

# Project Administration Manual

Project Number: 44035  
Loan Number: Lxxxx-PRC  
November 2012

Peoples Republic of China: Ningxia Irrigated  
Agriculture and Water Conservation Demonstration  
Project

## CONTENTS

<b>ABBREVIATIONS</b>		v
I.	PROJECT DESCRIPTION	1
	A. Basic Project Description	1
	B. Rationale, Location, and Beneficiaries	1
	C. Impact and Outcome	4
	D. Outputs	4
	E. Special Features of the Project	8
II.	IMPLEMENTATION PLANS	9
	A. Project Readiness Activities	9
	B. Overall Project Implementation Plan	10
III.	PROJECT MANAGEMENT ARRANGEMENTS	11
	A. Project Implementation Organizations—Roles and Responsibilities	11
	B. Key Persons Involved in Implementation	13
	C. Project Organization Structure	15
IV.	COSTS AND FINANCING	16
	A. Investment Plan	16
	B. Financing Plan	16
	C. Allocation of Loan Proceeds by Implementing Agency	17
	D. Detailed Cost Estimates by Financier and Expenditure Category	17
	E. Detailed Cost Estimates by Outputs (\$'000)	19
	F. Detailed Cost Estimates by Year (\$'000)	20
	G. Allocation and Withdrawal of Loan Proceeds	20
	H. Contract and Disbursement S-Curves	20
	I. Onlending Arrangements and Indicative Funds Flow	21
V.	FINANCIAL MANAGEMENT	24
	A. Financial Management Assessment	24
	B. Disbursement	24
	C. Accounting	25
	D. Auditing	26
	E. Reporting	26

VI.	PROCUREMENT AND CONSULTING SERVICES	26
	A. Advance Contracting and Retroactive Financing	26
	B. Procurement of Goods, Works, and Consulting Services	27
	C. Procurement Plan	28
	D. Consultants' Terms of Reference	43
VII.	SAFEGUARDS	46
	A. Environment	46
	B. Indigenous Peoples	46
	A. Resettlement	46
VIII.	GENDER AND SOCIAL DIMENSIONS	49
IX.	PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION	59
	A. Project Design and Monitoring Framework	59
	B. Performance Indicators for Grape Quality: Based on the Agreement of Joint Venture with Moeton–Hennesy	62
	C. Monitoring	63
	D. Evaluation	66
	E. Reporting	66
	F. Stakeholder Community Strategy	66
X.	ANTICORRUPTION POLICY	67
XI.	ACCOUNTABILITY MECHANISM	67
XII.	RECORD OF PAM CHANGES	68

## **Project Administration Manual Purpose and Process**

This project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the government's and the Asian Development Bank (ADB) policies and procedures. It includes references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ningxia Hui Autonomous Region government, represented by the Ningxia Finance Department and the executing agency for the project; and the implementing agencies comprising the Ningxia Agricultural Reclamation Group Co., Ltd; and the governments of Hongsipu district, and Tongxin and Yanchi counties, are responsible for the implementation of the project as agreed jointly between ADB and the borrower; and in accordance with the government's and ADB policies and procedures. ADB staff is responsible to support implementation, including compliance by the executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB policies and procedures.

At loan negotiations, ADB and the borrower shall agree to the PAM and ensure its consistency with the loan and project agreements. Such agreements shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan and project agreements, the provisions of the loan and project agreements shall prevail.

After ADB Board approval of the project's report and recommendation of the President, changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the project administration instructions); and upon such approval, they will be subsequently incorporated in the PAM.

**ABBREVIATIONS**

ADB	=	Asian Development Bank
EIA	=	environmental impact assessment
EMDP	=	ethnic minority development plan
EMP	=	environmental management plan
EPB	=	environmental protection bureau
FMA	=	financial management assessment
GAP	=	gender action plan
ha	=	hectare
HDG	=	Hongsipu district government
ICB	=	international competitive bidding
IEE	=	initial environmental examination
IEM	=	independent environmental monitor
LIBOR	=	London interbank offered rate
MOF	=	Ministry of Finance
NARC	=	Ningxia Agricultural Reclamation Group Co., Ltd.
NCB	=	national competitive bidding
NFD	=	Ningxia Finance Department
NHARG	=	Ningxia Hui Autonomous Region government
PAI	=	project administration instruction
PAM	=	project administration manual
PIO	=	project implementing office
PPMO	=	provincial project management office
PRC	=	People's Republic of China
QCBS	=	quality- and cost-based selection
R&D	=	research and development
RRP	=	report and recommendation of the President
SAP	=	social action plan
SOE	=	statement of expenditure
SPS	=	Safeguard Policy Statement
TCG	=	Tongxin county government
TOR	=	terms of reference
WUA	=	water users association
XXK	=	Xixia King Industrial Co. Ltd.
YCG	=	Yanchi county government

## I. PROJECT DESCRIPTION

### A. Basic Project Description

1. The basic project description is as follows:

Project	Ningxia Irrigated Agriculture and Water Conservation Demonstration Project (formerly Ningxia Dryland Farming and Water Conservation Demonstration Project)
Project Number	44035
Borrower	People's Republic of China
Classification	Sector: Agriculture and natural resources Subsectors: Irrigation, drainage, and flood protection, agriculture and rural sector development, land-based natural resources management, water-based natural resources management Themes: Economic growth, environmental sustainability Subthemes: Widening access to markets and economic opportunities, natural resources conservation Climate change impact: Adaptation Gender mainstreaming category: Effective gender mainstreaming Targeting classification: General intervention Location impact: National–low, rural–high, urban–low
Project Risk Categorization	Low
Safeguards Categorization	Environment: Category B Involuntary resettlement: Category C Indigenous peoples: Category B
ADB Financing	\$70,000,000
Period of Utilization	31 Dec 2018
Estimated Project Completion Date	30 Jun 2018
Executing Agency	Ningxia Hui Autonomous Region government, through the Ningxia Finance Department

### B. Rationale, Location, and Beneficiaries

#### 1. Rationale

2. The Ningxia Hui Autonomous Region (Ningxia), located in the northwest region, is one of the ethnic minority regions of the People's Republic of China (PRC), with a total area of 66,400 square kilometers and a population of 6.2 million, of which 2.2 million (36%) are Hui minority. Ningxia is largely arid and semiarid, with dry and harsh winters and hot summers.

3. **Poverty.** Ningxia lags the rest of the PRC in terms of income and well-being. In 2010, Ningxia's per capita gross domestic product was CNY26,860, below the national average gross domestic product of CNY29,762. A large income disparity also exists between urban and rural residents in Ningxia, with the average urban income (CNY15,334) more than 3 times that of rural income (CNY4,675) in 2010. In 2011, more than 1 million people or about 25.6% of the region's rural population were living below the national poverty line.<sup>1</sup> One solution to reducing poverty and the gap between rural and urban income is to improve farming practices and crop quality to increase the incomes of crop growers in the agriculture sector.

4. **Horticultural development.** Agriculture remains an important sector in Ningxia. The vast plain of the Yellow River in the north has been irrigated for centuries. In the central arid and semiarid areas where the project is located, extensive irrigation infrastructure has been built since the 1960s. Several large lift irrigation schemes were built in the 1980s to divert water from the Yellow River and transformed central Ningxia dryland farm areas into an irrigated agriculture area. Corn is the main grain crop in the project area. Since the late 1990s, the Ningxia Hui Autonomous Region government (NHARG) has been promoting the development of horticultural crops to improve land and water productivity, and farmer incomes. Grapes and Chinese dates—two of the major horticultural crops in the project area—are promoted as priority, high-value, water-efficient crops in NHARG's Twelfth Five-Year Plan, 2011–2015. NHARG also has a 10-year plan to develop 666,670 hectares (ha) of vineyards by 2020. The Ningxia Agricultural Reclamation Group Co., Ltd. (NARC), a commercialized state-owned enterprise, will play a key role in achieving this target. For dates, both Tongxin and Yanchi counties have planned to improve the quality of this traditional crop while expanding the crop areas. The improvement of productivity and quality of these horticultural crops will result in the increase of the crop growers' income.

5. Since the late 1990s, the expansion of vineyards in Ningxia has been rapid and significant. This was achieved largely using low technology and poor vineyard management practices. Farmers' on-farm management skills for grapes are low. This starts with selecting varieties and designing the layout of each vineyard, and extends to managing the vines and canopy and to harvesting practices. More training and extension services are required to improve farmers' skills in vineyard management.

6. Chinese dates are the key cash crop for Tongxin and Yanchi counties. While local varieties of dates can tolerate dry and low temperature conditions, the yield and quality of the existing date orchards are mostly low because of continuous drought and poor on-farm management. Date production will be improved by providing reliable irrigation and improved farming technology and management. High-quality dates will earn farmers a higher price, and thus higher incomes.

7. **Water use efficiency.** The farming systems in Ningxia's arid and semiarid areas depend on water availability. The project area is characterized by low precipitation, mostly late in the cropping season. Irrigation is essential during early crop-growing stages. Water resources are limited, but flood irrigation is still practiced widely even for horticultural crops, resulting in low water use efficiency. Improvement in water use efficiency by the agriculture sector is paramount for increasing agricultural productivity and crop quality. New agricultural land can be subsequently developed as more water becomes available after water is saved from better irrigation efficiency. Controlled irrigation can also reduce water used by crops, improve crop quality, and reduce soil salinity.

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<sup>1</sup> The government's official poverty line in 2011 was CNY2,300 per capita net income per year.

8. **Marketing and business strategy.** NARC produces grapes through seven farms of a wholly owned subsidiary, Xixia King Industrial Co. Ltd. (XXK), which runs its wine business through Xixia King Winery. It is vital to NARC's business profitability that the two companies operate viable and sustainable vineyard and winery businesses. NARC's current production model lacks advanced farming technology, resulting in inconsistent quality of grapes, and thus inconsistent wine quality. NARC would like to substantially reengineer the production model to improve the quality of its products. To ensure the effective implementation of the new production model, it also needs a new quality system to monitor and review the production performance of its grapes and wines.

9. At present, NARC through Xixia King Winery sells about 80% of its wine production and commands a 70% market share in wine sales in Ningxia; it has difficulty entering the wine market in other provinces. Even though wine consumption is increasing across the PRC, the number of wineries and wine brands is also increasing. NARC has not yet identified proper marketing strategies to improve its competitiveness and profitability. The project will help NARC improve its capacity by establishing a quality control system, developing a marketing and business strategy, and providing training and consulting services.

10. **Climate change impact.** Vineyard and orchard production are particularly vulnerable to climate change. Temperature increases, rainfall reduction, change in precipitation pattern and seasonal duration, and higher incidence of extreme droughts and floods are affecting the productivity of vineyards and orchards in Ningxia. Weather reports show that (i) the average temperature in Ningxia has risen by 0.8°C since 1960; and (ii) precipitation decreased by about 8.6% from 1960 to 1990, with a recorded increase in drought events. More efficient water use is required to adapt to climate change impacts.

11. **Government and ADB strategy.** The project is consistent with the Twelfth Five-Year Plan, 2011–2015 of the Government of the People's Republic of China, which aims to promote equitable and balanced regional growth, sustainable natural resource management, and crop diversification.<sup>2</sup> The project particularly follows the State Council's decree on promoting economic and social development of Ningxia.<sup>3</sup> The project supports NHARG's Twelfth Five-Year Plan in accelerating agricultural development by increasing agricultural production capacity, reducing risk, and improving market competitiveness. Both grapes and dates are selected as having the potential to be transformed into high-value crops. The region's 10-year development plan for viticulture promotes innovation in irrigation technology and advocates the use of water-saving irrigation technologies such as drip and sprinkler irrigation systems. The project is in line with the Asian Development Bank (ADB) country partnership strategy, 2011–2015 for the PRC, which supports the government's goal of building a harmonious society by (i) addressing rising income inequality and widening regional disparities, and (ii) promoting environmentally sustainable development.<sup>4</sup> It also supports ADB's Water Operational Plan, 2011–2020 for promoting integrated water resources management and irrigation efficiency.<sup>5</sup>

12. **Lessons.** The project design incorporates lessons from programs and projects of the ADB, the World Bank, and other development partners relating to land and natural resource management in the PRC. The PRC–Global Environment Facility Partnership for Land

<sup>2</sup> Government of the People's Republic of China, National Development and Reform Commission. 2011. *The Outline of the Twelfth Five-Year Plan, 2011–2015*. Beijing.

<sup>3</sup> Government of the People's Republic of China. 2008. *State Council's Decree on Further Promoting Economic and Social Development of Ningxia*. [http://www.gov.cn/zwgc/2008-09/12/content\\_1094001.htm](http://www.gov.cn/zwgc/2008-09/12/content_1094001.htm)

<sup>4</sup> ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

<sup>5</sup> ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.



Degradation in Dryland Ecosystems, which is administered by ADB, helped develop an integrated ecosystem management strategy and action plan for land management in Ningxia, which the project follows to improve the project design.<sup>6</sup> The good practices being implemented under ADB's ongoing Ningxia Integrated Ecosystem and Agricultural Development Project, such as crop residue mulching, minimum tillage, crop rotation, improved pest and quality management, and community participation, were also considered in the project design.<sup>7</sup> The project will use a partnership model of enterprise plus farmer household to improve the agricultural value chain; this was tested in ADB's earlier agriculture projects.<sup>8</sup> A project component will strengthen the institutional capacity of the executing and implementing agencies to ensure project success and sustainability.

13. **Demonstration and scale-up.** The project will demonstrate the improvement of irrigation efficiency by using drip irrigation in the project vineyards and date orchards. Irrigation efficiency increase is critical to the sustainability of Ningxia's future agricultural development given its limited water resources. The project will help strengthen the partnership model of enterprise plus farmer household to promote sustainable farming practices and improve the agricultural value chain. The results and experiences from the project will be replicated in NHARG's agricultural development programs, particularly to develop 666,670 ha of vineyards by 2020.

### C. Impact and Outcome

14. The impact will be improved sustainability of agricultural production in Ningxia. The outcome will be increased quality and value of horticultural crops in Ningxia.

### D. Outputs

15. The project will have four outputs: (i) improved irrigation systems, (ii) improved vineyards and Chinese date orchards, (iii) increased grape processing capacity, and (iv) strengthened institutional and farmer capacity.

16. Output 1 will replace the existing irrigation systems with higher efficiency systems on the project sites, and introduce drip irrigation and hose irrigation in the project vineyards and Chinese date orchards. It will support the construction of water storage ponds, small pumps, on-farm water distribution pipe networks, and other relevant facilities.

17. Output 2 will support (i) the rehabilitation of 1,340 ha of existing vineyards and the establishment of 1,260 ha of new vineyards in six farms of XXK; (ii) the establishment of 330 ha of vineyards in Hongsipu district; and (iii) the establishment and rehabilitation of 930 ha of irrigated Chinese date orchards in Tongxin and Yanchi counties.<sup>9</sup> It will also support associated

<sup>6</sup> ADB. 2004. *Financial Arrangement for a Global Environment Facility Grant and ADB Technical Assistance Grant to the People's Republic of China for Capacity Building to Combat Land Degradation Project*. Manila; and ADB. 2001. *Technical Assistance to the People's Republic of China for the People's Republic of China–Global Environment Facility Partnership on Land Degradation in Dryland Ecosystems*. Manila.

<sup>7</sup> ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant to the People's Republic of China for the Ningxia Integrated Ecosystem and Agricultural Development Project*. Manila.

<sup>8</sup> ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the People's Republic of China for the Henan Sustainable Agriculture and Productivity Improvement Project*. Manila; and ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant to the People's Republic of China for the Dryland Sustainable Agriculture Project*. Manila.

<sup>9</sup> Numbers may not sum precisely because of rounding.

land leveling; windbreak shelterbelts; improved farming practices, including pest management and balanced fertilizer application, and conservation tillage; and access roads in the project vineyards and orchards.

18. Output 3 will support Xixia King Winery in establishing about 15,000 tons of in-situ grape processing capacity and a quality monitoring system at each of the two NARC farm sites, with 10,000 tons at the Yuquanying farm and 5,000 tons at the Nuanquan farm. This will include grape crushing, pressing, and juice storage facilities.

19. Output 4 will strengthen institutional capacity of the executing and implementing agencies to implement the project and provide training to farmers on the use of drip irrigation and new farming technologies. About 5,000 farmers will be trained on grape and Chinese date planting; improved vineyard and orchard technology and management; plant disease control and management; and other topics mostly through farmer field schools. It will help NARC to improve monitoring systems for quality control and enhance its marketing and business strategy. It will also support development and strengthening of farmer associations, including water users associations (WUAs); pilot monitoring of water uses by the WUAs; monitoring services including soil testing; and support project management. About 18 person-months of international and 47 person-months of national consulting services will be provided for the training program and capacity development, including introduction of new technologies, and applied research and development.

20. The subproject scope and location are detailed in the table below.

### Subproject Scope and Location

County and/or NARC	Township and/or Farm	Village	Vineyards (hectare)			In-Situ Grape Processing Capacity (tons)	Dates (hectare)		Remarks
			New Planting		Rehabilitation		New Planting on Uncultivated Land	From Corn to Dates	
			Uncultivated Land	From Corn to Grapes					
<b>Total</b>			<b>513.3</b>	<b>1,076.7</b>	<b>1,343.3</b>	<b>15,000.0</b>	733.3	<b>200.0</b>	
			<b>2,933.3</b>				<b>933.3</b>		
<b>NARC</b>	<b>Subtotal</b>		<b>180.0</b>	<b>1,076.7</b>	<b>1,343.3</b>	<b>15,000.0</b>			
	Qukou Farm	Team 7	180.0						Located in the Zhongning County
	Lianhu Part Farm	<b>Subtotal</b>		<b>240.0</b>	<b>133.3</b>				Located in the Qingtongxia City
		Team 8		132.0					
		Team 9		57.3	133.3				
		Team 10		50.7					
	Yuquanying Farm	<b>Subtotal</b>		<b>340.0</b>	<b>666.7</b>	<b>10,000.0</b>			Located in the Yongning County
		Team 1		66.7	233.3				
		Team 2		183.3	333.3				
		Team 3		90.0	100.0				
	Huangyangtan Farm	<b>Subtotal</b>		<b>296.7</b>	<b>543.3</b>				Located in the Yongning County
		Team 1		46.7	56.7				
		Team 2		53.3	66.0				
		Team 3		13.3	83.3				
		Team 4		30.0	90.0				
		Team 5		38.7	96.7				
		Team 6		63.3	70.0				
		Team 8		51.3	34.0				
		District 3			46.7				
	Grape Nursery			66.7					Located in the Yongning County
	Nuanquan Farm	<b>Subtotal</b>		<b>133.3</b>		<b>5,000.0</b>			Located in the Henan County
		District 1		33.3					
		District 2		36.7					
		District 3		63.3					

County and/or NARC	Township and/or Farm	Village	Vineyards (hectare)			In-Situ Grape Processing Capacity (tons)	Dates (hectare)		Remarks
			New Planting		Rehabilitation		New Planting on Uncultivated Land	From Corn to Dates	
			Uncultivated Land	From Corn to Grapes					
Hongsipu District	Xiaojiayao	<b>Subtotal</b>	<b>333.3</b>						
		Shangyuan	226.7						
		Zhongchuantan	106.7						
Tongxin County	Shishi	<b>Subtotal</b>				<b>666.7</b>			
		Yujialiang				666.7			
Yanchi County	Fengjigou	<b>Subtotal</b>				<b>66.7</b>	<b>200.0</b>		
		Maerzhuang				33.3	133.3		
		Pingtai				33.3	66.7		

NARC = Ningxia Agricultural Reclamation Group Co., Ltd.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

## **E. Special Features of the Project**

21. **Improve water and agricultural productivity.** In Ningxia, further agricultural development will rely on improved irrigation water use efficiency as the water resources are in shortage. Overall, the project will save water by applying drip irrigation in the project vineyards and Chinese date orchards. Water saving will be mainly achieved through (i) converting the current flood irrigation to drip irrigation, and (ii) replacing a water-intensive crop with a water-efficient crop (grapes and Chinese dates to replace corns) on the same land. Development of new land from uncultivated agricultural land will not be supported unless water earnings from the project can be used to irrigate new lands.

22. **Focus on high quality of produce.** The vineyard and wine industry have achieved rapid growth in Ningxia. With the focus on expanding production, the quality of grapes and wine in Ningxia has in general suffered due to poor farming practices. Higher-quality grapes would usually command a higher price. The key strategy of the project is two-pronged: introduction of (i) new vineyard technology and vineyard practices, such as improved planting material; quality control for plant propagation material; trellis design and pruning system; semi-automated drip irrigation with fertigation system; field access and layout in view of mechanization; specialized vineyard pesticide application equipment; irrigation management, including regulated deficit irrigation and technical maintenance; and (ii) new quality management systems, including quality management control and traceability system. The project will support the implementing agencies to establish a comprehensive production and quality system that drives vineyard operations to grow high-quality grapes, and that in turn will enable the wineries to produce high-quality wine. Producing higher-quality wine will allow NARC to improve its margins on wine and to establish new marketing and distribution channels in other provinces. NARC uses the increased margins to enhance its support for contract farmers and to expand and improve its vineyard and winery operations.

23. **Address capacity development.** The project will provide training and technical advisory services to introduce new plantation technology and farm management systems to implementing agencies and to farmers. The project will help develop a program to better define and improve the relationship between wineries, enterprises, and project farmers to enhance the farmers' awareness and knowledge of negotiating with the wineries and enterprises. The project will also support applied research and development (R&D) and demonstration in NARC and farmer field schools.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

24. The project readiness activities are as follows:

Indicative Activities	2012			2013						Who Responsible
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Advance contracting actions	■			■						NHARG and IAs
Retroactive financing actions	■			■						NHARG and IAs
Establishing project implementation arrangements	■									NHARG and IAs
Loan negotiations	■	■								Government, ADB, NHARG, and IAs
ADB Board consideration		■	■							ADB
Loan signing						■				Government, ADB, NHARG
Government legal opinion provided								■		Government
Government budget inclusion					■				■	NHARG and IAs
Loan effectiveness									■	Government, ADB, NHARG

ADB = Asian Development Bank, NHARG = Ningxia Hui Autonomous Region government, IA = implementing agency.

Source: ADB.

**B. Overall Project Implementation Plan**

25. The overall project implementation plan is shown below:

Indicative Activities	2013				2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>A. Design and Monitoring Framework</b>																								
<b>1 Improved irrigation systems</b>																								
1.1 Complete technical design for drip irrigation systems																								
1.2 Advertise procurement opportunities for irrigation works and award contracts to constructors																								
1.3 Construct drip irrigation systems, including water storage, delivery systems, and on-farm irrigation facilities																								
1.4 Conduct tests and commission the drip irrigation systems																								
1.5 Hand over the operation and maintenance of the drip irrigation systems to the WUAs																								
<b>2 Improved vineyards and Chinese date orchards</b>																								
2.1 Complete technical design of the project																								
2.2 Negotiate and finalize agreements between farmers and implementing agencies																								
2.3 Improve the existing vineyards																								
2.4 Establish new vineyards and plant grapes																								
2.5 Establish new Chinese date orchards																								
2.6 Implement pest management measures																								
2.7 Conduct on-farm management and maintenance of crops planted																								
2.8 Establish windbreak forest belts around farmlands																								
<b>3 Increased grape processing capacity</b>																								
3.1 Complete technical design of the grape processing facilities																								
3.2 Construct the buildings for two grape processing units																								
3.3 Procure and install the processing equipment																								
3.4 Conduct tests and commission the processing facilities																								
<b>4 Strengthened institutional and farmer capacity</b>																								
4.1 Develop and implement training programs for project staff and farmers, including farmer field schools																								
4.2 Conduct monitoring and supervision activities																								
4.3 Provide assistance for establishment of farmer associations, including the WUAs																								
4.4 Implement programs for pilot monitoring of water uses by the WUAs																								
4.5 Develop and implement the NARC's wine marketing strategy from 2014 onward																								
4.6 Implement the ethnic minority development plan, the gender action plan, the social action plan, and the communication strategy																								
4.7 Implement actions and measures of the environmental management plan																								
<b>B. Management Activities</b>																								
<b>1 Procurement plan key activities to procure contract packages</b>																								
1.1 Prepare bidding documents																								
1.2 Conduct bidding and award contracts																								
1.3 Implement contracts and monitor their performance																								
<b>2 Consultant selection procedures</b>																								
<b>3 Environmental and social safeguards management</b>																								
<b>4 Gender action plan key activities</b>																								
<b>5 Annual and/or midterm review</b>																								
<b>6 Project completion</b>																								
6.1 Project physical completion																								
6.2 Loan closing																								

NARC = Ningxia Agricultural Reclamation Group Co. Ltd; WUA = water users association.  
Source: Asian Development Bank.

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations—Roles and Responsibilities

26. The project implementation organization, the roles, and responsibilities of the participating agencies are shown below.

Participating Agency	Management Roles and Responsibilities
Project Leading Group (PLG)	<p>The Ningxia Hui Autonomous Region government's (NHARG) PLG for foreign debt management will be headed by the NHARG vice chair. Its members will comprise representatives from the Ningxia Development and Reform Commission; and from the departments of agriculture, finance, land management, water resources, and other relevant agencies. The PLG will be responsible for providing overall guidance during project implementation at the provincial level, including the following:</p> <ul style="list-style-type: none"> <li>(i) Coordinating and overseeing project preparation and implementation;</li> <li>(ii) Providing policy guidance during implementation; and</li> <li>(iii) Facilitating interagency coordination and coordination with other involved parties.</li> </ul>
NHARG —Executing Agency	<p>NHARG will be responsible for the following:</p> <ul style="list-style-type: none"> <li>(i) Coordinating project implementation activities among government agencies,</li> <li>(ii) Providing overall project management oversight, and</li> <li>(iii) Establishing a provincial project management office (PPMO).</li> </ul>
Ningxia Finance Department (NFD)	<p>On behalf of NHARG, NFD will be responsible for the project's overall financial management, including the following:</p> <ul style="list-style-type: none"> <li>(i) Submitting loan withdrawal applications to the Ministry of Finance (MOF), then to the Asian Development Bank (ADB), on behalf of NHARG;</li> <li>(ii) Establishing, managing, monitoring, and reconciling the project imprest account;</li> <li>(iii) Monitoring and managing the use of loan funds;</li> <li>(iv) Executing debt repayment commitment letters to MOF;</li> <li>(v) Monitoring implementation of the onlending agreements under the project;</li> <li>(vi) Establishing and managing the project's imprest account, and liquidation and replenishment of advances made thereto;</li> <li>(vii) Coordinating each output with the implementing agencies—Ningxia Agricultural Reclamation Group Co., Ltd (NARC), the Hongsipu district government (HDG), the Tongxin county government (TCG), and the Yanchi county government (YCG), ensuring budget availability for the contracts awarded and yet to be awarded under the project;</li> <li>(viii) Cooperating with the audit department for auditing of project accounts; and</li> <li>(ix) Consolidating and maintaining the project's financial records, making them ready for inspection by the ADB missions.</li> </ul>
PPMO	<p>On behalf of NHARG, the PPMO will be responsible for overall project organization and implementation activities, including the following:</p> <ul style="list-style-type: none"> <li>(i) Coordinating and overseeing project preparation and implementation;</li> <li>(ii) Ensuring the project's compliance with the loan and project agreements;</li> <li>(iii) Establishment of the project's imprest account;</li> <li>(iv) Recruiting and supervising consultants engaged for the project;</li> <li>(v) Organizing overseas on-the-job training and study tours on the basis of recommendations made by the project consultants;</li> <li>(vi) Engaging an agency that will undertake the procurement activities under the project;</li> <li>(vii) Procurement of equipment and vehicles for the PPMO;</li> <li>(viii) Contracting a procurement agency to assist in undertaking procurement activities under the project, including among others, (a) preparation of bidding documents; (b) review and evaluation of bids; and (c) awarding of</li> </ul>



Participating Agency	Management Roles and Responsibilities
	<p>contracts;</p> <ul style="list-style-type: none"> <li>(ix) Ensuring effective project coordination and communication through holding of regular project staff meetings;</li> <li>(x) Undertaking project monitoring and evaluation (M&amp;E), including ensuring compliance with the project's safeguard requirements;</li> <li>(xi) Engagement of consultants for the project M&amp;E, social safeguards, and environmental M&amp;E;</li> <li>(xii) Providing secretariat services to the PLG;</li> <li>(xiii) Consolidating project implementation progress, and preparing regular progress reports for submission to ADB;</li> <li>(xiv) Liaising with ADB on matters relevant to project implementation; and</li> <li>(xv) Preparing the project completion report.</li> </ul>
NARC—Implementing Agency (NARC Project Implementing Office)	<p>NARC will be responsible for the following:</p> <ul style="list-style-type: none"> <li>(i) Establishing the NARC project implementing office (PIO) to coordinate and implement the activities in the farm sites, including the rehabilitation and plantation of new vineyards with the required irrigation infrastructures, establishment of two grape processing facilities, and training and capacity development;</li> <li>(ii) Recruiting and supervising consultants for NARC;</li> <li>(iii) Preparing bidding documents and undertaking procurement of civil works, equipment, and vehicles;</li> <li>(iv) Developing and implementing training programs for NARC;</li> <li>(v) Preparing progress reports as required by the PPMO for submission to ADB;</li> <li>(vi) Liaising with relevant agencies such as the water users associations (WUAs), forestry and water resource bureaus, cooperatives, etc.; and</li> <li>(vii) The participating farms under Xixia King Industrial Co. Ltd. will implement activities within six farms. Xixia King Winery will implement the two grape processing facilities under output 3.</li> </ul>
HDG—Implementing Agency (Hongsipu district PIO)	<p>HDG will be responsible for the following:</p> <ul style="list-style-type: none"> <li>(i) Establishing the Hongsipu district PIO to coordinate and implement the development of the vineyards, irrigation facilities, and institutional and capacity development activities, which have been planned for the Hongsipu district;</li> <li>(ii) Developing and implementing training programs for the Hongsipu district;</li> <li>(iii) Preparing progress reports, as required by ADB and to be consolidated by NHARG prior to submission to ADB;</li> <li>(iv) Liaising with relevant district agencies, such as the WUAs; agriculture, forestry, and water resources bureaus; cooperatives, etc.</li> </ul>
TCG—Implementing Agency (Tongxin county PIO)	<p>TCG will be responsible for the following:</p> <ul style="list-style-type: none"> <li>(i) Establishing the Tongxin county PIO to coordinate and implement the development of the Chinese date orchards, irrigation facilities, and institutional and capacity development activities, which have been planned for the Tongxin county;</li> <li>(ii) Preparing the bidding documents; and undertaking procurement of civil works, equipment, and vehicles;</li> <li>(iii) Developing and implementing training programs for the Tongxin county;</li> <li>(iv) Preparing progress reports, as required by ADB and to be consolidated by NHARG prior to submission to ADB; and</li> <li>(v) Liaising with relevant county agencies, such as the WUAs; agriculture, forestry, and water resources bureaus; cooperatives, etc.</li> </ul>
YCG—Implementing Agency (Yanchi county PIO)	<p>YCG will be responsible for the following:</p> <ul style="list-style-type: none"> <li>(i) Establishing the Yanchi county PIO to coordinate and implement the development of the Chinese date orchards, irrigation facilities, and institutional and capacity development activities, which have been planned</li> </ul>

Participating Agency	Management Roles and Responsibilities
	for the Yanchi county; (ii) Undertaking procurement of civil works, equipment, and vehicles, including the preparation of bidding documents; (iii) Developing and implementing training programs for the Yanchi county; (iv) Preparing progress reports as required by ADB and to be consolidated by NHARG prior to submission to ADB; and (v) Liaising with relevant county agencies, such as the WUAs; agriculture, forestry, and water resources bureaus; cooperatives, etc.
ADB	ADB will be responsible for the following: (i) Providing guidance to NHARG and the implementing agencies—NARC, HDG, TCG, and YCG—to ensure compliance with loan and project covenants; (ii) Conducting regular loan review missions, a midterm review mission, and a project completion review mission; (iii) Reviewing and approving procurement actions; (iv) Processing withdrawal applications; (v) Monitoring the progress of implementation of the different aspects of the project; (vi) Reviewing annual audit reports and following up on audit recommendations; (vii) Regular updating of the project performance review reports with the assistance of NHARG and the implementing agencies—NARC, HDG, TCG, and YCG; (viii) Regular updating of the project information documents for public disclosure at ADB website, including safeguard documents; and (ix) Monitoring implementation of ADB’s anticorruption policies.

## B. Key Persons Involved in Implementation

27. The key persons involved in implementation are as follows:

### Executing Agency

Ningxia Hui Autonomous Region government (NHARG), through the Ningxia Finance Department (NFD)—Provincial project management office (PPMO)

Officer’s Name: Chang Limin  
 Position: Director, PPMO  
 Telephone no.: 13809511538/09513971885  
 Email address: nxzbjs@126.com  
 Office address:

### Implementing Agencies

(i) Ningxia Agricultural Reclamation Group Co., Ltd. (NARC) Project implementing office (PIO)

Officer’s Name: Tuo Weisu  
 Position: Director  
 Telephone no.: 13895392107  
 Email address: tws1970@163.com  
 Office address:

(ii) Yanchi county PIO

Officer’s Name: Gao Guoqiang  
 Position: Project Officer  
 Telephone no.: 13014232669  
 Email address: gaoguoqiang66@126.com  
 Office address:

## (iii) Tongxin county PIO

Officer's Name: Yang Ling  
Position: Project Officer  
Telephone no.: 13995352986  
Email address: 791429520@qq.com  
Office address:

## (iv) Hongsipu district PIO

Officer's Name: Che Tian  
Position: Deputy Director  
Telephone no.: 13909558776  
Email address: 1093362458@126.com  
Office address:

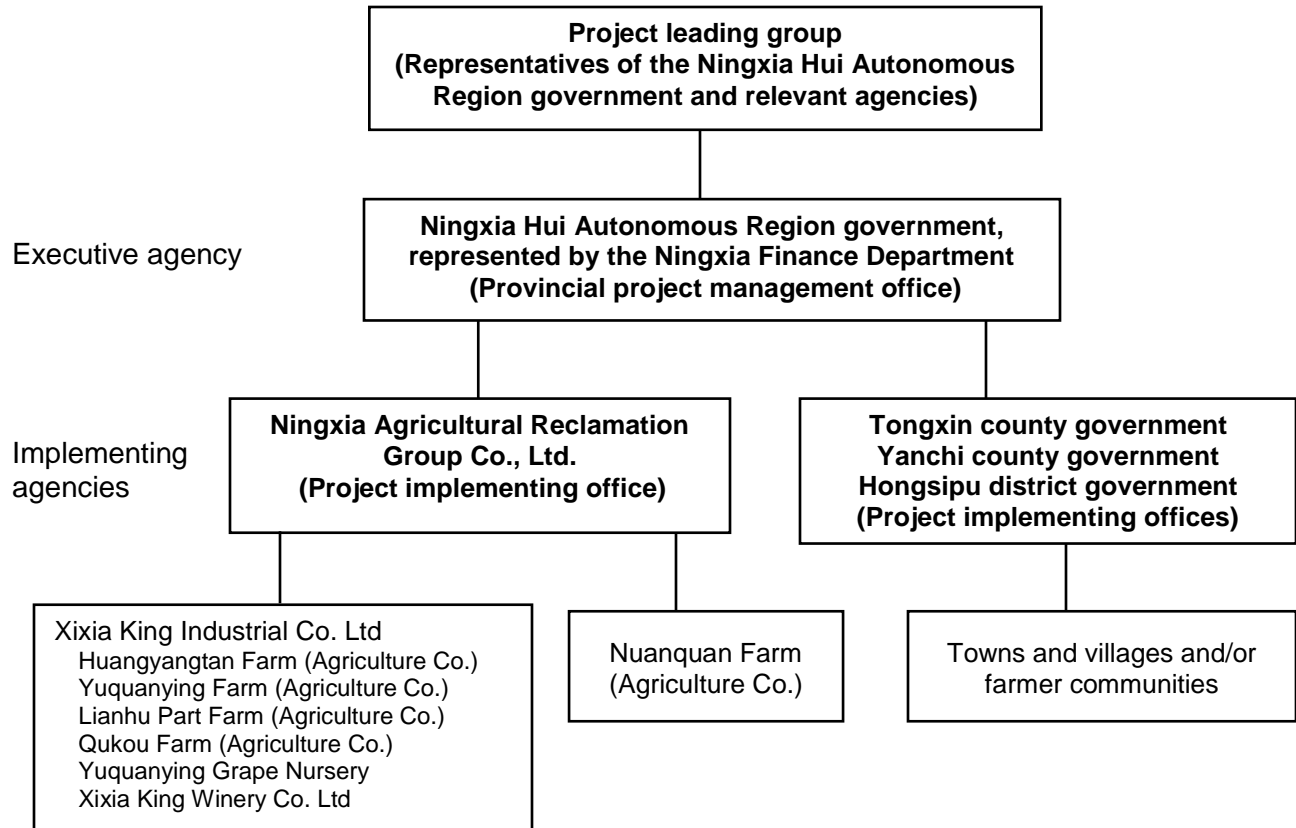
**Asian Development Bank  
(ADB)**

Officer's Name: Yue-Lang Feng  
Position: Director  
Environment, Natural Resources,  
and Agriculture Division,  
East Asia Department  
Telephone no.: +632-6326769  
Email address: fengyuelang@adb.org

Officer's Name: Yaozhou Zhou  
Position: Senior Water Resources Specialist  
Environment, Natural Resources,  
and Agriculture Division,  
East Asia Department  
Telephone no.: +632-6326170/5943  
Email address: yaozhou@adb.org

### C. Project Organization Structure

28. The project organization structure is shown below.



## IV. COSTS AND FINANCING

### A. Investment Plan

29. The project is estimated to cost \$106.40 million, including contingencies of \$13.7 million; financing charges of \$2.61 million; and taxes and duties of \$1.30 million, which will be financed from the loan proceeds. The investment plan is summarized in Table 1.

30. The government has requested a loan of \$70 million from ADB's ordinary capital resources to finance the project. The loan will have a 25-year term, including a grace period of 5 years; an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility;<sup>10</sup> a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan), and such other terms and conditions set forth in the loan and project agreements. The interest and other charges during construction will be capitalized in the loan. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions; and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Improved irrigation systems	26.67
2. Improved vineyards and Chinese date orchards	45.13
3. Increased grape processing capacity	12.33
4. Strengthened institutional and farmer capacity	5.92
<b>Subtotal (A)</b>	<b>90.05</b>
<b>B. Contingencies<sup>c</sup></b>	<b>13.74</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>2.61</b>
<b>Total (A+B+C)</b>	<b>106.40</b>

ADB = Asian Development Bank, LIBOR = London interbank offered rate.

<sup>a</sup> Includes taxes and duties of \$1.3 million, of which \$0.9 million will be financed from the loan proceeds.

<sup>b</sup> In 2012 prices.

<sup>c</sup> Physical contingencies were computed at 5% for all items. Price contingencies were computed based on ADB-prescribed (international and national) price escalation factors, and include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the 5-year forward LIBOR plus a spread of 0.4% and maturity premium of 0.1% in accordance with the maturity-based loan pricing. Commitment charges for the ADB loan are computed at 0.15% per year to be charged on the undisbursed loan amount

Source: ADB estimates.

31. NHARG has agreed that the repayment will follow the straight-line, disbursement-linked repayment option, with repayment dates of 14 April and 15 October. The repayment schedule is set forth in schedule 2 of the loan agreement.

### B. Financing Plan

32. The financing plan is in Table 2. The ADB loan will finance \$70.00 million, or 65.80% of the total project costs, including an average of 51% of the costs of eligible civil works; 100% of the

<sup>10</sup> The interest includes a maturity premium of 0.1%, which is based on the above loan terms and the government's choice of repayment option.

costs of equipment, materials, consulting services, training, and taxes and duties imposed within the territory of the borrower;<sup>11</sup> and 100% of interest during construction and commitment charges on the ADB loan. NARC and the local governments of Hongsipu district, and Tongxin and Yanchi counties will provide counterpart funds.

**Table 2: Financing Plan**

<b>Source</b>	<b>Amount (\$ million)</b>	<b>Share of Total (%)</b>
Asian Development Bank	70.00	65.80
Local governments of Hongsipu district, and Tongxin and Yanchi counties <sup>a</sup>	9.19	8.60
Ningxia Agricultural Reclamation Group Co., Ltd.	27.21	25.60
<b>Total</b>	<b>106.40</b>	<b>100.00</b>

<sup>a</sup> The Hongsipu district government will finance \$2.33 million; the Tongxin county government, \$4.82 million; and the Yanchi county government, \$2.04 million.  
Source: Asian Development Bank estimates.

### C. Allocation of Loan Proceeds by Implementing Agency

33. The allocation of loan proceeds among the project implementing agencies is shown below:

**Table 3: Allocation of Loan Proceeds by Implementing Agency**

<b>Implementing Agency</b>	<b>Amount (\$ million)</b>	<b>Share of Total (%)</b>
Ningxia Agricultural Reclamation Group Co., Ltd	54.31	77.60
Hongsipu district government	5.34	7.60
Tongxin county government	7.37	10.50
Yanchi county government	2.98	4.30
<b>Total</b>	<b>70.00</b>	<b>100.00</b>

Source: Asian Development Bank estimates.

### D. Detailed Cost Estimates by Financier and Expenditure Category

34. The detailed cost estimates by financier and expenditure category are shown below:

<sup>11</sup> The amount of taxes and duties to be financed in the project has been determined based on the principles that (i) the amount of taxes and duties financed by the ADB loan, which represents less than 1% of the project cost, does not represent an excessive share of the project; (ii) the taxes and duties apply only with respect to ADB-financed expenditures; and (iii) the financing of taxes and duties is material and relevant to the success of the project since the percentage of some financed expenditures needs to be 100%.

**Detailed Cost Estimates by Financier and Expenditure Category**  
(\$ '000)

Item	Total Amount	Local Government									
		ADB		Hongsiipu District		Tongxin County		Yanchi County		NARC	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>											
1. Works											
a. Hongsiipu District	2,176.5	1,100.9	50.6	1,075.6	49.4	0.0	0.0	0.0	0.0	0.0	0.0
b. Tongxin County	4,726.7	2,390.8	50.6	0.0	0.0	2,335.9	49.4	0.0	0.0	0.0	0.0
c. Yanchi County	1,513.1	765.4	50.6	0.0	0.0	0.0	0.0	747.7	49.4	0.0	0.0
d. NARC	28,527.4	14,415.7	50.6	0.0	0.0	0.0	0.0	0.0	0.0	14,111.7	49.5
<b>Subtotal, Works</b>	<b>36,943.7</b>	<b>18,672.9</b>	<b>50.6</b>	<b>1,075.6</b>	<b>2.9</b>	<b>2,335.9</b>	<b>6.3</b>	<b>747.7</b>	<b>2.0</b>	<b>14,111.7</b>	<b>38.2</b>
2. Equipment	22,511.8	22,511.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Materials	24,844.0	24,844.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Vehicle	112.9	0.0	0.0	28.2	0.0	28.2	0.0	28.2	0.0	28.3	0.0
5. Consulting services	558.4	558.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. Marketing promotion	915.0	0.0	0.0	228.8	0.0	228.8	0.0	228.8	0.0	228.8	0.0
7. Training											
a. ADB-financed	800.0	800.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
b. Government-financed	1,292.8	0.0	0.0	129.3	10.0	129.3	10.0	129.3	10.0	904.9	70.0
<b>Subtotal, Training</b>	<b>2,092.8</b>	<b>800.0</b>	<b>38.2</b>	<b>129.3</b>	<b>6.2</b>	<b>129.3</b>	<b>6.2</b>	<b>129.3</b>	<b>6.2</b>	<b>904.9</b>	<b>43.2</b>
8. R&D and demonstration	285.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	285.7	0.0
9. Project management	1,783.1	0.0	0.0	111.1	6.2	373.0	20.9	261.9	14.7	1,037.1	58.2
<b>Subtotal (A)</b>	<b>90,047.5</b>	<b>67,387.1</b>	<b>74.8</b>	<b>1,573.0</b>	<b>1.7</b>	<b>3,095.2</b>	<b>3.4</b>	<b>1,395.8</b>	<b>1.6</b>	<b>16,596.5</b>	<b>18.4</b>
<b>B. Contingencies</b>											
1. Physical contingencies	4,400.1	0.0	0.0	241.6	5.5	553.8	12.6	205.4	4.7	3,399.3	77.3
2. Price contingencies	9,337.5	0.0	0.0	512.6	5.5	1,175.2	12.6	435.96	4.7	7,213.8	77.3
<b>Subtotal (B)</b>	<b>13,737.5</b>	<b>0.0</b>	<b>0.0</b>	<b>754.2</b>	<b>5.5</b>	<b>1,729.0</b>	<b>12.6</b>	<b>641.4</b>	<b>4.7</b>	<b>10,613.0</b>	<b>77.3</b>
<b>C. Financing Charges During Implementation</b>											
1. Interest during implementation	2,494.0	2,494.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Commitment charges	118.9	118.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Subtotal (C)</b>	<b>2,612.9</b>	<b>2,612.9</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total (A+B+C)</b>	<b>106,397.9</b>	<b>70,000.0</b>	<b>65.8</b>	<b>2,327.2</b>	<b>2.2</b>	<b>4,824.1</b>	<b>4.5</b>	<b>2,037.2</b>	<b>1.9</b>	<b>27,209.5</b>	<b>25.6</b>

ADB = Asian Development Bank; LIBOR - London interbank offered rate; NARC = Ningxia Agricultural Reclamation Group Co., Ltd.; R&D = research and development.

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Including taxes and duties of \$1.3 million, of which \$0.9 million will be financed from the loan proceeds.

<sup>b</sup> In 2012 prices.

<sup>c</sup> Physical contingencies were computed at 5% for all items. Price contingencies were computed based on ADB-prescribed (international and national) price escalation factors, and include provision potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the five-year forward LIBOR plus a spread of 0.4% and maturity premium of 0.1% in accordance with the maturity-based loan pricing. Commitment charges for the ADB loan were computed at 0.15% per year to be charged on the undisbursed loan amount. The Ningxia Finance Department and the project management office have agreed to choose the straightline method with annual discount rate of 10% repayment.

Source: ADB estimates.

## E. Detailed Cost Estimates by Outputs (\$'000)

35. The detailed cost estimates by output are as follows:

Item	Improved Vineyard and Chinese Date Orchards						Increased Grape Processing Capacity		Improved Irrigation Systems				Strengthened Institutional and Farmer Capacity						
	Grapes			Agri-cultural			Yuquan- Winery	Estab- lished Nuanquan Winery	Yanchi Irrigation structure	Tongxin Irrigatio n Infra- structure	Hongsipu Irrigation structure	NARC Irrigation structure	Trainings	Manage- ment	Consult- ing	Study Tour	Market- ing Develop- ment	Associa- tion Service	R&D and Demo
	Newly Estab- lished Vine- yards	Improved Vine- yards	Chinese Dates	Shelter- belt Trees	Machine- ries														
<b>A. Investment Costs</b>																			
1. Works	36,943.7	9,105.3	7,798.3	2,821.6	410.6	0.0	1,841.3	1,683.3	1,166.4	1,783.2	1,116.1	9,217.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Equipment	22,511.8	0.0	0.0	0.0	0.0	146.9	5,774.9	3,033.3	796.7	1,649.2	1,271.2	9,671.3	0.0	0.0	0.0	0.0	0.0	168.3	0.0
3. Materials	24,844.0	12,665.1	7,442.8	4,140.9	595.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Vehicle	112.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.9	0.0
5. Consulting services	558.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	558.4	0.0	0.0	0.0	0.0
6. Marketing promotion	915.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	894.4	0.0	0.0
7. Training	2,092.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,789.3	0.0	0.0	303.5	0.0	0.0	0.0
8. R&D and demonstration	285.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	285.7
9. Project management	1,783.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,783.2	0.0	0.0	0.0	0.0	0.0
<b>Subtotal (A)</b>	<b>90,047.5</b>	<b>21,770.4</b>	<b>15,241.1</b>	<b>6,962.5</b>	<b>1,005.7</b>	<b>146.9</b>	<b>7,616.2</b>	<b>4,716.7</b>	<b>1,963.1</b>	<b>3,432.4</b>	<b>2,387.3</b>	<b>18,888.8</b>	<b>1,789.3</b>	<b>1,783.2</b>	<b>558.4</b>	<b>324.0</b>	<b>894.4</b>	<b>281.2</b>	<b>285.7</b>
<b>B. Contingencies</b>	<b>13,737.5</b>	<b>3,321.3</b>	<b>2,325.2</b>	<b>1,062.2</b>	<b>153.4</b>	<b>22.4</b>	<b>1,161.9</b>	<b>719.6</b>	<b>299.5</b>	<b>523.6</b>	<b>364.2</b>	<b>2,881.7</b>	<b>255.0</b>	<b>272.0</b>	<b>85.2</b>	<b>67.4</b>	<b>136.4</b>	<b>42.9</b>	<b>43.6</b>
<b>C. Financing Charges During Implementation</b>	<b>2,612.9</b>	<b>631.7</b>	<b>442.3</b>	<b>202.0</b>	<b>29.2</b>	<b>4.3</b>	<b>221.0</b>	<b>136.9</b>	<b>57.0</b>	<b>99.6</b>	<b>69.2</b>	<b>548.0</b>	<b>48.4</b>	<b>51.8</b>	<b>16.2</b>	<b>12.8</b>	<b>26.0</b>	<b>8.2</b>	<b>8.3</b>
<b>Total Project Cost (A+B+C)</b>	<b>106,397.9</b>	<b>25,723.4</b>	<b>18,008.6</b>	<b>8,226.7</b>	<b>1,188.3</b>	<b>173.6</b>	<b>8,999.1</b>	<b>5,573.2</b>	<b>2,319.6</b>	<b>4,055.6</b>	<b>2,820.7</b>	<b>22,318.5</b>	<b>2,092.7</b>	<b>2,107.0</b>	<b>659.8</b>	<b>404.2</b>	<b>1,056.8</b>	<b>332.3</b>	<b>337.6</b>

ADB = Asian Development Bank; Demo = demonstration; LIBOR = London interbank offered rate; NARC = Ningxia Agricultural Reclamation Group Co., Ltd.; R&D = research and development.

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Including taxes and duties of \$1.3 million, of which \$0.9 million will be financed from the loan proceeds.

<sup>b</sup> In 2012 prices.

<sup>c</sup> Physical contingencies were computed at 5% for all items. Price contingencies were computed based on ADB-prescribed (international and national) price escalation factors, and include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the five-year forward LIBOR plus a spread of 0.4% and maturity premium of 0.1% in accordance with the maturity-based loan pricing. Commitment charges for the ADB loan were computed at 0.15% per year to be charged on the undisbursed loan amount. The Ningxia Finance Department and the project management office have agreed to choose the straightline method with annual discount rate of 10% repayment.

Source: ADB estimates.



## F. Detailed Cost Estimates by Year (\$'000)

36. The detailed cost estimates by year are shown below:

Item	Total	Base Cost				
		2013	2014	2015	2016	2017
<b>A. Investment Costs</b>						
1. Works	36,943.7	598.6	12,676.8	13,487.5	6,553.8	3,627.0
2. Equipment	22,511.8	276.1	6,767.6	6,659.9	5,774.9	3,033.3
3. Materials	24,844.0	47.0	8,637.8	10,778.0	4,107.5	1,273.7
4. Vehicle	112.9	112.9	0.0	0.0	0.0	0.0
5. Consulting services	558.4	129.5	158.1	124.2	77.2	69.3
6. Marketing promotion	915.0	910.2	3.2	1.6	0.0	0.0
7. Training	2,092.8	423.7	419.5	495.5	389.8	364.3
8. R&D and demonstration	285.7	32.4	89.5	114.3	49.5	0.0
9. Project management	1,783.2	1,121.0	159.4	167.6	167.6	167.6
<b>Subtotal (A)</b>	<b>90,047.5</b>	<b>3,651.3</b>	<b>28,911.9</b>	<b>31,828.5</b>	<b>17,120.4</b>	<b>8,535.3</b>
<b>B. Contingencies</b>	<b>13,737.5</b>	<b>557.0</b>	<b>4,410.7</b>	<b>4,855.7</b>	<b>2,611.9</b>	<b>1,302.2</b>
<b>C. Financing Charges During Implementation</b>	<b>2,612.9</b>	<b>105.9</b>	<b>838.9</b>	<b>923.6</b>	<b>496.8</b>	<b>247.7</b>
<b>Total Project Cost (A+B+C)</b>	<b>106,397.9</b>	<b>4,314.2</b>	<b>34,161.5</b>	<b>37,607.8</b>	<b>20,229.1</b>	<b>10,085.2</b>
<b>% Total Project Cost</b>	<b>100.0%</b>	<b>4.1%</b>	<b>32.1%</b>	<b>35.3%</b>	<b>19.0%</b>	<b>9.5%</b>

ADB = Asian Development Bank, LIBOR - London interbank offered rate, R&D = research and development.

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> Including taxes and duties of \$1.3 million, of which \$0.9 million will be financed from the loan proceeds.

<sup>b</sup> In 2012 prices.

<sup>c</sup> Physical contingencies were computed at 5% for all items. Price contingencies were computed based on ADB-prescribed (international and national) price escalation factors, and include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the five-year forward LIBOR plus a spread of 0.4% and maturity premium of 0.1% in accordance with the maturity-based loan pricing. Commitment charges for the ADB loan were computed at 0.15% per year to be charged on the undisbursed loan amount. The Ningxia Finance Department and the project management office have agreed to choose the straight-line method with annual discount rate of 10% repayment.

Source: ADB estimates.

## G. Allocation and Withdrawal of Loan Proceeds

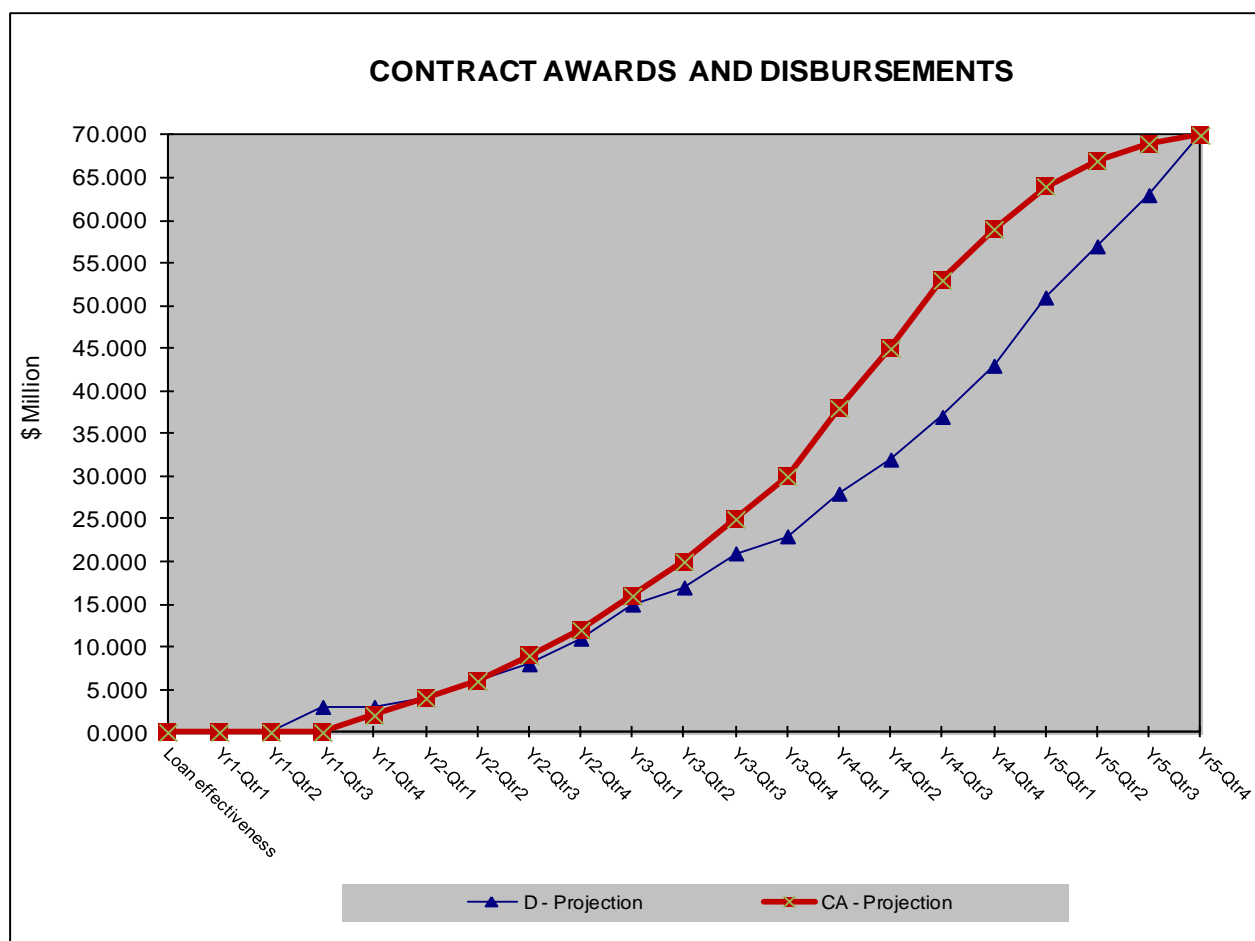
37. The allocation and withdrawal of loan proceeds are shown below:

CATEGORY				ADB FINANCING
No.	Item	Amount Allocated (\$)		Percentage and Basis for Withdrawal from the Loan Account
		Category	Sub-category	
1	Works	18,672,900		51% of total expenditure claimed
2	Equipment	22,511,800		100% of total expenditure claimed
3	Materials	24,844,000		100% of total expenditure claimed
4	Consulting services	558,400		100% of total expenditure claimed
5	Training	800,000		100% of total expenditure claimed
6	Interest and commitment charges	2,612,900		100% of amounts due
	<b>TOTAL</b>	<b>70,000,000</b>		

Source: Asian Development Bank estimates.

## H. Contract and Disbursement S-Curves

38. The projected contract awards and disbursements under the loan are show below.



Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<b>Contract Awards</b>						
Quarter 1	0.000	2.000	4.000	8.000	5.000	
Quarter 2	0.000	2.000	4.000	7.000	3.000	
Quarter 3	0.000	3.000	5.000	8.000	2.000	
Quarter 4	2.000	3.000	5.000	6.000	1.000	
<b>Total</b>	<b>2.000</b>	<b>10.000</b>	<b>18.000</b>	<b>29.000</b>	<b>11.000</b>	<b>70.000</b>
<b>% of total</b>	<b>3</b>	<b>14</b>	<b>26</b>	<b>41</b>	<b>16</b>	<b>100</b>
<b>Disbursements</b>						
Quarter 1	0.000	1.000	3.000	5.000	7.000	
Quarter 2	0.000	2.000	2.000	4.000	7.000	
Quarter 3	3.000	2.000	4.000	5.000	7.000	
Quarter 4	0.000	3.000	2.000	6.000	7.000	
<b>Total</b>	<b>3.000</b>	<b>8.000</b>	<b>11.000</b>	<b>20.000</b>	<b>28.000</b>	<b>70.000</b>
<b>% of total</b>	<b>4</b>	<b>11</b>	<b>16</b>	<b>29</b>	<b>40</b>	<b>100</b>

Source: Asian Development Bank estimates.

## I. Onlending Arrangements and Indicative Funds Flow

39. The borrower of the loan will be the PRC government. The borrower will make the ADB loan proceeds available to NHARG—the executing agency of the project and represented by the Ningxia Finance Department (NFD)—on the same financial terms and conditions as those of the ADB loan. Except as ADB may otherwise agree, the terms for loan proceeds made available to NHARG shall include (i) a commitment charge and interest rates identical to those applied to

the ADB loan; (ii) a repayment period including a grace period identical to that applied to the ADB loan; and (iii) NHARG bearing the exchange rate and interest rate variation risks.

40. NHARG will in turn onlend and/or make available a portion of the loan proceeds to each of the implementing agencies—NARC, the Hongsipu district government (HDG), the Tongxin county government (TCG), and the Yanchi county government (YCG)—on the same financial terms and conditions as those of the ADB loan, with each of NARC, HDG, TCG, and YCG bearing the exchange rate and interest rate variation risks of the portion of the loan proceeds made available to it. These include (i) onlending agreement between NHARG and NARC in the amount of \$54.31 million equivalent, (ii) onlending agreement between NHARG and HDG in the amount of \$5.34 million equivalent, (iii) onlending agreement between NHARG and TCG in the amount of \$7.37 million equivalent, and (iv) onlending agreement between NHARG and YCG in the amount of \$2.98 million equivalent.

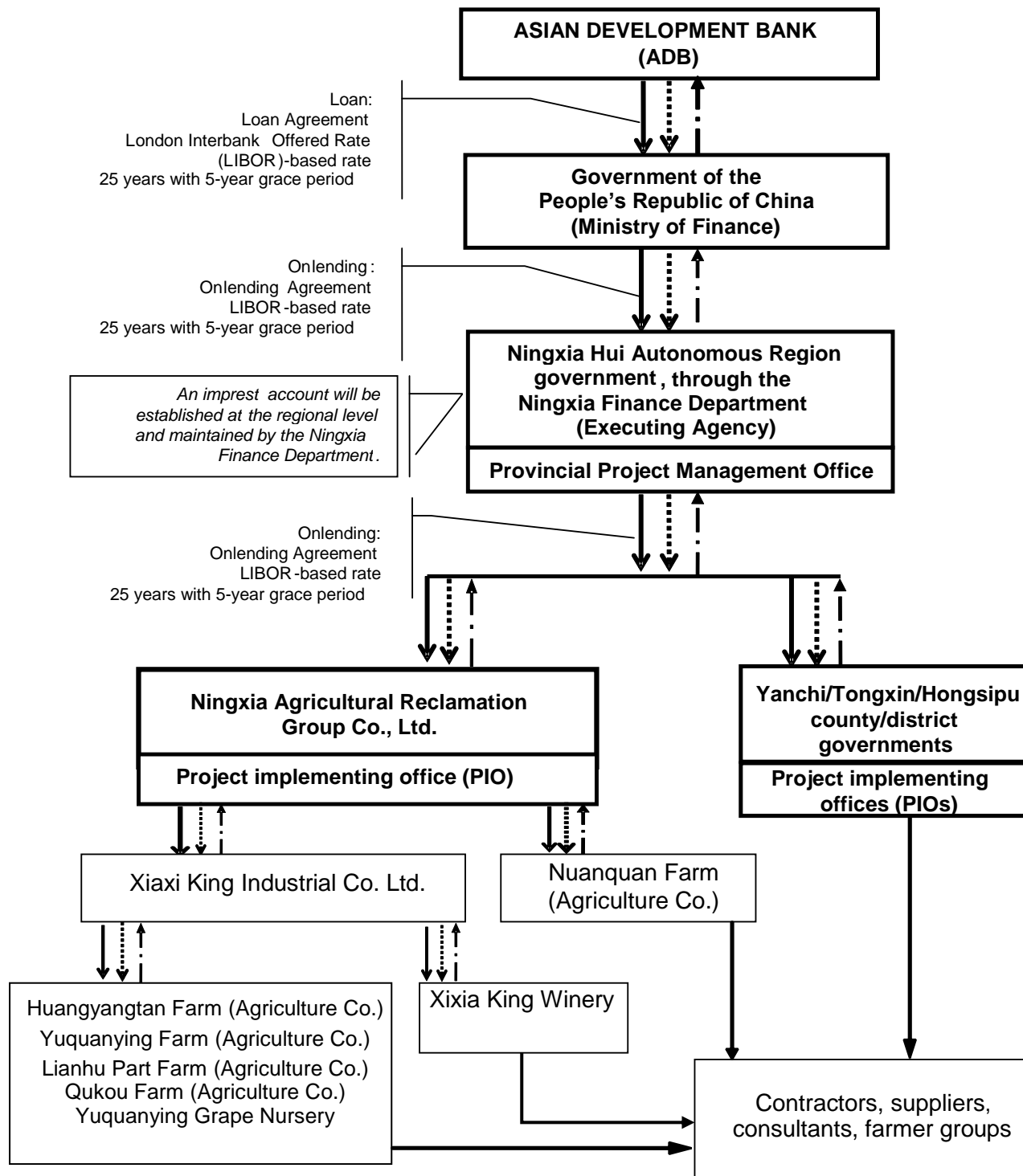
41. NARC will then onlend the loan proceeds received under the relevant onlending agreements to XXK and to the Nuanquan Farm (Agriculture Co.), pursuant to onlending arrangements in form and substance satisfactory to ADB and NHARG and for purposes of financing the subprojects to be carried out with the assistance of each participating farms. XXK will onlend the loan proceeds received to its five project-supported farms—the Yuquanying Farm (Agriculture Co.), the Huangyangtan Farm (Agriculture Co.), the Lianhu Part Farm (Agriculture Co.), the Qukou Farm (Agriculture Co.), and the Yuquanying Grape Nursery; and to Xixia King Winery, in each case pursuant to the lending arrangements in form and substance satisfactory to ADB and NHARG; and for purposes of financing the subprojects to be carried out with assistance of each participating farm.

42. The onlending arrangements and indicative funds flow diagram are shown below. Each onlending will be undertaken based on terms and conditions specified in the loan and project agreements.

43. NARC is a commercialized state-owned enterprise with independent legal status. It was established in 1950 in the form as State Farm. NARC has a mandate to develop and operate farms and related processing facilities in Ningxia. These include fruit farms and processing, dairy farms and processing, sheep and beef farms and processing, grain farms, and vegetable farms. In recent years, NARC has expanded its interests to include tourism, real estate and construction, and investments in food and beverage businesses. In 2009, NARC completed an extensive reorganization, which resulted in the current structure. It has grouped farms and processing units into a “business unit” structure, with each business unit focused on a particular set of products and/or markets, including agricultural businesses, real estate and construction, and tourism businesses.

44. XXK, a wholly owned legal entity of NARC, is focused mainly on growing grapes and making wine. It has Xixia King Winery (solely-owned subsidiary) and seven farms as independent entities, including the five project-supported farms—the Yuquanying Farm (Agriculture Co.), the Huangyangtan Farm (Agriculture Co.), the Lianhu Part Farm (Agriculture Co.), the Qukou Farm (Agriculture Co.), and the Yuquanying Grape Nursery. The legal person of Xixia King Winery is the same with that of XXK. The Nuanquan Farm (Agriculture Co.) is also an independent entity.

**ONLENDING ARRANGEMENTS AND INDICATIVE FUNDS FLOW**



— Onlending  
 ..... Indicative funds  
 - . - . . . . . Repayment flow of documents (withdrawal applications)

Source: Asian Development Bank.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

45. Financial management assessments (FMA) of the implementing agencies were undertaken in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects* and the publication *Financial Due Diligence—A Methodology Note*.<sup>12</sup> The FMA includes the review of the accounting and reporting system, internal and external auditing arrangements, fund disbursement procedures, and information systems. The instrument used for the assessment was ADB's FMA questionnaire.

46. NARC, one of the implementing agencies, is also implementing the ongoing Ningxia Integrated Ecosystem and Agricultural Development Project (footnote 7); and has sufficient financial management capacity for the proposed project. The other three implementing agencies—HDG, TCG, and YCG—have adequate capacity to manage financial aspects of a project during implementation. However, HDG, TCG, and YCG do not have prior experience in implementing an ADB-financed project. Training in ADB procedures prior to project inception will be necessary in the aspects of procurement, disbursement, project management, and accounting systems to ensure that HDG, TCG, and YCG are able to meet the project's accounting and reporting requirements. Training could also be provided in the following areas: (i) budget preparation and oversight; (ii) uses of the fixed asset module of accounting software; (iii) strengthening the internal audit function; and (iv) development of a manual for financial policies and procedures to guide financial management, reporting, and related administrative activities.

### B. Disbursement

47. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),<sup>13</sup> and detailed arrangements agreed upon between ADB and the government.

48. Pursuant to ADB's Safeguard Policy Statement (SPS, 2009),<sup>14</sup> ADB funds may not be applied to the activities described in the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to subprojects financed by ADB.

49. Direct payment, reimbursement, commitment, and imprest fund procedures may be used to withdraw funds from the loan account. To expedite the flow of funds and simplify document processing, the statement of expenditures (SOE) procedure may be used to reimburse, replenish, and liquidate eligible expenditures for any individual payment not exceeding \$100,000. Payments exceeding this ceiling will be reimbursed, replenished, and liquidated based on the full documentation process. SOE records should be maintained and made readily available for review by ADB's disbursement and review missions or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.<sup>15</sup>

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<sup>12</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

<sup>13</sup> Available at: [http://www.adb.org/Documents/Handbooks/Loan\\_Disbursement/loan-disbursement-final.pdf](http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf)

<sup>14</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

<sup>15</sup> Checklist for SOE procedures and formats are available at:  
[http://www.adb.org/documents/handbooks/loan\\_disbursement/chap-09.pdf](http://www.adb.org/documents/handbooks/loan_disbursement/chap-09.pdf)

50. Immediately after loan effectiveness, an imprest account<sup>16</sup> will be set up for the project by NFD in a commercial bank acceptable to ADB. The maximum ceiling of the imprest account will be set at 10% of the loan amount. The currency of the imprest account will be US dollar. The government may request for initial and additional advances to each imprest account based on 6 months estimated expenditures to be financed through the imprest account. The imprest account is to be used exclusively for ADB's share of eligible expenditures. NFD will be responsible for management, monitoring, and reconciliation of the imprest account. ADB's *Loan Disbursement Handbook* (2012, as amended from time to time) describes which supporting documents should be submitted to ADB and which should be retained by the government for liquidation and replenishment of an imprest account.

51. The provincial project management office (PPMO) and the project implementing offices (PIOs), together with NFD, will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

52. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is \$100,000, unless otherwise approved by ADB. The PPMO will collect and consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal applications and supporting documents will demonstrate that, among other things, the goods and/or services were produced in or from ADB members, and are eligible for ADB financing.

53. Each of the implementing agencies—NARC, HDG, TCG, and YCG—is responsible for preparing timely requests for annual counterpart fund allocations.

### **C. Accounting**

54. The executing agency, NHARG, through the NFD; and the implementing agencies—NARC, HDG, TCG, and YCG—will identify the goods and services to be financed by the ADB loan and counterpart financing. Each implementing agency will prepare its own project accounts covering the component of the project that it implements and submit them to the PPMO after verification by the concerned local finance bureau. Project accounts will follow international accounting principles and practices and/or those prescribed by the PRC government's accounting laws and regulations. The PPMO will verify and consolidate the accounts of all the PIOs, and incorporate the expenses incurred for the operation of the PPMO for the project. NHARG will verify the consolidated project accounts. Each project account will include a balance sheet, statement of sources and uses of funds, statement of implementation of loan agreement, and statement of imprest account. Subprojects will follow a uniform format, sound accounting principles, domestic regulations, and ADB requirements.

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[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Contracts-100-Below.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-100-Below.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Contracts-Over-100.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Operating-Costs.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls)

[http://www.adb.org/documents/handbooks/loan\\_disbursement/SOE-Free-Format.xls](http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls)

<sup>16</sup> Bank charges will be financed from the loan resources.

## **D. Auditing**

55. NHARG will cause the detailed consolidated project accounts to be audited in accordance with the international standards on auditing and sound accounting practices by the state audit agency of the PRC government, or other auditors acceptable to ADB. The audited accounts will be submitted to ADB by NHARG in the English language within 6 months of the end of the fiscal year. The annual audit report will include a separate audit opinion on the use of the imprest account and the SOE procedures. The government and NHARG have been made aware of ADB policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB financing is used in accordance with ADB policies and procedures. NARC and one of its five subsidiaries, XXK, will also separately submit annual audited financial statements for their operations, including income statements, balance sheets, and cashflow statements to ADB through the PPMO within 6 months after the end of each fiscal year. The audit of such financial statements will include (i) an assessment of the adequacy of accounting and internal control systems with respect to project expenditures and other financial transactions, (ii) an assessment of compliance with loan covenants and ADB's requirements for project management, and (iii) an opinion on the operation of the imprest account and on the use of the SOE procedure.

## **E. Reporting**

56. The PPMO will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance management system (PPMS)—including project physical and financial progress, problems encountered or anticipated, and actions taken to resolve the problems—and implementation of environment, resettlement, gender, and ethnic minority development; (ii) semiannual internal environmental monitoring reports; (iii) consolidated annual reports, including progress achieved by output as measured through the indicator's performance targets; key implementation issues and solutions; updated procurement plan; and updated implementation plan for next 12 months; (iv) a resettlement completion report at the completion of resettlement; and (v) a project completion report within 3 months of physical completion of the project.

# **VI. PROCUREMENT AND CONSULTING SERVICES**

## **A. Advance Contracting and Retroactive Financing**

57. NHARG has requested advance contracting and retroactive financing to enable early commencement of civil works and procurement of goods, services, and training under the project. The details of activities to be financed and their justifications will be set out in a written request to ADB. The PRC government and NHARG have been advised that retroactive financing may only apply to up to 10% of the amount of the ADB loan in respect for expenditures incurred before loan effectiveness, but not earlier than 12 months before the signing of the loan and project agreements.

58. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2010, as amended from time to time) and the Guidelines on the Use of Consultants (2010, as amended from time to time). The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, NHARG, and the PPMO have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

## **B. Procurement of Goods, Works, and Consulting Services**

59. All procurement to be financed under the ADB loan will be carried out following ADB's Procurement Guidelines (2010, as amended from time to time). Contracts for civil works valued at over \$10 million and contracts for goods and related services valued at over \$1 million will be procured through international competitive bidding (ICB) procedures. Contracts for civil works valued at \$10 million or less but over \$100,000, and contracts for goods and related services valued at \$1 million or less but over \$100,000 will be procured through national competitive bidding (NCB) procedures. NCB will be undertaken following the PRC Tendering and Bidding Law (1999), subject to modifications agreed with ADB.<sup>17</sup> Contract packages for civil works valued at \$100,000 or less and contract packages for goods valued at \$100,000 or less will be awarded through shopping procedure. Most work on the development of the vineyards and orchards involves the hiring of labor through community participation procedures. ADB's guidelines for community participation in procurement that have been approved for the Ningxia Integrated Ecosystem and Agricultural Development Project (footnote 7) will be adopted for the project. Procurement will be centralized; and a procurement agency familiar with ADB's procurement procedures will be engaged by NHARG prior to the implementation of activities to undertake procurement of works, goods, and services under the project on behalf of the implementing agencies.

60. A procurement capacity assessment of NHARG, the executing agency; and implementing agencies—NARC, HDG, TCG, and YCG—has been undertaken. Based on the assessment, the project team recommends that prior ADB review be applied for all ICB contracts, consulting services, the first NCB contract for works, and the first NCB contract for goods; and post review for all other contracts. The training of project staff on procurement, as well as in all other aspects of implementation needs to be pursued to enable them to gain better understanding of the contract packaging under the project, the method of procurement to be used for each package, and the requirements to be met and procedures to be followed for the different types of procurement methods.

61. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Guidelines (2010, as amended from time to time).

62. A procurement plan indicating the thresholds and review procedures; contract packages for goods, works, and consulting services; and NCB procedures are provided in section B below. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all documents and contracts relating to procurement.

63. Consulting services to be financed under the ADB loan will be selected in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time). Four international consultants will be engaged for a total of 18 person-months to provide consulting services in the fields of viticulture, winemaking and winery management, quality management, and wine marketing. Six national consultants will also be engaged for a total of 47 person-months to provide consulting services in the fields of wine marketing, wine making, drip irrigation, viticulture, Chinese dates growing, and quality management. The implementing agencies—NARC, HDG, TCG, and YCG—will be responsible for the selection of the consultants, with concurrence of NHARG and the PPMO for contract negotiations and contract

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<sup>17</sup> The executing agency, NHARG; and the implementing agencies—NARC, HDG, TCG, and YCG—have been requested to use ADB standard bidding documents to ensure the high quality and consistency of the documents, which will facilitate ADB review.



administration. The consultants will be engaged using the individual selection method. The consulting packages are included in the procurement plan in section C below, while the list of expertise to be engaged is provided in the table below. The consultants' detailed terms of reference are under preparation in consultation with the executing and implementing agencies, while the summary of the tasks to be performed by each expert is presented in section C below. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all documents and contracts relating to the engagement of consultants.

<b>Expertise</b>	<b>Requirements (person-month)</b>
<b>A. International</b>	
1. Viticulturist	6.5
2. Winery management specialist	6.0
3. Quality management specialist	2.0
4. Wine marketing specialist	3.5
<b>Subtotal (A)</b>	<b>18.0</b>
<b>B. National</b>	
1. Viticulturist	17.0
2. Drip irrigation engineer	6.0
3. Quality management specialist	7.0
4. Supply chain logistics specialist	5.5
5. Winemaking and winery management specialist	5.0
6. Chinese dates specialist	6.5
<b>Subtotal (B)</b>	<b>47.0</b>
<b>Total (A+B)</b>	<b>65.0</b>

### C. Procurement Plan

64. The procurement plan for the project, as agreed with NHARG, the executing agency; and the implementing agencies—NARC, HDG, TCG, and YCG—is provided below.

#### Basic Data

Project Name: Ningxia Irrigated Agriculture and Water Conservation Demonstration Project	Loan Number: Loan xxxx-PRC
Country: People's Republic of China	Executing Agency: Ningxia Hui Autonomous Region government (NHARG)
Loan Amount: \$70 million	
Date of First Procurement Plan:	Date of this Procurement Plan: 13 November 2012

#### 1. Process Thresholds, Review, and 18-Month Procurement Plan

##### a. Project Procurement Thresholds

65. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works:

#### Procurement of Goods and Works

<b>Method</b>	<b>Threshold</b>
ICB for Works	Above \$10,000,000
ICB for Goods	Above \$1,000,000
NCB for Works	Below ICB threshold but more than \$100,000

Method	Threshold
NCB for Goods	Below ICB threshold but more than \$100,000
Shopping for Works <sup>a</sup>	Below or equal to \$100,000
Shopping for Goods <sup>a</sup>	Below or equal to \$100,000
Community Participation <sup>b</sup>	Not exceeding \$30,000
Individual Consultant Selection	No threshold

ADB = Asian Development Bank, ICB = international competitive bidding, NCB = national competitive bidding.

<sup>a</sup> For the procurement of items below \$10,000, the executing and implementing agencies may purchase the items directly from the supplier; and in such cases, ADB should be satisfied that the price paid is reasonable.

<sup>b</sup> The use of community participation under the project will follow the procedures developed under Loan 2436-PRC: Ningxia Integrated Ecosystem and Agricultural Development Project.

Source: ADB.

66. **Contract packages.** Contract packages under the project are small in size and numerous in number, given the nature of works, goods, and services to be procured and large number of farmers involved in implementation. The project has four outputs and 18 suboutputs to be delivered by four implementing agencies,<sup>18</sup> each of which will receive separate allocation under the loan and undertake its own procurement. The project will support 2,600 ha of grapes and 933.3 ha of Chinese dates involving 3,100 rural households. The project activities include establishment of drip irrigation systems (small pumps and distribution pipe networks), land leveling, planting, and fertilizer application.

#### b. ADB Prior or Post Review

67. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project:

Procurement Method	Prior or Post	Comments
<b>Procurement of Goods and Works</b>		
ICB Works ICB Goods	Prior	For ICB, invitation for bids and for prequalification, draft pre-qualification documents, bidding documents, and pre-qualification and bid evaluation reports will be submitted to ADB for prior review and approval. Use of this method is subject to the provision of ADB's Procurement Guidelines (2010, as amended from time to time) and PAI 3.03.
NCB Works NCB Goods	Prior/ Post	For NCB, the first draft English language-version of the procurement documents for goods and for works should be submitted to ADB for review and approval regardless of the estimated contract amount. ADB-approved procurement documents should be used as a model for all NCB procurement financed by ADB for the project, and need not be subject to further review. ADB will review the bid evaluation report and award of contract on a post-review basis. Use of this method is subject to the provisions of the NCB annex, ADB's Procurement Guidelines (2010, as amended from time to time), paras. 3.3–3.4; and PAI 3.04.
Shopping for Works Shopping for Goods	Post	For shopping (including direct contracting), ADB will review the award of contract on a post-facto basis. Use of this method is subject to the provision of ADB's Procurement Guidelines (2010, as amended from time to time), para. 3.5, and PAI 3.04, C.4-6.

<sup>18</sup> Under NARC which is one of the implementing agencies, six farms will participate in the implementation of the project; and each farm will undertake its own procurement.

<b>Procurement Method</b>	<b>Prior or Post</b>	<b>Comments</b>
Community Participation	Prior	To be used for labor for a variety of community-based initiatives (e.g., tree planting, and rehabilitation of rural roads and tertiary canals) ADB needs to be satisfied that the community, through an administrative committee or village unit, can demonstrate the capacity to mobilize and manage local labor contracted by the project implementing agency or procurement agent following ADB's Procurement Guidelines (2010, as amended from time to time), para. 3.17, PAI 3.05 H, and PAI 5.12. Prior review applies to the first community participation contract for each community group.
<b>Recruitment of Consulting Firms</b>		
QCBS	Prior	For QCBS, a quality–cost ratio of 80:20 will be used. The borrower will be required to make three submissions (prior reviews) of the following for ADB approval: (i) a draft RFP, including the shortlist; (ii) a technical proposal evaluation report; and (iii) an overall evaluation and ranking report. Use of this method is subject to ADB's Guidelines on the Use of Consultants (2010, as amended from time to time), and para. 47 of PAI 2.03
<b>Recruitment of Individual Consultants</b>		
Individual Consultants	Prior	The executing agency, NHARG, selects and engages individual consultants and submits to ADB the following: (i) shortlist, curriculum vitae, and evaluation and/or ranking of individual consultants; and (ii) draft contracts for selected individuals following ADB's Guidelines on the Use of Consultants (2010, as amended from time to time) and Part B of PAI 2.03.

ADB = Asian Development Bank, ICB = international competitive bidding, NCB = national competitive bidding, NHARG = Ningxia Hui Autonomous Region government, PAI = project administration instruction, QCBS = quality- and cost-based selection, RFP = request for proposal.

Source: ADB.

### c. Goods and Works Contracts Estimated to Cost More Than \$1 Million

68. The following table lists goods and works contracts for which procurement activities are either ongoing or expected to commence within the next 18 months.

<b>Item No.</b>	<b>General Description</b>	<b>Contract Value (\$ million)</b>	<b>Procurement Method</b>	<b>Pre-qualification of Bidders (Y/N)</b>	<b>Advertisement Date (quarter/year)</b>	<b>Comments</b>
E3.1	<b>Yuquanying farm.</b> Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.433	NCB	N		
E5.1	<b>Huangyangtan farm.</b> Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.419	NCB	N		

NCB = national competitive bidding.

Source: Asian Development Bank estimates.

**d. Consulting Services Contracts Estimated to Cost More Than \$100,000**

69. The following table lists the consulting services contracts for which procurement activities are either ongoing or expected to commence within the next 18 months.

Item No.	General Description	Contract Value (\$ million)	Recruitment Method	Advertisement Date (quarter/year)	International or National Assignment	Comments
NIL						

**e. Goods and Works Contracts Estimated to Cost Less Than \$1 Million and Consulting Services Contracts Less Than \$100,000**

70. The following table groups smaller-value goods, works, and consulting services contracts for which procurement activities are either ongoing or expected to commence within the next 18 months.

Item No.	General Description	Value of Contracts (cumulative, \$ million)	Procurement/ Recruitment Method	Pre-qualification of Bidders (Y/N)	No. of Contracts	Advertisement Date
<b>WORKS</b>						
<b>E</b>	<b>Civil Works for Water Irrigation Infrastructure</b>					
<b>E1</b>	<b>Qukou Farm</b>					
E1.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.562	NCB	N	4	Within 18 months
E1.2	Pump building	0.008	SHP	N	1	
E1.3	Road building	0.068	SHP	N	1	
<b>E2</b>	<b>Hongsipu District</b>					
E2.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.994	NCB	N	1	Within 18 months
E2.2	Pump building	0.023	SHP	N	1	
E2.3	Road building	0.067	SHP	N	1	
<b>E3</b>	<b>Yuquanying Farm</b>					
E3.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.433	NCB	N	1	Within 18 months
E3.2	Pump building					
E3.3	Road building	0.062	SHP	N	1	
<b>E4</b>	<b>Yuquanying Grape Nursery</b>					
E4.1	Civil works for water reservoir	0.143	NCB	N	1	Within 18 months
E4.2	Pump building	0.008	SHP	N	1	
E4.3	Road building	0.016	SHP	N	1	
<b>E5</b>	<b>Huangyangtan Farm</b>					
E5.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.419	NCB	N	1	Within 18 months
E5.2	Pump building	0.054	SHP	N	1	
E5.3	Road building	0.238	NCB	N	1	

Item No.	Description	Contract Value (\$ million)	Procurement/ Recruitment Method	Pre-qualification of Bidders (Y/N)	No. of Contracts	Advertisement Date
<b>E6</b>	<b>Nuanquan Farm</b>					
E6.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.561	NCB	N	1	Within 18 months
E6.2	Pump building	0.008	SHP	N	1	
E6.3	Road building	0.068	SHP	N	1	
<b>E7</b>	<b>Lianhu Part Farm</b>					
E7.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir		NCB	N	1	Within 18 months
E7.2	Pump building	0.025	SHP	N	1	
E7.3	Road building	0.238	NCB	N	1	
<b>E8</b>	<b>Yanchi County</b>					
E8.1	Civil works for inflow and water reservoir	0.237	NCB	N	1	Within 18 months
E8.2	Pump building	0.013	SHP	N	1	
E8.3	Road building	0.053	SHP	N	1	
<b>E9</b>	<b>Tongxin County</b>					
E9.1	Civil works for inflow and water reservoir	0.847	NCB	N	1	Within 18 months
E9.2	Pump building	0.251	NCB	N	1	
E9.3	Road building	0.127	NCB	N	1	
<b>GOODS</b>						
<b>G</b>	<b>Establishment of Vineyards and Chinese Date Orchards</b>					
<b>G1</b>	<b>Lianhu Part Farm</b>					
G1.1	Saplings for new vineyard establishment	0.371	SHP	N	Multiple	Within 18 months
G1.2	Inputs (fertilizers, pesticides, manure)	0.786	NCB/SHP	N	Multiple	
G1.3	Materials (mulching film, cement, pillars, iron wire)	0.714	NCB/SHP	N	Multiple	
<b>G2</b>	<b>Yuquanying Farm</b>					
G2.1	Saplings for new vineyard establishment	0.526	NCB/SHP	N	Multiple	Within 18 months
G2.2	Inputs (fertilizers, pesticides, manure)	1.102	NCB/SHP	N	Multiple	
G2.3	Materials mulching film, cement, pillars, iron wire)	1.012	NCB/SHP	N	Multiple	
<b>G3</b>	<b>Qukou Farm</b>					
G3.1	Saplings for new vineyard establishment	0.279	NCB/SHP	N	Multiple	Within 18 months
G3.2	Inputs (fertilizers, pesticides, manure)	0.613	NCB/SHP	N	Multiple	
G3.3	Materials (mulching film, cement, pillars, iron wire)	0.536	NCB/SHP	N	Multiple	
<b>G4</b>	<b>Yuquanying Grape Nursery</b>					
G4.1	Saplings for new vineyard establishment	0.381	SHP	N	Multiple	Within 18 months

Item No.	Description	Contract Value (\$ million)	Procurement/ Recruitment Method	Pre-qualification of Bidders (Y/N)	No. of Contracts	Advertisement Date
G4.2	Inputs (fertilizers, pesticides, manure)	0.220	SHP	N	Multiple	Within 18 months
G4.3	Materials (mulching film, cement, pillars, iron wire)	0.199	SHP	N	Multiple	
<b>G5</b>	<b>Huangyangtan Farm</b>					
G5.1	Saplings for new vineyard establishment	0.459	NCB/SHP	N	Multiple	Within 18 months
G5.2	Inputs (fertilizers, pesticides, manure)	0.959	NCB/SHP	N	Multiple	
G5.3	Materials (mulching film, cement pillars, iron wire)	0.883	NCB/SHP	N	Multiple	
<b>G6</b>	<b>Nuanquan Farm</b>					
G6.1	Saplings for new vineyard establishment	0.206	SHP	N	Multiple	Within 18 months
G6.2	Inputs (fertilizers, pesticides, manure)	0.422	NCB/SHP	N	Multiple	
G6.3	Materials (mulching film, cement, pillars, iron wire)	0.397	NCB/SHP	N	Multiple	
<b>G7</b>	<b>Hongsipu District</b>					
G7.1	Saplings for new vineyard establishment	0.489	NCB/SHP	N	Multiple	Within 18 months
G7.2	Inputs (fertilizers, pesticides, manure)	0.849	NCB/SHP	N	Multiple	
G7.3	Materials (mulching film, cement, pillars, iron wire)	0.664	NCB/SHP	N	Multiple	
<b>H</b>	<b>Improvement of Vineyards</b>					
<b>H1</b>	<b>Lianhu Part Farm</b>					
H1.1	Saplings for vineyard improvement	0.206	SHP	N	Multiple	Within 18 months
H1.2	Inputs (fertilizers, pesticides, manure)	0.436	NCB/SHP	N	Multiple	
H1.3	Materials (mulching film, cement, pillars, iron wires)	0.397	NCB/SHP	N	Multiple	
<b>H2</b>	<b>Yuquanying Farm</b>					
H2.1	Saplings for vineyard improvement	1.032	NCB/SHP	N	Multiple	Within 18 months
H2.2	Inputs (fertilizers, pesticides, manure)	2.173	NCB/SHP	N	Multiple	
H2.3	Materials (mulching film, cement, pillars, iron wires)	0.048	SHP	N	Multiple	
<b>H3</b>	<b>Huangyangtan Farm</b>					
H3.1	Saplings for vineyard improvement	0.841	NCB/SHP	N	Multiple	Within 18 months
H3.2	Inputs (fertilizers, pesticides, manure)	2.341	NCB/SHP	N	Multiple	
H3.3	Materials (mulching film, cement pillars, iron wires)	0.039	SHP	N	Multiple	
<b>I</b>	<b>Establishment of Chinese Date Orchards</b>					
<b>I1</b>	<b>Tongxin County</b>					
I1.1	Saplings	2.032	NCB/SHP	N	Multiple	Within 18 months

Item No.	Description	Contract Value (\$ million)	Procurement/ Recruitment Method	Pre-qualification of Bidders (Y/N)	No. of Contracts	Advertisement Date
I1.2	Inputs (fertilizers, pesticides, manure)	0.914	NCB/SHP	N	Multiple	Within 18 months
I1.3	Materials (mulching film, cement pillars, iron wires)	0.071	SHP	N	Multiple	
<b>I2</b>	<b>Yanchi County</b>					
I2.1	Saplings	0.235	SHP	N	Multiple	Within 18 months
I2.2	Inputs (fertilizers, pesticides, manure)	0.581	NCB/SHP	N	Multiple	
I2.3	Materials (mulching film, cement pillars, iron wires)	0.071	SHP	N	Multiple	
I2.4	Hiring of farm machinery	0.076	SHP	N	Multiple	
<b>J</b>	<b>Shelter Belt Trees</b>					
<b>J1</b>	<b>Yanchi County (pine and willow trees)</b>					
J1.1	Saplings	0.077	SHP	N	Multiple	Within 18 months
<b>J2</b>	<b>Yuquanying Grape Nursery</b>					
J2.1	Saplings	0.022	SHP	N	Multiple	Within 18 months
<b>J3</b>	<b>Qukou Farm</b>					
J3.1	Saplings	0.068	SHP	N	Multiple	Within 18 months
<b>J4</b>	<b>Lianhu Part Farm</b>					
J4.1	Saplings	0.091	SHP	N	Multiple	Within 18 months
<b>J5</b>	<b>Yuquanying Farm</b>					
J5.1	Saplings	0.091	SHP	N	Multiple	Within 18 months
<b>J6</b>	<b>Huangyangtan Farm</b>					
J6.1	Saplings	0.091	SHP	N	Multiple	Within 18 months
<b>J7</b>	<b>Hongsipu District</b>					
J7.1	Saplings	0.109	SHP	N	Multiple	Within 18 months
<b>K</b>	<b>Agricultural Machineries (Yanchi County)</b>					
		0.147	SHP	N	Multiple	Within 18 months

NCB = national competitive bidding, SHP = shopping.

Source: Asian Development Bank estimates.

## 2. Indicative List of Packages Required Under the Project

71. The following table provides an indicative list of all procurement (goods, works, and consulting services) over the life of the project. Contracts financed by the borrower and others are also indicated, with an appropriate notation in the comments section.

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
<b>WORKS</b>						
<b>A Establishment of Vineyards and Chinese Date Orchards</b>						
<b>A1 Lianhu Part Farm</b>						
A1.1	Land leveling of 240 ha for vineyard establishment	0.114	CP	N		Multiple
A1.2	Digging of growing ditch for vineyard establishment	0.160	CP	N		Multiple
<b>A2 Yuquanying Farm</b>						
A2.1	Land leveling of 340 ha for vineyard establishment	0.162	CP	N		Multiple
A2.2	Digging of growing ditch for vineyard establishment	0.226	CP	N		Multiple
<b>A3 Qukou Farm</b>						
A3.1	Land leveling of 180 ha for vineyard establishment	0.129	CP	N		Multiple
A3.2	Digging of growing ditch for vineyard establishment	0.120	CP	N		Multiple
<b>A4 Yuquanying Grape Nursery</b>						
A4.1	Land leveling of 66.7 ha for the vineyard establishment	0.032	CP	N		Multiple
A4.2	Digging of growing ditch for vineyard establishment	0.044	CP	N		Multiple
<b>A5 Huangyangtan Farm</b>						
A5.1	Land leveling of 298.67 ha for the vineyard establishment	0.141	CP	N		Multiple
A5.2	Digging of growing ditch for vineyard establishment	0.197	CP	N		Multiple
<b>A6 Nuanquan Farm</b>						
A6.1	Land leveling of 133.33 ha for the vineyard establishment	0.089	CP	N		Multiple
A6.2	Digging of growing ditch for vineyard establishment	0.206	CP	N		Multiple
<b>A7 Hongsipu District</b>						
A7.1	Land leveling of 333.33 ha for vineyard establishment	0.238	CP	N		Multiple
A7.2	Digging of growing ditch for vineyard establishment	0.238	CP	N		Multiple
<b>B Improvement of Vineyards</b>						
<b>B1 Lianhu Part Farm</b>						
B1.1	Land leveling of 133.33 ha for vineyard improvement	0.640	CP	N		Multiple
B1.2	Digging of growing ditch for vineyard improvement	0.089	CP	N		Multiple
<b>B2 Yuquanying Farm</b>						
B2.1	Land leveling of 533.33 ha for vineyard improvement	0.318	CP	N		Multiple



Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
B2.2	Digging of growing ditch for vineyard establishment	0.443	CP	N		Multiple
<b>B3</b>	<b>Huanyangtan Farm</b>					
B3.1	Land leveling of 533.33 ha for vineyard improvement	0.318	CP	N		Multiple
B3.2	Digging of growing ditch for vineyard improvement	0.433	CP	N		Multiple
<b>C</b>	<b>Establishment of Chinese Date Orchards</b>					
<b>C1</b>	<b>Tongxin County</b>					
C1.1	Land leveling	0.191	CP	N		Multiple
C1.2	Digging of growing ditch	0.889	CP	N		Multiple
<b>C2</b>	<b>Yanchi County</b>					
C2.1	Land leveling	0.051	CP	N		Multiple
C2.2	Digging of growing ditch	0.051	CP	N		Multiple
<b>D</b>	<b>Shelter Belt Trees</b>					
<b>D1</b>	<b>Yanchi County (pine and willow trees)</b>					
D1.1	Land leveling	0.002	CP	N		Multiple
D1.2	Digging of growing ditch	0.002	CP	N		Multiple
<b>D2</b>	<b>Yuquanying Grape Nursery</b>					
D2.1	Land leveling	0.003	CP	N		Multiple
<b>D3</b>	<b>Qukou Farm</b>					
D3.1	Land leveling	0.010	CP	N		Multiple
<b>D4</b>	<b>Lianhu Part Farm</b>					
D4.1	Land leveling	0.013	CP	N		Multiple
<b>D5</b>	<b>Yuquanying Farm</b>					
D5.1	Land leveling	0.025	CP	N		Multiple
<b>D6</b>	<b>Huangyangtan Farm</b>					
D6.1	Land leveling	0.013	CP	N		Multiple
<b>E</b>	<b>Civil Works for Water Irrigation Infrastructure</b>					
<b>E1</b>	<b>Qukou Farm</b>					
E1.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.562	NCB	N	Within 18 months	4
E1.2	Pump building	0.008	SHP	N		1
E1.3	Road building	0.068	SHP	N		1
<b>E2</b>	<b>Hongsipu District</b>					
E2.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.994	NCB	N	Within 18 months	1
E2.2	Pump building	0.023	SHP	N		1
E2.3	Road building	0.067	SHP	N		1
<b>E3</b>	<b>Yuquanying Farm</b>					
E3.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.433	NCB	N	Within 18 months	1
E3.2	Pump building					
E3.3	Road building	0.062	SHP	N		1

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
<b>E4</b>	<b>Yuquanying Grape Nursery</b>					
E4.1	Civil works for water reservoir	0.143	NCB	N	Within 18 months	1
E4.2	Pump building	0.008	SHP	N		1
E4.3	Road building	0.016	SHP	N		1
<b>E5</b>	<b>Huangyangtan Farm</b>					
E5.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	2.419	NCB	N	Within 18 months	1
E5.2	Pump building	0.054	SHP	N		1
E5.3	Road building	0.238	NCB	N		1
<b>E6</b>	<b>Nuanquan Farm</b>					
E6.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir	0.561	NCB	N	Within 18 months	1
E6.2	Pump building	0.008	SHP	N		1
E6.3	Road building	0.068	SHP	N		1
<b>E7</b>	<b>Lianhu Part Farm</b>					
E7.1	Civil works for inflow canal, desilting basin, inflow forebay, and water reservoir		NCB	N	Within 18 months	1
E7.2	Pump building	0.025	SHP	N		1
E7.3	Road building	0.238	NCB	N		1
<b>E8</b>	<b>Yanchi County</b>					
E8.1	Civil works for inflow and water reservoir	0.237	NCB	N	Within 18 months	1
E8.2	Pump building	0.013	SHP	N		1
E8.3	Road building	0.053	SHP	N		1
<b>E9</b>	<b>Tongxin County</b>					
E9.1	Civil works for inflow and water reservoir	0.847	NCB	N	Within 18 months	1
E9.2	Pump building	0.251	NCB	N		1
E9.3	Road building	0.127	NCB	N		1
<b>F</b>	<b>Grape Processing Plants</b>					
F1	Yuquanying Grape Processing Plant—Workshop and Other Facilities	1.852	NCB	N		2
F2	Nuanquan Grape Processing Plant—Workshop and Other Facilities	1.683	NCB	N		2
<b>GOODS</b>						
<b>G</b>	<b>Establishment of Vineyards and Chinese Date Orchards</b>					
<b>G1</b>	<b>Lianhu Part Farm</b>					
G1.1	Saplings for new vineyard establishment	0.371	SHP	N	Within 18 months	Multiple
G1.2	Inputs (fertilizers, pesticides, manure)	0.786	NCB/SHP	N		Multiple
G1.3	Materials (mulching film, cement, pillars, iron wire)	0.714	NCB/SHP	N		Multiple

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
<b>G2</b>	<b>Yuquanying Farm</b>					
G2.1	Saplings for new vineyard establishment	0.526	NCB/SHP	N	Within 18 months	Multiple
G2.2	Inputs (fertilizers, pesticides, manure)	1.102	NCB/SHP	N		Multiple
G2.3	Materials mulching film, cement, pillars, iron wire)	1.012	NCB/SHP	N		Multiple
<b>G3</b>	<b>Qukou Farm</b>					
G3.1	Saplings for new vineyard establishment	0.279	SHP	N	Within 18 months	Multiple
G3.2	Inputs (fertilizers, pesticides, manure)	0.613	NCB/SHP	N		Multiple
G3.3	Materials (mulching film, cement, pillars, iron wire)	0.536	NCB/SHP	N		Multiple
<b>G4</b>	<b>Yuquanying Grape Nursery</b>					
G4.1	Saplings for new vineyard establishment	0.381	SHP	N	Within 18 months	Multiple
G4.2	Inputs (fertilizers, pesticides, manure)	0.220	SHP	N		Multiple
G4.3	Materials (mulching film, cement, pillars, iron wire)	0.199	SHP	N		Multiple
<b>G5</b>	<b>Huangyangtan Farm</b>					
G5.1	Saplings for new vineyard establishment	0.459	NCB/SHP	N	Within 18 months	Multiple
G5.2	Inputs (fertilizers, pesticides, manure)	0.959	NCB/SHP	N		Multiple
G5.3	Materials (mulching film, cement pillars, iron wire)	0.883	NCB/SHP	N		Multiple
<b>G6</b>	<b>Nuanquan Farm</b>					
G6.1	Saplings for new vineyard establishment	0.206	SHP	N	Within 18 months	Multiple
G6.2	Inputs (fertilizers, pesticides, manure)	0.422	NCB/SHP	N		Multiple
G6.3	Materials (mulching film, cement, pillars, iron wire)	0.397	NCB/SHP	N		Multiple
<b>G7</b>	<b>Hongsipu District</b>					
G7.1	Saplings for new vineyard establishment	0.489	NCB/SHP	N	Within 18 months	Multiple
G7.2	Inputs (fertilizers, pesticides, manure)	0.849	NCB/SHP	N		Multiple
G7.3	Materials (mulching film, cement, pillars, iron wire)	0.664	NCB/SHP	N		Multiple
<b>H</b>	<b>Improvement of Vineyards</b>					
<b>H1</b>	<b>Lianhu Part Farm</b>					
H1.1	Saplings for vineyard improvement	0.206	SHP	N	Within 18 months	Multiple
H1.2	Inputs (fertilizers, pesticides, manure)	0.436	NCB/SHP	N		Multiple
H1.3	Materials (mulching film, cement, pillars, iron wires)	0.397	NCB/SHP	N		Multiple

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
<b>H2</b>	<b>Yuquanying Farm</b>					
H2.1	Saplings for vineyard improvement	1.032	NCB/SHP	N	Within 18 months	Multiple
H2.2	Inputs (fertilizers, pesticides, manure)	2.173	NCB/SHP	N		Multiple
H2.3	Materials (mulching film, cement, pillars, iron wires)	0.048	SHP	N		Multiple
<b>H3</b>	<b>Huangyangtan Farm</b>					
H3.1	Saplings for vineyard improvement	0.841	NCB/SHP	N	Within 18 months	Multiple
H3.2	Inputs (fertilizers, pesticides, manure)	2.341	NCB/SHP	N		Multiple
H3.3	Materials (mulching film, cement pillars, iron wires)	0.039	SHP	N		Multiple
<b>I</b>	<b>Establishment of Chinese Date Orchards</b>					
<b>I1</b>	<b>Tongxin County</b>					
I1.1	Saplings	2.032	NCB/SHP	N	Within 18 months	Multiple
I1.2	Inputs (fertilizers, pesticides, manure)	0.914	NCB/SHP	N		Multiple
I1.3	Materials (mulching film, cement pillars, iron wires)	0.071	SHP	N		Multiple
<b>I2</b>	<b>Yanchi County</b>					
I2.1	Saplings	0.235	SHP	N	Within 18 months	Multiple
I2.2	Inputs (fertilizers, pesticides, manure)	0.581	NCB/SHP	N		Multiple
I2.3	Materials (mulching film, cement pillars, iron wires)	0.071	SHP	N		Multiple
I2.4	Hiring of farm machinery	0.076	SHP	N		Multiple
<b>J</b>	<b>Shelter Belt Trees</b>					
<b>J1</b>	<b>Yanchi County (pine and willow trees)</b>					
J1.1	Saplings	0.077	SHP	N	Within 18 months	Multiple
<b>J2</b>	<b>Yuquanying Grape Nursery</b>					
J2.1	Saplings	0.022	SHP	N	Within 18 months	Multiple
<b>J3</b>	<b>Qukou Farm</b>					
J3.1	Saplings	0.068	SHP	N	Within 18 months	Multiple
<b>J4</b>	<b>Lianhu Farm</b>					
J4.1	Saplings	0.091	SHP	N	Within 18 months	Multiple
<b>J5</b>	<b>Yuquanying Farm</b>					
J5.1	Saplings	0.091	SHP	N	Within 18 months	Multiple
<b>J6</b>	<b>Huangyangtan Farm</b>					
J6.1	Saplings	0.091	SHP	N	Within 18 months	Multiple
<b>J7</b>	<b>Hongsipu District</b>					
J7.1	Saplings	0.109	SHP	N	Within 18 months	Multiple
<b>K</b>	<b>Agricultural Machineries</b>	0.147	SHP	N		Multiple

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
	<b>(Yanchi County)</b>					
<b>L</b>	<b>Water Irrigation Infrastructure (Equipment)</b>					
<b>L1</b>	<b>Qukou Farm</b>					
L1.1	First hub of drip irrigation	0.010	SHP	N		1
L1.2	Transmission line with subsidiary facilities	0.257	SHP	N		3
L1.3	Power supply unit	0.004	SHP	N		1
L1.4	Orchard irrigation system	0.551	NCB	N		1
<b>L2</b>	<b>Hongsipu District</b>					
L2.1	First hub of drip irrigation	0.340	NCB	N		1
L2.2	Transmission line with subsidiary facilities	0.042	SHP	N		1
L2.3	Power supply unit	0.016	SHP	N		1
L2.4	Orchard irrigation system	0.906	NCB	N		1
<b>L3</b>	<b>Yuquanying Farm</b>					
L3.1	First hub of drip irrigation	0.038	SHP	N		1
L3.2	Transmission line with subsidiary facilities	0.786	NCB	N		1
L3.3	Power supply unit	0.008	SHP	N		1
L3.4	Orchard irrigation system	2.998	NCB	N		5
<b>L4</b>	<b>Yuquanying Grape Nursery</b>					
L4.1	First hub of drip irrigation	0.005	SHP	N		1
L4.2	Transmission line with subsidiary facilities	0.114	NCB	N		1
L4.3	Power supply unit	0.004	SHP	N		2
L4.4	Orchard irrigation system	0.179	NCB	N		1
<b>L5</b>	<b>Huangyangtan Farm</b>					
L5.1	First hub of drip irrigation	0.033	SHP	N		1
L5.2	Transmission line with subsidiary facilities	0.643	NCB	N		6
L5.3	Power supply unit	0.028	SHP	N		1
L5.4	Orchard irrigation system	2.639	NCB	N		3
<b>L6</b>	<b>Nuanquan Farm</b>					
L6.1	First hub of drip irrigation	0.010	SHP	N		1
L6.2	Transmission line with subsidiary facilities	0.264	SHP	N		3
L6.3	Power supply unit					
L6.4	Orchard irrigation system	0.401	NCB	N		1
<b>L7</b>	<b>Lianhu Part Farm</b>					
L7.1	First hub of drip irrigation	0.019	SHP	N		1
L7.2	Transmission line with subsidiary facilities	0.286	SHP	N		3
L7.3	Power supply unit	0.016	SHP	N		1
L7.4	Orchard irrigation system	1.019	NCB	N		2
<b>L8</b>	<b>Yanchi County</b>					
L8.1	First hub of drip irrigation	0.122	NCB	N		1
L8.2	Transmission line with subsidiary facilities	0.017	SHP	N		1

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
L8.3	Power supply unit	0.013	SHP	N		1
L8.4	Orchard irrigation system	1.509	NCB	N		3
<b>L9</b>	<b>Tongxin County</b>					
L9.1	Orchard irrigation system	1.764	NCB	N		3
L9.2	Transmission line with subsidiary facilities	0.110	NCB	N		1
L9.3	Power supply unit	0.015	SHP			1
<b>M</b>	<b>Grape Processing Plants</b>					
<b>M1</b>	<b>Yuquanying Processing Plant</b>					
M1.1	Processing equipment	4.395	ICB/NCB	N		4
M1.2	Refrigeration station	0.567	NCB	N		1
M1.3	Transformer substation	0.223	SHP	N		3
M1.4	Quality tracing control system	0.579	NCB	N		4
<b>M2</b>	<b>Nuanquan Processing Plant</b>					
M2.1	Processing equipment	2.896	NCB	N		4
M2.2	Transformer substation	0.062	SHP	N		1
M2.3	Workshop carriers and other facilities	0.075	SHP	N		1
<b>N</b>	<b>Office Equipment for Farmer Associations</b>					
N1	NARC	0.087	SHP	N		Multiple
N2	Hongsipu District	0.005	SHP	N		Multiple
N3	Tongxin County	0.016	SHP	N		Multiple
N4	Yanchi County	0.060	SHP	N		Multiple
<b>TRAINING, STUDY TOURS, AND CONSULTING SERVICES</b>						
<b>P</b>	<b>Training</b>					
P1	Project Management	0.007	SHP	N		3
P2	Environmental Monitoring	0.036	SHP	N		4
P3	Irrigation System Design and Installation	0.015	SHP	N		2
P4	Irrigation Technology and Management	0.003	SHP	N		2
P5	Culture and Farming Practices (Pesticide Applications, etc.)	0.034	SHP	N		16
P6	Farmer Field Schools	0.241	SHP	N		10
P7	Processing and Marketing	0.015	SHP	N		12
<b>Q</b>	<b>Workshops and Study Tours</b>					
<b>Q1</b>	<b>Workshops</b>					
Q1.1	Conservation and sustainable agricultural development	0.043	SHP	N		4
Q1.2	Method of solving silt of the Yellow River	0.014	SHP	N		4
Q1.3	Water conservation and water policy	0.014	SHP	N		4
<b>Q2</b>	<b>Study Tours</b>					
Q2.1	International study tours	0.121	SHP	N		4
Q2.2	Interprovincial tour on project management	0.060	SHP	N		1

Item No.	General Description	Estimated Value (cumulative, \$ million)	Procurement Method	Pre-qualification of Bidders (Y/N)	Advertisement Date	Comment/ Estimated No. of Contracts
Q2.3	Xinjiang and Gansu study tour on water-saving management	0.060	SHP	N		1
Q2.4	Shandong and Hebei provincial study tour on grape orchard management	0.052	SHP	N		1
Q2.5	Beijing and Shanghai, and Shenzhen study tour on marketing	0.019	SHP	N		1
Q2.6	Intercounty study tour on farm management	0.066	SHP	N		1
<b>R</b>	<b>Consulting Services</b>					
<b>R1</b>	<b>International</b>					
R1.1	Viticulturist (6.5 pm)	0.095	IS	N		1
R1.2	Winemaker and/or winery management specialist (6 pm)	0.114	IS	N		1
R1.3	Quality management expert (2 pm)	0.038	IS	N		1
R1.4	Wine marketing expert (3.5 pm)	0.071	IS	N		1
<b>R2</b>	<b>National</b>					
R2.1	Wine marketing and/or logistics expert (5.5 pm)	0.025	IS	N		1
R2.2	Wine-marking expert (5 pm)	0.023	IS	N		1
R2.3	Drip irrigation specialist (6 pm)	0.027	IS	N		1
R2.4	Viticulturist (17 pm)	0.077	IS	N		1
R2.5	Chinese date specialist (6.5 pm)	0.024	IS	N		1
R2.6	Quality management expert (7 pm)	0.032	IS	N		1

CP = community participation; ha = hectare; ICB = international competitive bidding; IS = individual selection; NARC = Ningxia Agricultural Reclamation Group Co., Ltd.; NCB = national competitive bidding; pm = person-month; SHP = shopping.

<sup>a</sup> For community participation, amount per contract will not exceed \$30,000.

Source: Asian Development Bank estimates.

### 3. National Competitive Bidding

72. The borrower's Law of Tendering and Bidding of the People's Republic of China promulgated by Order No. 21 of the President of the People's Republic of China on 30 August 1999 are subject to the following clarifications required for compliance with the guidelines:

- (i) All invitations to prequalify or to bid shall be advertised in the national press, or official gazette, or a free and open access website in the borrower's country. Such advertisement shall be made in sufficient time for prospective bidders to obtain prequalification or bidding documents and prepare and submit their responses. In any event, a minimum preparation period of thirty (30) days shall be given. The preparation period shall count (a) from the date of advertisement, or (b) when the documents are available for issue, whichever date is later. The advertisement and the prequalification and bidding documents shall specify the deadline for such submission.
- (ii) Qualification requirements of bidders and the method of evaluating the qualification of each bidder shall be specified in detail in the bidding documents,

and in the prequalification documents if the bidding is preceded by a prequalification process.

- (iii) If bidding is preceded by a prequalification process, all bidders that meet the qualification criteria set out in the prequalification document shall be allowed to bid and there shall be no limit on the number of pre-qualified bidders.
- (iv) All bidders shall be required to provide a performance security in an amount sufficient to protect the borrower and/or project executing agency in case of breach of contract by the contractor, and the bidding documents shall specify the required form and amount of such performance security.
- (v) Bidders shall be allowed to submit bids by mail or by hand.
- (vi) All bids shall be opened in public; all bidders shall be afforded an opportunity to be present (either in person or through their representatives) at the time of bid opening, but bidders shall not be required to be present at the bid opening.
- (vii) All bid evaluation criteria shall be disclosed in the bidding documents and quantified in monetary terms or expressed in the form of pass or fail requirements.
- (viii) No bid may be rejected solely on the basis that the bid price falls outside any standard contract estimate, or margin or bracket of average bids established by the borrower and/or project executing agency.
- (ix) Each contract shall be awarded to the lowest evaluated responsive bidder, that is, the bidder who meets the appropriate standards of capability and resources and whose bid has been determined (a) to be substantially responsive to the bidding documents and (b) to offer the lowest evaluated cost. The winning bidder shall not be required, as a condition of award, to undertake responsibilities for work not stipulated in the bidding documents or otherwise to modify the bid as originally submitted.
- (x) Each contract financed with the proceeds of the loan shall provide that the suppliers and contractors shall permit ADB, at its request, to inspect their accounts and records relating to the performance of the contract and to have said accounts and records audited by auditors appointed by ADB.
- (xi) Government-owned enterprises in the borrower's country may be permitted to bid if they can establish that they (a) are legally and financially autonomous; (b) operate under commercial law; and (c) are not a dependent agency of the borrower and/or project executing agency.
- (xii) Re-bidding shall not be allowed solely because the number of bids is less than three.

#### **D. Consultant's Terms of Reference**

73. About 18 person-months of intermittent inputs of international experts and 47 person-months of intermittent inputs of national experts will be provided to identify new technology and techniques, assist with its introduction, develop training modules; and assist with implementation of the training programs, design the applied R&D and demonstration program, and assist with its implementation and evaluation. They may also provide seminars on topics of interest to higher-level farm management, and will advice on suitable and relevant overseas on the job training and study tours. Consultants will be recruited as individuals on the basis of comprehensive curriculum vitae. An overriding requirement of all international and national experts must be that they have practical experience and be working in operational settings, rather than having academic occupations.

73. The following are the outline of terms of references for the consultants to be engaged under the project. Detailed specifications and tasks to be performed by each expert, as well as



the type and contents of various training programs to be undertaken under the project will be prepared in consultation with the executing and implementing agencies.

## 1. International Specialists

### (a) Viticulturist (6.5 person-months, intermittent over 5 years)

74. This international consultant must have worked for at least 10 years as head viticulturist for a quality winery in cool-climate vineyards. Tentatively, his input would be 2 months each in years 1 and 2 to help NARC with planning of redevelopment and new development of vineyards. This viticulturist needs to establish a planning model and train the NARC farm managers on how to implement this model to get a plan that will deliver the much needed change in grape quality. In years 3 and 4 of the project, the new vineyards will start producing; and the viticulturist would be fielded each year to review the work done the previous year, and make timely revisions and recommendations. The viticulturist would also advise on the overseas on-the-job-training program and study tours, and on the design of an applied R&D program and on its implementation. For example, bringing in new varieties for testing, better trellising technology (better posts; galvanized wire), different inter-row ground covers, different trellising and management techniques, field experiments on different fertigation and regulated deficit irrigation (RDI), improved pesticide application technology, mechanization, etc.

### (b) Winery Management Specialist (6 person-months, intermittent over 4 years)

75. This international consultant would have at least worked for 10 years in a high-end private operated winery. This consultant would tie in with the viticulturist and quality management expert to make sure that the new grape quality system will be picked up by the winery to ensure in high-quality wine at a premium price, and work in close collaboration with the quality management specialist. This expert would be engaged intermittently and work in close collaboration with the viticulturists and other consultants. The expert will also advise on the formulation of overseas on-the-job training and study tours.

### (c) Quality Management Specialist (2 person-months, intermittent over 5 years)

76. This expert will need to work closely with the viticulture expert. The consultant must have at least 10 years of experience with the design and implementation of a quantitative quality management system; and be experienced in electronic data collection and storage (using mobile input devices), using the vineyard data and overlaying specific vineyard goals, targets, etc. The expert must have experience with traceability procedures and systems. Ideally, this expert should have worked in a high-quality winery.

### (d) Wine Marketing Specialist (3.5 person-months, intermittent over 5 person-months)

77. This expert would have at least 10 years of experience with wine market development and marketing, preferably in a large renowned winery. Preferably, the marketing expert has knowledge of the internal wine market of the PRC. The expert would also advise potential unique points of sale and brand development for different markets.

## 2. National Specialists

78. To complement the international expertise, domestic consultants' input is required to advise the NARC farm managers and technicians for a longer period of time, and carry out the

agreed programs when the international experts are off-assignment. The following inputs are considered an absolute minimum but should be further reviewed and discussed during final review meeting.

(a) **Viticulturist** (17 person-months, intermittent over 5 years)

79. This consultant will supplement the international viticulturist and ensures that the agreed programs are implemented and evaluated. The consultant will also advise on the formulation and implementation the R&D component, the evaluation of results and the large-scale application of relevant findings, as well as on the overseas on-the-job training and study tours.

(b) **Drip Irrigation Engineer** (6 person-months, intermittent over 5 years)

80. The consultant should have at least 10 years of work experience with demonstrated capacity with designing, rehabilitating, and operating drip irrigation systems in the PRC. The consultant will assist in evaluating the technical design; and recommending improvement and construction of irrigation and drainage systems, including hydraulic structures.

(c) **Quality Management Specialist** (7 person-months; intermittent over 5 years)

81. The consultant must have at least 10 years of experience with the design and implementation of a quantitative quality management system; and be experienced in electronic data collection and storage (using mobile input devices), using the vineyard data and overlaying specific vineyard goals, targets, etc. This consultant will supplement the international expert and ensure that the agreed programs are implemented and evaluated.

(d) **Supply Chain Logistics Specialist** (5.5 person-months; intermittent over 5 years)

82. This national expert would supplement the international wine marketing expert, who presumably would focus on market development, marketing, and sales. Supply chain expertise and marketing will be critical for NARC to build a presence in other provinces. (Right now, NARC contracts out all of these—at a high cost). When other provinces come into the mix, the performance of this function will be critical to marketing and financial success.

(e) **Winemaking and Winery Management Specialist** (5 person-months, intermittent over 5 years)

83. This domestic consultant would have at least worked for 10 years in a high-end private operated winery. This consultant would work closely with the international consultant and tie in with the domestic viticulturist to make sure that the new grape quality system will be picked up by the winery to ensure in high-quality wine at a premium price, and work in close collaboration with the quality management specialist.

(f) **Chinese Dates Specialist** (6.5 person-months, intermittent over 5 years)

84. This consultant will be advising on implementation matters, field design and layout, variety selection, high-quality date seedling propagation, orchard development and management, pest management (including potential for integrated pest management), intercropping, harvesting, postharvest (grading, drying, storage, packaging), applied R&D, etc.

85. **Safeguard and monitoring consultants.** By using its own financial sources, the PPMO will engage a national environmental management consultant to assist itself and implementing

agencies, including PIOs, in carrying out internal monitoring and inspection; reporting to ADB through quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report; and conducting necessary training. Details are provided in the environmental management plan (EMP). Similarly, expertise will be recruited to assist the PPMO and PIOs in implementing and supervising the gender action plan (GAP), the ethnic minority development plan (EMDP), and the social action plan (SAP). Preferably, this expertise is made available from independent institutions.

## **VII. SAFEGUARDS**

### **A. Environment**

86. The project is classified as category B. The initial environmental examination (IEE) and EMP were prepared to meet ADB's SPS. The IEE incorporates the results of the domestic environmental assessment approved 15 May 2012 by the Ningxia Environmental Protection Department. The environmental analysis focused on the following issues: water conservation, potential presence of native flora and fauna in the project sites, management of wastewater discharged from grape processing facilities, application of agricultural chemicals, current water demands in the project area, soil stabilization, affected peoples' livelihoods, pollution prevention, and physical and cultural resources. Adequate consultations were conducted with key stakeholders, including local government agencies and communities. The outcomes of this planning process have been integrated into the project design. The project is expected to achieve environmental benefits, specifically more efficient water use in the project area, soil stabilization and reduced erosion on cleared lands, and improved soil conditions resulting from establishment of shelterbelts. The EMP includes impact mitigation measures, an environmental monitoring program, grievance redress mechanism, and public consultation plan, which have been discussed and agreed with NHARG. The draft IEE and EMP were disclosed on ADB's website in September 2012.

87. No major adverse impacts were identified. Construction and rehabilitation works are small and relatively simple. Most project sites are located on modified lands used for agriculture and mostly cleared of natural habitats. Ecologically sensitive sites in the province have been avoided through adequate project design; and none are present in the project area, including wetlands. Wastewater from grape processing facilities will be treated and discharged onto crops rather than into channels leading to natural waterways. Shelterbelts established by the project will utilize a mix of native and long-established tree and shrub species and will include monitoring of planting success. Operational risks include expanded use of agricultural chemicals and elevated levels in soils as well as increased risk of exposure to site workers. Training programs planned under the project include specific topics on safe application of agricultural chemicals and reducing application rates. It is expected that all impacts will be prevented or minimized to an acceptable level through implementation of the EMP and the environmental monitoring program.

88. NHARG, through the PPMO, will be responsible for the overall implementation and compliance with the EMP; its mitigation and environmental monitoring plans, reporting, and corrective actions or measures. The PPMO has the final responsibility for handling any disputes within the grievance redress mechanism. In the design stage, the PPMO and the implementing agencies will provide the EMP to the design institutes for incorporating mitigation measures into the detailed design. The EMP will be updated at the end of the detailed design, and distributed to the construction contractors.

89. To ensure that contractors comply with the EMP provisions, the PPMO and the implementing agencies will prepare and provide the following specification clauses for incorporation into the bidding procedures: (i) a list of environmental management requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) the IEE, in Chinese language, for compliance with its EMP; and domestic environmental impact assessment (EIA) report, for compliance with domestic requirements. The PPMO, the implementing agencies, and contractors will each nominate dedicated, trained, and qualified environment specialists to undertake environmental management activities; and ensure effective EMP implementation. Each implementing agency will set up an environmental management unit to implement project impact monitoring and ensure compliance of contractors. The implementing agencies will engage a local environmental monitoring agency as the independent environmental monitor (IEM) who will be responsible for the EMP monitoring. The IEM will conduct independent environmental monitoring to ensure EMP progress and implementation. The IEM will also submit reports to the implementing agencies on a semiannual basis, who will forward these reports to the PPMO and the environmental protection bureaus (EPBs). ADB will review the results of the project quarterly and semiannual progress reports; and will respond to these reports, as necessary.

90. Environmental training will be essential for the implementing agencies and contractors to implement the EMP. The PPMO will be responsible for organizing training programs, which will cover (i) environmental laws, regulation, and policies; (ii) implementing monitoring and mitigation measures; (iii) environmental technologies and procurement; (iv) operating and maintaining environmental facilities; and (v) environmental monitoring, supervision, and documentation and reporting.

91. During project implementation, ADB and the PPMO will closely monitor the compliance of all the covenants under the project; and will take necessary remedy actions for any noncompliance. The compliance status will be reported in the semiannual environmental monitoring reports by the PPMO, and will be reviewed during project review missions. The semiannual progress reports will describe the environmental safeguard compliance monitoring, highlighting environmental issues that were encountered during that period, if any.

92. The PPMO will monitor and assess overall project activities under the project design and monitoring framework, including environmental targets. The PPMO will also nominate at least one qualified full-time environmental management staff member to oversee environmental management and monitoring activities. The PPMO will further recruit one environmental management consultant (EMC) to assist itself and the implementing agencies in carrying out internal environmental monitoring and inspections; reporting to ADB through quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report; and conducting necessary training. The PPMO, with assistance from the EMC, will submit to ADB semiannual environmental monitoring reports on the progress of the EMP, information on project implementation, the environmental performance of the contractors, and environmental compliance. The progress reports on the EMP will pay particular attention to consultation and participation, and to public and worker safety and health. In addition, within 3 months of physical completion of the project, the PPMO will submit to ADB a project completion report that describes the achievements in relation to the project's expected impact, outcome, and outputs, including environmental terms.

93. Local environmental monitoring agencies and/or companies will be engaged by the implementing agencies to conduct independent EMP implementation monitoring. The IEM will submit independent environmental monitoring reports on a semiannual basis to the

implementing agencies which they will forward to the PPMO, the NFD, and the city and county EPBs. The reports will emphasize (i) progress made in implementing the EMP, (ii) implementation of mitigation measures, (iii) environmental compliance, (iv) institutional strengthening and training, (v) public consultations, and (vi) problems occurred and corrective actions taken. The IEMs will also assist the NFD, including the PPMO, to prepare quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report.

94. Within 3 months after project completion or no later than 1 year subject to responsible environmental authorities' discretion, environmental acceptance monitoring and audit reports will be (i) prepared by qualified environmental institutes in accordance with the Ministry of Environmental Protection's Guideline on Project Completion Environmental Audit (2001); and (ii) reviewed for approval by the local EPBs.<sup>19</sup> The reports will focus on the project environmental performance at the start-up of operations. The reports will be sent to environmental authorities for review and approval and also to the PPMO through the implementing agencies.

95. Results of the all reports mentioned above will be used for assessing (i) the extent and severity of the environmental impacts against the predicted impacts, (ii) performance or effectiveness of the environmental protection measures or compliance with pertinent rules and regulations, (iii) trends in impacts, (iv) overall effectiveness of the project EMP, and (v) the need for taking additional mitigation measures.

## **B. Indigenous Peoples**

96. The project is classified as category B. An EMDP has been prepared by the executing and implementing agencies for the two villages with ethnic minority populations. Among the project beneficiaries are 570 households, with almost 3,000 people of Hui ethnic minority concentrated in two participating villages in Tongxin and Yanchi counties—in both villages the populations is 100% Hui. The level of poverty and vulnerability is higher for the Hui households compared with the Han households: 16% of Han households in the project area are low-income households, while the rate is 32% for the Hui households. The education rate is also lower, and the level of people dropping out early from education is much higher among Hui than among Han. The higher poverty rate is partly due to former relocation from more arid areas in southern Ningxia as part of a government program. This means the population in these villages has had less exposure to irrigated agriculture and their agricultural techniques are less adapted to the conditions in their villages. The project will improve their access to up-to-date farming methodologies, improve irrigation, and increase their marketing skills through creation of cooperatives and farmer associations.

97. To ensure these benefits are accrued by the ethnic minority participants in the project, an EMDP was prepared. The implementation of the EMDP will ensure that project activities are conducted with due consideration of the cultural preferences and needs of potential ethnic minority beneficiaries. It contains, among others, provisions to ensure (i) information distribution and disclosure; (ii) capacity building; and (iii) participation through cooperative and associative structures in the project are provided timely and in a culturally appropriate way to the Hui minority villages and the households participating in the project. To ensure that the EMDP is implemented according to its provisions, capacity building measures on the EMDP implementation are included, including the relevant laws and regulations of the PRC and ADB's

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<sup>19</sup> Government of the People's Republic of China, Ministry of Environmental Protection. 2001. *Guideline on Project Completion Environmental Audit*. Beijing.

SPS. Staff from the PIOs and the PPMO will benefit from these capacity building measures. The measures in the EMDP will be disclosed through information boxes in the villages, possibly at or close to the mosque, other written posting and display, and in village meetings. The EMDP will be finalized once the production or participation agreements with farmers are finalized. Should unanticipated impacts not considered in the current EMDP arise, the EMDP will have to be updated to address the new issues.

98. The EMDP will be implemented by the PIOs in the two counties where the participating Hui villages are located. The implementation of the activities, such as village meetings, information disclosure and consultation, establishment of farmer associations and/or cooperatives and/or WUA; and capacity building in marketing, agricultural skills training, and others will be primarily on village level; and thus, require guidance from the PIOs to the village committees. Ethnic affairs bureaus in the counties and/or on the provincial level will be involved as resource organizations for the EMDP implementation. The implementation of the EMDP will be monitored as part of regular project monitoring and reporting, and separate monitoring reports will be provided semiannually to ADB. The EMDP monitoring is the responsibility of the concerned PIOs, under guidance from the PPMO and the safeguard monitoring specialist and/or social development specialist of the project implementation consultant. Key indicators to be collected are laid out in the EMDP, such as project information flow and satisfaction with information accuracy, participation of farmers in meetings and capacity building, access of farmers to additional information, and participation of farmers in project design and decision making for activities they participate in and/or benefit from.

### **C. Resettlement**

99. The project is classified as category C in terms of involuntary resettlement. No involuntary loss of land, of housing or access to income-generating assets is necessary for the project. Most of the activities are going to be implemented in state farms with clear government ownership of the land. In the participating villages, construction activities will be limited to small-scale structures linked to improved irrigation, such as water retention ponds. These will be constructed on village land that is not being used for agricultural or other income-generating activities, and ownership of the structures will remain with the villages. Participation and contribution of land to the planting schemes will increase income and will be on voluntary basis. NHARG shall ensure that (i) no involuntary land acquisition or resettlement shall be involved in the project; (ii) all civil works shall be undertaken on land owned by the borrower, village collectives, or leased by NHARG or any of the implementing agencies; (iii) land assessment reports shall be submitted to ADB before award of civil works contracts for the respective subproject confirming that land is free of encumbrances and no impacts on persons. In the event that any resettlement impacts are unavoidable for any project activities, NHARG shall inform ADB, prepare resettlement plan for activities in accordance with ADB's SPS, and carry out any such land acquisition and resettlement activities in accordance with the SPS and such resettlement plan.

## **VIII. GENDER AND SOCIAL DIMENSIONS**

100. The overall goal of the Ningxia Irrigated Agriculture and Water Conservation Demonstration Project is to improve comparative advantage which supports the viability of vineyards and Chinese date orchards in the project area. There are three key outputs that will be realized at end of the project: (i) increased the area of vineyards managed by a sustainable farming regime—aimed at producing high-quality and high-value grapes, (ii) increased the area of Chinese date orchards in the project area managed by sustainable orchard principles and

more efficient use of irrigation water, and (iii) increased the capacity of grape processing. The outcome statement of the proposed project contains improved rural livelihoods (Appendix 1). The gender equity and improvement is one of the key issues for the objective's realization. To help develop project components and implementation mechanism to ensure women's participation in the project, a GAP has been prepared after conducting a gender assessment in the project sites. To promote the effectiveness of the project and ensure that its benefits accrue equitably to women and men, this GAP has the following objectives: (i) men and women have full awareness of the project through gender mainstreaming campaign; (ii) livelihood, project participation, and development opportunities in agriculture for women are reinforced; (iii) women's participation in all project-related implementation activities is strengthened; (iv) women's participation in the project management is ensured; and (v) women have full involvement in the project's monitoring and evaluation (M&E) process.

101. Rural households, particularly farmer households, are still lagging behind compared to the urban social and economic development in the PRC and in Ningxia. The project will benefit more than 12,400 farmers (about 3,200 households) by increasing their access to capacity development and improved agricultural technologies to stabilize their livelihoods and increase their incomes. In the project counties, the poverty rate is above 35%, much higher than the provincial average of around 25%; and the national average of around 10%. Among the project beneficiaries, 487 households with 2,289 members are recognized as rural poor households living under the national poverty line of CNY2,300. The beneficiaries, particularly the poor households with limited access to diversified income, will reap long-term benefits from higher, more predictable, and more stable agricultural income by growing higher quality of grapes or Chinese dates. The farmers will participate voluntarily and the sustainability of the benefits will be ensured through capacity building for farmers and empowerment of farmer associations. The farmers involved in grape production and Xixia King Winery will enter into production agreements before any planting activities begin and following an extensive consultation process. Community participation and social responsiveness of the project activities are mainstreamed in the project design through consultation processes and included in the SAP.

102. The following table summarizes the proposed gender-related activities and targets under the project.

### GENDER ACTION PLAN

<b>Project Component</b>	<b>Gender Equality Features</b>	<b>Outputs and/or Activities</b>	<b>Targets and/or Indicators</b>	<b>Budget</b>	<b>Responsibilities</b>	<b>Time Frame</b>
Output 1: Improved irrigation systems	Women's participation in irrigation system development	Women's equal access to decision making and their participation in irrigation system development ensured	At least 20% women with irrigation experiences participated in the village meeting for irrigation system development under the project, and 10% women's involvement in content design	Part of the routine operations of the PIO and included in the operating budget	PIO, water resource bureau, and other related agencies	2014
Output 2: Improved vineyards and Chinese date orchards	Women's participation in new vineyard development	Women's equal access to project planning and their participation in land-use planning process ensured	At least 30% women's participation in the village meeting for land-use planning under the project and their involvement in content design	Part of the routine operations of the PIO and included in the operating budget	Village committee organizes and the PIO monitors the fact	Early during implementation 2013–2014
	Employment	Women's equal access to job opportunities and assurance of their participation in new vineyards to be maintained until production starts	At least 40% job opportunities for women created under the project	Part of the routine operations of the PIO and included in the operating budget	Local government organizes and the PIO monitors the fact	First few years during implementation 2013–2017
Output 3: Increased grape processing capacity	Women's participation in new vineyard development	Women's equal access to project planning and their participation in land-use planning process ensured	At least 30% women's participation in the village meeting for land-use planning under the project and their involvement in content design	Part of the routine operations of the PIO and included in the operating budget	Village committee organizes and the PIO monitors the fact	Early during implementation 2013–2014
	Employment	Women's equal access to job opportunities and assurance of their participation in new vineyards to be maintained until production starts	At least 40% job opportunities for women created under the project	Part of the routine operations of the PIO and included in the operating budget	Local government organizes and the PIO monitors the fact	Early during implementation 2013–2017
Output 4: Strengthened institutional and farmer capacity	Project Implementation training	Women's training on project implementation	At least 80% of the PIO female staff trained  At least 50% of female farmers trained, with training schedules suitable for them	Project management funding	The PIO monitors the ACWF who will be responsible for curricula design and monitoring of	2013–2014



<b>Project Component</b>	<b>Gender Equality Features</b>	<b>Outputs and/or Activities</b>	<b>Targets and/or Indicators</b>	<b>Budget</b>	<b>Responsibilities</b>	<b>Time Frame</b>
Output 4: Strengthened institutional and farmer capacity	Vineyard and orchard management training	Training on management of vineyards and orchards	At least 40% of female participants of the project trained with appropriate training methods	CNY8,000 from project capacity building fund	women's participation.	2013–2017
	State farm and winery management training	Women's training on state farm and winery management	At least 50% of women involved in state farm and winery management trained	CNY15,000 from project capacity building fund		2014–2017
	Pesticide application training	Women's training on pesticide application strengthened	At least 80% of female farmers who participated in the project trained and certified, with training schedules suitable for them; and involved in content design	CNY20,000 from FFS fund in the project		2014
	FFS training	Female farmers' knowledge and skills improved through FFS	Women comprise 50% of FFS membership.	FFS fund in the project	PIOs	Throughout implementation and operation
	Cooperative and WUA strengthened	Women's participation in awareness meetings about the project ensured	Women comprise at least 40% of participants in public meetings for cooperative and WUA setting and strengthening.	Project management funding	PIOs	2013–2014
	Gender-balanced information disclosure and participation	Women informed and consulted about the project	Female beneficiaries informed about opportunities on access to project funds, technical advice, training, and employment opportunities Women consulted to improve the subproject	Part of the routine operations of the PIO and included in the operating budget from project management funding	PIOs	2013–2014
	Women's access to management	Village women's participation in project decision making about	Women comprise at least 40% of participants in contract and agreement discussion meetings	Project management funding	PIOs	2013–2014

<b>Project Component</b>	<b>Gender Equality Features</b>	<b>Outputs and/or Activities</b>	<b>Targets and/or Indicators</b>	<b>Budget</b>	<b>Responsibilities</b>	<b>Time Frame</b>
Output 4: Strengthened institutional and farmer capacity		land-lease and purchase contract and other agreements to be reached in the project ensured	Records of seminars, workshops, and meetings on implementation model option, cooperative and WUA setting (Sex disaggregated data, target for women = 50%)	Part of the routine operations of the PIO and included in the operating budget	PIOs	Throughout implementation and operation
			Representatives of ACWF and PIOs in the project or consulted by it; experienced specialist available to advise and assist with the implementation of gender training; and mentor safeguard staff, if required  At least one person appointed to full-time position to perform this role in each implementing agency/PIO  All community offices have at least one female member in place.	Part of the routine operations of the PIO and included in the operating budget	PIOs	Throughout implementation and operation
	Cooperative management training	Women's training on cooperative management and their cooperative management capability strengthened	At least 20% female farmers are members of cooperative leading group; and 50% female farmers and 80% PIO female staff trained	CNY20,000 project counterpart funds	PIOs	2013–2014
	WUA management training	Women's training on WUA management and their WUA management capability strengthened	At least 20% female farmers are members of WUA leading group; and 50% female farmers and 80% PIO female staff trained	CNY20,000 project counterpart funds	PIOs	2013–2014
	Monitoring and evaluation	Sex-disaggregated data collection	Sex-disaggregated data on stakeholders' participation in trainings and community activities included in project progress reports	CNY100,000 project counterpart funds	PIOs are responsible for management, and the ACWF will provide support. The provincial project	Throughout implementation and operation
	Gender awareness for project staff	Staff training includes gender awareness.	Number of participants in training curricula for all staff of the PIOs and implementing agencies to include	CNY20,000 project counterpart funds		

Project Component	Gender Equality Features	Outputs and/or Activities	Targets and/or Indicators	Budget	Responsibilities	Time Frame
			discussion of (i) ADB gender policies; (ii) the gender action plan; and (iii) the benefits to be derived from gender mainstreaming in the project		management office shall submit annual monitoring reports to ADB.	

ACWF = All China Women's Federation, ADB = Asian Development Bank, CNY = yuan, FFS = farmer field school, PIO= project implementing office, WUA = water users association.

Source: ADB.

103. A SAP was devised to ensure flow of information to participating farmers, consultation and participation of participating village communities, and ultimately informed decision making by participating farmers. Actions set out include (i) establishment of consultation and disclosure procedures and processes; (ii) establishment of training and capacity-building measures targeting farmers and villages participating in the project, including on agricultural skills and technology improvements and product marketing; and (iii) establishment of associative and cooperative structures to ensure sustainability of project benefits, particularly through consultative decision making and improved marketing capacities of participating farmers and villages. These features are integral part of the project design; and therefore, will be financed through the project implementation funds, without need for separate budgeting. The activities and actions will be monitored through the regular project monitoring and reporting. A dedicated safeguard and/or social development staff or consultant will assist the PPMO in establishing the monitoring indicators for the SAP monitoring, as will be done for the GAP. The following table lays out the details of the proposed activities.

## Social Action Plan (2013–2017)

Target Groups and/or Target Areas	Action	Social Benefit and/or Risk	Agency Responsible	Time Frame	Budget	Monitoring Indicator
All people in the project communities	Establishment of a regular disclosure system and disclosing key project information to the people in the affected communities	Public awareness and satisfaction increased	PIOs	2013–2014	Project management funds	<p>The PIOs disclose key project information via village meetings in the project sites at 6-month interval. At least 80% of the villagers can access the information such as project description and progress, project implementation models, and working procedures for project implementation.</p> <p>The level of public awareness in the project area on key project information is not less than 50%, and the satisfaction level of informed persons is not less than 70%.</p>
	Carrying out of village group meetings in the project communities for contract discussions and procedures of project implementation	People in the project sites actively participate in the project and benefit from project implementation	PIOs	2013–2014	Project management funds	<p>At least 70% of farmers in the project communities will understand the basis of the procedures of the project management and agree on the land-lease contract for project implementation.</p> <p>The land-lease contract will be agreed upon by the farmers and signed in the first year of project implementation.</p>
	Setting up of cooperatives and WUA improvement	Farmers' capability in organization, decision making, and self-development increased	PIOs, supported by ACWF, PRO, and the local governments	2013–2014	Project management funds	The cooperative setting procedures will be agreed upon by farmers; and they are able to participate as members and will benefit from the cooperatives to be established. Not less than 1/3 of the members of leading group in the cooperatives and WUAs are women and rural poor in the project villages.

<b>Target Groups and/or Target Areas</b>	<b>Action</b>	<b>Social Benefit and/or Risk</b>	<b>Agency Responsible</b>	<b>Time Frame</b>	<b>Budget</b>	<b>Monitoring Indicator</b>
All people in the project communities	Planning in the project villages through participatory approach	Benefit from project land planning and new technologies in project activities	Implementing agency, PIOs, supported by ACWF, PADO, and the local governments	2013–2014	Project management funds	All of the participating farmers have been involved in decision making and agree on site plan for high-value and high-quality grapes and Chinese date, water conservation measures, sustainable farming practices, and capacity development program.
	Introduction of farmer field schools to project communities	Farmers' knowledge of agricultural production increased	Implementing agency, PIOs, supported by the forest and water resources bureaus, ACWF, and PADO	2013–2017	Project funds for farmer field schools	At least one qualified facilitator is provided for each village by the PIO.  At least 80% of the participating farmers of the project are able to join as members, attend the training regularly, and are also satisfied with the training program.
	Provision of detailed capacity building program to the villagers through associations, cooperatives, and other means	Farmers' knowledge of agricultural production increased	PIOs	2013–2017	Capacity building budget of the project	The implementing agency organizes not less than four trainings and publicity activities annually.  The training should cover not less than 80% of direct participants.  The level of public awareness in the project area about the program is not less than 50%, and the satisfaction level of the participants with the program is not less than 80%.

<b>Target Groups and/or Target Areas</b>	<b>Action</b>	<b>Social Benefit and/or Risk</b>	<b>Agency Responsible</b>	<b>Time Frame</b>	<b>Budget</b>	<b>Monitoring Indicator</b>
All people in the project communities	Establishment of a grievance redress mechanism for each project community; and setting up of a special appeal hotline and its disclosure via the channels of project information disclosure	Project beneficiaries will have rights to fairness and justice.	PIOs assisted by the implementing agencies, the land and resources bureau, local governments, and communities	2013–2017	Project management funds	Each PIO establishes a grievance redress office headed by a specially assigned person.  People have a simple, straight-forward, and fair grievance redress mechanism that is clearly documented.  The awareness among project beneficiaries and otherwise affected people about the special appeal hotline and channel is close to 100%. The satisfaction of appellants is not less than 70%.
Women and rural poor in the project area	Organization and allocation of labors for the project activities in the project site	New jobs opportunities for the villagers, especially for the women and rural poor in the project area	PIOs	2013–2015	Project construction funds	Not less than 80% of additional job opportunities are available to project beneficiaries from the same village, of which not less than 40% are available to women; and 20% to the poor and other vulnerable groups in the project area.
	Organization of meetings for project activities	Participation and decision-making opportunities to women and rural poor	PIOs	2013–2017	Project management funds	Not less than 40% of meeting participants are women, and about 20% are poor and other vulnerable groups in the project area.

ACWF = All China Women's Federation; PADO = Poverty Alleviation and Development Office; PIO = project implementing office; WUA = water users association.  
Source: Asian Development Bank.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

### A. Project Design and Monitoring Framework

104. The design and monitoring framework for the project is provided below.

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Improved sustainability of agricultural production in Ningxia</p>	<p>Percentage of land under water conservation irrigation, including drip and sprinkler irrigation, to total irrigated land increased from 50% in 2010 to 80% by 2022</p> <p>Average per capita rural income increased from CNY4,675 in 2010 to CNY9,000 by 2022 in real terms</p> <p>Ratio of EBIT and revenue of the NARC vineyard and winery operations (Xixia King Industrial Co. Ltd.) reached at least 80% by 2022</p>	<p>NHARG and county yearbooks, and socioeconomic development plans and evaluation reports</p> <p>Project review missions, and completion and evaluation reports</p> <p>Provincial review of the progress of NHARG's 12th and 13th five-year plans</p>	<p><b>Assumption</b> The government continues its efforts to promote sustainable development and increase farmer incomes.</p>
<p><b>Outcome</b> Increased quality and value of horticultural crops in Ningxia</p>	<p>90% of grapes produced by the project met the quality standard prescribed by quality winery<sup>a</sup> in Ningxia by 2018 (baseline: 0% in 2011)</p> <p>Grape production by the project increased from 670 tons in 2011 to 2,200 tons by 2018</p> <p>Chinese dates production by the project increased to 1,810 tons by 2018 (baseline: 0 ton in 2011)</p>	<p>NHARG and county yearbooks and reports</p> <p>Project progress and monitoring reports</p> <p>NARC reports</p> <p>Project review missions, and completion and evaluation reports</p>	<p><b>Assumptions</b> Price–quality incentives encourage adoption of high-quality crops.</p> <p>Favorable wine market price and growth of wine consumption continue.</p> <p><b>Risks</b> The institutional capacity of the implementing agencies is weak.</p> <p>Farmers fail to apply new technology to achieve high-quality crop production.</p>
<p><b>Outputs</b> 1. Improved irrigation systems</p>	<p>By 2018: Water-efficient drip and hose irrigation installed in all project vineyards and orchards</p> <p>Total irrigated area increased by 2,523 ha</p> <p>Annual irrigation water savings of about 3 million m<sup>3</sup> from 18.6 million m<sup>3</sup> in 2010</p>	<p>Project progress reports</p> <p>Contractual payment records</p> <p>NHARG and county agricultural statistics</p> <p>Project review missions, and completion and evaluation reports</p>	<p><b>Risks</b> Drip irrigation systems do not work to standards.</p> <p>Farmers cannot afford to apply drip irrigation.</p>



Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
2. Improved vineyards and Chinese date orchards	<p>By 2018:</p> <p>1,256.7 ha of new vineyards developed under NARC</p> <p>1,343.3 ha of existing vineyards rehabilitated under NARC</p> <p>About 333.3 ha of new vineyards developed in Hongsipu district</p> <p>About 933.3 ha of Chinese dates planted in Tongxin and Yanchi counties</p> <p>About 280 ha of shelterbelts established</p> <p>About 40% of jobs created under the project filled by women</p>	<p>Project progress reports</p> <p>Contractual payment records</p> <p>NHARG and county agricultural statistics</p> <p>Project review missions, and completion and evaluation reports</p>	<p><b>Assumption</b> Effective monitoring is in place to ensure the implementing agencies and farmers adopt high-quality and sustainable production.</p> <p><b>Risks</b> Grape farmers fail to produce high-quality grapes. Farmers over apply fertilizer and agricultural chemicals. Major plant diseases may affect grape and date production.</p>
3. Increased grape processing capacity	<p>About 15,000 tons of grape processing capacity constructed</p>	<p>Project progress reports</p> <p>Project review missions, and completion and evaluation reports</p>	<p><b>Assumption</b> NARC has adequate capacity for managing and operating the facilities.</p>
4. Strengthened institutional and farmer capacity	<p>About 5,000 farmers trained in water and soil conservation, sustainable horticultural management, and plant disease prevention and pesticide management</p> <p>About 40 staff from the PPMO and PIOs trained in project management, procurement, financial management, and disbursement</p> <p>About 300 staff from cooperatives and the WUAs trained in sustainable horticultural management</p> <p>A marketing and business strategy for the NARC developed and implemented</p> <p>Wine sales outside Ningxia by NARC increased from 20% in 2010 to 30%</p>	<p>Project progress reports</p> <p>Project review missions, and completion and evaluation reports</p> <p>Training programs</p>	<p><b>Assumption</b> NHARG and counties maintain dedicated PPMO staff at required number and qualifications.</p> <p><b>Risk</b> Farmer associations do not function as expected.</p>

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
	At least 40% of trainees on horticultural management are women		
<b>Activities with Milestones</b>			<b>Inputs (\$ million)</b>
<p><b>1. Improved irrigation systems</b></p> <p>1.1 Complete technical design for drip irrigation systems by March 2013</p> <p>1.2 Advertise procurement opportunities for irrigation works and award contracts to constructors during 2013–2015</p> <p>1.3 Construct drip irrigation systems, including water storage, delivery systems, and on-farm irrigation facilities, during 2013–2017</p> <p>1.4 Conduct tests and commission the drip irrigation systems during 2014–2018</p> <p>1.5 Hand over the operation and maintenance of the drip irrigation systems to the WUAs during 2014–2018</p> <p><b>2. Improved vineyards and Chinese date orchards</b></p> <p>2.1 Complete technical design of the project by March 2013</p> <p>2.2 Negotiate and finalize agreements between farmers and implementing agencies by March 2013</p> <p>2.3 Improve the existing vineyards during 2013–2016</p> <p>2.4 Establish new vineyards and plant grapes during 2013–2017</p> <p>2.5 Establish new Chinese date orchards during 2013–2017</p> <p>2.6 Implement pest management measures from 2013 onward</p> <p>2.7 Conduct on-farm management and maintenance of crops planted during 2013–2018</p> <p>2.8 Establish windbreak forest belts around farmlands by 2018</p> <p><b>3. Increased grape processing capacity</b></p> <p>3.1 Complete technical design of the grape processing facilities by March 2013</p> <p>3.2 Construct the buildings for two grape processing units during 2014–2016</p> <p>3.3 Procure and install the processing equipment from 2014 onward</p> <p>3.4 Conduct tests and commission the processing facilities during 2015–2016</p> <p><b>4. Strengthened institutional and farmer capacity</b></p> <p>4.1 Develop and implement training programs for project staff and farmers, including farmer field schools, during 2013–2018</p> <p>4.2 Conduct monitoring and supervision activities from 2013 onward</p> <p>4.3 Provide assistance for establishment of farmer associations, including the WUAs, from 2013 onward</p> <p>4.4 Implement programs for pilot monitoring of water uses by the WUAs from 2013 onward</p> <p>4.5 Develop and implement NARC's wine marketing strategy from 2014 onward</p> <p>4.6 Implement the ethnic minority development plan, the gender action plan, the social action plan, and the communication strategy during 2013–2018</p> <p>4.7 Implement actions and measures of the environmental management plan during 2013–2018</p>			<p><b>ADB:</b> 70.00</p> <p><b>Local Governments:</b> 9.19</p> <p><b>NARC:</b> 27.21</p> <p><b>Total:</b> <b>106.40</b></p>

ADB = Asian Development Bank; EBIT = earnings before interest and tax; ha = hectare; m<sup>3</sup> = cubic meter; NARC = Ningxia Agricultural Reclamation Group Co., Ltd.; NHARG = Ningxia Hui Autonomous Region government; PIO = project implementing office; PPMO = provincial project management office; WUA = water users association.

<sup>a</sup> The criteria of the quality winery standard is included in the Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Source: Asian Development Bank.

**B. Performance Indicators for Grape Quality: Based on Agreement of Joint Venture with Moeton-Hennessy**

105. Following are the performance indicators for ensuring grape quality:

<b>Item No.</b>	<b>Characteristic</b>	<b>Minimum Standard</b>
<b>Part A: Quality</b>		
1	Sugar level	Harvest sugar will normally be in the range of 18%–22% Brix, but some riper lots may be required. However, a Brix of 18%–19% is only acceptable for sparkling wines which NARC or the State Farm presently does not approve. For class C wine, a minimum of 20% Brix is required.
2	Uniformity of ripeness	Bunches to be sufficiently uniformly ripe. Significant Brix variation (>1 Brix) between bunches is not acceptable.
3	Other varieties	Maximum 2% and no red varieties mixed with white grapes
4	Dry berry (shrivel)/sunburn	Maximum 5%
5	Dilution with water	None permitted
6	Powdery mildew	Maximum 2%
7	Downy mildew	Maximum 2%
8	Botrytis and other bunch rots	Maximum 2%
9	Maceration-damaged berries	Maximum 2%
10	Mealy bug	None permitted
11	Bird/insect damage	Maximum 2%
12	Fermentation	None permitted
13	Acetification or oxidation	None permitted
14	Salty soil effect	Maximum 606 milligrams per liter of sodium (Na) in juice
<b>Part B: Contamination</b>		
15	Hydraulic oil or chemicals not registered for viticultural use	None permitted
16	Chemicals applied within withholding period as specified by the manufacturer or at rates in excess of manufacturer's specifications	None permitted

Item No.	Characteristic	Minimum Standard
17	Smoke taint	Maximum of 4 milligrams of Guaiacol per liter of juice or wine
18	Non-grape odor or residue not covered above	None permitted

### C. Monitoring

106. **Project performance monitoring.** To monitor the progress of the project in achieving the planned outcome and outputs, the PPMO will establish and maintain a PPMS, which will be designed to permit adequate flexibility to adopt remedial action regarding project design, schedules, activities, and development impacts. The PPMS will adopt the following agreed indicators: (i) project physical and financial progress, (ii) results of capacity development program, (iii) water conservation and environment improvement, (iv) grape and wine quality improvement, (v) poverty and rural income, and (vi) social development (ethnic minority, gender, and other social actions).

107. At the beginning of project implementation, the PPMO will develop comprehensive PPMS procedures to systematically generate data in the above areas in consultation with implementing agencies and with the assistance of consultants. The PPMO will refine the PPMS framework, confirm achievable targets and the monitoring and recording arrangements, and establish relevant systems and procedures not later than 6 months after project implementation begins. The PPMO and implementing agencies will assign staff or consultants to collect baseline and progress data at the requisite time intervals, including semiannual reporting on the implementation of the EMDP and EMP, and annual reporting for the GAP and SAP. The PPMO will be responsible for analyzing and consolidating reported data through its management information system, and reporting outcomes to ADB through quarterly progress reports.

108. **Compliance monitoring.** During project implementation, ADB and the PPMO will closely monitor the compliance of all the covenants under the project, as articulated in the loan and project agreements; and will take necessary remedy actions for any noncompliance. The compliance status will be reported in the quarterly progress report by the PPMO and will be reviewed during project review missions.

109. **Grievance redress mechanism.** Within 60 days from loan effectiveness, the executing agency will cause the implementing agencies to establish a complaint and problem management mechanism to (i) review and address grievances of project stakeholders, in relation to either the project, any of the service providers, or any person responsible for carrying out the project; and (ii) set the procedures for handling such grievances, for proactively responding to them, and for providing the stakeholders with notice of the chosen mechanism and/or action. Specific grievance redress mechanisms for environment and ethnic minority development are detailed in the EMDP and EMP.

110. **Counterpart funding.** The government shall cause NHARG, and through NHARG shall cause the implementing agencies to, ensure that (a) counterpart funds, necessary for the project are provided in time, including funds for construction of water distribution and on-farm irrigation systems at NARC; (b) additional counterpart funding is provided to cover any funding

shortfalls that may occur during project implementation; and (c) all funds and resources necessary for construction, operation and maintenance, and management of the project are provided on a timely basis. The government will also ensure that adequate funds are allocated for the periodic maintenance of irrigation and other common infrastructure developed under the project through NARC, and district and county budgets to maintain the infrastructure at operational level.

111. **Financial management system.** The executing and implementing agencies will maintain a sound financial management system in accordance with ADB's *Guidelines for the Financial Governance and Management of Investment Projects Financed by ADB (2002)*, including the establishment of separate bank accounts and the maintenance of minimum balances to ensure smooth cashflow and the timely settlement of project construction liabilities and future debt servicing.<sup>20</sup> The financial management system will comprise (i) financial planning, budgeting, and budgetary control; (ii) accounting consistent with applicable PRC standards; (iii) internal control; (iv) data processing; and (v) financial reports.

112. **Safeguards monitoring.** The project will support the recruitment of safeguard monitoring entities from domestic universities and institutes, to ensure that all recommendations and mitigation measures under the EMDP, EMP, GAP, and SAP are being implemented in accordance to the plans. The PIOs will report regularly on the EMDP activities to the PPMO. This will include all activities as spelled out in the activities table of the EMDP, but also the other recommendations and concerns as discussed in the EMDP. The reporting will use at least the indicators on participation, consultation, and project benefits as laid out in the EMDP. The PPMO will include the EMDP monitoring and reporting into the regular project progress reporting, and provide semiannual reporting on the EMDP implementation to ADB.

113. **Environmental monitoring.** Potential environmental issues and impacts during pre-construction, construction, and operation, as identified by the domestic EIA, as well as corresponding mitigation measures designed to minimize the impacts are provided in the EMP. The mitigation measures will be incorporated into the tendering documents (where appropriate), construction contracts and operational management plans, and will be undertaken by contractors, the implementing agencies under the supervision of the PPMO and the Ningxia Environmental Protection Department, when necessary. The effectiveness of these measures will be evaluated based on the results of the environmental monitoring to determine whether they should be continued or improvements should be made. Improvements need to be confirmed through stipulated environmental management procedures.

114. A comprehensive environmental monitoring program is presented in the EMP. This program considers the scope of monitoring, environmental media, monitoring parameters, time and frequency, implementing and supervising agencies. The monitoring will follow the methodology provided in the national standard methods for monitoring pollutants. Other associated standards are national environmental quality standards and pollutant discharge and/or emission standards.

115. **Environmental acceptance monitoring and audit.** Moreover, within 3 months after each subproject completion, or no later than 1 year with permission from the responsible environmental authorities, environmental acceptance monitoring and audit reports will be (i) prepared by qualified environmental institutes in accordance with the Ministry of Environmental

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<sup>20</sup> ADB. 2002. *Guidelines for the Financial Governance and Management of Investment Projects Financed by ADB*. Manila.

Protection's Guideline on Project Completion Environmental Audit (footnote 19) ; (ii) reviewed for approval by environmental authorities who have given the approval to the same individual EIA, and (iii) finally reported to ADB through quarterly project progress reports and/or project completion report.

**116. Independent environmental monitoring.** Local environmental monitoring agencies and/or companies will be engaged by the implementing agencies as IEMs. The independent environmental monitoring will be conducted to ensure that contractors appropriately implement mitigation measures. The results of the environmental monitoring will form part of quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report that will be submitted to ADB. The IEM will assist the NFD, including the PPMO, in reporting to ADB the project progress on environmental issues through quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report.

**117.** Results of the all monitoring mentioned above will be used to evaluate (i) the extent and severity of environmental impacts compared with the predicted impacts, (ii) performance of the environmental protection measures or compliance with related rules and regulations, (iii) trends of impacts, and (iv) overall effectiveness of the EMP. Effectiveness of mitigation measures and monitoring plans will be evaluated through a feedback reporting system. Modification of measures required by the EMP will be performed, if necessary. The PPMO and PIOs play critical roles in this feedback and adjustment mechanism.

**118. Internal monitoring and inspection.** The PPMO will nominate at least one qualified full-time environmental management staff member to undertake environmental management and monitoring activities. The PPMO will further engage a national environmental management consultant to assist itself and the implementing agencies in carrying out internal monitoring and inspection; reporting to ADB through quarterly project progress reports, semiannual environmental monitoring reports, and a project completion report; and conducting necessary training. The PPMO and the implementing agencies, with assistance from the EMC, will conduct internal monitoring and inspection on the progress of the EMP, information on project implementation, the environmental performance of the contractors, and environmental compliance, considering reports submitted by contractors, environmental monitoring stations (EMS), environmental institutes, and IEMs.

**119. Compliance monitoring and inspection.** The regional-level EMS will be responsible to undertake regular and random compliance monitoring and inspection before, during, and after construction, as well as in the event of emergencies. If abnormalities are found, the EPB will impose a fine and issue a notice of rectification with a specific deadline.

**120. Gender and social dimensions monitoring.**<sup>21</sup> All social and economic data collected under the project will be disaggregated by sex, age, and ethnic groups. Routine monitoring by the safeguard monitoring entities to be recruited under the project will focus on assessing progress and compliance with the GAPs, identifying constraints and developing remedial actions to effectively address these. Monitoring results will be part of the six monthly progress reports; and assessment and/or evaluations of the GAP, and SAP will be an essential element of all reviews. A social development specialist under the PPMO will guide and review the

<sup>21</sup> ADB's *Handbook on Social Analysis: A Working Document*, is available at: <http://www.adb.org/Documents/Handbooks/social-analysis/default.asp>, *Staff Guide to Consultation and Participation*: <http://www.adb.org/participation/toolkit-staff-guide.asp>, and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: <http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp>

monitoring process, and external monitoring entities will provide monitoring support to the project.

#### **D. Evaluation**

121. ADB will conduct regular (at least once per year) reviews during project implementation to assess implementation performance and achievement of project outcome, outputs, and objectives; examine financial progress; and identify issues and constraints affecting the project and work out time-bound action plans for their resolution.

122. A midterm review will also be undertaken within 30 months of loan effectiveness. This review will include a comprehensive evaluation of project implementation arrangements, detailed evaluation of the scope and implementation process and progress of subprojects, feedback from the M&E, consultants' performance, capacity development progress, and possible reallocation of loan proceeds. During this more significant review, the (potential) impact will be assessed from the vineyards and Chinese date orchards, performance of the newly established wineries, as will be the management of the irrigation infrastructure developed under the project. Remedial action will be proposed and agreed upon, if required.

123. Within 6 months of physical completion of the project, ADB will conduct a project completion mission to carry out a preliminary assessment of the success of the project to achieve its physical, and socioeconomic developmental objectives, as well as to review compliance with ADB requirements and loan covenants.<sup>22</sup>

#### **E. Reporting**

124. The PPMO will provide ADB with (i) quarterly progress reports in a format consistent with ADB's PPMS; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and NHARG's audited financial statements, together with the associated auditor's report, should be adequately reviewed.

#### **F. Stakeholder Community Strategy**

125. Community consultation and participation is mainstreamed into the project design and laid out in the SAP (above under Section VIII). The SAP provides the PPMO with a consistent and comprehensive process for implementing the household model and other consultation and participation process. For the specific needs of ethnic minority communities participating in the project, consultation and participation features are integral part of the EMDP. The EMDP and SAP implementation will ensure that households, including ethnic minority households, are fully informed and consulted during project preparation and implementation, and make their decisions to participate with complete information related to implementation processes, benefits, and risks. Key features that are incorporated include the (i) use of culturally appropriate implementation methods, (ii) analysis of household financial risk and mitigation measures, (iii) gender strategy to ensure the full participation of women, and (iv) establishment of associative and cooperative structures in the project villages. Information about the project will be widely

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<sup>22</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

promulgated through village consultations and farmers will be made aware of its both benefits and risks. A household financial risk analysis and consideration for women's participation and workloads are particularly required. The EMDP and SAP outline community engagement activities that will be undertaken, particularly the required dialogue and information exchange leading up to the identification of households participating in the project. The plans set out the project's rationale for consulting and involving communities, identify who will be consulted, and lists consultation methods and techniques that will be used to ensure community awareness and participation in the project. Farmer associations, cooperatives, and WUAs will be established or improved under the project and provide sustainable structures and organizations to ensure farmers' continued information, improved management and marketing, and informed decision making by individual households.

## **X. ANTICORRUPTION POLICY**

126. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>23</sup> All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.

127. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan regulations and the bidding documents for the project.<sup>24</sup> In particular, all contracts financed by ADB in connection with the project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the PPMO and PIOs of all implementing agencies, as well as all contractors, suppliers, consultants, and other service providers as they relate to the project. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project. The project design and implementation arrangements provide for mitigation of corruption risks. Risks associated with project management, including procurement and disbursement, will be mitigated by training of the PPMO staff in the procurement of goods and services, and the engagement of consultants. The project may also establish a website in which it will disclose implementation progress; bid notifications and their results; and provide grievance redress mechanism against any corrupt practice.

## **XI. ACCOUNTABILITY MECHANISM**

128. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>25</sup>

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<sup>23</sup> Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>24</sup> ADB's Anticorruption Policy is available at: <http://www.adb.org/integrity>

<sup>25</sup> For further information see <http://www.adb.org/Accountability-Mechanism/default.asp>.



**XII. RECORD OF PAM CHANGES**

129. All revisions and/or updates during course of implementation will be compiled in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

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<b>Date</b>	<b>PAM Changes</b>
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