	39%
6. Roads	823.1	29%	28%	25%	53%	35%
7. Sewerage and drainage	911.6	28%	27%	22%	26%	21%
8. Poultry development	203.9	60%	60%	22%	14%	12%
9. Off-farm income generation	54.3	46%	46%	27%	20%	16%
<b>All SSIs</b>	<b>7,418.8</b>	<b>30%</b>	<b>7.9%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Overall EIRR</b>			<b>25.3%</b>			

EIRR = economic internal rate of return, MSI = medium-scale infrastructure, SSI = small-scale infrastructure.

Source: Asian Development Bank estimates.

Table A9.5: Overall Project Financial Returns and Sensitivity

Type of Intervention	Investment - \$'000	Base FIRR	Adjusted FIRR	Sensitivity (-10% benefits)
<b>A. Medium-scale Infrastructure Schemes</b>				
1. Micro-irrigation	6,673	32%	26%	27%
2. Agriculture	1,468	21%	20%	19%
3. Horticulture	269	36%	36%	33%
4. Social forestry	1,187	22%	21%	17%
5. Soil conservation	964	25%	25%	22%
6. Fisheries	259	46%	45%	40%
7. Drinking water supply	2,296	21%	19%	18%
8. Energy	694	22%	21%	18%
9. Livestock and dairy development	176	29%	29%	21%
10. Roads	2,197	21%	19%	17%
11. Sewerage and drainage	257	30%	30%	24%
12. Off-farm Income generation	121	46%	46%	41%
<b>All MSI schemes</b>	<b>16,562</b>	<b>31%</b>	<b>16%</b>	
<b>B. Small-scale infrastructure schemes</b>				
1. Micro-irrigation	4,266	31%	27%	26%
2. Horticulture	280	36%	36%	26%
3. Soil conservation	139	34%	34%	29%
4. Drinking water supply	959	31%	31%	26%
5. Energy	384	28%	27%	24%
6. Roads	915	24%	24%	21%
7. Sewerage and drainage	1,013	30%	29%	24%
8. Poultry development	227	39%	38%	5%
9. Off-farm income generation	60	37%	37%	19%
<b>All SSI schemes</b>	<b>8,243</b>	<b>32%</b>	<b>8%</b>	
<b>Overall FIRR</b>			<b>24%</b>	

FIRR = financial internal rate of return, MSI = medium-scale infrastructure, SSI = small-scale infrastructure.

Source: Asian Development Bank estimates.

Table A9.6: Poverty Impact Ratio

Subproject	NPV - \$'000	Proportion of Poor	Benefits to Poor	Poverty Impact Ratio
<b>A. Medium-scale Schemes</b>				
1. Micro-irrigation	22,843	60%	13,706	1.67
2. Agriculture	12,384	45%	5,573	2.22
3. Horticulture	7,234	40%	2,894	2.50
4. Social forestry	19,470	80%	15,576	1.25
5. Soil conservation	15,073	65%	9,797	1.54
6. Fisheries	26,806	80%	21,445	1.25
7. Drinking water supply	18,685	85%	15,882	1.18
8. Energy	327	90%	294	1.11
9. Livestock and dairy development	26,422	60%	15,853	1.67
10. Roads	19,996	40%	7,998	2.50
11. Sewerage and drainage	16,123	60%	9,674	1.67
12. Off-farm income generation	215,785	95%	204,996	1.05
<b>All MSI schemes</b>	<b>401,147</b>		<b>323,688</b>	<b>1.24</b>
<b>B. Small-Scale Schemes</b>				
1. Micro-irrigation	4,624	60%	2,774	1.67
2. Horticulture	804	40%	322	2.50
3. Soil conservation	1,789	65%	1,163	1.54
4. Drinking water supply	2,589	85%	2,201	1.18
5. Energy	274	90%	247	1.11
6. Roads	1,367	40%	547	2.50
7. Sewerage and drainage	4,827	60%	2,896	1.67
8. Poultry development	52	98%	51	1.02
9. Off-farm Income generation	1,493	95%	1,419	1.05
<b>All SSI schemes</b>	<b>17,820</b>		<b>11,619</b>	<b>1.53</b>
<b>Overall poverty impact</b>	<b>418,967</b>		<b>335,306</b>	<b>1.25</b>

NPV = net present value, OFIG = off-farm income generation.

Source: Asian Development Bank estimates.