China, People's Republic of: Ningxia Irrigated Agriculture and Water Conservation Demonstration Project

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<th>Project Name</th>
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<td>Project Number</td>
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**Source of Funding / Amount**

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<th>Loan 2973-PRC: Ningxia Irrigated Agriculture and Water Conservation Demonstration Project</th>
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**Strategic Agendas**

- Environmentally sustainable growth
- Inclusive economic growth

**Drivers of Change**

- Agriculture, natural resources and rural development
- Agricultural policy, institutional and capacity development
- Irrigation
- Land-based natural resources management
- Water-based natural resources management

**Gender Equity and Mainstreaming**

- Effective gender mainstreaming

**Description**

The project will improve the value of horticultural outputs by adopting high-value and high-quality varieties, water conservation infrastructures, sustainable farming practices, and institutional capacity development. The project will encompass the Hongsipu District, the Tongxin and Yanchi counties, and six subfarm sites under the Ningxia Agriculture Reclamation Corporation (State Farm Group) in the central Ningxia Hui Autonomous Region (Ningxia).

The impact of the project will be improved sustainability of irrigated agricultural production in Ningxia. The outcome of the project will be increased quality and value of horticulture crops (grapes and Chinese dates). The project will have four outputs and/or components: (i) established vineyards and Chinese date orchards, (ii) increased grape processing capacity, (iii) improved irrigation system, and (iv) strengthened institutional and capacity development.

**Project Rationale and Linkage to Country/Regional Strategy**

During the Country Programming Mission held in Manila in December 2009, the government of the People's Republic of China (PRC) requested the Asian Development Bank (ADB) to assist the Ningxia Hui autonomous region government (NHARG) to prepare the Ningxia Irrigated Agriculture and Water Conservation Demonstration Project (formerly the Ningxia Dryland Farming and Water Conservation Demonstration Project) which is included in ADB's lending program for 2012.

Ningxia, located in the northwest region, is one of the PRC's ethnic minority regions, with a total area of 66,400 square kilometers and a population of about 6.2 million, of which about 2.2 million or 36% are Hui minority. Ningxia has a long history. The vast plain of the Yellow River in the north has been irrigated for centuries; and over the years, an extensive system of canals has been built to pump water from the Yellow River. The total agricultural land in Ningxia is about 4.1 million hectares (ha). Ningxia has three traditional agricultural areas: (i) northern plains, with primarily irrigated agriculture; (ii) central arid and semiarid area, with a mix of irrigated and rainfed agriculture; and (iii) southern hilly and mountainous area, with rainfed agriculture. The central arid and semiarid area covers about 45% of Ningxia. Most of the land in the area is relatively flat and close to the Yellow River. Extensive irrigation infrastructures have been built in the area since the 1960s. Particularly in the 1980s, several large lift irrigation schemes were built to divert water from the Yellow River transforming central Ningxia's dryland farming into an irrigated agriculture area.

Agriculture remains an important sector in Ningxia. Ningxia's agriculture has a long history. The vast plain of the Yellow River in the north has been irrigated for centuries; and over the years, an extensive system of canals has been built to pump water from the Yellow River. The total agricultural land in Ningxia is about 4.1 million hectares (ha). Ningxia has three traditional agricultural areas: (i) northern plains, with primarily irrigated agriculture; (ii) central arid and semiarid area, with a mix of irrigated and rainfed agriculture; and (iii) southern hilly and mountainous area, with rainfed agriculture. The central arid and semiarid area covers about 45% of Ningxia. Most of the land in the area is relatively flat and close to the Yellow River. Extensive irrigation infrastructures have been built in the area since the 1960s. Particularly in the 1980s, several large lift irrigation schemes were built to divert water from the Yellow River transforming central Ningxia's dryland farming into an irrigated agriculture area.

The rationale for the project arises from the identification of two key opportunities: increasing the production of high-quality and high-value crops, and improving agricultural productivity by particularly improving water productivity. There is a clear economic driver for pursuing these opportunities increased competitiveness of farm households and wine enterprises, thus improving the financial and economic viability of these entities. The project will demonstrate water conservation measures that are (i) useful in central Ningxia and elsewhere in irrigated dryland areas, and (ii) resilient to climate change. The project will also help farmers to use more sustainable farm practices.

The project is consistent with the government's 12th Five-Year Plan (2011-2015), which aims to promote equitable and balanced regional growth, sustainable natural resources management, and conservation agriculture and crop diversification. The project particularly follows the State Council's decision to promote economic and social development of Ningxia (issued in 2008). The project supports the 12th Five-Year Plan of the Ningxia government's goal to accelerate agricultural development by increasing agricultural production capacity, reducing risk, and improving market competitiveness. The plan specifically targets improving the production capacity of low-yielding agricultural land. Both grapes and Chinese dates are mentioned as crops that can be transformed into high-value crops along with further development of competitive processing. For grapes, the 10-year development plan for Ningxia viticulture sector proposes an expansion with one million mu (650,000 ha). The plan also promotes innovation in irrigation technology and advocates increasing the use of water-saving irrigation technologies such as drip and sprinkler irrigation systems. The State Farm Group will be the key player in achieving this target. The project is in line with the Asian Development Bank's (ADB) country partnership strategy, 2011-2015 for the PRC which supports the government's goal of building a harmonious society by (i) addressing the rising income inequality and widening regional disparities, and (ii) promoting environmentally sustainable development. It also supports ADB's Water Operational Plan, 2011-2020 for promoting integrated water resources management and irrigation efficiency.

**Impact**

Improved sustainability of agricultural production in Ningxia
Increased quality and value of horticultural crops in Ningxia

The project has made substantial progress since the last review mission conducted in November 2018. The overall project progress is about 80% against 85% of time elapsed.

Description of Project Outputs

1. Improved irrigation systems
2. Improved agriculture farms
3. Increased grape processing capacity
4. Strengthened institutional and farmer capacity

Status of Implementation Progress (Outputs, Activities, and Issues)

NARC and local forestry bureau conduct training for grape growers and vineyard managers regularly, including water saving irrigation fertilizer application, and pesticide management. Being implemented. Farmers associations and water user associations have been well established and play active role in irrigation management and grape growing. The business plan and marketing strategy had been in place three years ago, but need to be updated and improved to respond to market changes. To be assessed at completion. To be assessed at completion. To be assessed at completion. To be assessed at completion.

Both Nuanquan farm (5000 tons) and Yuquanying farm (10000 tons) completed this component in 2015. Retractive financing was not applied as planned. Loan savings of about $9.95 million has been reallocated for new activities. Tongxin completed the works using government funds in 2013. Improved irrigation system has been installed for 4 vineyard farms and 1 Chinese date orchard. A total area of 1466.2 hectare (ha), or 58.2% of the planned area. This include 469.5 ha for NARG, 330 ha for Hongsipu, and 666.7 ha of Chinese date orchards in Tongxin. Completed. 289.5 ha rehabilitated. It was planned to start in October 2019 and to complete in November 2019. The field works of irrigation structures in Binggou modern agriculture demonstration started in late September 2018 and have been completed in June 2019. The field works in Maanshan started in March 2019 and were completed in May 2019. The field works in Wuhudun started in March 2019 and are planned to complete in September 2019. Shelterbelts establishment in Wuhudun and Maanshan started in March 2019 and are planned to complete in April 2020.

Geographical Location

Fengjigou, Hongsopu Qu, Ma'erzhuang, Nuanquan, Qingtongxia Shi, Yongning Xian, Yujialiang, Zhongning Xian

Safeguard Categories

Environment B
Involuntary Resettlement C
Indigenous Peoples B

Summary of Environmental and Social Aspects

Environmental Aspects

The project is expected to achieve environmental benefits, specifically better water use efficiency in the project area; and soil stabilization and reduced erosion resulting from establishment of shelterbelts. No major adverse impacts were identified. Construction and rehabilitation works are small and relatively simple. Operating risks include expanded use of agricultural chemicals, elevated chemicals in soils, and increased risk of workers' exposure of chemicals. Most project sites are located on modified lands used for agriculture and have been cleared of natural habitats. No ecologically sensitive sites are present in the project area. Wastewater from grape processing facilities will be treated and reused for crop irrigation, and will not be discharged into channels leading to natural waterways. Shelterbelts established by the project will utilize a mix of native and long-established tree and shrub species. Training programs will include topics on safe application of agricultural chemicals and methods to reduce application rates. Implementation of the EMP and the environmental monitoring program is expected to prevent or minimize potential impacts.

Involuntary Resettlement

No involuntary loss of land, housing, or access to income-generating assets is necessary for the project. Most of the activities are going to be implemented on state farms with clear government land ownership. In the participating villages, construction activities will be limited to small-scale infrastructure linked to improved irrigation, such as water retention ponds, irrigation pipes, and farm access roads. These will be constructed on village land that is not being used for agricultural or other income-generating activities, and ownership of the infrastructure will remain with the villages. Participation and contribution of land to the planting schemes will be on a voluntary basis; this will be formalized through the production or participation agreements and monitored by the PIOs.

Indigenous Peoples

The requirements of ADB's Safeguard Policy Statement for safeguarding indigenous peoples will apply to the project as (i) the Hui people have both distinctiveness and vulnerability as described by ADB's Safeguard Policy Statement; and (ii) the project will impact on their farming practices and may consequently alter their socioeconomic status, including expenditure patterns, though principally in a positive way. Among the project beneficiaries are 570 households, with almost 3,000 people of the Hui ethnic minority, concentrated in two participating villages. Poverty and vulnerability rates are higher for Hui households than for Han households. In terms of poverty incidence, more Hui households (32%) are considered low income compared with Han households (16%). The higher poverty is in part due to former relocation as part of a government program, but also to lack of access to improved farming techniques. As potential project beneficiaries, concerns of ethnic minorities are addressed as part of the project design; and the executing and implementing agencies prepared an ethnic minority development plan to ensure that participating minorities will receive social and economic benefits that are culturally appropriate and gender responsive. The plan will be finalized once the production or participation agreements with farmers are finalized.

Stakeholder Communication, Participation, and Consultation

During Project Design

The project preparation technical assistance team conducted interviews with rural household as the primary beneficiaries, including key informant interviews and focus group discussions; and interviews with other primary stakeholders, such as the project management office (PMO) and local governments. The project will support capacity development for public consultation and participatory planning targeting the PMO and local communities in the project area.

During Project Implementation

Consultation and participation are integral features of the project through the formation and/or strengthening of farmer professional associations (FPAs), village committees, and local women federation (LWF). They are included in the project design to make project implementation more efficient through the involvement of the primary beneficiaries, who are also key providers of input to the project. They also form part of the social action plan. To facilitate interaction among stakeholder groups and improve project planning and implementation, the design of the participation strategy stresses gender equality; and includes three elements: (i) information sharing stakeholders will not be able to provide meaningful participation if they are not fully informed about the objectives and intended outcomes of the project; (ii) consultation will be held with primary stakeholders to let them participate in the design, formation, and/or strengthening of the FPAs; and (iii) public meetings and stakeholder panels will provide forums for collaboration in decision making.
Business Opportunities

Consulting Services
Consulting services to be financed under the ADB loan will be selected in accordance with ADB’s Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers (2010, as amended from time to time). Four international consultants will be engaged for a total of 18.25 person-months in the fields of viticulture, winemaking and winery management, quality management, and wine marketing. Eight national consultants will also be engaged for a total of 54.25 person-months to provide consultancy services in the fields of project management, wine marketing, wine making, drip irrigation, viticulture, Chinese dates growing, and institutional and quality management. The implementing agencies will be responsible for the selection of the consultants, with concurrence of NHARG and the PMO for contract negotiations and contract 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 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.

Procurement
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 $200,000, and contracts for goods and related services valued $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. Contract packages for civil works valued at $200,000 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 guideline for community participation in procurement that have been approved for the Ningxia Integrated Ecosystem and Agricultural Development Project will be adopted for the project. Procurement will be centralized; and a procurement agency that is familiar with ADB’s procurement procedures will be engaged by NHARG to undertake procurement of works, goods, and services under the project on behalf of the implementing agencies.

A procurement capacity assessment of the executing and implementing agencies has been undertaken. Based on the assessment, the mission 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.

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).

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.

Responsible ADB Officer
Zhiming Niu

Responsible ADB Department
East Asia Department

Responsible ADB Division
PRC Resident Mission

Executing Agencies
Ningxia Hui Autonomous Region Government
416 jiefang Xijie, Yuchuan, Ningxia

Timetable

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Loan 2973-PRC

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Project Page
https://www.adb.org/projects/44035-014/main

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