



# Completion Report

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Project Number: 37536-013  
Loan Numbers: 2245 and 2246  
Grant Number: 0080  
July 2016

## Uzbekistan: Land Improvement Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

Currency Unit	–	sum (SUM)
		<b>At Appraisal</b> (26 June 2006)
		<b>At Project Completion</b> (31 March 2015)
SUM1.00	=	\$0.000817
\$1.00	=	SUM1,223.78
		\$0.000401
		SUM2,490.48

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
BISA	–	Basin Irrigation System Authorities
DFA	–	demonstration farm area
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
GAP	–	Gender Action Plan
GEF	–	Global Environment Facility
HGME	–	Hydro-geological Melioration Expedition
I&D	–	irrigation and drainage
ICB	–	international competitive bidding
IEE	–	initial environmental examination
ISA	–	Irrigation System Authorities
km	–	kilometer
LRF	–	Land Reclamation Fund
M&E	–	monitoring and evaluation
MAWR	–	Ministry of Agriculture and Water Resources
MDP	–	model demonstration plot
NCB	–	national competitive bidding
O&M	–	operation and maintenance
OCR	–	Ordinary Capital Resources
PDFA	–	private and <i>dehkan</i> farm association
PIU	–	project implementing unit
PMO	–	project management office
PSC	–	Project Steering Committee
RRA	–	Rural Restructuring Agency
SLM	–	sustainable land management
SF	–	special fund
TA	–	technical assistance
UZMEI	–	Uzbekistan Scientific Research Institute of Mechanization and Electrification
WUA	–	water users' association
WCA	–	water consumers' association

## WEIGHTS AND MEASURES

m	–	meter
m <sup>3</sup>	–	cubic meter
mcm	–	million cubic meter
t	–	ton
s	–	second
ha	–	hectare

## GLOSSARY

dehkan farm	–	peasant farm, small inheritable household plot (from 0.15 to 0.35 ha) free in crop selection and marketing
hashar	–	community-based works
Khokim	–	province or district governor
Shirkat	–	collective farm

## NOTES

- (i) The fiscal year (FY) of the government and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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## BASIC DATA

### A. Loan Identification

1.	Country	Republic of Uzbekistan
2.	Loan Number	2245, 2246
	Grant Number	0080
3.	Project Title	Land Improvement Project
4.	Borrower	Republic of Uzbekistan
5.	Executing Agency	Ministry of Agriculture and Water Resources
6.	Amount of Loans	
	(a) 2245	\$32.60 million
	(b) 2246	SDR18.515 million (\$27.6 million equivalent)
	Amount of Grant (GEF) <sup>1</sup>	\$3.00 million
7.	Project Completion Report Number	UZB-1583

### B. Loans/Grant Data

1.	Appraisal	
	– Date Started	18 March 2006
	– Date Completed	30 March 2006
2.	Loan Negotiations	
	– Date Started	31 May 2006
	– Date Completed	5 June 2006
3.	Date of Board Approval	24 July 2006
4.	Date of Loan Agreement	27 September 2007
5.	Date of Loan Effectiveness	
	– In Loan Agreement	26 December 2007
	– Actual	9 November 2007
	– Number of Extensions	0
6.	Closing Date	
	– In Loan Agreement	31 March 2013
	– Actual	30 September 2015
	– Number of Extensions	1
7.	Terms of Loan	
	– Interest Rate	<u>Loan 2245</u> LIBOR <sup>2</sup> + 0.6%
		<u>Loan 2246</u> 1% grace period 1.5% thereafter
	– Maturity (number of years)	25 years
	– Grace Period (number of years)	5 years
		32 years
		8 years
8.	GEF Cofinancing	
	– GEF approval	9 January 2008
	– Date of Financing Agreement	21 August 2008
	– Date of Effectiveness	21 August 2008
	– Closing Date in Financing Agreement	31 March 2013
	– Actual Closing Date	30 September 2015
	– Number of Extensions	2

<sup>1</sup> Global Environment Facility.

<sup>2</sup> London Interbank Offered Rate.

## 9. Disbursements

## a. Dates

Loan 2245	<b>Initial Disbursement</b>	<b>Final Disbursement</b>	<b>Time Interval</b>
	10 January 2008	19 May 2015	87.11 months
	<b>Effective Date</b>	<b>Actual Closing Date</b>	<b>Time Interval</b>
	9 November 2007	30 September 2015	94.06 months
Loan 2246	<b>Initial Disbursement</b>	<b>Final Disbursement</b>	<b>Time Interval</b>
	19 January 2011	19 May 2015	51.09 months
	<b>Effective Date</b>	<b>Actual Closing Date</b>	<b>Time Interval</b>
	9 November 2007	30 September 2015	94.06 months
Grant 0080	<b>Initial Disbursement</b>	<b>Final Disbursement</b>	<b>Time Interval</b>
	4 February 2009	3 July 2015	76.08 months
	<b>Effective Date</b>	<b>Actual Closing Date</b>	<b>Time Interval</b>
	21 August 2008	30 September 2015	85.03 months

## b. Amount Loan 2245 (\$)

Category	Original Allocation	Last		Amount Canceled
		Revised Allocation	Amount Disbursed	
1. Civil Works	18,645,000			
1A. Inter-farm Civil Works (Phase 1)	0	2,424,365	2,420,657	3,708
1B. On-farm Civil Works and Model Farms	0	2,114,500	2,008,631	105,869
1C. Inter-farm Civil Works (Phase 2)	0	12,487,675	11,579,648	908,027
2. Surveys, Design, & Construction Supervision	416,000	401,500	275,820	125,680
3. Vehicles, Machinery, Materials, and Equipment				
3A. Machinery, Materials, and Equipment	823,000	969,221	969,221	0
3B. Vehicles	115,000	35,440	35,440	0
4. Training	587,000	369,000	78,191	290,809
5. Consulting Services	4,715,000	5,670,900	5,317,104	353,796
6. Office Renovation	102,000	88,600	88,595	5
7. Project Management	1,390,000			
7A. Studies, Travel, O&M* Vehicles, and Machinery, Incremental Administrative Cost		2,058,500	1,743,812	314,688
7B. Office Expenses (Disbursed)		29,698	18,049	11,649
7C. Office Expenses		239,702	57,578	182,124
8. Interest and Commitment Charge	4,185,000	3,548,000	1,313,407	2,234,593
9. Unallocated	1,622,000	2,162,899	0	2,162,899
<b>Total</b>	<b>32,600,000</b>	<b>32,600,000</b>	<b>25,906,153</b>	<b>6,693,847</b>

\*O&amp;M – operation and maintenance

## c. Amount Loan 2246 (SDR)

Category	Original Allocation	Last		Amount Canceled
		Revised Allocation	Amount Disbursed	
1. Inter-farm Civil Works	17,242,000			
1A. Inter-farm Civil Works (Phase 1)	0	16,262,856	15,726,213	536,643
1B. Inter-farm Civil Works (Phase 2)	0	1,653,917	1,507,588	146,329
2. Interest and Commitment Charge	366,000	598,227	355,795	242,432
3. Unallocated	907,000	0	0	0
<b>Total (SDR)*</b>	<b>18,515,000</b>	<b>18,515,000</b>	<b>17,589,596</b>	<b>925,404</b>
<b>Total (\$ equivalent)</b>	<b>27,600,000</b>	<b>27,600,000</b>	<b>27,012,975</b>	<b>1,300,233</b>

\*SDR-special drawing right

1SDR=\$1.491

1SDR=\$1.536

Note: SDR at appraisal, and loan closing

## d. Amount Grant 0080 (\$)

<b>Category</b>	<b>Original Allocation</b>	<b>Last Revised Allocation</b>	<b>Amount Disbursed</b>	<b>Amount Canceled</b>
A. Machinery and Equipment	50,000	111,300	96,064	13,906
B. Training/ Capacity Building	290,000	290,000	162,562	127,438
C. Consulting Services	887,000	887,000	767,678	119,322
D. Studies/ Demonstrations/ Knowledge Products				
Demonstration Projects	1,320,000	1,320,000	1,267,025	52,975
Knowledge Products	171,000	171,000	91,269	79,731
E. Travel	207,000	145,700	26,530	119,170
F. Office Expenses	75,000	75,000	62,285	12,715
<b>Total</b>	<b>3,000,000</b>	<b>3,000,000</b>	<b>2,473,414</b>	<b>525,256</b>

10. Local Costs (Financed) – Not applicable

**C. Project Data**

1. Project Cost (\$ million)

<b>Cost</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
Foreign Exchange Cost	63.2	55.4
Local Currency Cost	16.0	49.8
<b>Total</b>	<b>79.2</b>	<b>105.2</b>

2. Financing Plan (\$ million)

<b>Cost</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
Implementation Costs		
Borrower Financed	15.6	36.6
ADB Financed	55.5	51.1
Beneficiary Contribution	0.4	13.2
Other External Financing – GEF	3.0	2.5
Subtotal	74.5	103.4
IDC Costs		
Borrower Financed	0.0	0.0
ADB Financed	4.7	1.8
Other External Financing	0.0	0.0
<b>Total</b>	<b>79.2</b>	<b>105.2</b>

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

3. Cost Breakdown by Project Component (\$ million)

<b>Component</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
<b>A. Base Costs</b>		
1. Land and Agricultural Improvement	1.69	2.98
2. Capacity Building of Land and Water Management Institutions	0.58	0.08
3. Rehabilitation of Land Management Infrastructure	54.34	90.26
4. Project Management, Monitoring, and Evaluation	5.85	7.57

5. Conservation Management of Soils and Agriculture (GEF)	3.00	2.47
<b>Subtotal (A)</b>	<b>65.46</b>	<b>103.36</b>
<b>B. Contingencies</b>	<b>8.97</b>	<b>0.0</b>
<b>C. Interest and Other Charges</b>	<b>4.75</b>	<b>1.85</b>
<b>Total</b>	<b>79.18</b>	<b>105.21</b>

## 4. Project Schedule

Item	Appraisal Estimate	Actual
A. Project Management, Monitoring, and Evaluation	Oct 2006–Jun 2012	Nov 2007–Mar 2015
B. Land and Agricultural Improvement	Jan 2007–Mar 2012	Feb 2009–Dec 2011
C. Capacity Building of Land and Water Management Institutions	Oct 2006–Jun 2012	Feb 2009–Sep 2014
D. Rehabilitation of Land Management Infrastructure	Oct 2006–Jun 2012	Jul 2009–Dec 2014
E. Conservation Management of Soils and Agriculture (GEF)	Jan 2007–Jun 2012	Sep 2008–Mar 2015

## 5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 31 Jul 2006 to 31 Dec 2006	Satisfactory	Satisfactory
From 01 Jan 2007 to 31 Dec 2007	Satisfactory	Unsatisfactory
From 01 Jan 2008 to 31 Dec 2010	Satisfactory	Satisfactory
From 01 Jan 2011 to 31 Dec 2012 <sup>a</sup>	Potential Problem	
From 01 Jan 2013 to 31 Mar 2015	On track	

<sup>a</sup> Starting 2011, Project Administration Instructions 5.08, Project Performance Monitoring was revised to introduce new project performance indicators and ratings. The indicators used in performance rating are (i) Technical, (ii) Procurement, (iii) Disbursement, (iv) Financial Management, and (v) Safeguards.

## D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members
Inception mission	February 2008	4	10	a, b, c, e
Review mission 1	December 2008	3	6	a, c, e
Review mission 2	July 2009	2	6	a, c
Review mission 3	November 2009	2	3	a, c
Review mission 4	December 2010	2	11	a, c
Mid-term Review mission	May 2011	3	23	a, c, e
Review mission 6	September 2012	1	7	a
Review mission 7	August 2013	2	3	a, c
Review mission 8	June 2014	2	29	a, c
Review mission 9	March 2015	3	12	a, c, d
Project completion review	April 2016	3	6	a, c, e

Note: a = project officer, b = economist, c = analyst, d = gender specialist, e = consultant.



## I. PROJECT DESCRIPTION

1. Land degradation has been a serious economic, social, and environmental problem in Uzbekistan. It directly affects the livelihoods of the rural population by reducing land productivity and by causing agricultural production losses. The Government of Uzbekistan recognized these problems and made rehabilitation of key irrigation and drainage facilities a top national priority.

2. The Land Improvement Project was to address the rapidly worsening and expanding land degradation in nine districts in Bukhara, Kashkadarya, and Navoi province covering 162,300 hectares (ha) of irrigated land suffering from increased soil salinity and shallow groundwater table—the most serious forms of land degradation, which resulted in a significant decline in crop yields.<sup>1</sup> The project impact envisaged increased income for farmers in the project area and the project outcome envisaged improved quality and sustainable productivity of land, leading to higher crop yields and enhanced ecological sustainability in the project areas. The project had five outputs (i) policy reforms (ii) improved management practices including adoption of integrated land reclamation, water, and land management practices; (iii) increased institutional capacity including strengthened government and nongovernment water management institutions; (iv) rehabilitated land and water infrastructure: drainage network and irrigation control structures; and (v) operational and effective project management and monitoring systems.

3. The Asian Development Bank (ADB) approved on 24 July 2006 a blend of two loans to finance the project: (i) a loan for \$32.60 million from the ordinary capital resources (OCR), and (ii) a loan in various currencies of SDR 18.52 million (equivalent to \$27.60 million) from the special funds (SF) resources. A grant from the Global Environment Facility (GEF) for \$3.00 million, administered by ADB, was provided to promote innovative land management, enhance the replicability of the project, and generate additional global environmental benefits.<sup>2</sup> The supplementary appendix provides additional background information on GEF grant and details related to the global environment benefits the project aimed to deliver.

## II. EVALUATION OF DESIGN AND IMPLEMENTATION

### A. Relevance of Design and Formulation

4. The government's strategy for irrigation and drainage highlighted the need for public investment to rehabilitate and modernize selected main and inter-farm irrigation and drainage systems, while the policy reforms promoted the reorganization and improvement of the agriculture sector.<sup>3</sup> The project was designed in line with ADB's Country Strategy and Program for 2004–2006, which highlighted the serious land degradation and irrigation management problems, and prioritized environmentally sustainable development. It recognized agriculture as the key sector for ADB assistance to (i) support the government's reform initiatives and

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<sup>1</sup> ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grant to the Republic of Uzbekistan for Land Improvement Project*. Manila.

<sup>2</sup> ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed GEF Grant to the Republic of Uzbekistan for Land Improvement Project*. Manila.

<sup>3</sup> Ministry of Agriculture and Water Resources and World Bank. 2001. *Irrigation and Drainage Sector Strategy Study*. Tashkent; Republic of Uzbekistan. 2003. *On the Most Important Directions for Deepening Reforms in Agriculture*. Decree of President No. PD-3226, 24 March 2003. Tashkent.

demonstrate the efficiency of reforms; and (ii) prevent deterioration in rural living standards through sustainable rehabilitation of agriculture, water infrastructure, and land improvement.<sup>4</sup>

5. In 2008, the government established the Land Reclamation Fund (LRF) under the Ministry of Finance and adopted the investment program for 2008–2012 to improve land conditions through rehabilitation of the drainage infrastructure.<sup>5</sup> This program supplemented the project output on improved land management infrastructure through replication of drainage rehabilitation works at the national level.

6. During preparation of the Water Resources Management Sector Project in 2008, the Medium-term Sector Strategy and Investment Plan was prepared for irrigation, drainage, and water resources in collaboration with the government. The strategy was derived primarily from the substantial policy work and focused on maximizing returns and increasing the productivity of water use.<sup>6</sup>

7. The government developed strategies for 2008–2010 and 2013–2015 to improve people's welfare with the goal of reducing poverty from 22% in 2008 to 13.7% in 2015.<sup>7</sup> In the agriculture sector, the strategies supported (i) crop diversification; (ii) agriculture modernization; (iii) adoption of water saving technologies; (iv) effective land and water management; (v) development of sustainable water supplies for irrigation; (vi) implementation of water users' fees to encourage efficient use of water and cash for operation and maintenance (O&M); (vii) improved performance of water users' associations (WUAs); and (viii) improved financial sustainability of farms. The project remained consistent with the ADB Country Partnership Strategy, 2012–2016, which continued support for improvements in climate-adaptive water management and the productivity of water resources.<sup>8</sup>

8. The project was adequately formulated through a project preparatory technical assistance (TA).<sup>9</sup> The TA was provided to help the government prepare a project that would help increase the income of farmers and ensure ecologically sustainable productivity in the project area through policy reforms, capacity development of stakeholders, and land improvement works. The TA provided all inputs needed to prepare the project for ADB and GEF financing. The GEF-financed activities were integrated with four project outputs to enhance the environmental aspects and reinforce sustainability of the project's interventions. Stakeholders were consulted during planning, design, and implementation to determine the project scope and implementation arrangements. In 2011, ADB's midterm review mission identified (i) the need for extension of the loan and grant closing date by 24-months to complete project activities due to the initial implementation delay (the loan became effective 15 months after approval) and re-bidding of three large civil works contracts; and (ii) that available project funds were no longer sufficient to complete all envisaged civil works due to price escalation in fuel, construction materials, and labor costs since the preparation of the estimates in 2006. The government agreed to fund additional costs and implement the on-farm improvement works.<sup>10</sup> ADB

<sup>4</sup> ADB 2003. *Country Strategy and Program Update for 2004–2006: Uzbekistan*. Manila. ADB 2006. *Country Strategy and Program for 2006–2010: Uzbekistan*. Manila

<sup>5</sup> The Republic of Uzbekistan. 2007. *Resolution of the President UP-3932 of 29 October 2007: On Actions to Improve Land Improvement System*.

<sup>6</sup> ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for Water Resources Management Sector Project*. Manila.

<sup>7</sup> The Republic of Uzbekistan. 2013. *Uzbekistan's Welfare Improvement Strategies for 2013–2015*. Tashkent.

<sup>8</sup> ADB. 2013. *Country Partnership Strategy 2012–2016: Uzbekistan*. Manila.

<sup>9</sup> ADB. 2004. *Technical Assistance to the Republic of Uzbekistan for Preparing the Land Improvement Project*. Manila.

<sup>10</sup> Resolution of the President of the Republic of Uzbekistan No. PP-1813 of 3 September 2012.

approved the extension of the loan and grant closing date to 31 March 2015 and a minor change in the project financing plan.

9. The project's on-farm drainage works were financed and implemented by the government through LRF, while the on-farm irrigation systems were improved by farmers through community-based works (*hashar*) under the supervision of LRF. This eased out implementation as LRF was well prepared and had adequate resources and capacity to work with individual farmers in finalizing the scope of works and implementing land improvement works.

10. The project design and monitoring framework (DMF) at appraisal and as implemented is in Appendix 1. The supplementary appendix provides more details of the GEF-financed activities.

## **B. Project Outputs**

11. The five project outputs, as well as their respective achievements, are described below.

12. **Output 1: Implementation of Policy Reforms.** The proposed reforms comprised: (i) enhanced incentives, including reduced procurement quotas for cotton and wheat; (ii) improved procurement prices for cotton and wheat aligned with international prices; (iii) deregulated (free) marketing of produce, liberalized farm management (e.g., cropping patterns, financing, and marketing of production); and (iv) improved land tenure.

13. The government issued Presidential Decree No. PP-698 of 26 September 2007 to reduce the procurement quotas for cotton and wheat to 25% each. Similar decrees and orders were also issued by the three project provinces. However, the need of local government to meet planned targets for cotton and wheat resulted in ignoring the presidential decree and continue to apply the original procurement quotas based on the soil quality.

14. The government issued a number of amendments to the Farms Law<sup>11</sup> during 2009–2013 to improve the land tenure, water consumption, registration, government support, and management of farms. In October 2012, the government also issued the Presidential Decree No. PP-4478 to apply 26 actions for further improvement of farms management and development of farmers. These actions aimed to improve (i) the legal regulation framework of farms; (ii) management and organization frameworks of farms; and (iii) the economic and financial sustainability.

15. As a result of the policy reforms, the procurement prices for cotton increased by 62% (from \$835.7/ton (t) in 2007 to \$1,354.1/t in 2014); and for wheat by 92.4% (from \$93.4/t in 2007 to \$179.7/t in 2014). The gap between the state procurement price and the international price reduced by 9% for cotton and 22% for wheat against the target of 10% for both. The target for cotton may be assessed as partly achieved while the target for wheat is assessed as fully achieved.

16. The GEF financing deepened the reform measures that encouraged sustainable land management (SLM) and, through it, the realization of national and global environmental benefits. The GEF-financed activities were to (i) develop measures providing incentives for sustainable use of marginal waters and marginal lands; (ii) review the potential for creating special operating

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<sup>11</sup> Republic of Uzbekistan. 2004. Farms Law.

and incentive regimes for sub-areas where land rehabilitation offers high environmental benefits; (iii) develop proposals for legislative and regulatory support for conservation of agro-biodiversity, and for protection of ecosystems and landscapes; and (iv) investigate the potential of “payment for environmental services” as a policy mechanism, encouraging the adoption of conservation agriculture in Uzbekistan and Central Asia.

17. A manual on SLM was prepared that included recommendations for strengthening the incentive structure for environmental benefits of the sustainable land management. The manual outlined (i) major causes of land degradation; (ii) methods for assessing land degradation; (iii) the importance of sustainable land management; and (iv) policy advice and recommended actions for sustainable agricultural development in the project areas.

18. **Output 2: Improved Management Practices.** These include the adoption of integrated land reclamation, water, and land management practices.

19. The Uzbekistan Scientific Research Institute of Mechanization and Electrification (UZMEI) and the Central Asian Scientific Irrigation Research Institute were hired to design, implement, and monitor the pilot farms to demonstrate integrated land reclamation, water, and land management practices and to disseminate information to other farmers. Forty-eight (48) units of modern agriculture equipment were procured and handed over to UZMEI for use in demonstration farm areas (DFAs). UZMEI established one DFA in each project province (three in total), each comprising 500 ha. Demonstration activities included deep ripping on 924 ha, land leveling on 251 ha, and soil leaching on 61 ha. Cleaning and reshaping works were carried out for 81.24 km long collector drains and 36 drainage structures were constructed within the DFAs. Canal systems in DFAs were also rehabilitated with the construction and/or reconstruction of 147 outlets, 153 flow measurement stations, 23 cross regulators, rehabilitation of earthen canals, canal linings, and many other supporting works. The results were disseminated to the neighboring farmers through field training schools and other methods of presentation.

20. Twenty-five (25) field plots were identified for model demonstration plot (MDPs) and the Kashkadarya Research Institute for Grain Breeding and Seed Production (KRIGBSP) was selected for implementation of MDPs.<sup>12</sup> KRIGBSP and RRA documented the results in brochures and booklets and disseminated through consultative workshops and field meetings.

21. Due to the significant upgrading of on-farm infrastructure, the irrigation efficiency within the DFAs increased from 30%–38% to the target of 55–60%. The improved on-farm water management and agronomic practices introduced through the demonstration farms were applied to the entire project area. The area under alternate crops increased to 211,601 ha against the project target of 15,030 ha. The conservation agriculture practices were introduced on 245 ha against the target of 1,000 ha. It is expected, however, that the target of 1,000 ha will be achieved in 2020 through the replication of conservation agriculture practices by the farmers and concerned research and extension institutes. Therefore, it may be concluded that the targets of this output have been substantially achieved.

22. The GEF-financed activities were to test new technical and management approaches to manage marginal water (return irrigation water contaminated by salts and other pollutants) for greater economic, cultural, and environmental values. The proposed interventions were to:

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<sup>12</sup>The field plots identified and used were existing plots belonging to farmers and no land was acquired for demonstration activities. Selection of the plots was done based on farmers' willingness and request.

(i) introduce and test salinity mitigation management through the application of drainage and flood runoff regulations, and introduce drainage water reuse schemes and other environmental feasible interventions; (ii) introduce and test salinity mitigation management using elements of conservation agriculture; (iii) conserve and improve wetlands and desert ecosystems around irrigated oases and selected desert depressions as a prototype for SLM in these and similar areas; and (iv) demonstrate the scope for synergy among biodiversity conservation, carbon sequestration, and land productivity enhancement. The project also envisaged the dissemination of the results and lessons learned from the following pilot activities: (i) minimum tillage with crop rotation; (ii) integrated soil and crop management; (iii) re-use of drainage water mixed with fresh water; (iv) rehabilitation of marginal lands for agriculture (v) improved water management; (vi) improved environment management; and (vii) protection against wind erosion.

**23. Output 3: Increased institutional capacity of government and nongovernment water management institutions.** The following capacity building activities were carried out to strengthen water management institutions: (i) 47 WUAs in project provinces are now reregistered as water consumers associations (WCAs); (ii) more than 1,670 participants, including farmers and staff of WCAs, irrigation system authorities (ISA), basin irrigation system authorities (BISA), hydro-geological melioration expeditions (HGMEs), and project implementation units (PIUs), received formal training in various subjects; among them, 255 were women,<sup>13</sup> and (iii) 403 units of equipment were distributed to WCAs, ISAs, BISAs, and HGMEs. These included computers, printers, bicycles, portable salinometers, automatic weather stations and data loggers, automatic water-level recorders, flow meters, and global positioning system (GPS) units.

24. The GEF-financed project was to (i) scale up these activities to a level where they could effectively support the delivery of national and global environmental benefits and make it possible for the relevant institutions to play an active part in the global exchange of experience; (ii) enlarge the pool of stakeholders involved in training and dissemination of these important lessons of conservation agriculture e; (iii) provide support for community-based planning and rural awareness program with (also) agro-cultural heritage and gender perspectives; and (iv) promote study tours for stakeholders and beneficiaries to learn from the experience of conservation agriculture.

25. The project developed a website ([www.land-improvement.uz](http://www.land-improvement.uz)), which contains information on the goals and objectives, implementation of the MDPs program, and agro interventions. To facilitate the knowledge of conservation agriculture and draw the attention of public authorities and farmers to environmental problems, six documentary films in Uzbek language, each of 20 minutes, and one documentary film in English were produced and disseminated. In addition, a wide range of training activities was conducted in the project areas. In all, 27 training activities were completed for about 400 trainees, including 121 women. The training activities were intended for the direct beneficiaries of the project, such as farmers, specialists of the regional Agriculture and Water Administrations, WCA members, specialists of the HGMEs, members of farmers' associations, and members of women committees.

26. Two study tours to California, USA were conducted in 2014–2015, one for the specialists of the Ministry of Agriculture and Water Resources (MAWR), the Rural Restructuring Agency (RRA), the regional agriculture and water management administrations, and the agriculture research institutions; and the other for farmers. A woman farmer was also specifically included in the study tour to foster capacity building in female farmers and gender equality of rural

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<sup>13</sup> Including the field school training, the number of training participants reached 2,500.

women. The study tours demonstrated sound technical and management approaches to sustainable land and water management, and modern agro technologies.

27. **Output 4: Rehabilitated land and water infrastructure (drainage network and irrigation control structures).** This involved rehabilitation of (i) main drainage collectors; 640 kilometers (km) in Bukhara, 500 km in Kashkadarya, and 330 km in Navoi, covering an area of 162,300 ha; and (ii) on-farm canals and drains for improved land and water management, and equitable delivery of irrigation water to individual private farms: 21,460 ha in Bukhara, 24,150 ha in Kashkadarya, and 15,175 ha in Navoi. The cost of on-farm improvements was to be recovered from the beneficiaries.

28. Through nine major contracts, rehabilitation works in nine primary and inter-farm drainage systems totaling 1,423 km and covering 161,930 ha of land in the project area were carried out and handed over to HGME, the O&M organization, after the government commission's verification and approval. The drainage cleaning work involved about 29.19 million cubic meters (m<sup>3</sup>) of earthwork and construction of 492 drainage structures.

29. However, difficulties were encountered in the implementation of on-farm irrigation and drainage works. As the farmers were to share the cost of on-farm irrigation facilities, designs were to be prepared in close consultation with and agreement of the farmers. This consumed considerable time and still the farmers were reluctant to agree because of their poor capacity and lack of will to pay. Also, the cost of rehabilitation of on-farm facilities turned out to be much higher than those envisaged at appraisal. In view of the above, the government decided to implement rehabilitation of (i) on-farm drainage facilities through LRF (para. 5) using its own resources; and (ii) on-farm irrigation facilities by farmers using *hashar* (community-based works), where the farmers undertake works related to common facilities collectively. As loan proceeds were not utilized for on-farm facilities, there was no cost recovery involved and, hence, cost recovery agreements were no longer required. By project completion, LRF had completed 74% of the project's envisaged works for on-farm irrigation and drainage infrastructure rehabilitation.

30. **Output 5: Operational and effective project management and monitoring systems.** A project management office (PMO) was established in Tashkent and one PIU office in each of the three project provinces, all adequately staffed and equipped. The loan consultants assisted the PMO and PIUs in (i) land and water management; (ii) institutional capacity building; (iii) design, procurement, and construction supervision; and (iv) project management, monitoring, and evaluation.

31. The GEF-financed activities were to (i) develop a system for monitoring of the project's environmental impacts; (ii) develop a proposal for a unified salinity management database in Uzbekistan; and (iii) mainstream the most suitable international practices of participatory monitoring of environmental impacts.

32. A monitoring and evaluating (M&E) framework was designed to describe and monitor the environment, soil, and water throughout the implementation of the MDP program. The Institute of Microbiology of the Academy of Science was hired to execute the environmental monitoring. A workshop was conducted in August 2012 on the development of a monitoring and evaluation system. The participants of the workshop included specialists and members of the national institutions relevant to water, agriculture, and the environment. The objectives of the workshop were to (i) establish the dialogue with project stakeholders; (ii) assess the needs for advanced methods of environmental monitoring and analysis training; and (iii) introduce the development of the unified land salinity database for Uzbekistan.

33. A survey was conducted to assess the achievements of socio-agro-economic indicators established against the project's DMF and compliance with loan covenants. The results of project monitoring and evaluation were reported to ADB and the government through quarterly progress reports.

34. As a result of the above interventions, a visible reduction in soil salinity and increase in crop yields were observed. The land area with severe soil salinity decreased from 15,120 ha in 2005 to 4,465 ha in 2014 (70% reduction) and the area with moderate soil salinity decreased from 52,006 ha in 2005 to 24,904 ha in 2014 (52% reduction). As a result, the average cotton yield in the project area increased from 2.0 t/ha to 3.0 t/ha (50% increase) and the wheat yield from 2.0 t/ha to 5.5 t/ha (175% increase). Farmers' annual net income from private farms increased from \$95/ha at appraisal to \$428/ha at completion and the average per capita household income increased by 25%.

35. **Subcomponent C of the GEF-financed project: Capacity building for environmental analysis and management in the agriculture sector.** The GEF-financed activities were to (i) strengthen and mainstream the environmental analysis and risk assessment of land rehabilitation projects and conservation agriculture into MAWR and related institutions, and (ii) develop the methodology for valuing ecosystem conservation in Uzbekistan for local and regional dissemination.

36. The project developed a manual on Environmental Management and Risk Assessments in Agriculture intended to aid the shareholders and farmers of Uzbekistan in meeting their crop productivity objectives. The manual put forward a number of the approaches to conserve various natural resources such as soil, water, seed stock, and pollinators. In addition, a manual on Environmental Overview of the Project Territories was prepared. The information was disseminated through meetings and discussions with local representatives of the State Committee for Nature Protection. Consultant conducted a number of seminars and presentations on international practices and national requirements of environmental analysis and risk assessment.

### **C. Project Costs**

37. The total project cost at appraisal was estimated at \$79.18 million of which ADB provided \$60.20 million, comprising \$32.60 million from OCR and SDR18.52 million (equivalent to \$27.60 million) from SF. In addition, GEF provided a grant of \$3.0 million. The government agreed to finance \$15.58 million (which included \$11.59 million for duties and taxes) while beneficiary contribution was estimated at \$0.40 million. The actual project cost increased by \$26 million (33%) to \$105.2 million, comprising \$25.9 million from OCR loan, \$27.0 million from SF loan, \$2.5 million from the GEF grant, \$36.6 million government financing, and \$13.2 million beneficiaries' contribution. The detailed estimated and actual costs by expenditure account and financiers, and by components and financiers are in Appendix 2.

38. Actual project costs increased (i) by 55% for civil works, with actual costs of \$92.3 million against appraisal estimate of \$59.6 million; (ii) by 12% for consulting services, with actual cost of \$5.3 million against \$4.7 million estimated at appraisal; and (iii) by 28%, for project management support, with actual cost of \$1.8 million against \$1.4 million estimated at appraisal. The main cost decreases by category were (i) 34% for survey, design, and construction supervision, with actual costs of \$0.27 million against appraisal estimate of \$0.41 million; (ii) 27% for machinery and equipment, with actual costs of \$0.97 million against appraisal estimate of \$1.33 million; (iii) 83% for vehicles, with actual costs of \$0.04 million against appraisal estimated

of \$0.21 million; and (iv) 87% for training, with actual costs of \$0.08 million against appraisal estimate of \$0.62 million. The actual grant expenditures decreased by 17% from \$3.0 million to \$2.5 million. Details are provided in the supplementary appendix.

39. The difference between actual and appraisal costs for civil works was caused by (i) price escalation in the costs of fuel, construction materials, and labor since 2006; and (ii) a substantial increase in the cost of on-farm works (para. 29). The government decided to keep the ADB financing as at appraisal and to finance additional costs from its own resources. There was a substantial contribution by beneficiaries for rehabilitation of on-farm irrigation system. The increase in consulting services and project management costs was caused by extension of the project implementation period by 2 years. The decline in costs for the survey, design, and construction supervision was compensated through the consulting services contract. The actual costs for machinery, equipment, and vehicles were lower than estimated at appraisal since the implementing agency didn't need a large number of vehicles. The cost of training was substantially financed by the GEF grant. The difference between actual and appraisal costs has had an impact on the project's economic internal rate of return (para. 60).

#### **D. Disbursements**

40. The project disbursed \$52.9 million from two loans, including \$25.9 million from the OCR loan, and \$27.0 million equivalent (SDR 17.59 million) from the SF loan. The undisbursed amount of \$8.0 million was canceled from both loans, comprising \$6.7 million from OCR, and \$1.3 million equivalent (SDR 925,404) from SF. Disbursement started in January 2008, 18 months after loan approval. The initial implementation delays (para. 8), delayed the contract awards (para. 52), which led to delayed disbursements. The time series of original and actual contract awards and disbursements are in Appendix 3.

41. An imprest account for project activities was established at Agro-Bank, with an initial advance of \$158,000 in January 2008 from the OCR loan (Loan 2245-UZB). In December 2009, the advance was increased to \$283,382 to finance on-farm civil works contracts executed by local contractors. The advance was gradually decreased during 2010–2015 and the imprest account was closed on 30 September 2015, following a total disbursement of \$3.4 million. An imprest account for the GEF grant was also established at Agro-Bank in 2011, with an initial advance of \$100,000. In April 2013, the advance was increased to \$300,000 to finance demonstration activities executed by the local research institute. It was closed in September 2015 with a total disbursement of \$1.55 million. The imprest accounts were efficiently used for timely financing of project management expenses, small civil works, and demonstration activities.

42. Two reallocations of funds were approved. On 17 May 2010, an amount of \$0.2 million was reallocated from the training category of Loan 2245 to the machinery, materials, and equipment category for procurement of equipment for training and capacity building of water resources agencies. On 23 October 2012, proceeds from both loans were reallocated in civil works to finance inter-farm drainage rehabilitation works.

#### **E. Project Schedule**

43. The project was approved on 24 July 2006, the loan agreements were signed on 27 September 2007, and the loans became effective on 9 November 2007. The original implementation period was 6.5 years, with a loan closing date of 31 March 2013.



44. The original loan closing date was extended by 2 years, to 31 March 2015. The main reasons for the extension included: (i) 14 months' delay in loan effectiveness; (ii) delayed selection of the consultant, which was recruited in August 2008, 9 months after loan effectiveness; and (iii) need to rebid three major civil works contracts. Loan effectiveness was delayed by the time taken to prepare the government's feasibility study, which formed the basis for loan signing. Also, the original project implementation schedule was ambitious and did not appropriately consider the local climatic conditions, institutional capacity, and the time taken for normal procedures and approvals. The original and the actual schedules of various activities are in Appendix 4.

## **F. Implementation Arrangements**

45. The project executing agency was MAWR. The deputy minister of MAWR in charge of water resources management was appointed as the project director to oversee project implementation. The RRA was the implementing agency of the project and was responsible for overall implementation and timely completion of the activities as set out in the implementation and procurement plans. In January 2008, a PMO was established in RRA to manage project activities and liaise with ADB and other key stakeholders. Three PIUs were established, one each in Bukhara, Karshi, and Navoi, for supporting project implementation in their respective provinces and liaise with local administration and beneficiaries. A full-time project manager led the PMO while site managers oversaw the PIUs. The loan consultant assisted the PMO and PIUs in overall project management and administration. A project steering committee (PSC) chaired by the deputy prime minister was established in September 2007. In August 2009, following government policy, the PSC was abolished and for the rest of the period, the project, together with all other projects financed by the international financing institutions, was guided by a high-level inter-ministerial council established to provide policy guidance and facilitate inter-ministerial coordination at all levels. The inter-ministerial council met once every quarter or more often if required.

46. The project was implemented as designed at appraisal except for a minor change in implementation arrangements to enable ADB financing of bank charges. Overall, the implementation arrangements are considered adequate in terms of the delivery of project outputs and the achievement of the project purpose, except for policy and institutional reforms. Quarterly and annual progress reports on project implementation were submitted on time to ADB and relevant government agencies. No major changes were required in the implementation arrangements during the implementation period.

## **G. Conditions and Covenants**

47. Compliance with covenants is generally satisfactory. Out of 35 covenants, 26 were fully complied with, compliance with two covenants was partial, while seven covenants related to rehabilitation of on-farm irrigation and drainage infrastructure, and cost recovery from the beneficiaries, are no longer relevant following the government's decision to fully finance this subcomponent. Compliance with policy reforms, including market liberalization and giving farmers freedom of what to grow, is partially satisfactory as the relevant decrees, while issued, were not implemented in true spirit in the field. Details on compliance with loan covenants are in Appendix 5.

## H. Related Technical Assistance

48. A TA grant of \$0.8 million was approved on 24 July 2006, the TA agreement was signed on 2 April 2007, and consultants were fielded on 20 June 2007.<sup>14</sup> The TA was closed on 19 June 2009. The expected impact was accelerated implementation of agriculture sector reforms through (i) an agreed policy reform road map for agriculture/rural development done in a participatory and rigorous manner and based on rigorous assessment of the current situation; (ii) facilitation of the implementation of the reform package; (iii) awareness raising of local government and rural communities regarding implementation of these reforms; and (iv) M&E system developed for evaluating the reforms' impact. Overall, the TA was successful. Its focus on agriculture policy reforms was highly relevant because the binding constraint to the Uzbekistan economy's movement up the economic growth ladder is the hugely interventionist role of government in agriculture, particularly for cotton and wheat. The TA was also highly efficient in the timely delivery of inputs and outputs and the efficient use of limited resources; was flexible to take into account necessities that were not foreseen during the preparation of the TA for effective advocacy of reforms; was innovative in its advocacy tools; was highly participatory, reaching a large number of stakeholders; and was pragmatic in the recommendations of the reform measures in that the reforms factored in the nature and pace of political receptiveness for reforms. The actual implementation of the reforms, the TA's expected outcome, hinges on political commitment and willingness to change by the Government of Uzbekistan.

## I. Consultant Recruitment and Procurement

49. The consulting firms were recruited in accordance with ADB's Guidelines on the Use of Consultants (2006, as amended from time to time). At appraisal, 963 person-months of consulting services (131 months of international and 832 months of national services) were envisaged to assist the loan project in (i) land and water management; (ii) institutional capacity building; (iii) design, procurement, and construction supervision; and (iv) project management, monitoring, and evaluation. The 5-year contract with an international firm was signed on 15 August 2008. The consultant mobilized on 9 November 2008 and the original completion date was 31 March 2013. With the extension of the loan closing date, the consulting services contract was extended until 31 March 2015, and additional staff inputs approved. The final contract was for 1,121 person-months (158 months of international and 963 months of national services). The consultant provided credible professional support to the revision of the feasibility studies, capacity building of the national staff and contractors, and construction supervision.

50. At appraisal, 142 person-months of consulting services (39 months of international and 103 months of national services) were envisaged to assist in the implementation of GEF grant project. The 3-year contract with an international firm was signed on 10 August 2010, two years after grant signing due to re-selection.<sup>15</sup> The consultant mobilized on 15 September 2010 and the original completion date was 31 March 2013. With the extension in the loan closing date, the consulting services contract was extended until 31 March 2015. The final contract was for 131 person-months (34 months of international and 97 months of national services). Although the consultant performance was constrained to some extent due to lack of clarity in the terms of reference and work plan, the project was completed adequately.

<sup>14</sup> ADB. 2006. *Implementation and Monitoring of Policy Reforms in Agriculture Sector (TA 4820-UZB)*. Manila.

<sup>15</sup> The first selection failed due to limited competition. Only one consulting firm submitted a technical proposal, which was considered not qualified.

51. Civil works, goods, and related services were procured in accordance with ADB's Procurement Guidelines (2006, as amended from time to time). In all, 70 contracts were awarded for the loans-funded project. Major contracts included nine for rehabilitation of primary and inter-farm collector drains using international competitive bidding (ICB), five for rehabilitation of collectors and demonstration farms using national competitive bidding (NCB), five for field investigations, eight for soil and topographic surveys, 13 for procurement of major field equipment, nine for procurement of vehicles, office equipment, goods and other minor works, one for consulting services, four for capacity building, and one for carrying out a social and agro-economic impact survey. Three ICB civil works contracts required rebidding because of high bid prices and non-eligibility of the bidders. One ICB contract was terminated because of poor performance of the contractor and retendered through two NCB contracts to complete the remaining works.

52. The nine large ICB contracts for rehabilitation of primary and inter-farm collector drains encountered implementation delays ranging from 6 to 15 months mainly due to unfavorable weather conditions during winter, when the works needed to be shut down, and some additional works required when resuming work in spring to repair damage caused during winter and early spring floods and mudflows. The remaining 61 contracts were completed on schedule.

53. Thirteen (13) contracts were awarded for the GEF-financed project. These pertained to the procurement of services and equipment, and field surveys, and were completed successfully. Details of all contracts are in Appendix 6

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

54. The performance of the key consultants, contractors, and suppliers was generally *satisfactory*. The project implementation consultant provided satisfactory support to MAWR, particularly in the procurement and construction supervision of ICB and NCB civil works contracts. The consultants assisted MAWR in the preparation of the project completion report. The performance of contractors was satisfactory as more than 90% of the contracts were completed on schedule while the remaining large contracts encountered delays mainly due to harsh winters and floods and mudflows during early spring (para. 52).

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

55. Performance of the borrower and the executing agency is rated *satisfactory* as they implemented the project effectively, with the exception of delays that resulted mainly from the delayed approval of revised feasibility studies—a generic problem faced by almost all projects (para. 44)—and unfavorable weather (para. 52). The borrower and the executing agency monitored and managed the project effectively and efficiently, and quickly responded to address the issues that cropped up. The borrower's timely decision to finance and implement the on-farm component from its resources ensured the realization of full benefits of the project and prevented further implementation delays.

56. The Rural Restructuring Agency (RRA), the implementing agency, was established in [insert year]. It has developed credible experience by implementing projects financed by international financing institutions and, as a permanent institution, is able to retain the experienced staff. The capacity building interventions at the local level and through overseas study tours, financed by the loan and GEF grant, greatly enhanced the understanding of farmers and institutional staff of improved and sustainable land and water management and associated social and environmental issues.

## L. Performance of the Asian Development Bank

57. The performance of ADB can be rated *satisfactory*. ADB—in close collaboration with the borrower, executing agency, implementing agency, PMO, PIUs, consultants, contractors, suppliers, and beneficiaries—facilitated efficient implementation with minimum delays. ADB closely monitored the implementation progress and promptly facilitated resolution of emerging issues. ADB ensured prompt approvals of the disbursements and variations in scope, implementation schedule, and financing arrangements, which was key to smooth implementation of the project. ADB also arranged seminars on procedures on consultant selection, procurement, disbursement, safeguards, and anticorruption and integrity.

## III. EVALUATION OF PERFORMANCE

### A. Relevance

58. The project is rated *relevant* both at appraisal and completion (Section II-A). The project design was appropriate and the additional assistance from GEF enhanced its social, economic, and environmental impacts. However, the project underestimated the scope of the on-farm rehabilitation works, which required significant additional funds and changes to the financing plan (para. 39). These changes not only facilitated completion of the project, they also enhanced sustainability as the LRF, which implemented the on-farm rehabilitation component, became responsible for O&M and periodic rehabilitation of the drainage system and was in a better position to maintain the system into the future. The project impact is *significant* as crop yields and farmers' incomes at completion exceeded the respective targets (para. 34) and are likely to increase further in subsequent years, when the full benefits of the project is realized.

### B. Effectiveness in Achieving Outcome

59. The project is rated *highly effective* as it has exceeded all outcome targets; (i) soil salinity was reduced in 37,807 ha against the target of 31,400 ha; (ii) the target of cotton yield of 3 t/ha 5 years after project completion was achieved at project completion, and (iii) wheat yield at project completion was 5.5 t/ha against the target of 3.5 t/ha. Further reduction in saline areas and increases in yields are expected in the years following project completion when project benefits are fully realized.

### C. Efficiency in Achieving Outcome and Outputs

60. The project is rated *efficient*. EIRR at completion (15.1%) was lower than the estimate at appraisal (22.1%) due to an increase in project costs and implementation delay by two years.<sup>16</sup> However, the project is still economically viable because of significant achievements in project outcome parameters (para. 59). The project also exceeded the target for net income from private farms by 8%; at completion, net income from private farms was estimated at \$428/ha compared to the appraisal estimate at completion of \$316/ha. The borrower, the executing agency, the project management team, and ADB managed the project efficiently by prompt actions, including preparation of requests, processing, approvals, and disbursements. In short, all stakeholders demonstrated a true team spirit.

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<sup>16</sup> Details on economic and financial analyses are in Appendix 7.

#### D. Preliminary Assessment of Sustainability

61. The project is rated most *likely sustainable*. The sustainability of irrigation and drainage projects is largely linked with O&M arrangements. In Uzbekistan, the government is responsible for the preparation of annual O&M plans and the provision of the majority of funds. During 2011–2015, for the three project districts, \$2.4 million was spent by ISAs for canal cleaning, \$35.5 million by ODSPs<sup>17</sup> for reconstruction of irrigation systems and damage control (repair works), and \$50.7 million by LRF for reconstruction of drainage systems. The government plans to continue these arrangements and extend the LRF program as required.<sup>18</sup> With major rehabilitation works completed under the project, the future annual O&M funding requirements are likely to decrease. The GEF-financed activities, which included capacity development of government agencies and beneficiaries as well as the development of documents and dissemination of results of DMPs and agronomic interventions (paras 24–26), will further enhance project sustainability.

62. LRF is highly skilled and well equipped and has adequate resources and invaluable experience. LRF demonstrated good capacity in implementing the rehabilitation and maintenance of the project on-farm drainage infrastructure. The maintenance of the irrigation system is the responsibility of the BISAs, ISAs, and WCAs. These prepare annual O&M plans that form the basis of funds allocation by the government. The capacity of all three agencies was enhanced under the project and it is expected that they will perform satisfactorily into the future. The expected completion of the ADB-financed Amu-Bukhara Irrigation System Rehabilitation Project in [year] will improve irrigation water supplies to the project area in Bukhara and a part of the project area in Navoi, which will enhance the sustainability of the project.

#### E. Impact

63. The project impact is rated *substantial* as the project has exceeded all three targets of impact (Appendix 1), one related to poverty and two related to social aspects (see paras 64–66).

64. **Poverty Impact.** The poverty incidence in the project area at project completion decreased to 15% against the target of 28.8% to be achieved within 5 years after project completion.

65. **Social Impact.** Annual net income of private farms at project completion was \$428/ha against the target of \$396/ha within 3 years of project completion. Average per capita income of households at project completion increased by 25% against the target of 23% within 5 years of project completion. More improvements are expected in 2020 when the project benefits would be fully realized.

66. **Gender and development.** The gender analysis determined specific concerns and the need to ensure women's access to project-related services and participation in capacity-building and training activities. The Gender Action Plan (GAP) was formulated in RRP and revised during the implementation stage. Its implementation and monitoring were facilitated by gender focal points in PIUs, which promoted a better understanding of gender-related issues. As a

<sup>17</sup> ODSP is a Russian abbreviation which means Unified Management of Construction Enterprise. These enterprises, one in each province, act on behalf of BISAs and MAWR as employers for rehabilitation of irrigation and drainage systems, and prepare design and carry out contract management and supervision.

<sup>18</sup> Republic of Uzbekistan. 2013. The Resolution of the President No. PP-1958 of 19 April 2013 "Actions for further improvement of irrigated lands and rational use of water resources during 2013–2017".

result, female participation in training programs increased from 15% to 86%. This in turn facilitated better access of women farmers to the banking system. A number of female farmers received bank loans to support their family businesses and farming activities. This led to an increase of 20%–30% in household average income. On a seasonal basis, female farmers created new jobs (on average 10–25 employees per family business) with the majority of the jobs (70%) being for women. The number of women employees increased also in WCAs from 3% (2009) to 27% (2014). During project implementation, women-farmers' representation and participation in public meetings in model farms increased from 5% to 86%. The implementation of the GAP could be rated *successful* as about 75% of the targets were achieved. Details of the GAP and its achievements are in Appendix 8.

67. **Environmental impact, involuntary resettlement, and land acquisition.** The project was classified category B for the environment, and category C for both involuntary resettlement and indigenous people. It had no adverse environmental impacts. The PMO assigned the environmental monitoring to the construction supervision engineer. The project staff had overall control of and responsibility for day-to-day monitoring of the Environment Monitoring Plan implementation. The GEF-financed capacity building for environmental analysis and management of agriculture sector (paras. 35–36), and the development of a system for environmental monitoring, enhanced the positive environmental impacts (para. 31). ADB review missions confirmed that no land was acquired for the project. No ethnic minority or indigenous people lived in the project area or were affected by the project.

#### IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

##### A. Overall Assessment

68. The project is rated *relevant, highly effective, efficient, and likely sustainable* (paras. 58–62). Therefore, in accordance with the project performance rating criteria,<sup>19</sup> the project is assessed *successful*, and its impact is rated *substantial* (paras. 63–67). Overall, the project was implemented with minor changes in the financing plan, within ADB provisions but with additional resources from the government, and completed with a 2-year delay. The project has exceeded the impact and outcome targets and generally met the output targets. The achievements in poverty reduction, increase in farm and per capita incomes, and crop yields, have generally exceeded the targets. The additional technical and financial support from GEF was instrumental to the capacity development of institutions and beneficiaries, the promotion of productive and environmentally friendly activities, and for environmental impact monitoring (paras. 24–26 and 31).

##### B. Lessons

69. A thorough review of the project at the midterm review to identify key issues and prepare remedial measures was key to the adequate completion of the project (para. 8).

70. On-farm works requiring consultation with and contributions from beneficiaries require considerable time, efforts, and resources. Hence, their design, schedule, resource allocation, and implementation arrangements need to be planned carefully (para. 29).

71. Cofinancing by GEF is particularly useful for agricultural projects with environment-sensitive issues like water and soil salinity, and water logging.

<sup>19</sup> ADB. 2013. *Guidelines for Preparing Performance Evaluation Report for Public Sector Operations*. Manila.

72. The government's and beneficiaries' in-kind contributions included in the project cost estimates should be quantifiable to ensure the proper monitoring and audit of the project's financial statements.

### **C. Recommendations**

#### **1. Project Related**

#### **73. Future monitoring.**

- (i) The use of drainage water mixed with fresh water for irrigation needs careful monitoring of the soil and water quality to derive a suitable mix ratio;
- (ii) Timely completion of rehabilitation of on-farm irrigation and drainage infrastructure by the government through LRF; and
- (iii) The government should monitor the program of periodic rehabilitation of drains to ensure sustained benefit to the agriculture sector.

#### **74. Further action or follow-up.**

- (i) HGMEs need to regularly monitor the quality of irrigation and drainage water, soils, and depth to groundwater in the entire project area (para. 21); and
- (ii) Continued assistance is required ensure that WUAs are able to perform all the assigned functions adequately and efficiently.

#### **75. Additional assistance.**

- (i) Regarding the use of drainage water mixed with fresh water for irrigation (para. 21), the of HGMEs capacity in soil and water quality monitoring shall be enhanced by staff training and providing them with laboratories with suitable equipment and adequate reagents; and
- (ii) The WUAs, which were still in their infancy at project, have been reorganized into WCAs and trained. However, they need continued capacity development as well as logistic support for some more years in order to successfully fulfill their critical role under the new institutional setup (para. 23).

#### **2. General**

76. Following factors should be considered at the project appraisal:

- (i) Proposals for policy reforms should be formulated with due consideration to history, long-term government policies, and ground realities (para. 13);
- (ii) In order to benefit from the institutional capacity that RRA has built over more than 15 years, RRA should be used as the executing agency for future water resources/agriculture sector projects (para. 56);
- (iii) To minimize initial implementation delays, government feasibility studies should be carried out in parallel with the ADB-financed studies (paras 43. and 4744); and
- (iv) Implementation and contract schedules should be prepared with due regard to periods of harsh weather and operational constraints (para. 45).

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets / Indicators	Achievements at project completion
<b>Impact</b>		
Increased incomes of farmers in nine districts of Uzbekistan	Poverty incidence in the project area is reduced from 34.3% in 2005 to 28.8% within 5 years of project completion	Achieved. The poverty incidence at project completion was 15%; Bukhara province:13%; Kashkadarya province: 18%; Navoi province: 14%. A further decrease is expected by 2020.
	Annual net incomes on private farms (30 ha) increase from \$1,275 in 2005 to \$2,900 within 3 years of project completion	Achieved. Annual net income of private farms (30 ha) at project completion was \$12,840 (\$428/ha). A further increase is expected by 2018.
	Average per capita income of households increases by 23% within 5 years of project completion	Achieved. Average per capita income of households increased by 25%. A further increase is expected by 2020.
<b>Outcome</b>		
Agricultural land quality and productivity in the project area are improved	Land area with soil salinity and/or waterlogging decreases by 31,400 ha (from 52,650 ha in 2005 to 21,250 ha in 2011)	Achieved. The land area with severe soil salinity decreased by 10,705 ha (from 15,120 ha in 2005 to 4,465 ha in 2014). The land area with moderate soil salinity decreased by 27,102 ha (from 52,006 ha in 2005 to 24,904 ha in 2014). Total area with salinity decreased by 37,807 ha.
	Cotton yields per ha increase from 2.0 t in 2005 to 3.0 t within 5 years of project completion	Achieved. The average cotton yield at project completion was 3.0 t per ha. A further increase is expected by 2020.
	Wheat yields per ha increase from 2.0 t in 2005 to 3.5 t within 5 years of project completion	Achieved. The average wheat yield at project completion was 5.5 t per ha. A further increase is expected by 2020.
<b>Outputs</b>		
1. Implemented policy reforms:		
(i) Enhanced incentives, including reduced quotas	Cotton and wheat quota reduction to 25% implemented in project area by 2007	Partly achieved. The required government decrees were issued at national and provincial levels. However, local targets were required to be met for cotton and wheat. As the government maintains monopoly control on cotton marketing, there are no private markets for above-quota cotton. Hence, the farmers have an easier time meeting the target for wheat than that for cotton and have high-return options for marketing above-quota wheat.
(ii) Improved procurement prices aligned with international prices	Gap between cotton and wheat procurement price and international price reduced by 10% by end of the project	Achieved. The gap between the cotton procurement price and the international price reduced by 11.5%, from 41.4% in 2007 to 29.8% in 2015. The gap between the wheat procurement price and the international price reduced by 53.4%, from 63.4% in 2007 to 10% in 2014. In 2015, the wheat procurement price was 17.2% higher than



Design Summary	Performance Targets / Indicators	Achievements at project completion
(iii) Deregulated (free) marketing of produce, liberalized farm management (e.g., cropping patterns, financing, and marketing of production)	Improved and registered land use contracts of private farms increase to cover 50% of the private farms area in the project districts by the end of the project	<p>the international price.</p> <p>Achieved. Improved and registered land use contracts of private farms covered 100% of the private farms area in the project districts. Based on the Presidential Resolution No. 514 of 21 November 2006, all rural enterprises were transformed into private farms in 2007. The Law on Private Farms was revised in 2009 to improve the land use contracts of private farms. The private farms are entitled to regulate marketing and scope of produce independently, based on their specialization and land leasing contracts. The Presidential Decree No. 4041 was issued on 20 October 2008 to reduce the cotton area by 200,000 ha, including 38,000 ha in the project area. The Presidential Decree No. 4478 was issued on 22 October 2012 on actions for the further improvement and development of private farms. The actions included: (a) improvement of the legal framework, land leasing rights, and effective management; (b) enhancement of economic independence and financial soundness; (c) rational use of land and water resources; and (d) improvement of mechanization and profitability through innovations for agriculture modernization. The government committed to further decrease cotton (by 170,500 ha) and wheat (by 50,000 ha) area in 2016–2020 through Presidential Resolution No. 2460 dated 29 December 2015. The farmers will grow other high-value crops in areas released from cotton and wheat.</p>
(iv) Improved land tenure		<p>Achieved. Based on the Law on Private Farms revised in 2009, the minimum size of private farms specialized on cotton and wheat production shall be 30 ha, for farms specialized on horticulture and other crops not less than 5 ha. All agricultural lands are leased to farmers on an open competitive basis for up to 50 years, but not less than 30 years. The land leasing rights can be transferred to, or inherited by a farmer's family member.</p>
2. Improved management practices: adoption of integrated land reclamation, and water and land management practices	Improved on-farm water management and agronomic practices adopted over 60,785 ha by 2011	<p>Achieved. More than 1,670 participants from private farms, WCAs, ISAs, BISAs, HGMEs were trained to apply integrated land reclamation, and water and land management practices. Improved on-farm water management and agronomic practices were adopted over 160,000 ha.</p>
	Area of alternative crops increased from 14,350 ha in 2005 to 15,030 ha by 2011	<p>Achieved. The area of alternative crops increased to 21,601 ha.</p>
	Conservation agriculture practices introduced on	<p>Achieved. Conservation agriculture practices were introduced on demonstration farms covering 1,500</p>

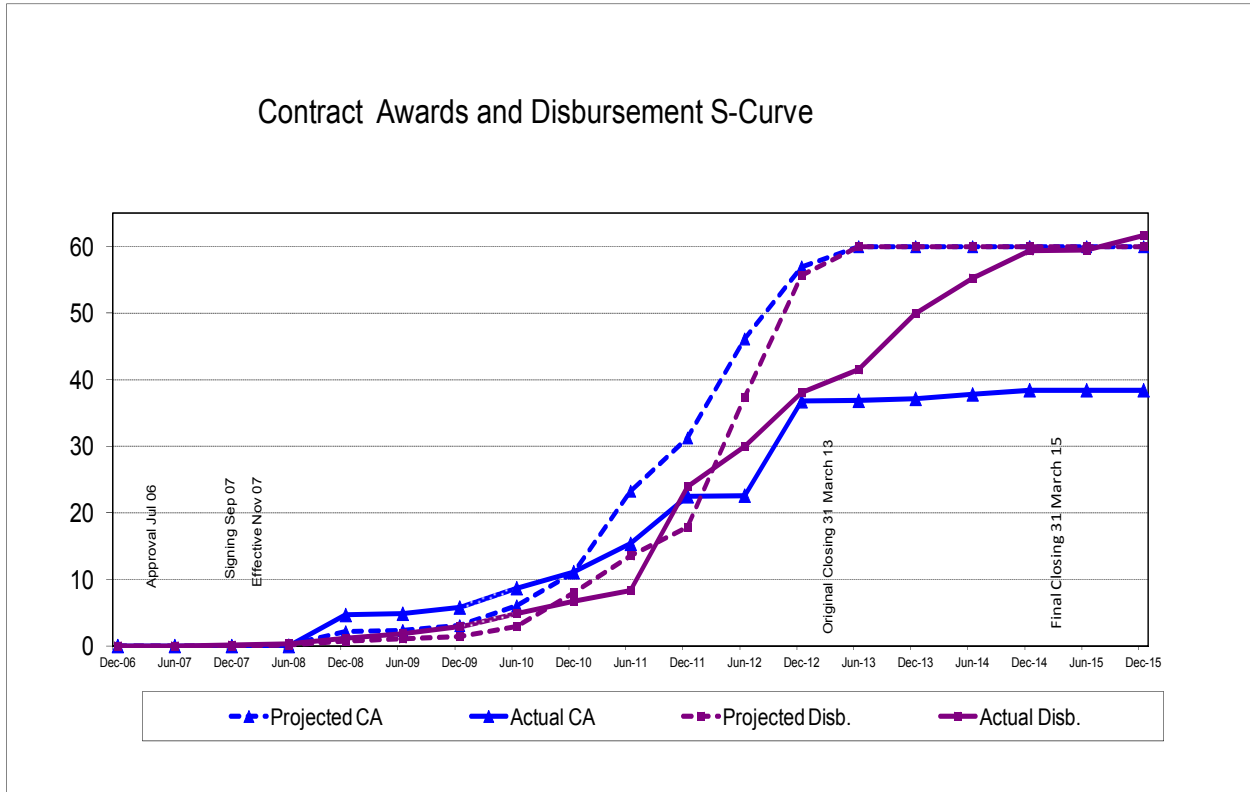
Design Summary	Performance Targets / Indicators	Achievements at project completion
	1,000 ha of salt-affected land by 2011	ha of salt-affected lands.
3. Increased institutional capacity: strengthened government and nongovernment water management institutions	MAWR management and O&M capacity upgraded; the rehabilitated main systems operated and maintained to design parameters	Achieved. MAWR and WUAs management and O&M capacity were upgraded through 57 training events and two international study tours.
	Three (3) BISAs providing effective and timely irrigation water supplies (as per signed contracts) to WUAs by 2011	Substantially achieved. Out of planned 2,691.9 million m <sup>3</sup> (as per signed contracts) in 2015 the actual delivered water volume by the three BISAs was 2,575.4 million m <sup>3</sup> (96%).
	100% of areas undergoing on-farm rehabilitation have effectively functioning WUAs responsible for O&M by 2011	Achieved. A total of 47 WUAs established in the project areas were effectively functioning and maintained the rehabilitated on-farm irrigation and drainage system.
4. Rehabilitated land and water infrastructure: drainage network and irrigation control structures	Irrigation efficiency increased from 37% in 2005 to 57% by 2011	Achieved. Interview with BISA/ISA, WCA, DAWR shows that irrigation efficiency at rehabilitated areas increased to 55–60%.
	Area with medium salinity reduced from 31,700 ha in 2005 to 9,900 ha by 2011	Partly achieved. The land area with medium salinity decreased to 24,904 ha. A further decrease is expected by 2018 when the government is expected to complete the land reclamation program.
	Area with poor drainage reduced from 109,300 ha in 2005 to 52,100 ha in 2011	Substantially achieved. The area with poor drainage was reduced to 55,680 ha. Full achievement is expected in 2018 when the government is expected to complete the land reclamation program.
5. Operational and effective project management and monitoring systems	Timely and comprehensive reporting of PMO that reflects accurately project implementation	Achieved. The PMO provided timely and comprehensive reporting of project implementation status on a regular basis. A comprehensive completion report was prepared by the PMO and consultants.
	Timely implementation of project policy, and institutional and physical interventions	Achieved: The PMO, PIUs, and consultants timely implemented project policy and institutional and physical interventions
	Consultation campaigns at national/district levels designed and carried out in an inclusive and gender-balanced manner	Achieved. PMO/PIU staff and consultants made adequate and gender-balanced consultations with stakeholders and beneficiaries.
	Monitoring by international organizations and elected representatives of the policy agenda implementation	Achieved: Monitoring by Central Asian Countries Initiatives for Land Management (CACILM)-financed projects could not be undertaken as these projects closed before the start of GEF-financed activities. However, monitoring by GEF focal points continued throughout the implementation period.

**ESTIMATED PROJECT COSTS AND ACTUAL EXPENDITURES**  
(\$'000)

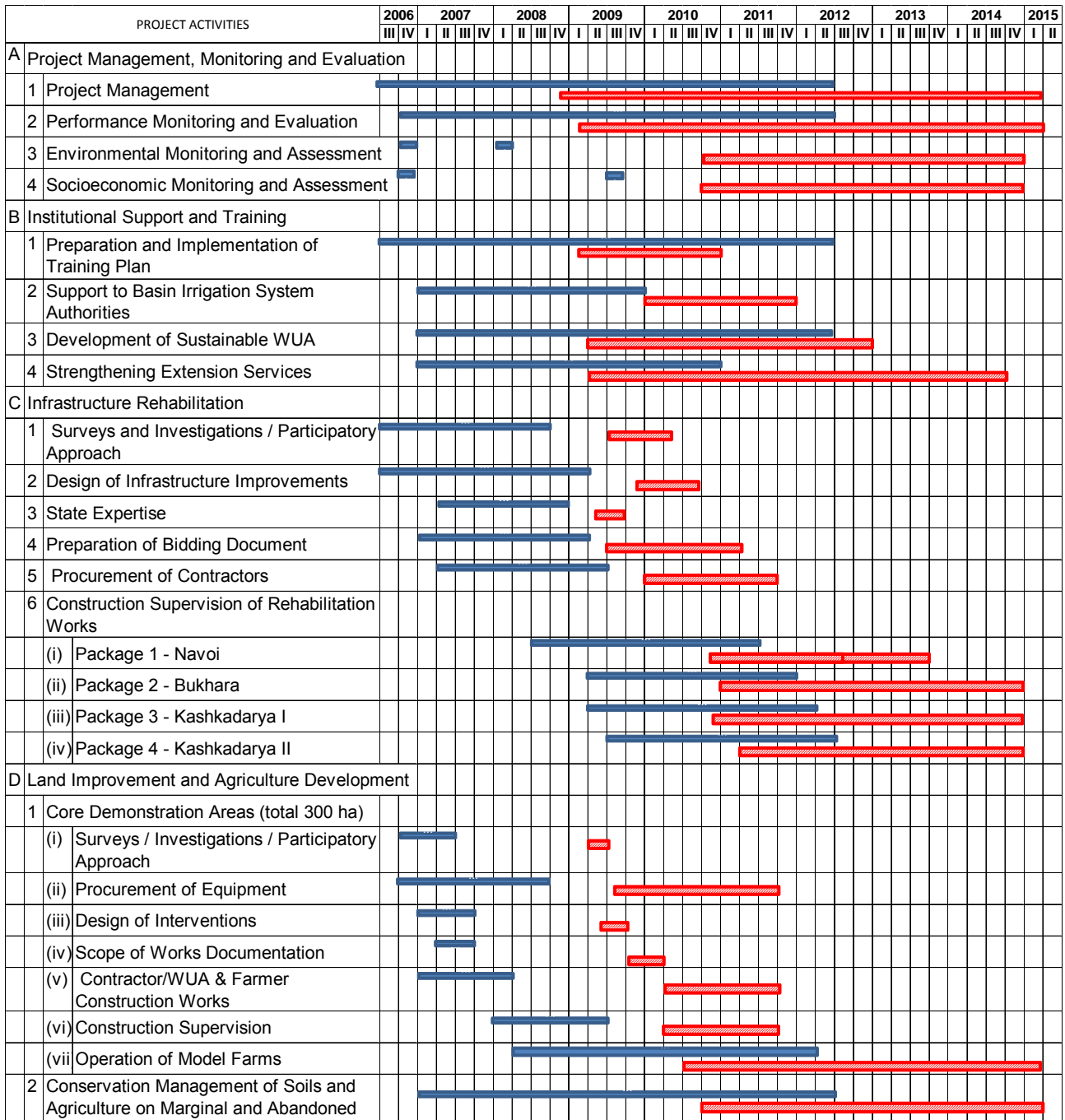
Category	Appraisal Estimate						Actual (as of 30 June 2015)					
	LOANS 2245/2246 (SF)-UZB					GRANT G0080-UZB	LOANS 2245/2246 (SF)-UZB					GRANT G0080- UZB
	Government- Financed	ADB		Beneficiaries	Total		Government Financed (including Tax Exemption)	ADB		Beneficiaries	Total	
OCR		ADF	OCR			ADF						
I Investment Costs												
A Civil Works												
1 Main & Interfarm Rehabilitation Works	12,257.00		25,702.36	-	37,959.36	-	3,469.72	14,000.31	26,473.34	-	43,943.37	-
2 On-Farm Rehabilitation Works	2,952.00	16,156.00	-	-	19,108.00	-	33,133.26	-	-	13,181.57	46,314.83	-
3 Civil Works - Model Farms	54.00	2,489.00	-	-	2,543.00	-	-	2,008.63	-	-	2,008.63	-
<b>Subtotal Civil Works</b>	<b>15,263.00</b>	<b>18,645.00</b>	<b>25,702.36</b>	<b>-</b>	<b>59,610.36</b>	<b>-</b>	<b>36,602.98</b>	<b>16,008.94</b>	<b>26,473.34</b>	<b>13,181.57</b>	<b>92,266.83</b>	<b>-</b>
B Survey, Design, and Construction Supervision		416.00			416.00	-	-	275.82	-	-	275.82	-
C Machinery and Equipment	143.00	823.00	-	368.00	1,334.00	-	-	969.22	-	-	969.22	-
D Vehicles	69.00	115.00	-	26.00	210.00	-	-	35.44	-	-	35.44	-
E Training	32.00	587.00			619.00	-	-	78.19	-	-	78.19	-
F Consulting Services	44.00	4,715.00	-	-	4,759.00	-	-	5,317.10	-	-	5,317.10	-
G Office Renovation		102.00	-		102.00	-	-	88.60	-	-	88.60	-
H Project Management	30.00	1,390.00	-	-	1,420.00	-	-	1,819.44	-	-	1,819.44	-
I Unallocted		1,622.00	1,352.05		2,974.05	-	-	-	-	-	-	-
J Conservation Management of Soils	-	-	-		-	3,000.00					-	2,473.00
<b>Total Investment Costs</b>	<b>15,581.00</b>	<b>28,415.00</b>	<b>27,054.41</b>	<b>394.00</b>	<b>71,444.41</b>	<b>3,000.00</b>	<b>36,602.98</b>	<b>24,592.75</b>	<b>26,473.34</b>	<b>13,181.57</b>	<b>100,850.64</b>	<b>2,473.00</b>
II Recurring Costs	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>15,581.00</b>	<b>28,415.00</b>	<b>27,054.41</b>	<b>394.00</b>	<b>71,444.41</b>	<b>3,000.00</b>	<b>-</b>	<b>24,592.75</b>	<b>26,473.34</b>	<b>13,181.57</b>	<b>100,850.64</b>	<b>2,473.00</b>
Interest and Commitment Charges	-	4,185.00	545.59	-	4,730.59	-	-	1,313.41	539.63	-	1,853.04	-
<b>Total Disbursement</b>	<b>15,581.00</b>	<b>32,600.00</b>	<b>27,600.00</b>	<b>394.00</b>	<b>76,175.00</b>	<b>3,000.00</b>	<b>36,602.98</b>	<b>25,906.15</b>	<b>27,012.98</b>	<b>13,181.57</b>	<b>102,703.68</b>	<b>2,473.00</b>

Note: ADF= Asian Development Fund; OCR=ordinary capital resources;

### HISTORY OF CONTRACT AWARDS AND DISBURSEMENTS



### PROJECT IMPLEMENTATION SCHEDULE



GEF – Global Environment Facility; ha – hectare;

WUA – water users' association

Source: ADB estimates.

LEGEND ■ Original (RRP) ▨ As Implemented

## STATUS OF COMPLIANCE WITH LOAN COVENANTS

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
IV	4.01 (a)	The Borrower shall cause the Project to be carried out with due diligence and efficiency and in conformity with sound administrative, financial, engineering, environmental, farming and land improvement practices.	Complied with. The project was carried out in conformity with sound administrative, financial, engineering, environmental, farming, and land improvement practices.	
IV	4.01 (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 5 to the Loan Agreement.	Complied with. All obligations set forth in Schedule 5 to the Loan Agreement have been substantially complied with.	
IV	4.02	The Borrower shall make available, promptly as needed, the funds, facilities, services, land and other resources which are required, in addition to the proceeds of the Loan, for the carrying out of the Project and for the operation and maintenance of the Project facilities.	Complied with. The borrower provided all required financing and resources from the Land Reclamation Fund, and the Hydro-Geological Melioration Expedition for the carrying out of the project and for the operation and maintenance of the project facilities.	
IV	4.03 (a)	In the carrying out of the Project, the Borrower shall cause competent and qualified consultants and contractors, acceptable to ADB, to be employed to an extent and upon terms and conditions satisfactory to the Borrower and ADB.	Complied with. All consultants and contractors were employed in compliance with relevant ADB guidelines for procurement and recruitment of consultants.	
IV	4.03 (b)	The Borrower shall cause the Project to be carried out in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. The Borrower 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.	Complied with. All plans, design standards, specifications, work schedules and construction methods were prepared in consultation with ADB and applied after its prior approval.	
IV	4.04	The Borrower shall ensure that the activities of its departments and agencies with respect to the carrying out of the Project and operation of the Project facilities are conducted and coordinated in accordance with sound administrative policies and procedures.	Complied with.	
IV	4.05 (a)	The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial 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; (iii) furnish to ADB, as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts	Complied with. An adequate financing and accounting control system was established within 6 months from the start of project implementation. Qualified private audit firms were recruited in line with ADB Guidelines on the use of Consultants. The audit reports were submitted within the deadline indicated in the loan agreement. These reports were reviewed and found to be satisfactory.	

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of this Loan Agreement as well as on the use of the procedures for imprest account of expenditures), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.		
IV	4.05 (b)	The Borrower shall enable ADB, upon ADB's request, to discuss the Borrower's financial statements for the Project and its financial affairs related to the Project from time to time with the auditors appointed by the Borrower pursuant to Section 4.05(a) hereabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of the Borrower unless the Borrower shall otherwise agree.	Complied with. Comments to audited financial statements have been duly discussed with appointed auditors during disbursement review missions.	
IV	4.06	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.	Complied with.	
IV	4.07	The Borrower shall ensure that the Project facilities are operated, maintained and repaired in accordance with sound administrative, financial, engineering, environmental, farming and land improvement, and maintenance and operational practices.	Complied with. The project was carried out in conformity with sound administrative, financial, engineering, environmental, farming, and land improvement practices.	
4	item E	Fielding of Consultants	Complied with. Loans and GEF consultants were mobilized in November 2008, and October 2010 respectively.	Others
5	1	Established, Staffed, and Operating PMO and PIUs: The Ministry of Agriculture and Water Resources (MAWR) will be the Executing Agency (EA). The Borrower shall establish the Project Steering Committee (PSC), which shall meet regularly once in three months to provide policy guidance for project implementation.	Complied with. MAWR acted as executing agency. A PSC, chaired by the Deputy Prime Minister, was established in October 2007. In August 2009, the government abolished the policy of separate PSCs for each project and constituted a high-level inter-ministerial council to guide and facilitate coordination at all levels for all projects financed by international financing institutions. The inter-ministerial council met once every quarter or more often, if required, to provide policy guidance and facilitate inter-ministerial coordination.	Others
5	2	A Deputy Minister of MAWR shall be designated as	Complied with. A deputy minister of MAWR was	Others

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		the Project Director responsible for project implementation. A PMO shall be established within MAWR for overall project coordination and to liaise with ADB.	designated as the project director and a PMO was established for overall coordination and liaison with ADB.	
5	3	A PIU shall be established in each project province, for project implementation in the project province and liaison with local administrations and beneficiaries.	Complied with. PIUs were established in all three project provinces. They were properly staffed and equipped and they provided effective liaison with local administrations and beneficiaries.	Others
5	4	The PMO shall be led by a full-time manager and each PIU by a full-time site manager, who shall be nominated by the Borrower and endorsed by ADB. Other key PMO staff shall include specialists in engineering, procurement, finance, law, accounting, and monitoring and evaluation. PMO and PIU Managers shall be selected on merit by a panel of experts appointed by the Borrower. Each PIU shall also employ specialists in engineering and accounting. The Borrower shall ensure that the National Women's Committee be represented in the PMO and responsible for implementation of the Gender Action Plan (GAP) under the project.	Complied with. The PMO and PIUs were established and staffed in January 2008. A gender specialist was employed in March 2009.	Others
5	5	Financing for operation and maintenance (O&M). The Borrower shall ensure timely provision of adequate budgetary funds for maintaining the normal operation of the project inter-farm irrigation and drainage systems, and undertake capital replacement and maintenance for inter-farm infrastructure, until the costs can be recovered from the beneficiaries.	Complied with. The government issued the following resolutions to provide adequate budget funds for land improvement in the country through rehabilitation and O&M of inter-farm irrigation and drainage infrastructure: (i) Presidential Decree No. 3932, dated 29 October 2007; (ii) The Decree of the Cabinet of Ministers No. 261 dated 28 November 2008; (iii) Presidential Decree No. 1958 dated 19 April 2013. Based on these resolutions, the Land Reclamation Fund was established in 2008 under the Ministry of Finance, and an adequate financing program approved for 2008–2017.	Financial
5	6	Labor Standards. The Borrower shall ensure that contractors employed under the project fully comply with applicable labor laws of the Borrower and provide adequate safety and health protection of workers employed. The Borrower shall ensure that no child will be employed for works financed with the proceeds of the Loan in compliance with the Borrower's legislation prohibiting employment of child labor	Complied with. Adequate safety, health protection, and prohibition of child labor requirements were outlined in the contract conditions and complied with by the contractors.	Social
5	7	Financial Management and Control. The Borrower shall ensure that within 6 months from the beginning of project implementation, adequate financing and	Complied with. An adequate financing and accounting control system was established within 6 months from the start of project implementation.	Financial



Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		accounting control system shall be established to allow the PMO and the PIUs to apply international accounting standards acceptable to ADB. For the purpose of conducting external audit of accounts, the Loan proceeds may be used to finance expenditure for private sector auditors and translation of auditors' reports into English, provided that such auditors have qualifications, expertise and terms of reference acceptable to ADB, and the recruitment process is acceptable to ADB.	Qualified private audit firms were recruited in line with ADB Guidelines on the use of Consultants. All eight audit reports for FY 2008–2015 were submitted within the deadline indicated in the loan agreement. These reports were reviewed and found to be generally satisfactory. The major ADB comments to the audited project financial statements were duly incorporated after discussion with the project management office and auditors during loan disbursement review missions.	
5	8	The Borrower shall ensure that the project be carried out, and all facilities constructed, operated, maintained, and monitored, in accordance with the existing laws, regulations, and standards of the Borrower concerning environmental protection and ADB's environment policy. The Borrower shall ensure that MAWR implement the environmental mitigation measures and monitoring requirements as outlined in the IEE. The Borrower shall also ensure that appropriate resources including budgetary allocation are provided to the State Committee of Nature Protection to fulfill its responsibilities for implementation of mitigation measures and monitoring requirements as outlined in the IEE.	Complied with. All project facilities were constructed, operated, and maintained in accordance with the national law on environmental protection and ADB's safeguards policy. As outlined in the IEE, all civil works contracts included an environmental management plan, which was implemented, monitored, and regularly reported to ADB. No serious environmental impacts were observed during the implementation period.	Environmental
5	9	Land Acquisition and Resettlement. The Borrower shall ensure that all works are undertaken on the Borrower's rights-of-way and no persons are affected. In case that construction beyond the Borrower's rights-of-way is required which would result in impacts on people, the Borrower shall prepare a resettlement plan (RP) based on the detailed designs and in accordance with ADB's policy on involuntary resettlement. The RP shall be disclosed to all affected persons in a form and language that they can understand and be submitted with the EA's endorsement to ADB for review and approval before any civil works contract is awarded.	Complied with. All works were confined to the existing right-of-way. No land was acquired for the project and, therefore, there was no need to prepare a land acquisition and resettlement plan.	Social
5	10	Gender Development. The Borrower shall ensure that the GAP prepared under the project be implemented in a timely manner over the entire project period and that adequate measures are undertaken for this purpose, which aims at (a) establishing quotas for women's representation in the decision-making processes, in demonstration farms and WUAs; (b) integrating women's needs in the design and operation of project	Complied with. Existing gender issues in the agricultural sector were incorporated into the project design to make it relevant in addressing women's needs. A project-specific GAP was developed and revised during the implementation period to promote equal participation of female and male stakeholders as agents and beneficiaries. Proposed activities aimed to: (a) establish quotas for women's	Social

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		infrastructure; (c) establishing targets for women-farmers' participation in training; and (d) ensuring women's effective involvement in the monitoring and evaluation of the project. The Borrower shall ensure also that the implementation of the GAP be closely monitored and the progress reported in the quarterly reports to ADB.	representation in decision-making processes and structures within model farms and WUAs; (b) integrate women's needs and constraints in the design and operation of project-related infrastructure; (c) establish quotas for rural women-farmers' participation in training activities; and (d) ensure women's effective involvement in the monitoring and evaluation (M&E) of the project impact. GAP indicators and targets were widely discussed during the design phase and monitored during the project's implementation, but were not adequately reflected in the project's DMF. A comparison of the actual achievements against revised GAP targets shows that more than 75 % of them were achieved and thus achievement of gender targets could be rated successful.	
5	11	Commencing from the cropping season of 2008, the Borrower shall set the mandatory state procurement quota for cotton and wheat in the project districts not exceeding 25% of the long-term average actual production achieved during 2001–2005 to be expressed in tons for each project district. The Borrower shall ensure that the farmers maintain their right to sell to the Borrower their over-quota production.	Partial compliance. Although Presidential Resolution No. PP-698 of 26 September 2007 was issued to comply with the covenant, the local government maintained local production targets for cotton and wheat, which prevented lowering of cotton and wheat quotas in the project area.	Sector
5	12	Commencing from the cropping season of 2008, the Borrower shall ensure that individual farmers in the project districts (a) receive final payment for raw cotton after crop delivery according to their contracts with the gins; and (b) are entitled to sell above quota cotton at their own discretion to any buyers in accordance with the current legislation.	Partial compliance. Although Decree of the President No. UP-3226 dated 24 March 2003 was issued to comply with the covenant, the local government maintained local production targets for cotton, which prevented lowering of cotton quotas in the project area. The farmers have been receiving final payments for raw cotton according to their contracts with the gineries. However, there is no private market for above-quota cotton since the government maintains monopoly control on cotton marketing. To support farmers, the government increased the procurement prices for cotton by 30%, from \$835.7 per ton (t) in 2007 to \$1,089 per t in 2015.	Sector
5	13	Commencing from the cropping season of 2008, the Borrower shall ensure that (i) the State procurement prices for raw cotton and wheat and future price adjustments for these commodities will reflect changes in international border prices, inflation, and market-based exchange rates; and (ii) for raw cotton, the procurement price will be in accordance with the	Complied with. The gap between the cotton procurement price and the international price fell by 11.6%, from 41.4% in 2007 to 29.8% in 2015. The gap between the wheat procurement price and the international price reduced by 53.4% from 63.4% in 2007 to 10% in 2014. In 2015, the wheat procurement price was 17.2% higher than the	Sector

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		Decree of the President No. УП/3114, dated 20 August 2002 “On Mechanism for Establishing Procurement Prices for Cotton”.	international price.	
5	14	The Borrower shall ensure that the cropping patterns, production, marketing, financial and banking activities in the project districts be carried out independently by the individual farmers (without interference of the local authorities) and the sale of agriculture produce be decided independently by the individual farmers in the project districts (without interference from local authorities) pursuant to Presidential Decree No. 3226 of 24 March 2003 titled “On the Most Important Directions of Deepening Agricultural Reforms”.	Complied with. The Law on Private Farms was revised in 2009 to improve the land use contracts of private farms. The private farms are entitled to regulate marketing and scope of produce independently, based on their specialization and land leasing contract. Presidential Decree No. 4041 was issued on 20 October 2008 to reduce the cotton area by 200,000 ha, including 38,000 ha in the project area. Presidential Decree No. 4478 was issued on 22 October 2012 on actions for further improvement and development of private farms. The actions included: (a) improvement of the legal framework, land leasing rights, and effective management; (b) enhancement of economic independence and financial soundness; (c) rational use of land and water resources; and (d) improvement of mechanization and profitability through innovations for agriculture modernization. The government committed to further decrease cotton areas by 170,500 ha and wheat area by 50,000 ha in 2016–2020 through Presidential Resolution No. 2460 dated 29 December 2015. From that date, the farmers have the option to grow other high-value crops in areas released from cotton and wheat production.	Sector
5	15	The Borrower shall ensure that the land use right lease between the Borrower and the individual farmers in the project districts be improved and registered to ensure that (a) the protection be provided to the farmer’s land use rights from outright cancellations of these lease contracts and eviction from farmland without recourse to legal process; and (b) systems of fair and transparent warnings and monetary penalties for breaches of lease contract conditions be introduced in the land administration system. The Borrower shall ensure that in the project districts, the land use rights can be used by farmers as collateral to access long-term loans from commercial banks and are inheritable pursuant to the Borrower’s Land Code and the CBU Regulation No. 54 dated 10 January 2005.	Complied with. All agricultural lands are leased to farmers on an open competitive basis for periods of up to 50 years, but not less than 30 years. The land leasing rights can be transferred to or be inherited by a farmer’s family members. The land use rights can be used as collateral to access long-term loans from commercial banks.	Sector
5	16	On-Farms Work and Cost Recovery Agreements. The Borrower shall allocate a portion of the proceeds of the	No longer Applicable. The government decided to fully finance this component based on Presidential	Financial

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		<p>Loan under the On-Farm Work and Cost Recovery Agreements in an amount not exceeding \$16.7 million to finance the on-farm irrigation and drainage rehabilitation works. Prior to the commencement of the on-farm civil works under the project, PMO, the concerned WUAs and the Beneficiaries shall jointly review and agree on the scope and costs of the rehabilitation works, and the Borrower, the concerned WUAs and the Beneficiaries shall enter into an On-Farm Work and Cost Recovery Agreement, agreeing to the scope of works, cost estimates and the cost recovery requirements.</p>	<p>Decree No. 2099 dated 25 December 2013. The government implemented this component using its own resources without repayment from beneficiaries. The beneficiaries are contributing to the rehabilitation of on-farm irrigation works through community-based works.</p>	
5	17	<p>On-Farm Work and Cost Recovery Agreement's Terms. The On-Farm Work and Cost Recovery Agreement shall carry, among others, the following cost recovery terms and conditions, subject to necessary changes to be agreed upon between the Borrower and ADB during the joint review at the mid-term review of the project: (i) an interest and service charge not exceeding eight percent (8%) per annum; (ii) repayment of the principal amount by the Beneficiaries according to a maturity period of 25 years including a grace period not more than 5 years; and (iii) the payment of the principal and interest will be denominated in dollars and made in Sum at the exchange rate set by the CBU at the payment date.</p>		Financial
5	18	<p>On-Farm Work and Cost Recovery Agreement's Terms. A commercial bank designated by the Borrower and acceptable to ADB shall carry out the following services: (i) Collect, through the concerned WUA, the repayment of the principal and interest accruing under the On-Farm Work Agreements from the Beneficiaries; and (ii) deposit the collected repayment and the interests payment into a special project fund account to be maintained for the Borrower. For the above services, a service charge may be paid this bank at a rate to be agreed by the Borrower and the commercial bank.</p>		Financial
5	19	<p>On-Farm Work Eligibility Criteria: The PMO shall be responsible to examine the applications for financing the on-farm works to ensure that they are in compliance with the eligibility criteria at the time of assessment. The Beneficiaries shall meet the following requirements: (i) the concerned Beneficiaries shall</p>		Others

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		agree to the cost recovery obligations provided in para. 17 of Schedule 5; (ii) the purpose of each On-Farm Work and Cost Recovery Agreement shall be for the on-farm irrigation and drainage rehabilitation works; and (iii) the land improvement works financed under the On-Farm Work and Cost Recovery Agreements shall be located in the rural area of the three project provinces.		
5	20	Eligibility of the Beneficiaries: Each Beneficiary shall meet the following criteria: (i) the Beneficiary shall be a member of a concerned WUA; (ii) the Beneficiary shall be a farmer, with a registered farm and the land-use rights which have been awarded to the head of the farm; and (iii) the Beneficiaries shall be rural residents with the main business in farming.		Others
5	21	Participation in Criteria Determination: The Borrower shall cause PMO and PIUs to include representatives from the concerned local authorities, organizations, WUAs and Beneficiaries in determining the participation criteria.		Others
5	22	Participation in Criteria Determination. The PMO shall maintain the records of selecting and approving the on-farm works for ADB's review. ADB shall have the right to refuse provision of funding for those works which fail to meet the On-Farm Work Agreement terms and Beneficiaries' eligibility criteria, in which case Borrower shall refund the proceeds of the Loan to ADB.		Others
5	23	Anticorruption: The Borrower shall ensure that the implementation of the project comply with ADB's Anticorruption Policy. The Borrower agrees (a) that ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the project and (b) to cooperate fully with any such investigation and to extend all necessary assistance, including providing access to all relevant books and records, as may be necessary for the satisfactory completion of any such investigation. In particular, the Borrower shall (a) conduct periodic inspections on the contractors' activities related to fund withdrawals and settlements and (b) ensure that all contracts financed by ADB in connection with the project include provisions	Complied with. ADB explained its Anticorruption Policy to the staff of the PMO and PIUs through a seminar conducted in 2010.	Others

Article/ Schedule	Para No.	Loan Covenants	Status of Compliance / Comments	Type
		specifying the right of ADB to audit and examine the records and accounts of the PMO, each PIU and all contractors, suppliers, consultants and other service providers as they relate to the project.		
5	24	Mid-Term Review (MTR): The Borrower and ADB shall undertake a midterm review in the third year of the project implementation period to assess the achievement o the project objectives and implementation milestones. The assessment shall include (i) progress in policy measures, (ii) implementation status, (iii) design and construction standards, (iv) physical progress made and disbursements in relation to the implementation schedule, (v) performance of the consultants and contractors, (vi) status of compliance with the covenants of the Loan Agreement, (vii) financial and economic viability of the project, and (viii) the need for any additional works or changes in the project scope.	Complied with. The midterm review was fielded in April–May 2011. It identified (a) the need for an extension of the loan and grant closing date for 24 months to complete project activities; and (b) that available project funds were no longer sufficient to complete all envisaged activities. The government agreed to fund the additional costs and implement the on-farm improvement works. ADB approved the extension of the loan and grant closing date until 31 March 2015 and a minor change in the project financing plan. Thus, the rigorous midterm review ensured the on track status of the project and facilitated its successful completion.	Others

## INFORMATION ON CONTRACTS

No.	Contract No.	Method	Contract Title	Contract Value		Contract Start Date	Contract Completion Date
				by Contract Currency	Equivalent \$		
1	2	3	4	5	6	7	8
<b>A. Contracts Financed by the Loans Project</b>							
1	LIP/S/AE/01	S	Wheeled transport tractor (3pieces) and trailer ( 6 pieces)	UZS	130,680,000	86,701	24-Jul-09 24-Sep-09
2	LIP/S/AE/02(01)	S	Wheeled tractor, row-crop (3pieces)	UZS	94,212,000	63,071	24-Jul-09 24-Sep-09
3	LIP/S/AE/02(02)	S	Cotton seeder (pneumatic, universal) T-RNM-05 (3 pieces)	UZS	60,000,000	40,098	24-Jul-09 08-Sep-09
4	LIP/S/AE/03(01)	S	Deep ripper (3pieces) and plough (3 pieces)	UZS	34,800,000	23,244	24-Jul-09 08-Sep-09
5	LIP/S/AE/03(02)	S	Chisel cultivator M09 (3pieces) and disk harrow M07 (3 pieces)	UZS	119,610,000	80,085	24-Jul-09 08-Sep-09
6	LIP/S/AE/04(01)	S	Mineral fertilizer broadcaster PMY - 0,5M (3 pieces)	UZS	6,600,000	4,418	24-Jul-09 14-Aug-09
7	LIP/S/AE/04(02)	S	Universal cotton sprayer BM-600 (3 pieces)	UZS	18,600,000	12,340	24-Jul-09 08-Sep-09
8	LIP/S/AE/04(03)	S	Universal trench digger (3 pieces), universal cotton cultivator (3 pieces), resource saving pendant land leveler (3 pieces)	UZS	88,249,440	58,695	24-Jul-09 31-Jul-09
9	LIP/S/AE/06	S	Combined pneumatic grain seeder (2 pieces)	Euro	78,000	109,729	04-Oct-10 mid-Aug-11
10	LIP/S/AE/07	S	Universal pneumatic seeder (intermediate culture seed purpose) (1piece)	Euro	39,000	54,864	04-Oct-10 mid-Aug-11
11	LIP/S/AE/09	S	Wheel type tractor (150–160 hp, transport purpose) (1 piece)	Euro	57,000	75,480	20-Nov-09 08-Jun-10
12	LIP/S/AE/10	S	Wheel type tractor (170–180 hp, cultivation purpose) (1 piece)	Euro	65,000	86,074	20-Nov-09 08-Jun-10
13	LIP/S/AE/11	S	Wheel type tractor (190–200 hp, land leveling purpose) (1piece)	Euro	68,000	90,046	20-Nov-09 08-Jun-10
14	LIP/G/01 (02)		Office equipment	UZS	38,400,600	27,340	12-Feb-09 3-Mar-09
15	LIP/S/G/15 (1)	S	Tools for management, monitoring, and recording	UZS	90,201,600	59,619	17-Dec-09 31-Dec-09
16	LIP/S/G/15 (2)	S	Bicycles, flip charts	UZS	34,169,565	22,609	17-Dec-09 31-Dec-09
17	LIP/S/G/16(1)	S	Portable salinometer and weather stations	\$	16,905	16,905	12-Jan-10 01.08.2010
18	LIP/S/G/16 (2)	S	Hydraulic turntables and slatted level gages	UZS	112,449,000	73,623	12-Jan-10 05-Feb-10

No.	Contract No.	Method	Contract Title	Contract Value		Contract Start Date	Contract Completion Date	
				by Contract Currency	Equivalent \$			
1	2	3	4	5		6	7	8
19	LP/S/G/16 (3)	S	GPS	UZS	27,150,000	7,787	12-Jan-10	01-Aug-10
20	Contract No.109		Office equipment (air conditioner – 9units)	UZS	5,124,000	3,920	23-May-08	11-Jun-08
21	ContractNo.303		Vehicle Uz Daewoo–Damas (3 units)	UZS	30,595,380	23,544	19-Mar-08	26-Mar-08
22	Contract No.350		Vehicle Uz Daewoo–Nexia (1 unit)	UZS	15,386,210	11,835	26-Mar-08	31-Mar-08
23	Contracts (34nr)		Contracts with EF “Uzsuvekspertiza”	UZS	32,785,709	20,039	24-Mar-09	3-Sep-14
24	Contract (2nr)		Advertisement in paper ‘Kashkadarya”	UZS	75,000.00	55.00		
25	Contract (18nr)		Advertisement in paper “Pravda Vostoka”	UZS	7,119,000	4,434	24-Oct-08	15-Sep-14
26	Contract		Advertisement in paper “Znamya Drugbi”	UZS	30,000	21	27-Mar-09	4-Apr-09
27	Contract		Advertisement in paper “Bukharskiy Vestnik”	UZS	41,000	31		
28	Contract (20nr)		Gosarhitektstroy Bukhara	UZS	29,046,018	14,355	12-Nov-10	24-Jul-14
29	Contract (13nr)		Gosarhitektstroy Navoi	UZS	9,212,298	4,497	11-Mar-11	23-Dec-13
30	Contract (9 nr)		Gosarhitektstroy Kashkadarya	UZS	7,015,593	3,778	8-Nov-10	15-May-13
31	Contract (23nr)		Gosarhitektstroy	UZS	9,129,315	5,898	2-Apr-08	16-Feb-11
32	Contract No18		Uzneftegazaloka	UZS	780,894	394	10-Dec-12	20-Dec-12
33	LIP/S/W/09	S	Detailed soil surveying in three demonstration farm areas	UZS	19,287,900	14,538	11-Sep-09	10-Mar-10
34	LIP/S/W/03	S	Topographic surveying of “Glavniy” and “MK” inter-farm drainage sub-systems, Kashkadarya Province	UZS	20,826,374	13,734	21-Aug-09	01-Apr-10
35	LIP/NC/02	DC	Topographic surveying in Bukhara and Navoi provinces	UZS	26,753,000	18,140	20-Mar-09	20-May-09
36	LIP/S/W/04	S	Topographic surveying of CBK and parallel inter-farm drainage sub-system in Bukhara Province	UZS	81,503,726	48,381	21-Aug-09	01-Apr-10
37	LIP/SCQ/02	S	Topographic Surveying of Dul-Dul, Central, Pravoberegny and Kyzyl-Yulduz inter-farm drainage subsystems, Navoi Province	UZS	86,950,000	57,543	29-Jun-09	10-Apr-10
38	LIP/NC/01	DC	Topographic surveying in Kashkadarya Province	UZS	9,465,000	6,641	20-Mar-09	20-May-09
39	LIP/SCQ/01	S	Topographic surveying of D-2 and CK-Collector inter-farm drainage sub-systems, Kashkadariya Province	UZS	82,462,902	51,313	29-Jun-09	15-Oct-09



No.	Contract No.	Method	Contract Title	Contract Value		Contract Start Date	Contract Completion Date	
				by Contract Currency	Equivalent \$			
1	2	3	4	5		6	7	8
40	LIP/SW/05	S	Topographic surveying of Zapadno-Romitan inter-farm drainage sub-systems in Bukhara Province	UZS	56,990,877	45,737	21-Aug-09	30-Nov-09
41	LIP/SSS/04	SSS	Capacity building for BISA, ISA and MCA staff (Module BISA-1)	UZS	5,400,000	3,387	28-May-10	30-Jun-10
42	LIP/SSS/S/02	SSS	Capacity building for agronomists, ISAs, HGMEs and PIUs staff and demo farm managers (Modules AGRO-1 to AGRO-8)	UZS	36,796,400	18,933	16-Mar-10	15-May-10
43	LIP/SSS/03	SSS	Capacity building for WUAs staff, ISAs Engineers and agronomists (Modules WISA-10 and WISA-11)	UZS	20,401,893	13,095	25-Feb-10	15-May-10
44	LIP/SSS/S/01	SSS	Capacity building for members of WUAs council and farmers (Module WISA -12)	UZS	8,483,700	3,387	20-Jan-10	15-Mar-10
45	LIP/QSBS/01		Consulting for project management	\$ Euro	4,947,854 365,302	5,459,287	15-Aug-08	31-Mar-15
46	LIP/PA/01	LCS	Auditing of LIP/ GEF	\$	33,240.00	33,240.00	05-May-09	05-Jul-11
47	LIP/PA/02	LCS	Auditing of LIP/ GEF	\$	10,520	10,520	18-May-12	30-June-12
48	LIP/PA/03	LCS	Auditing of LIP/ GEF	\$	9,685	9,685	17-May-13	20-Jun-13
49	LIP/PA/04	LCS	Auditing 2013-2015	\$	28,125	28,125	19-May-14	
50	LIP/CW/01		Office repair Karshi	UZS	14,608,147	11 165	14-May-08	18-Sep-08
51	LIP/CW/02		Office repair Bukhara	UZS	18,679,933	14 262	14-May-08	30-Sep-08
52	LIP/CW/03		Office repair Navoi	UZS	15,230,809	11 630	14-May-08	26-Sep-08
53	LIP/CW/04		Office repair	UZS	80,445,618	49,694	9-Aug-10	31-Dec-10
54	LIP/W/NCB/01	NCB	Rehabilitation of demonstration farm area, WUA A.Navoi in Guzar District, Kashkadarya Province	UZS	936,363,791	523,711	24-Apr-10	23-Aug-11
55	LIP/W/NCB/02	NCB	Rehabilitation of demonstration farm area, WUA Guliistan - Namgani in Jondor District, Bukhara Province	UZS	1,344,958,199	704,390	24-Apr-10	23-Jun-11
56	LIP/W/NCB/03	NCB	Rehabilitation of demonstration farm area, WUA Oston-Mirob in Navbakor District, Navoi Province	UZS	1,431,373,963	760,529	24-Apr-10	23-Aug-11
57	LIP-SW-ICB-	ICB	Rehabilitation Zapadno-Romitan primary and inter-farm	\$	9,253,176,30	9,253,176,30	22-Jun-11	3-Jan-13

No.	Contract No.	Method	Contract Title	Contract Value		Contract Start Date	Contract Completion Date
				by Contract Currency	Equivalent \$		
1	2	3	4	5	6	7	8
	303-303		collector drains, Jondor and Romitan districts, Bukhara Province				(14-Sep-13)
58	LIP-SW-ICB-304-304	ICB	Rehabilitation D-2 primary and inter-farm collector drains, Guzar and Kamashi districts, Kashkadarya Province	\$	3,911,733,33	3,911,733,33	25-Mar-11 25-Sep-12 (23-Mar-13)
59	LIP-SW-ICB-306-306	ICB	Rehabilitation "MK" and "Glavniy" primary and inter-farm collector drains, Kasan District, Kashkadarya Province	UZS	2,363,266,733	1,419,788	8-Jun-11 8-Oct-12 (29 May-13)
60	LIP-SW-ICB-307-307	ICB	Rehabilitation Dul-Dul primary and inter-farm collector drains, Kyzyltepa and Navbakhor districts, Navoi Province.	\$	2,688,159	2,688,159	13-Jan-11 22-Oct-12 (15 Sep-13)
61	LIP-SW-ICB-309-309	ICB	Rehabilitation central primary and inter-farm collector drains, Navbakhor and Khatyrchi districts, Navoi Province	\$	876,700	876,700	21-Feb-11 11-Aug-12 (22 Nov-12)
62	LIP-SW-ICB-310-310	ICB	Rehabilitation of the Pravoberejniy system of primary and inter-farm collector drains, Khatyrchi District, Navoi Province	UZS	7,069,461,053	4,185,019	11-Jul-11 10-Oct-12 (10Jul-13)
63	LIP-SW-ICB-301-301	ICB	Rehabilitation of the Central-Bukhara system of primary and inter-farm collector drains, Jondor and Romitan districts	UZS	14,045,866,331	8,112,620	19-Oct-11 10-Feb-12 (19 May-13)
64	LIP-SW-ICB-302-302	ICB	Rehabilitation parallel system of primary and inter-farm collector drains, Jandor and Bukhara districts, Bukhara Province	UZS	13,662,835,491	7,241,612	17-Dec-12 17-Oct-14
65	LIP-SW-ICB-305-305	ICB	Rehabilitation SK system of primary and inter-farm collector drains, Kasan District, Kashkadarya District	UZS	12,208,923,341	7,051,637	17-Dec-12 17-Jul-14
66	LIP-SW-NCB-307-307 Lot 1	NCB	Rehabilitation of Agitminskiy Sbrov, DulDul and Khasancha collectors	UZS	1,978,200,000	842,497	15-Sep-14 15-Mar-15
67	LIP-SW-NCB-307-307 Lot 2	NCB	Rehabilitation collectors with drainage structures	UZS	1,929,750,000	821,862	15-Sep-14 15-Mar-15
68	LIP-CS-LCS-423-423	NCB	Social and agro economic impact	\$	69,175	69,175	28-Apr-14 31-Dec-14
69	LIP/CQS/01	NCB	Training modules for WUA specialists	\$	16,925	16,925	2-Mar-15 25-Mar-15
70	LIP/CQS/02	NCB	Training modules for WUA specialists	\$	19,818	19,818	2-Mar-15 25-Mar-15

<b>B. Contracts Financed by the GEF-Financed Project</b>								
1	LIP/GEF/ICS/O1	ICS	GEF grant coordinator	\$	25,000	25,000	11-Feb-11	31-Mar-15
2	LIP/GEF/STP/01	CQS	Study tour on sustainable land and water management	\$	82,000	82,000	11-Aug-14	23-Nov-14
3	LIP/GEF/STP/02	CQS	Study tour on conservation agriculture	\$	82,000	82,000	10-Mar-15	31-Mar-15
4	LIP/GEF/S10	S	Color printer A0/A1 for GIS equipment	\$	10,128	10,128	9-Jul-14	10-Sep-14
5	LIP/GEF/S06	S	Documentary movie on improved practices	\$	60,000	60,000	21-Jan-13	31-Mar-15
6	LIP/GEF/MDP/01	Other	Cooperation agreement between RRA and KRIGBSP for implementation of demonstration activities	\$	1,270,000	1,270,000	29-May-12	31-Dec-15
7	LIP/GEF/QCBS/02	QCBS	Consulting services for grant implementation	\$	886,700	886,700	10-Aug-10	31-Mar-15
8	LIP/GEF/S01	S	Office equipment (Various)	\$	30,000	30,000	27-Jul-11	18-Aug-11
9	LIP/GEF/S02	S	Office equipment (Various)	\$	17,000	17,000	17-Jun-11	29-Jun-11
10	LIP/GEF/S03	S	Vehicle for PMO	\$	43,000	43,000	6-Apr-11	27-Jul-11
11	LIP/GEF/S07	S	GIS software	\$	25,000	25,000	6-Jan-12	1-Mar-12
12	LIP/GEF/S08	S	Office equipment	\$	2,000	2,000	6-Jan-12	15-Mar-14
13	LIP/GEF/S04	S	Soil survey	\$	47,000	47,000	1-Dec-11	21-May-12

Source: PMO Procurement & Finance Section, March 2015

Note: Gosarhitektstroy=State Committee on Architecture and Construction

## ECONOMIC AND FINANCIAL VIABILITY OF FARMS

### I. Introduction and Methodology

1. The project's analyses of the economic and financial viability of farms were undertaken in accordance with relevant Asian Development Bank (ADB) guidelines.<sup>1</sup> The results of economic internal rate of return (EIRR) and farm net incomes in financial prices for private farms and *dehkan* (peasant or backyard plots) are presented below.

### II. Project Scenarios

2. The without-project scenario assumes a gradual loss in agricultural productivity. The with-project scenario assumes prevention of such production losses as well as a modest increase in yields resulting from basic assumptions used in the analysis, including: (i) the use of a domestic price numeraire;<sup>2</sup> (ii) the project implementation period is over 7 years, and the project life of 25 years has been assumed (following project completion); (iii) economic prices for traded goods (i.e., wheat, cotton, and chemical fertilizers) were derived from the world market for 2015 (constant prices) and were adjusted for insurance, freight, processing, transport, and handling to determine economic farm gate prices;<sup>3</sup> (iv) for imported goods and services, a shadow exchange rate factor of 1.18 was used and in view of the high subsidy levels of machinery services, a conversion factor of 1.33 was used for converting financial prices to economic values; (v) a shadow wage rate factor of 0.80 was used to reflect rural employment rates; (vi) the unified land tax has been included in the farm budget financial analysis; and (vi) taxes and duties were omitted in the economic valuation.

### III. Farming and Cropping System

3. At appraisal, the total cropped area was 162,307 hectares (ha). Main crops were cotton (56%) and wheat (44%). There has been little change in these parameters since appraisal.

4. However, the area of rehabilitation of on-farm irrigation and drainage (I&D) infrastructure and consequently the costs have increased significantly due to increased government contribution (Table A7.1).

**Table A7.1: Basic Data and Assumptions**

Area of project districts (ha)	At Appraisal	At Completion
Total area	222,396	239,303
Agricultural area	162,307	211,178
<b>Project area (ha)</b>		
Full rehabilitation area	60,783	160,948
Off-farm I&D rehabilitation area	64,850	36,190
Total project area	125,633	197,138
Agric. area without direct project benefits	36,674	
<b>Project areas as % of agricultural area</b>	77%	100%
<b>Cropping pattern (%)</b>		
Cotton	58%	56%
Wheat	39%	44%

<sup>1</sup> ADB.1997, *Guidelines for the Economic Analysis of Projects*. Manila.

<sup>2</sup> An item or commodity acting as a measure of value or as a standard for currency exchange.

<sup>3</sup> Economic prices for cotton were derived on export parity basis, while the economic prices for wheat and fertilizers were calculated on import parity basis.

Area of project districts (ha)	At Appraisal	At Completion
<b>Cropped area (ha)</b>		
Cotton	126,002	110,500
Wheat	78,046	86,290
<b>Yields and average production</b>		
Yield (t/ha) – cotton	2.01	3.07 (target 3.03)
Average production (t/year) – cotton	254,353	339,372
Yield (t/ha) – wheat	2.11	5.99 (target 3.53)
Average production (t/year) – wheat	165,653	516,570

#### IV. Methodology and Assumptions

5. The government subsidizes agriculture production but also imposes direct and indirect taxes. The main subsidies are provided for (i) fertilizers, (ii) fuel, (iii) leasing of tractors and combines harvesters, and (iv) credit for state-procured goods. The irrigation system also receives subsidies. Government taxes on agriculture sectors include direct and indirect taxes. The direct tax on agriculture is estimated at 21% of total income. Indirect taxes are imposed through the controlled purchase prices for cotton and wheat, which are about 20% lower than their border parity prices. In addition, the farmers have the burden of an increased exchange rate, no discount for value added tax for cotton fiber export, and high trade commissions and transportation charges levied by the state monopolies that handle both the internal and export cotton trade.

6. Variations in world average and domestic listed prices for cotton fiber (Index "A") for the period 2007–2015 are given in Table A7.2. Similar data for wheat is in Table A7.3.

**Table A7.2: Variations in World Average and Domestic Listed Prices for Cotton Fiber (Index "A") for 2007–2015**

Year	Average for the Calendar Year			Differences	
	World Price		Domestic Listed Price, \$/ton		
	cents/pound	\$/ton		\$/ton	%
2007	64.60	1,425.10	835.70	589.40	-41.40
2008	72.20	1,592.20	976.40	615.80	-38.70
2009	62.80	1,383.60	1,027.40	356.30	-25.70
2010	105.40	2,324.10	1,111.00	1,213.10	-52.20
2011	155.70	3,433.20	1,257.40	2,175.80	-63.40
2012	89.20	1,967.70	1,271.80	696.00	-35.40
2013	90.40	1,993.80	1,344.90	648.80	-32.50
2014	83.10	1,831.80	1,354.10	477.70	-26.10
2015	70.40	1,552.50	1,089.40	463.10	-29.80

Source: Listed prices are provided by MAWR. World prices are taken from the site: <http://www.cotton.org/econ/prices/monthly.cfm>

**Table A7.3: Variations in World Average and Domestic Listed Prices for Wheat for 2007–2015**

Year	Average Calendar Year		Differences	
	World Price \$/ton	Domestic Price \$/ton	\$/ton	%
2007	255.2	93.4	161.8	-63.4%
2008	325.9	127.9	198.0	-60.8%
2009	223.4	140.4	83.1	-37.2%
2010	223.7	149.3	74.4	-33.3%

Year	Average Calendar Year		Differences	
	World Price \$/ton	Domestic Price \$/ton	\$/ton	%
2011	316.2	172.6	143.6	-45.4%
2012	313.3	178.8	134.4	-42.9%
2013	312.2	181.7	130.5	-41.8%
2014	242.5	218.3	24.2	-10.0%
2015	187.6	219.9	-32.3	17.2%

Source: Listed prices are provided by MAWR.

World prices are taken from the site:

<http://www.indexmundi.com/commodities/?commodity=wheat&months=180>

## V. Economic Rate of Return and Sensitivity Analysis

7. The recalculated economic internal rate of return (EIRR) is 15.1%, which is lower than the appraisal estimate of 21.2%, mainly because of the about 2-year delay in project completion and increase in project costs. However, it is still higher than the minimum discount rate of 12% accepted by ADB and the economic opportunity cost of capital in Uzbekistan. The net present value at the discount rate of 12% is \$15.27 million at completion, compared to the appraisal estimate of \$26.78 million.

8. The robustness of the EIRR is indicated by a sensitivity analysis using a 10% increase in input prices, a 10% decrease in cotton and wheat prices, and a 10% decrease in crop yields. The EIRR remains above 12% (the minimum discount rate acceptable to ADB) under each of the three parameters when considered separately (Table A7. 4). When input prices are increased by 10% and output prices are simultaneously decreased by 10%, the EIRR is reduced to 11.6%. When yields decreased by 10%, the EIRR is reduced to 11.6%

**Table A7.4: Results of Sensitivity Analysis**

Project Area	At Appraisal	Base case	Costs +10%	Benefits - 10%	Costs +10%, Benefits - 10%	Yields - 5%	Yields + 10%	Yields + 20%
<b>Economic Internal Rate of Return (%)</b>								
Navoi	n/a	16.5%	14.7%	14.5%	12.8%	12.4%	23.9%	30.4%
Bukhara	n/a	15.3%	13.7%	13.6%	12.1%	12.3%	20.7%	25.6%
Kashkadarya: Kamashi and Guzar	n/a	15.3%	13.4%	13.2%	11.5%	11.6%	21.7%	27.4%
Kashkadarya: Kasan	n/a	12.9%	11.4%	11.2%	9.8%	9.6%	18.7%	23.8%
<b>Overall project</b>	<b>21.50%</b>	<b>15.1%</b>	<b>13.3%</b>	<b>13.1%</b>	<b>11.6%</b>	<b>11.5%</b>	<b>21.1%</b>	<b>26.5%</b>
<b>Economic Net Present Value ('000 \$)</b>								
Navoi	n/a	5,344	3,430	2,897	990	457	15,098	24,858
Bukhara	n/a	5,739	3,218	2,644	121	531	16,162	26,582
Kashkadarya: Kamashi and Guzar	n/a	2,953	1,388	1,092	-473	-321	9,501	16,050
Kashkadarya: Kasan	n/a	1,230	-846	-969	-3,045	-2,970	9,630	18,029
<b>Overall project</b>	<b>26,780</b>	<b>15,267</b>	<b>7,190</b>	<b>5,664</b>	<b>-2,408</b>	<b>-2,303</b>	<b>50,390</b>	<b>85,519</b>

## VI. Financial Viability of Farms

9. A farm budget analysis was carried out to determine the impact of the project on farm household incomes. For this analysis, farm budgets were prepared for each farm type. The assumptions were as follows:

- (i) the present (2015) average size for each type of farm was used;
- (ii) present cropping patterns were based on provincial government data for 2015;
- (iii) private farms grew mostly cotton and wheat, while *dehkan* farms grew wheat and other crops. Future cropping patterns may involve more crop diversification;
- (iv) the costs of crop production reflect the use of machinery by the private farms and labor-intensive production methods on *dehkan* farms;
- (v) *dehkan* farms yields are generally higher than those of private farms. During 2016–2025, yields are expected to increase by a further 15%–20% depending on crop and farm type;
- (vi) since the project as implemented excluded the repayment of the investment costs by the beneficiaries, only a payment of 30,000 sum/ha (or 11.74 \$/ha), as a fee paid to WUA for the current operation and maintenance of on-farm I&D systems, was considered (Table A7.5).

10. The results of the farm budget analysis are given in Table A7.5, which show that the net annual farm income of private farms has increased significantly, from \$95/ha at appraisal to \$428/ha at completion and has exceeded by 8% the target of \$396/ha. This is primarily because of significant increases in crop yields, particularly of wheat, which exceeded the yield target at project completion by 70% (Table A7.1).

**Table A7.5: Net Annual Farm Income of Private Farms (\$/ha)**

Project District	At Appraisal	At Completion	
		Target	Actual
Navoi	n/a	n/a	458
Bukhara	n/a	n/a	474
Kashkadarya: Kamashi and Guzar	n/a	n/a	422
Kashkadarya: Kasan	n/a	n/a	356
<b>Average</b>	<b>85</b>	<b>396</b>	<b>428</b>

## ACHIEVEMENT STATUS OF GENDER ACTION PLAN TARGETS

1. Agricultural sector is the largest employer of both men and women in Uzbekistan and remains the main source of livelihood for rural communities. Despite women's prominent role in agricultural production, this sector exhibits gender imbalances, particularly in the control over productive resources. In rural areas, the shift from collective farms to joint-stock shareholding companies (*shirkats*) in the past has resulted in a process of labor retrenchment that has affected women. After the restructuring and merging of *shirkats* into private farms in 2006-2008, the number of female-headed farms has fallen. Women are mostly hired as seasonal workers during spring and harvesting time and have fewer opportunities to find non-agricultural work (because the type of professions generally considered "suitable" for women, such as teaching and primary healthcare, are limited in the areas beyond the city centers).
2. Rural women's domestic burdens are also generally heavier than for women in urban settings as they are supposed to look after livestock, family farms, or small businesses. Women either occupy low-paid positions of the public sector or do unqualified low-paid work in the informal labor market. Rural project areas are associated with more conservative gender norms, especially about the role of women. The rural communities' limited access to information, education, and training reduces their opportunities for gender-equitable models of behavior. Women's access to land and piped water is essential to ensuring minimal subsistence and avoiding poverty due to existing gender stereotypes.
3. The social and gender analysis at project design stage identified the needs for ensuring women's access to the project-related services and participation in the capacity building and training activities. The analysis anticipated that women would benefit from the project in terms of strengthened capacity and increased representation within model farms. A gender action plan (GAP) was included in the Report and Recommendation of the President, Project Administration Manual (PAM), and as a covenant in the loan agreement sought to maximize women's participation in project activities. The project was approved before the introduction of the gender classification system and has the following classification: sustainable economic growth theme with subthemes of promoting economic efficiency and enabling markets and institutional development. While the project was approved before the introduction of the ADB' gender classification system it could be classified as "effective gender mainstreaming" (EGM) as all applicable requirements have been met during the project's implementation.
4. During 2009–2015, GAP implementation and monitoring was facilitated by a gender specialist in the project implementation unit (PIU), which had primary responsibility for GAP monitoring. During the initial stage of implementation, gender focal points were appointed at PIU in different areas to monitor GAP activities, compile sex-disaggregated data, and promote a better understanding of gender-related issues among stakeholders at district level. Due to the experimental and innovative nature of the GAP, some original indicative targets were overestimated. For example, 30% objective of women-farmers in private and dehkan farm associations (PDFA), water users' associations (WUA), and water consumer associations (WCAs) exceeded a threshold value of 3% at project's commencement stage. Women's low representation in these associations has been partly predominated by the sector's reorganization.
5. The restructuring and enlargement of *shirkat* farms has resulted in a decreased number of women farm workers as they are not interested in big farms (50–75 hectares). Women's affordable and preferable size of their plots is 20–25 hectares. In addition, it is important to consider that women have numerous household responsibilities, including child care, which competes for their limited time. These responsibilities may be perceived as a higher priority for



household welfare, particularly when the family's male members are also attending the project meetings, training, and other activities.

6. In February 2008 in consultation with the Women's Committee of Uzbekistan (WCU), the project's GAP was revised to make the activities and targets more realistic in terms of improving gender empowerment. Relevant revisions were agreed between the executing agency, PIU, and WCU and reflected in the PMO's Memorandum. The Uzbekistan Resident Mission of the Asian Development Bank provided support to the PMO and PIUs in addressing gender concerns through consultations and training. This appendix reviews the updated GAP and assesses its implementation and benefits attained throughout the project implementation period compared to the original design. The actual achievements against the GAP targets are shown in the GAP Matrix Table, which is not obligatory but welcomed for Some Gender Elements (SGE) category projects.

7. On the basis of the preliminary assessment, the implementation of the revised GAP could be rated *successful* as 75% of GAP gender targets and activities were achieved. Women benefited from the project impact on farm productivity and they were able to participate and contribute to the project activities. During the project review mission's visits, women were frequently observed participating in productive household-based activities like cattle breeding, watermelon cultivation, and farming. To ensure active beneficiary participation, a series of awareness training events were held during 2010–2015 in provinces and districts and at WCA levels. Project information, in particular on WCA-related issues, implementation status, contracts and construction activities were disseminated to women through rural assemblies, leaflets, publications in local newspapers, and broadcast on local TV.

8. Female participation in the following project-related training programs increased during implementation from 15% to 86%: (i) gender approaches to economic development of private farms (2009); (ii) gender awareness training (conducted annually during 2009–2014); (iii) improved on-farm land technologies (2012); (iv) tilling, leveling the land and planting cotton seeds (2013); (v) role on improving the efficiency of modern technologies and equipment for growing on saline lands (2014); and (vi) gender aspects of employment (2014).

9. Encouraging women's active participation in the training events was a good strategy to ensure access by women to project resources through increased capacity. This resulted in a better access of women-farmers to the banking system and financial services. A number of female farmers received loans (of up to 5–10 million Uzbek sums) from Agrobank and Microcreditbank to support their family businesses and farming activities (plowing gardens, growing watermelons, vegetables, cattle breeding, and dairy products). This led to an increase of 20%–30% in household average income in Koson and other districts. On a seasonal basis (during weeding and harvesting), female farmers created new jobs linked to the state social benefits scheme (on average 10–25 employees per family business) with the majority of them (70%) being for women.

10. Project implementation results showed that some gender and geographical differences existed between gender groups in all three regions. These differences lay mainly in education and employment indicators. Education levels of men, especially tertiary education is considerably higher than that of women. The lower level of education creates a considerable disadvantage in the labor market. The majority of women engaged and interested in farming activities are graduates from the pedagogical and/or other colleges and institutes and do not have a specialized agronomic background. This is an impediment to women's higher participation in the sector, also predefined by the existing gender stereotypes and women's workload. A comparison between project regions showed that there were more women farmers in Kashkadarya and Bukhara areas

while in Navoi's industrial region, women preferred to work for the state organizations, which offered better welfare system and permanent employment.

## Recommendations

- To further strengthen participation in WCAs and farm associations, women should be given more leadership, advocacy, and facilitation training. The women who hold positions on and are actively involved with WCA and PDFA boards should be groomed as resource persons and trainers to share their experiences with less active board members.
- In order to turn WCAs and PDFA into viable community-level institutions, much more outreach and support would be required than what was offered under the project.
- More realistic targets for women representation in WCAs and PDFA and higher-ranking positions should be set keeping in mind the baseline levels.
- The WCA and PDFA database with sex-disaggregated data needs to be standardized across MAWR, where monitoring and evaluation (M&E) capacity remains weak. Stronger M&E training and support for qualitative data for changes in behavior, community perception, traditional practices, and gender roles should be emphasized.
- The project GAP should include an incentive mechanism to encourage girls to enter specialized colleges and universities by introducing 20%–30% quotas for women and bonus schemes.
- Beside quotas for women, an exchange program, lateral learning, livelihood training as well as income generating opportunities for women farmers should be considered in the project GAP.
- The project GAP should be sufficiently disseminated to and discussed with all stakeholders at the beginning of project implementation, to ensure that the GAP is understood and owned by all implementers (and not only perceived as the gender specialist's business). Whenever GAP needs to be revised, the relevant implementers must be consulted to come up with agreed revisions.
- All relevant project selection criteria should include realistic quotas for women from the very beginning of GAP's implementation.
- All members of the project team, including local implementers, need to improve their gender knowledge.
- Training on gender issues must be systematically provided starting with the implementers at the central level and moving down to the community facilitators. In addition, the capacity of the project team should be built to collect and analyze sex-disaggregated data of all relevant project activities, integrate the data in the information management system, and use the GAP as a base for gender monitoring.
- Gender equality should be promoted in collaboration with the women's committees and women's NGOs as lateral learning events to (i) improve gender awareness and capacity of national, district, and local government staff; and (ii) encourage systematic addressing of gender issues in all programs and projects. In addition, relevant PMU staff should be trained as gender focal points in their institutions to initiate a gender working group in MAWR and to continue promotion of the gender agenda.

## GAP MATRIX: ACHIEVEMENTS OF THE GENDER ACTION PLAN<sup>1</sup>

Activities	Indicators and Targets	Achievements
<b>Component 1: Land and Agricultural Improvement</b>		
(a) Include “women-farmers” within the selection criteria for the identification of model farms (3) in the project area	10% of rural women-farmers members of model farms* (baseline 3%)	Not achieved.  Then selection criteria did not include a quota for women. In Navoi and Kashkadarya regions, 5% of farmers were women. In demonstration farms, on average, 6% of farmers were women.
(b) Ensure women-farmers representation and participation within model farms’ decision-making processes and structures	30% of women in public meetings on agricultural development and land improvement	Achieved.  Women-farmers representation and participation in public meetings increased from 5% to 86%.
(c) Training on improved land preparation, enhanced agronomic practices, diversified cropping systems/rotations, and modern farm business management methods	30% of rural women-farmers in training	Achieved. Women’s participation in various project training programs is given below: <ul style="list-style-type: none"> <li>• Improved land preparation, enhanced agronomic practices, diversified cropping systems/rotations, modern farm business management methods: 51% of participants were women;</li> <li>• Improving efficiency of modern technologies and equipment for agricultural production on saline lands” (by Uzbek Research Institute of Mechanization Electrification of Agriculture-UzRIMEA): 30% women</li> <li>• Gender aspects of employment (conducted jointly with Council Farm Associations, Deputy Chairpersons of Regional Women’s Committee and Chiefs of Regional Council Farm Association): 51–62% women.</li> </ul> <i>Note: Association of Farmers was replaced by Council Farmers Association (CFA)</i>
<b>Component 2: Capacity Building of Land and Water Management Institutions</b>		
(a) Ensure women’s representation in private and <i>dehkan</i> farm associations (PDFA) and water users’ associations (WUA)	10%–15% of rural women-farmers registered* (baseline 3%)	Achieved.  <i>Note: According to Law of the Republic of Uzbekistan/December 25, 2009, № LRU-240 “on addendum/additions to some legislative acts of the Republic of Uzbekistan” the re-establishment of WUAs was considered.</i>  Water users’ associations were re-established and renamed water consumers’ associations (WCAs).  The number of women employees in WCAs

<sup>1</sup> For Some Gender Elements (SGE) category projects “a weak GAP or inadequate gender design features that do not meet the EGM design criteria” is required. Reporting on GAP Matrix for “SGE” projects is not obligatory but welcomed. *Source/Reference: ADB’s Gender Tip Sheets # 1 and 5. Publication Stock No. TIM135452, April 2013.]*

Activities	Indicators and Targets	Achievements
		increased from 3% in 2005 to 19% in 2009, and to 27% (average) in 2014.
(b)Ensure the gender-responsiveness of PDFAs and WUAs charters and contract forms	20% of women in the technical staff, WUA council and WUA management body in model farms* (baseline 9%)	Achieved. PDFAs and WUAs charters are gender-responsive. The WUA council, including technical staff, has a 20% of women representation in 2014.
(c)Biannual training initiatives on critical gender aspects identified during PPTA consultations	Training enrollment and participation data	Achieved. Biannual training on “Gender Approaches to Economic Development of Private Farms” and “Gender Aspect of Employment” conducted with 35%–86% of women’s participation. Training enrollment and participation data are available in PIUs.
<b>c.1 Gender &amp; Technical Training Module</b>	30% of rural women-farmers in training Number of cases of gender-discriminatory practices affecting rural women-farmers identified and solved	Partially achieved. More than 30% of women farmers participated in training. There is no gender-discriminatory. In accordance with the Labor Code of Uzbekistan (article 6), men and women should have an equal pay for undertaking the same activities. Farmer’s charters are consistent with Uzbek legislation and there were no discrimination cases and practices affecting women. The total number of trainings was 14.
<b>c.2 Gender and Legal Training Module</b>		
Organizational structures		Achieved.
Legal/regulatory aspects		Gender awareness training covering regulatory aspects and organizational structures - 44% of participants were women.
Conflict resolution		
(d)Biannual meetings among rural farmers and service institutions	20% of rural women-farmers in meetings*	Achieved. Women’s participation in biannual meetings among rural farmers with regional, district WCA and Melioration Expedition (ME) was 24%–86%.
(e)Publication of booklets on gender, legal, administrative and organizational aspects related to land/water resource management	Booklets published and distributed (Uzbek, Karakalpak and Russian languages)	Achieved. A total of 150 leaflets on gender (in Uzbek and Russian) were printed and distributed to WUA members, farmers, and PUI staff. A total of 460 leaflets were distributed to training participants from 2010 to 2014 during workshops and meetings. <i>Note: Karakalpakstan is not part of the project, thus, no publications on Karakalpak language were produced.</i>

<b>Component 3: Rehabilitation of Land Management Infrastructure</b>		
Ensure women's involvement in and the integration of their needs in irrigation and drainage (I&D) system design, legal, administrative and organizational arrangements; and operations (i.e., quantity, timeliness, timing, equity and quality of water)	20% of women in public meetings on I&D system design and operation*	Achieved.  Meetings and training programs on the following topics conducted: improved trench irrigation technologies; introduction of water saving technologies on cotton, soil and water salinity assessment; measurement equipment and technologies; and tilling, leveling the land and planting cotton seeds. These programs had, on average, 12%–25% of women participation (by regions).
<b>Component 4: Project Management</b>		
(a) Ensure collection of gender-disaggregated baseline information	Gender disaggregated baseline information available	Achieved. Based on the agreement between the State Committee of the Republic of Uzbekistan on Statistics and the Rural Restructuring Agency dated 20 May 2009, project area specific data was included in the socio-economic baseline survey in 2014. Sex-disaggregated statistical data from the three project regions was collected in Q4 2014.
(b) Recruit GAD specialist from the National Women's Committee at the PMO (Tashkent)	Full-time presence of GAD specialist in the PIU throughout project implementation	Achieved. GAD Specialist recruited—Ms Khilola Kamilova from 16 February 2009 (Memorandum 01–14 February 2008) and Ms Iroda Malikova from 3 September 2012.
(c) Identify a gender focal point for adequate M&E of gender indicators/targets at PIU	Availability of GAD focal points in PIU during project implementation	Achieved. The following gender focal points were identified in April 2009 for various PIUs: -Bukhara PIU – Mr Shukhrat Khamraev -Kashkadarya PIU – Mr Abdulgappar Eshqobilov -Navoi PIU – Mr Bakhodir Jalolov
(d) Ensure gender-balanced composition of the PMO and PIU	20% of women staff in PMO and PIU*	Achieved.  PMO: 20% of employees were women. PIU: 21% of staff were women.
(e) Biannual capacity development training and consultation with executing agency, PMO, and PIUs on the implementation of the GAP	Progress toward meeting the GAP indicators and targets	Achieved. Gender capacity development training was held in (i) 2009 (RRA's Conference Hall) with 45% of participants were women; (ii) 2013 - with 37, 5% of participants were women. In three PIUs, the same training conducted for staff achieved 50% female representation.
(f) Ensure the collection of gender-disaggregated end-line information	Gender disaggregated end-line information available	Achieved.  Sex-disaggregated end-line information collected by the project's gender specialist.

Note: \* revised GAP targets. Revision of GAP targets was discussed during the midterm review mission (18 April–11 May 2011) and project review mission (17–24 September 2012).

