

# Project Administration Manual

Project Number: 50393-002  
Loan Number: LXXXX  
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People's Republic of China: Gansu Internet-Plus  
Agriculture Development Project

## ABBREVIATIONS

ADB	–	Asian Development Bank
COL	–	collective-owned land
CNY	–	Chinese Yuan
EMP	–	environmental management plan
FSR	–	feasibility study report
FY	–	Fiscal year
GAP	–	gender action plan
GPG	–	Gansu Provincial Government
GRM	–	grievance redress mechanism
GSSMCU	–	Gansu Supply and Marketing Cooperatives Union
ICT	–	information and communication technology
IEE	–	Initial Environmental Examination
IOT	–	internet-of-things
LIBOR	–	London interbank offered rate
LURT	–	land use rights transfer
<i>mu</i>	–	Chinese unit of measurement (1 <i>mu</i> = 666.67 square meters or 0.067 hectares)
OCB	–	open competitive bidding
PFD	–	Provincial Finance Department
PIU	–	project implementation unit
PMO	–	project management office
PPE	–	participating private enterprise
PPMS	–	project performance management system
PRC	–	People's Republic of China
SDAP	–	social development action plan
SOE	–	state-owned enterprise
SOL	–	state-owned land
TA	–	Technical assistance

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

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

The Gansu Provincial Government, represented by the Gansu Provincial Finance Department, as project executing agency and the Gansu Supply and Marketing Cooperatives Union is the implementing agency who are wholly responsible for the implementation of the ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. The ADB staff is responsible for supporting implementation, including compliance by the Gansu Provincial Government and the implementing agency of their obligations and responsibilities for project implementation in accordance with ADB policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM; and ensure 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 recommendations 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.



## I. PROJECT DESCRIPTION

### A. Rationale

1. Agricultural production and rural livelihoods have lagged behind industrial production and urban livelihoods in the People's Republic of China (PRC). As a result, income inequality and poverty persist in rural areas of lesser-developed regions of the PRC. Increasing productivity and value addition through modernization and enhanced market linkages has considerable poverty reduction potential in the PRC, where agriculture labor still accounts for more than 25% of total employment. Against this backdrop, the Government of the PRC formulated the rural vitalization strategy for 2018–2022 to promote poverty reduction, rural development, and green and inclusive growth.<sup>1</sup> The rural vitalization strategy focuses on modernizing agriculture with the application of information and communication technology (ICT), which is intended to increase agricultural productivity, reduce food safety risks, and cut pollution from fertilizers and pesticides. The Asian Development Bank (ADB) and the government have agreed to adopt a framework approach to strategically program ADB's lending support for rural vitalization development initiatives.

2. Internet-plus agriculture refers to the application of network-connected information technology along the entire value chain from production to marketing. This enhances market access through a two-way automated information exchange system between producers and consumers. It provides consumers with product information while producers get access to market information and production support services. Internet-plus has shown great potential to increase income in rural areas through (i) stabilized demand via access to e-commerce, and (ii) reduced production costs from avoided food losses along the value chain as a result of expanded smart storage and processing capacity. This project will demonstrate the application of network-connected sensors and tracing technologies to provide product quality and safety information to consumers and to enhance market access and technical support for farmers.

3. Gansu province, in the northwest of the PRC, is the seventh-largest province in the PRC with a population of 26.20 million, of which 14.44 million (55.1%) live in rural areas.<sup>2</sup> In 2016, Gansu's total gross domestic product was CNY720 billion, of which agriculture accounted for 13.7%. In 2017, Gansu's gross domestic product per capita of CNY29,326 (equivalent to about \$4,417)<sup>3</sup> was the lowest of all provinces in the PRC, and 50% of the province's 87 counties are designated as national poverty counties. In the proposed project prefectures, 6.5%–10.5% of the rural population live below the national annual income poverty line of CNY2,300 per capita.<sup>4</sup>

4. Information asymmetry about product quality and safety characteristics (e.g., origin of inputs, farming system, food safety, nutrition values) has led to selection of low-value products, which compromises traceability, food safety, and competitiveness in developing high-value online and offline markets in Gansu and other provinces. The project design contains innovative agriculture internet-plus features, which aims to achieve global public goods, such as enhanced food safety and reduced environmental pollution. ICT-supported value chain services for traceability and food safety will provide an opportunity for farmers to access high-value e-

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<sup>1</sup> Government of the People's Republic of China, Central Committee of the Communist Party of China and the State Council. 2018. *Five-Year Plan on Rural Vitalization Strategy*. Beijing.

<sup>2</sup> Government of the People's Republic of China, National Statistics Bureau. 2017. [China Statistical Yearbook 2017](#). Beijing.

<sup>3</sup> Based on an average 2016 exchange rate of \$1.00 = CNY6.64.

<sup>4</sup> Project interventions are planned in Baiyin, Lanzhou, Tianshui, Wuwei, and Zhangye prefectures with some project activities also in Dingxi and Jiuquan prefectures.

commerce markets through the network of relevant business entities (e.g., traders, logistics services, wholesalers, and retailers).

5. Uncoordinated business relationships between the primary and processing segments dominate the agriculture sector. Farmers' decisions on the quality and quantity of applied water, fertilizers, and pesticides for crop growth are not documented or optimized through the application of modern precision technology. Real-time information services on specific agro-ecological conditions, such as soil fertility, moisture, and temperature, are missing. Excessive application of water, fertilizers, and pesticides are common inefficient input uses in crop production, resulting in high production costs, nonpoint source pollution, food safety risks, and inefficient water usage. Business upscaling of processing operations through contract farming arrangements to realize economies of scale is constrained by high sourcing costs for inputs because of high transaction costs with small-scale entities. Many processing operations lack adequate coordination of storage facilities, transportation, and marketing capacity which would enable them to produce the volume and quality needed to access premium e-commerce and offline markets.

6. Limited ICT capacity of farmers, processors, and other service providers is constraining the adoption of integrated and automated information exchange systems, which could facilitate the coordination and cooperation between business entities in the production and marketing segments. Limited technology application capacity of farmer cooperatives hampers access to high-value e-commerce markets and adoption of modern production methods. The primary production segment is characterized by scattered unorganized production of small-scale farmers with low bargaining power and low-value crop production. Although the Gansu Supply and Marketing Cooperatives Union (GSSMCU) is providing agro-technology advice to farmers, the high demand for product-specific support services to enable access to ICT-supported e-commerce markets is largely unmet.

7. **Government policy.** Improving rural livelihoods, and particularly eradicating extreme poverty by 2020, is a key priority under the PRC's Thirteenth Five-Year Plan on National Economic and Social Development, 2016–2020.<sup>5</sup> The PRC has initiated internet-plus policies with the objective of integrating the agriculture sector into the wider economy through the use of ICT solutions to link rural economic development approaches to service delivery in rural areas. The government is committed to eradicating poverty and closing the income gap that exists between urban and rural populations. E-commerce and internet-based support services are accelerating growth in rural areas, which is contributing to structural reforms towards increased quality and market orientation of the agricultural supply chain.

8. **Strategic fit.** The project will support ADB's Strategy 2030 by creating knowledge and promoting rural development and food security.<sup>6</sup> Supporting inclusive economic growth is a key strategic priority for ADB in its country partnership strategy for the PRC.<sup>7</sup> The Gansu Provincial Government (GPG) requested ADB assistance in implementing the PRC's focus on an internet-plus approach to promoting agriculture-based industry for local specialty agricultural products. This project supports the improvement of market connectivity and value-chain linkages, which is one of the four priority areas of ADB's Operational Plan for Agriculture and Natural Resources.<sup>8</sup> Support

<sup>5</sup> Government of the People's Republic of China. 2016. *Outline of the Thirteenth Five-Year Plan for National Economic and Social Development, 2016–2020*. Beijing.

<sup>6</sup> ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

<sup>7</sup> ADB. 2016. *Country Partnership Strategy: Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020*. Manila.

<sup>8</sup> ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.



to rural development, through agricultural modernization and value chain promotion approaches, is one of the strategic priorities of ADB's country partnership strategy for the PRC (footnote 7).

9. **Lessons.** The project design incorporates lessons from previous and ongoing projects financed by ADB and others in the PRC.<sup>9</sup> The lessons include (i) enabling farmers and agribusiness companies to finance longer-term investment to increase production, improve productivity, enhance value addition, and access new markets; (ii) engaging agribusiness companies to create income-generating opportunities; (iii) helping farmers improve access to markets and improve product quality control through cooperation with agribusiness companies; and (iv) engaging agribusiness companies to involve farmers and cooperatives for improved production enterprises and equitable benefit sharing.

## B. Impact and Outcome

10. The project is aligned with the following impacts: (i) inclusive economic opportunities in the rural areas of Gansu province increased, and (ii) poverty in rural areas of Gansu province reduced.<sup>10</sup> The project will have the following outcome: income-generating opportunities from agricultural production and marketing increased.<sup>11</sup>

## C. Outputs

### 11. **Output 1: Comprehensive information service and management platform developed.**

This output will develop data centers with information platforms to process data generated from project facilities established under output 2 for increased production and processing efficiency and for e-commerce marketing purposes. This will include (i) constructing data and training centers, (ii) procuring ICT equipment and technical advisory services, and (iii) training farmers and enterprise staff to build capacity in ICT application in the agriculture production and processing segment. The platform will provide product origin, quality, safety monitoring, and tracing services as well as management advice for the coordination and optimization of agricultural production, processing, and marketing activities. The integrated network will also reduce transaction costs between service providers and establish access to high-value markets via links to e-commerce platforms. The platform is intended to be scalable and inclusive to provide project-generated market information, and agricultural support services to a wide range of beneficiaries, especially farmers who lack access to markets and high-quality technical support services.

### 12. **Output 2: Agricultural production, processing, storage, and marketing modernized.**

This output will (i) establish demonstration agricultural production enterprises for high-value crop production including summer vegetables, potatoes, fruits, and licorice; and forage crop production, in particular mulberry plants;<sup>12</sup> (ii) equip the demonstration enterprises with internet-of-things (IOT)<sup>13</sup> applications for product quality and safety monitoring and increased production efficiency, and coordination with other segments of the agriculture sector; (iii) construct warehouses, cold

<sup>9</sup> ADB. 2018. [Completion Report: Dryland Sustainable Agriculture Project](#). Manila; ADB. 2017. [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 Shanxi Inclusive Agricultural Value Chain Development Project](#). Manila.

<sup>10</sup> Government of the People's Republic of China, State Council. 2011. *Outline for Development-Oriented Poverty Reduction Program for Rural China*. Beijing.

<sup>11</sup> The design and monitoring framework is in Section IX.

<sup>12</sup> Participating enterprises were selected with regard to their potential to increase rural incomes and promoting the application of internet-plus technologies. Details on the selection process and selected enterprises' existing business models are available in Appendix 3 and the linked document Financial Analysis.

<sup>13</sup> The IOT refers to physical devices embedded with sensors and network connection capability that enable these devices to collect and exchange data. It allows remote sensing and control of devices through existing internet infrastructure.

storage facilities, and market facilities to increase value addition; and (iv) finance ICT and transport equipment to promote an integrated and automated information exchange network for enhanced coordination and quality assurance at distribution, storage, processing, and marketing facilities. Global positioning systems together with network-connected sensors for soil moisture, temperature, and optical spectrum will be utilized to monitor and optimize the quantity and timing of irrigation, fertilizer application, and harvesting depending on the intrafield variability of crops and soil conditions. Project-financed improvements to processing and storage services facilities will benefit small farmers including women and vulnerable groups through enhanced market access. The production enterprises will be used for demonstration and training purposes to increase access and quality of agriculture technology and management support services for small farmers, including women and vulnerable groups in rural areas, who will benefit as suppliers or members of the cooperatives.

**13. Output 3: Capacity of Gansu Supply and Marketing Cooperatives Union improved.**

This output will (i) provide project-related training, including on IOT, to GSSMCU, project implementation unit (PIU), and other related government agency staff in implementing the project; (ii) support study tours, in particular with respect to precision agriculture, modern internet-based marketing, quality control, and traceability; and (iii) promote participation in capacity building and knowledge sharing events. The output will improve the capacity of GSSMCU staff to implement projects and to work within an internet-based working environment.

**14. Innovations.** IOT tracing sensors will be installed along production and processing lines so as to allow the identification of product batches. This will provide credible product origin and food safety certification data on branded fresh and processed agricultural products. Greenhouses and agriculture production bases for high-value crops will be equipped with temperature, soil fertility and moisture sensors to optimize fertilizer and water application. Depending on the intrafield soil and crop variability, both production costs and environmental pollution will be cut. Project platforms will provide tailored agriculture precision farming and value chain services through IOT applications. Production batch identification technology will also be installed in warehouses and logistics fleets to achieve higher cost-effectiveness of the distribution system and online delivery linkages to e-commerce platforms. The project investment in value chain services will enable farmers to access e-commerce and is envisaged to act as a catalyst to attract large-scale private sector activities for value chain services related to e-commerce in this poor province.

**15. Knowledge sharing.** ADB has published the project preparation lessons in a technical report.<sup>14</sup> The project's innovative organization of the internet-plus agriculture concept and the business models regarding integrating e-commerce solutions offer a unique opportunity to showcase value-added modern agriculture practices to other developing member countries and with other provinces of the PRC. In this context, the project team will liaise with the Central Asia Regional Economic Cooperation (CAREC), CAREC Institute, and the Greater Mekong Subregion platforms to disseminate the best practices by participating in regional events and organizing CAREC-led study tours to the project area. Further, in close coordination with the ADB-PRC Regional Knowledge Sharing Initiative, regional dissemination of the innovative solutions will be undertaken.

**16.** The list of subprojects and activities is in Table 1. Project selection criteria and guiding principles are in Appendix 2 and details of the major existing and planned activities of the project enterprises are in Appendix 3.

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<sup>14</sup> ADB. 2018. [Internet Plus Agriculture: A New Engine for Rural Economic Growth in the People's Republic of China](#). Manila.

**Table 1: List of Subprojects and Activities**

No.	City	Subproject Title	Activities and construction content	Implementing Company	SOE/ PPE
1.	Lanzhou Prefecture, Jiuquan Prefecture, Dingxi Prefecture	Gansu Internet-Plus Based Socialized Agricultural Service System Platform	<ol style="list-style-type: none"> <li>1) Establish a data center of 200 terabyte cloud technology-based data storage and maintenance capacity in a 60 m<sup>2</sup> room using an existing GSSMCU facility; and use the facility to host data system solutions for bigdata analytics and processing capabilities.</li> <li>2) Establish an internet-plus based agriculture input service system comprising (i) implementation of an information system for dissemination of agriculture marketing details, brand development, product advertisement, and pricing; (ii) an on-demand telephonic advisory services function through recruitment of 50 agriculture experts for providing remote digital advisory functions to farmers on agriculture techniques and related issues to improve productivity; (iii) implementation of information system enabling farmers to hire agricultural equipment, planning, and reserving cold storage logistic vehicles, and storage places; (iv) implementation of predictive analytic software solutions that provide information to farmers on national agricultural product demand; (v) procurement and configuration of IOT sensors to 100 fertilizer distributors and 10 agriculture material storehouses for collecting real-time statistics on consumption and demand planning of agriculture input resources, enabling farmers to place online orders for agricultural inputs and plan for their delivery; (vi) deployment of one stop online portal for accessing GSSMCU services; and (vii) undertake capacity development and knowledge sharing through seminars, development of training contents for farmers, online training, and multimedia-based promotional activities.</li> <li>3) Construct an organic fertilizer substrate plant (annual output of 30,000 tons) in Jiuquan.</li> <li>4) Construct a fertilizer production station (annual output of 5,000 tons) in Jiuquan and procure equipment for soil testing and fertilizer recommendation.</li> <li>5) Construct an agricultural products integrated logistics park including 2,088 m<sup>2</sup> of constant temperature library and sorting area, 2,290 m<sup>2</sup> of agricultural material warehouse, 8,926 m<sup>2</sup> of agricultural products trading market, 610 m<sup>2</sup> of agricultural materials sales area, 9,810 m<sup>2</sup> of shops, and 14,318 m<sup>2</sup> of service center and life service building.</li> <li>6) Open online flagship stores on the main e-commerce platform in the PRC.</li> </ol>	Gansu Agricultural Materials and Fertilizer Limited Company	SOE
2.	Zhangye Prefecture Linze County	Zhangye County-Level Internet-Plus Based Socialized Agricultural Service System in Linze County	<ol style="list-style-type: none"> <li>1) Agricultural socialization service village terminal site construction: rent 1,000 m<sup>2</sup> of the county-level agricultural socialization service center (one county-level center) and 77 village-level centers of 100–200 m<sup>2</sup> each; refurbish each office and procure office electronic equipment. Each village-level center to be operated by one to two staff.</li> <li>2) Purchase farm machinery for hire to farmers for land preparation and sowing, pesticide spraying using drones and crop harvesting.</li> <li>3) Agricultural products cold-chain warehousing logistics services: rent 4,000 m<sup>2</sup> of cold storage warehouse and 4,800 m<sup>2</sup> of warehouse; purchase cold chain equipment and 18 vehicles for product distribution.</li> <li>4) Rural logistics service construction: rent 1,000 m<sup>2</sup> county-level sorting center, 200 m<sup>2</sup> town-level sorting center, and rent 100 m<sup>2</sup> village-level sorting station ("sorting center")</li> </ol>	Linze Zhongyun Data Company	PPE

No.	City	Subproject Title	Activities and construction content	Implementing Company	SOE/ PPE
			<p>refers to items purchased by farmers from the internet and sorted into different categories to speed delivery); purchase eight electric medium-sized trucks for distribution and 73 electric minibuses for village-level logistic stations.</p> <p>5) Enter agreements with major e-commerce platform providers and facilitate farmers to trade their produce.</p> <p>6) Agricultural products off-line show shop: rent a 1,000 m<sup>2</sup> shop and purchase relevant exhibition equipment.</p> <p>7) Agricultural socialized financial services system construction: rent a 200 m<sup>2</sup> office building, 1,000 <i>mu</i> forage storage site, 1,000 <i>mu</i> open area (storage capacity of 1,000 tons) for temporary storage and sorting of waste organic matter (vegetable mulch, tree cuttings etc.; the waste then to be sent to subproject 3 for fertilizer and greenhouse substrate use), and 500 <i>mu</i> seed storage site. Purchase three sets of modular sheds (designed for quick installation and taking down) for storage and storage tarpaulins, and 100 x 1-ton seed safety storage tanks. Construct a county financial clearing system.</p>		
3.	Zhangye Prefecture Linze County	Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	<p>1) Gobi Desert agricultural construction site: (i) construct greenhouses (499 <i>mu</i> area) on new (undeveloped) desert lands leased by the company from the government for agriculture development including 30 intelligent solar greenhouses (using manual maintenance and cleaning), 20 intelligent connected steel arch greenhouses, 100 intelligent small arch greenhouses, four water storage tanks (each 5,000 m<sup>3</sup> capacity), access roads between greenhouses and limited on-site landscaping ("green belt").</p> <p>2) Construct facilities on the existing company land including: (i) central production line for drying summer vegetables, with annual output of 200 tons of freeze-dried and 2,000 tons of heat-dried vegetables (heat from biogas); (ii) production line for cultivation substrates with 50,000 tons annual output; (iv) insulated storehouse of 50,000 m<sup>3</sup>, covering a land area of 10,000 m<sup>2</sup>; and (c) Gobi agricultural IOT control demonstration center with three floors and a floor area of 2,840 m<sup>2</sup>, comprising the first floor for the IOT information control area, the second floor for IOT quality control area, and the third floor for IOT service area.</p> <p>3) Capacity development and knowledge management: (i) seminars and training sessions for farmers with whom contract farming agreements have been made; (ii) engagement with e-commerce platforms for marketing and trading of Gobi smart greenhouse produce involving the company; and (iii) establishing arrangements with Gansu Agriculture University for provision of specialist resource persons for developing and implementing training programs.</p>	Linze New Cooperation Baihui Business and Trade Limited Company	PPE <sup>a</sup>
4.	Wuwei Prefecture Gulang County	Wuwei Integrated Industry for Potatoes in Gulang County	<p>1) Construct a center building with a floor area of 6,500 m<sup>2</sup> for training related to socialized agricultural service system, including comprehensive office area, conference area, expert apartment, training, and exhibition area.</p> <p>2) Potato processed food research and processing center including: (i) construction of a 6,000 m<sup>2</sup> deep processing workshop, 1,500 m<sup>2</sup> finished product warehouse, 1,800 m<sup>2</sup> bio-fertilizer production workshop, and 2,000 m<sup>3</sup> liquid fertilizer storage tank; (ii) purchase two fresh-cut potato chip production lines with an annual output of 5,000 tons, purchase potato biscuit production line with an annual output of 5000 tons, and</p>	Gansu Zhengyang Service for Modern Agriculture Limited Company	PPE

No.	City	Subproject Title	Activities and construction content	Implementing Company	SOE/ PPE
			<p>purchase three molded potato chip production lines with an annual output of 5,000 tons; (iii) purchase microbial fertilizer production line with an annual output of 4,000 tons solid biological fertilizer and 16,000 tons liquid microbial fertilizer; and (iv) purchase 556 sets of other equipment.</p> <p>3) Potato standardized planting area: transfer 3000 <i>mu</i> land in Gaolingxin Village Gulang County for potato planting, and purchase 79 sets of equipment, with an annual output of 8,400 tons of potatoes for processing.</p>		
5.	Baiyin Prefecture Jingtai County	Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	<p>1) Licorice internet-plus system deployment: (i) procure software and equipment to develop the data acquisition, video surveillance, transmission network, and water and fertilizer integration systems; (ii) develop integration of data platforms between the Gansu platform (subproject 1) and the licorice data platform; (iii) implement traceability system for licorice; and (iv) develop decision processing system to regulate automated inputs replenishment (water and fertilizer) based on data collected through the licorice internet-plus platform.</p> <p>2) Establish standard operating processes and procure machinery for licorice seedling nursery (4,000 <i>mu</i>) and licorice planting area (60,000 <i>mu</i> through LURT).</p> <p>3) Licorice processing facility covering a land area of 43 <i>mu</i>, and a floor area of 17,727 m<sup>2</sup> including 2,473 m<sup>2</sup> licorice processing workshop, 1,690 m<sup>2</sup> licorice drying and cleaning workshop, 2,462 m<sup>2</sup> warehouse, 2,864 m<sup>2</sup> sunshine shed, 3,490 m<sup>2</sup> office building, 3,896 m<sup>2</sup> dormitory building, and 27,969 m<sup>2</sup> licorice drying square. Purchase software, hardware, and ancillary facilities, and licorice processing and product inspection equipment, etc.</p>	Jingmao Ecological Agricultural Technical Company Limited	PPE <sup>a</sup>
6.	Lanzhou Prefecture New District	Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	<p>1) Agricultural IOT based precision flower planting system and seedling base: construct a modern intelligent greenhouse with a floor area of 185,024 m<sup>2</sup>, including: seedling area of 87,808 m<sup>2</sup>, fresh-cut flower area of 87,808 m<sup>2</sup>, information center (3,173 m<sup>2</sup>), irrigation center (835 m<sup>2</sup>), fresh-cut flower processing workshop 4,800 m<sup>2</sup>, and 600 m<sup>2</sup> of aisles. Purchase 29 sets of new planting facilities and equipment, 353 sets of IOT equipment, and 24 sets of processing and testing equipment.</p> <p>2) Intelligent cold-chain logistic system for agricultural products: rent a 4,000 m<sup>2</sup> cold storage from Lanzhou New District Commercial Logistics Investment Group Co., Ltd.; reconstruct the cold chain infrastructure; purchase three sets of IOT facility and equipment, and five refrigerated vehicles (5-ton capacity).</p> <p>3) Information Center: construct an IOT control center (1,336 m<sup>2</sup>), modern marketing center for agricultural products (1,169 m<sup>2</sup>), training center (668 m<sup>2</sup>), and purchase 192 sets of equipment.</p>	Lanzhou New District Land Assets Investment and Management Limited Company	SOE
7.	Tianshui Prefecture	Tianshui Whole Industrial Chain Service System for Forage Mulberry	<p>1) Implementation of IOT platform for controlled growth of seedling and integrating with Gansu platform for product advertisement and selling of mulberry forage.</p> <p>2) Construct the following facilities within an existing national agricultural science and technology demonstration park: 852 m<sup>2</sup> training centre, 1,704 m<sup>2</sup> dormitory, conversion of a 1,512 m<sup>2</sup> building (previously used for tissue culture) for office space, pump houses and sewage network. Purchase equipment and software for electronic information management platform, and reapers for leasing to farmers.</p>	Tianshui Denong Supply and Marketing Seed Industry Limited Company	PPE <sup>a</sup>

No.	City	Subproject Title	Activities and construction content	Implementing Company	SOE/ PPE
			<p>3) Construct forage mulberry seedling tissue culture facility with an area of 39.8 <i>mu</i>, including 5,175 m<sup>2</sup> tissue culture centre, 3,630 m<sup>2</sup> #1 bottle seedling room and 3,840 m<sup>2</sup> #2 bottle seedling room (seedlings are kept in sterilized bottles at regulated temperatures, to minimize risk of bacterial invasion and to optimize growth). Purchase about 517 items of small operational equipment (e.g. sensors, sterilized bottles, etc).</p> <p>4) Construct seedling hardening center covering 78.9 <i>mu</i> including six 17,971 m<sup>2</sup> intelligent seedling hardening greenhouses, a 4,838 m<sup>2</sup> intelligent seedling greenhouse, a 1,200 m<sup>2</sup> seedling production workshop, a 1,620 m<sup>2</sup> storage warehouse (for temporary storage of soil materials and culture mediums to produce growing substrate for young mulberry plants), and a 2,430 m<sup>2</sup> silage fermentation workshop, distribution room, heat pump room, custody room, etc.. Purchase 80 sets of equipment.</p>		

GSSMCU = Gansu Supply and Marketing Cooperatives Union, IOT = internet-of-things, LURT = land use rights transfer, *mu* = Chinese unit of measurement (1 *mu* = 666.67 square meters or 0.067 hectares), m<sup>2</sup> = square meter, m<sup>3</sup> = cubic meter, PPE = participating private enterprise, PRC = People's Republic of China, SOE = state-owned enterprise.

<sup>a</sup> Although shown as PPEs, these enterprises have between 20% and 51% state ownership.

Sources: Domestic feasibility study reports.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

Indicative Activities	2019								2020				Responsibility
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
Advance contracting actions													
Retroactive financing actions													
ADB staff review meeting													ADB
Domestic EIA approved													PEEP
Domestic FSR approved													PDRC
PAR approved													NDRC,
FROR submission													
Procurement agency contracted													
Loan negotiations													ADB, MOF, GPG
ADB Board consideration													ADB
Loan and project agreements signed													ADB, MOF, GPG
Government legal opinion provided													MOF, GPG
Government budget inclusion													MOF, GPG
Loan effectiveness													ADB, MOF

ADB = Asian Development Bank, EIA = environmental impact assessment, FROR = Financial Review Opinion Report, FSR = feasibility study report, GPG = Gansu Provincial Government, MOF = Ministry of Finance, NDRC = National Development and Reform Commission, PAR = Proceeds Application Report, PDRC = Provincial Development and Reform Commission, PEEP = Provincial Ecological and Environmental Protection  
Source: Asian Development Bank.

## B. Overall Project Implementation Plan

[illegible]



No	Subproject Name/Indicative Activities	2019	2020				2021				2022				2023				2024				2025				2026
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Output 3: Capacity of Gansu Supply and Marketing Cooperatives Union improved																											
3.1	Project management support and capacity development																										
3.2	External social monitoring																										
3.3	Support for project start-up																										

Q = quarter.

Source: Asian Development Bank estimates.

### III. PROJECT MANAGEMENT ARRANGEMENTS

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

**Table 2: Project Implementation Organization**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
<b>Executing Agency:</b> Gansu Provincial Government (GPG) represented by Gansu Provincial Finance Department (PFD)	<ul style="list-style-type: none"> <li>➤ Provide the main contact point for the Asian Development Bank (ADB);</li> <li>➤ Provide overall guidance, coordination, supervision, and management for project preparation, and implementation;</li> <li>➤ Responsible for coordinating project implementation activities among provincial government agencies, such as Gansu Supply and Marketing Cooperatives Union (GSSMCU), Gansu PFD, Gansu Provincial Development and Reform Commission, Gansu Provincial Auditing Department, Gansu Provincial Department of Agriculture, Gansu Provincial Ecology and Environment Department, the Women's Federation, etc.;</li> <li>➤ Guidance on strategic issues and interagency coordination;</li> <li>➤ Open and manage the project advance account, and liquidation and replenishment of advances made;</li> <li>➤ Review, approve, and submit loan withdrawal applications to ADB on behalf of GPG;</li> <li>➤ Sign relending agreement with the county finance bureaus;</li> <li>➤ Monitor implementation of the onlending agreements under the project;</li> <li>➤ Release loan proceeds; and</li> <li>➤ Prepare and monitor repayment plan of ADB loan and repayment works.</li> </ul>
<b>Provincial Project Leading Group:</b> Gansu Provincial Foreign Debt Management Committee	<ul style="list-style-type: none"> <li>➤ Provide policy guidance during project implementation;</li> <li>➤ Facilitate interagency coordination and coordinate with other involved parties at the provincial level; and</li> <li>➤ Resolve institutional problems affecting project preparation and implementation at the concerned level.</li> </ul>
<b>Implementing Agency:</b> GSSMCU	<ul style="list-style-type: none"> <li>➤ Provide overall coordination of project preparation, and comprehensive supervision of project implementation;</li> <li>➤ On behalf of GPG, enter into project implementing agreements for the project with the project implementation units (PIU);</li> <li>➤ Supervise implementation of project implementation agreements; and</li> <li>➤ Promote replication of demonstrated technologies in the province.</li> </ul>
Project Management Office (PMO) under GSSMCU	<ul style="list-style-type: none"> <li>➤ On behalf of GPG, the executing agency, the PMO will be responsible for overall coordination and supervision of project implementation, including the following tasks:               <ul style="list-style-type: none"> <li>(i) Perform direct project management and implementation activities;</li> <li>(ii) Engage a procurement agent;</li> <li>(iii) Prepare annual work programs and budgets;</li> <li>(iv) Guide procurement activities, including the review and submission of bidding documents, bid evaluation reports, and other necessary documents to ADB for necessary approval;</li> <li>(v) Review and consolidate reimbursement requests from the respective project PIUs;</li> </ul> </li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>(vi) Consolidate and submit withdrawal applications to ADB through PFD;</li> <li>(vii) Prepare annual contract award and disbursement projections;</li> <li>(viii) Consolidate and submit the updated procurement plan to ADB for approval during project implementation;</li> <li>(ix) Provide oversight to the PIUs;</li> <li>(x) Guide and supervise, together with ADB, the project implementation consultants;</li> <li>(xi) Organize training and monitoring and evaluation, including project performance management system;</li> <li>(xii) Ensure environmental safeguards are complied with based on ADB's Safeguard Policy Statement (2009);</li> <li>(xiii) Implement, monitor, and report on land use right transfer framework, gender action plan, and social development action plan.</li> <li>(xiv) Monitor project progress and impact; and</li> <li>(xv) Consolidate, as agreed, and submit (a) semiannual progress reports, midterm report, and project completion report; (b) semiannual environmental and annual social monitoring reports; (c) annual statement of utilization of project funds; and (d) audited project financial statements to ADB and the government.</li> </ul>
County/City Finance Bureaus of five subproject counties	<ul style="list-style-type: none"> <li>➤ Sign onlending agreement with PFD;</li> <li>➤ Sign onlending agreements with the PIUs;</li> <li>➤ Review and approve reimbursement requests submitted by PIUs, and release loan proceeds to the PIUs; and</li> <li>➤ Ensure timely provision of counterpart funds.</li> </ul>
<b>Project Implementation Units:</b>  Seven subproject implementing companies <ul style="list-style-type: none"> <li>• Gansu Agricultural Materials and Fertilizer Co., Ltd.</li> <li>• Linze Zhongyun Data Company</li> <li>• Linze New Cooperation Baihui Business and Trade Limited Company</li> <li>• Gansu Zhengyang Service for Modern Agriculture Limited Company</li> <li>• Jingmao Ecological Agricultural Technical Company Limited</li> <li>• Lanzhou New District Land Assets Investment and</li> </ul>	<ul style="list-style-type: none"> <li>➤ Sign project implementing agreement with GSSMCU and onlending agreement with relevant county/city financial bureaus;</li> <li>➤ Comply with the project implementing agreement and onlending Agreement;</li> <li>➤ Manage the daily implementation of subprojects;</li> <li>➤ Participate in procurement for the subproject including providing technical specification for the BD preparation, attending the bid evaluation process by sending a representative to serve at the bid evaluation committee;</li> <li>➤ Establish and maintain the required project accounting arrangement and other implementation recording systems;</li> <li>➤ Sign and implement civil works and goods contracts;</li> <li>➤ Prepare withdrawal applications and submit to the county/city financial bureaus, for review and approval;</li> <li>➤ Submit the approved withdrawal applications to PMO;</li> <li>➤ Provide quality assurance and quality control for the project construction;</li> <li>➤ Check and review construction supervision works by the supervision agency;</li> <li>➤ Organize training for farmers and/or farmer cooperatives;</li> <li>➤ Take responsibility for the maintenance of civil works and goods;</li> <li>➤ Appoint a social and environmental focal staff;</li> <li>➤ Implement the PIU responsibilities for environmental safeguards as specified in the EMP, including coordination and inspection of contractors and works to ensure compliance with the EMP mitigation measures;</li> </ul>

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Management Limited Company <ul style="list-style-type: none"> <li>Tianshui Denong Supply and Marketing Seed Industry Limited Company</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ensure environmental and social safeguards are complied with based on ADB's Safeguard Policy Statement (2009); and</li> <li>➤ Monitor and submit project progress to the implementing agency, including (i) semiannual progress report, midterm report, and project completion report; (ii) semiannual environmental and annual social monitoring progress reports; (iii) semiannual gender action plan and social development action plan implementation reports; and (iv) audited entity financial statements.</li> </ul>
ADB	<ul style="list-style-type: none"> <li>➤ Support GPG to provide training related to ADB's policies, including procurement guidelines, financial management, loan disbursement, safeguards, and preparation of progress reports;</li> <li>➤ Provide guidance to ensure compliance with loan and project agreements;</li> <li>➤ Conduct regular loan review missions, a midterm review mission, and a project completion review mission;</li> <li>➤ Review and/or approve procurement actions for the ADB-financed procurement packages;</li> <li>➤ Process withdrawal applications and release loan funds;</li> <li>➤ Monitor project implementation progress;</li> <li>➤ Review annual audit reports and follow up on audit recommendations;</li> <li>➤ Update regularly the project performance review reports with the assistance of the executing and implementing agencies;</li> <li>➤ Update regularly the project information documents for public disclosure at ADB website, including safeguard documents; and</li> <li>➤ Monitor implementation of ADB's anticorruption policies.</li> </ul>

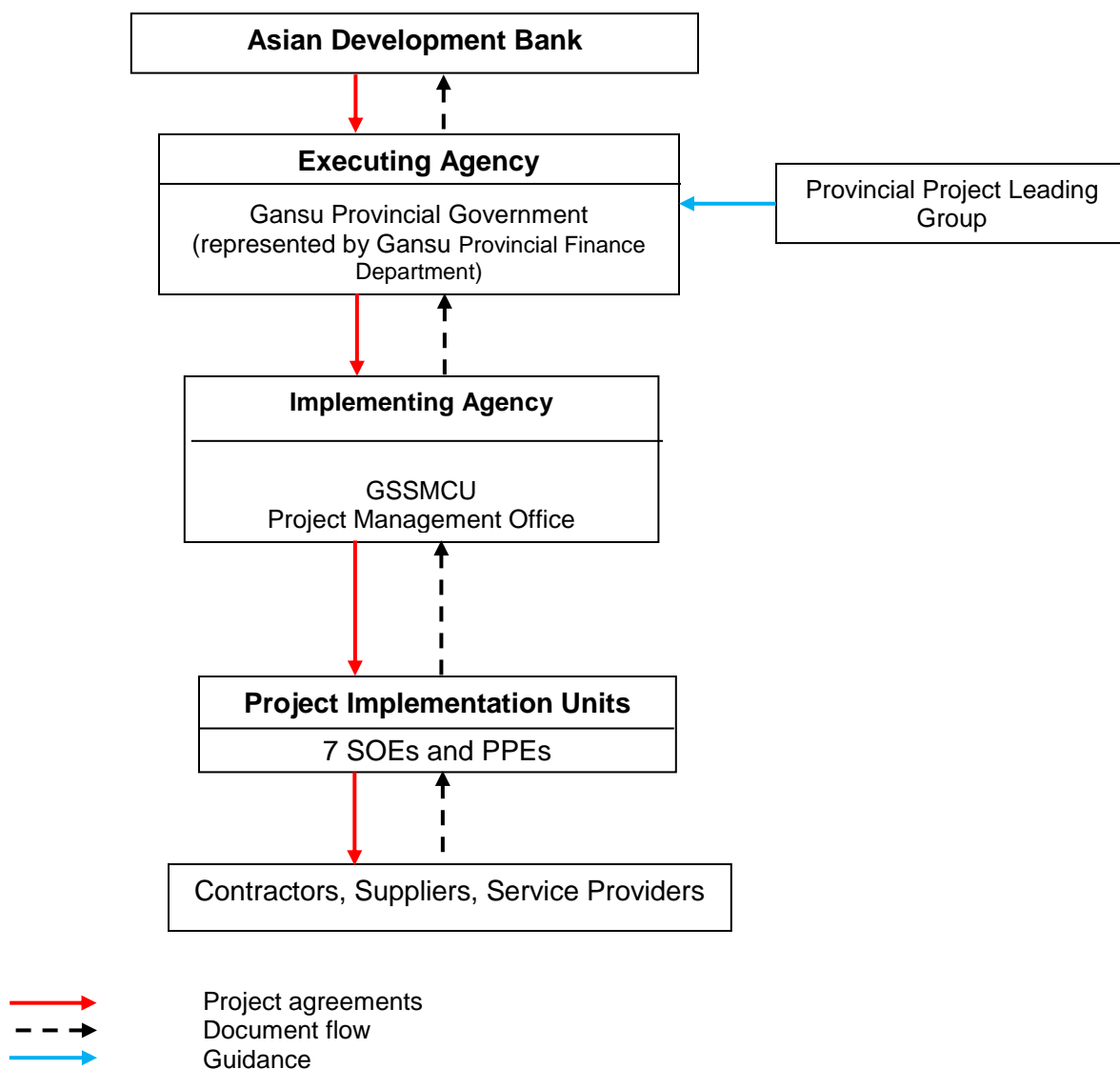
Source: Asian Development Bank.

## B. Key Persons Involved in Implementation

<b>Organization</b>	<b>Representative</b>
<b>Executing Agency</b>	
Gansu Provincial Government (GPG) represented by Gansu Provincial Finance Department	Cunsheng Ma Director of the International Division of Gansu Financial Department Tel. no.: 0931-8891040 Fax no.: 0931-8891043 Email: gpfdidyh@126.com Address: No. 696, Donggang Road, Chengguan District, Lanzhou City, Gansu Province People's Republic of China (PRC)
<b>Implementing Agency</b>	
Gansu Supply and Marketing Cooperatives Union (GSSMCU)	Xiaopeng Ji, Deputy Director of Project Implementation Office Tel. no.: 0931-8447139 Email: <a href="mailto:gshzjrc@163.com">gshzjrc@163.com</a> Address: No.28, Zhongshan Road, Chengguan District, Lanzhou City, Gansu Province, PRC
<b>Project Implementation Units</b>	
Gansu Agricultural Materials and Fertilizer Co., Ltd.	Li Ma Deputy Director, Administrative Comprehensive Office Tel. no.: 13028791223 Fax no.: 09314505100 Email: 641770297qq.com

Organization	Representative
	Address: No. 450, Qingyang Road, Chengguan District, Lanzhou City, Gansu Province, PRC
Linze Zhongyun Data Company	Chairman Office General Manager Fax no.: 18909367788 Email: <a href="mailto:jialiu52@163.com">jialiu52@163.com</a> Address: No. 2 Building of E-business Demonstration Park of Linze County, Zhangye City, Gansu Province, PRC
Linze New Cooperation Baihui Business and Trade Limited Company	Wei Hu Director, ADB Loan Project Division Tel. no.: 18609369088 Fax no.: 0936-5953580 Email: <a href="mailto:Huwei13309369188@163.com">Huwei13309369188@163.com</a> Address: No.176, Xianfu Street, Linze County, Zhangye City, Gansu Province, PRC
Gansu Zhengyang Service for Modern Agriculture Limited Company	Xiaojuan, Wang Vice-General Manager and Secretary Tel. no.: 13893537766 Email: <a href="mailto:493767982qq.com">493767982qq.com</a> Address: C Area of International Inland Port Industrial Park of Gulang County, Wuwei City, Gansu Province, PRC
Jingmao Ecological Agricultural Technical Company Limited	Shixiong Zhang Chief Executive Officer, Administrative Comprehensive Office Tel. no: 13830012118 Fax no.: 0943-5580296 Email: <a href="mailto:250609993@qq.com">250609993@qq.com</a> Address: Huanghe Road, Jingtai County, Baiyin City, Gansu Province, People's Republic of China (PRC)
Lanzhou New District Land Assets Investment and Management Limited Company	Kaikai Zhu Head of Operational Management Sector Tel. no.: 18189687731 Email: <a href="mailto:314196626@qq.com">314196626@qq.com</a> Address: Towards 200 meters south of the intersection of Jin 7 Road and 201, Lanzhou New District, Gansu Province, People's Republic of China (PRC)
Tianshui Denong Supply and Marketing Seed Industry Limited Company	Zhanhai Zhang General Manager, Project Division Tel. no.: 13909385652 Email: <a href="mailto:497311413@qq.com">497311413@qq.com</a> Address: National Agricultural Technology Demonstration Park
<b>Asian Development Bank</b>	
East Asia Department Environment, Natural Resources, and Agriculture Division	Qingfeng Zhang Director Tel. no.: +63-2-632-6769/4444 Fax no.: +63-2-636-2534/2444 Email: <a href="mailto:qingfengzhang@adb.org">qingfengzhang@adb.org</a> Address: 6 ADB Avenue, Mandaluyong 1550 Manila, Philippines
Mission Leader	Jan Hinrichs Senior Natural Resources Economist Tel. no.: +63 2 632-1582 Fax no.: +63-2-636-2534/2444 Email: <a href="mailto:jhinrichs@adb.org">jhinrichs@adb.org</a> Address: 6 ADB Avenue, Mandaluyong 1550 Manila, Philippines

### C. Project Organization Structure



GSSMCU = Gansu Supply and Marketing Cooperatives Union, PPE = participating private enterprise, SOE = state-owned enterprise.

Source: Asian Development Bank.

#### IV. COSTS AND FINANCING

17. The project is estimated to cost €163.48 million. The project investment costs include goods, works, and consulting services to support the development of comprehensive information services and management platforms; modernization of agricultural processing, storage, and marketing facilities; and modernization of agricultural production; as well as project management.

18. The Government of the PRC has requested a regular loan of €118.00 million from ADB's ordinary capital resources to help finance the project. The loan will have a 15-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; a commitment charge of 0.15% per year; and such other terms and conditions set forth in the draft loan and project agreements. Based on the above loan terms and the borrower's choice of straight-line method, the average loan maturity is 10.25 years, with no maturity premium payable to ADB. The government will make the loan proceeds available to the city governments, which in turn will make the loan proceeds available to the subproject enterprises on terms and conditions acceptable to ADB.

19. The ADB loan will finance 72.18% of the total project costs, including expenditures relating to civil works, goods, consulting services, and taxes and duties of €8.4 million for eligible ADB-financed expenditures. Participating enterprises will contribute 27.80% of the total project costs, including the balance of expenditures relating to civil works and goods, capacity building at the subproject level, subproject management and taxes and duties of €3.3 million. The provincial government will contribute 0.02%, comprising the interest and commitment for the capacity building of GSSMCU (Output 3).

##### A. Cost Estimates Preparation and Revisions

20. **Preparation.** The cost estimates were prepared jointly by the design institute, the project management office (PMO), the project implementation offices, and ADB with assistance from the transaction technical assistance (TA) consultants. The sources and basis of cost estimates were reviewed during project preparation and confirmed by related parties. The process was facilitated by a model in excel software which enabled easy updating or revision, if necessary. The model is maintained by both the PMO and ADB.

21. **Revision.** Revision of cost estimates will be conducted when deemed necessary during implementation. The PMO will be responsible in proposing and drafting the revision which will be subject to ADB's approval.

##### B. Key Assumptions

22. The following key assumptions underpin the cost estimates and financing plan:
- (i) Exchange rate: CNY7.67966 = €1.00 (as of 31 July 2019).
  - (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

**Table 3: Escalation Rates for Price Contingency Calculation**

Item	2019	2020	2021	2022	2023	2024	Average
Foreign rate of price inflation (%)	1.50	1.50	1.60	1.60	1.60	1.60	1.56
Domestic rate of price inflation (%)	2.20	2.30	2.30	2.40	2.40	2.40	2.33

Source: Asian Development Bank estimates.

### C. Detailed Cost Estimates by Expenditure Category

**Table 4: Detailed Cost Estimates by Expenditure Category**

Item	CNY Million			€ million			% of Base Cost
	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total	
<b>A. Investment Costs</b>							
1. Civil works	90.71	362.86	453.57	11.81	47.25	59.06	40.12
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	20.25	81.01	101.27	2.64	10.55	13.19	8.96
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	-	-	-	-	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	8.91	35.66	44.57	1.16	4.64	5.80	3.94
d. Wuwei Integrated Industry for Potatoes in Gulang County	10.73	42.92	53.65	1.40	5.59	6.99	4.75
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	10.86	43.42	54.28	1.41	5.65	7.07	4.80
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	21.40	85.60	107.00	2.79	11.15	13.93	9.47
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	18.56	74.24	92.80	2.42	9.67	12.08	8.21
2. Civil works (non-ADB financed)	5.24	20.95	26.18	0.68	2.73	3.41	2.32
3. Equipment and Materials	256.17	170.78	426.96	33.36	22.24	55.60	37.77
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	30.32	20.21	50.53	3.95	2.63	6.58	4.47
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	65.04	43.36	108.39	8.47	5.65	14.11	9.59
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	20.06	13.37	33.43	2.61	1.74	4.35	2.96
d. Wuwei Integrated Industry for Potatoes in Gulang County	40.97	27.32	68.29	5.34	3.56	8.89	6.04
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	17.23	11.49	28.72	2.24	1.50	3.74	2.54
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	54.60	36.40	91.00	7.11	4.74	11.85	8.05
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	27.95	18.64	46.59	3.64	2.43	6.07	4.12
4. Equipment and Materials (non-ADB financed)	22.72	90.86	113.58	2.96	11.83	14.79	10.05
5. Consulting Services	1.03	9.28	10.31	0.13	1.21	1.34	0.91
6. Capacity Building	1.90	17.14	19.05	0.25	2.23	2.48	1.69
7. Project Management	-	65.41	65.41	-	8.52	8.52	5.89
8. Unallocated	15.36	-	15.36	2.00	-	2.00	1.36
<b>Subtotal (A)</b>	<b>393.14</b>	<b>737.28</b>	<b>1,130.42</b>	<b>51.19</b>	<b>96.00</b>	<b>147.20</b>	<b>100.00</b>



Item	CNY Million			€ million			% of Base Cost
	Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total	
<b>B. Contingencies</b>							
1. Physical Contingency	18.84	36.40	55.24	2.45	4.74	7.19	4.89
2. Price Contingency	12.43	34.75	47.18	1.54	3.22	4.76	3.23
<b>Subtotal (B)</b>	<b>31.26</b>	<b>71.15</b>	<b>102.42</b>	<b>3.99</b>	<b>7.96</b>	<b>11.95</b>	<b>8.12</b>
<b>C. Financing Charges During Implementation</b>	-	33.75	33.75	-	4.33	4.33	2.94
<b>Total Project Cost (A+B+C)</b>	<b>424.40</b>	<b>842.18</b>	<b>1,266.58</b>	<b>55.18</b>	<b>108.30</b>	<b>163.48</b>	<b>111.06</b>

ADB = Asian Development Bank.

Note: Numbers may not sum up precisely because of rounding.

Sources: ADB estimates.

**D. Allocation and Withdrawal of Loan Proceeds****Table 5: Allocation and Withdrawal of Loan Proceeds**

<b>ADB Financing</b>		
<b>Item</b>	<b>Amount Allocated (€)</b>	<b>Percentage and Basis for Withdrawal from the Loan Account</b>
<b>Category</b>		
Project Costs <sup>a</sup>	118,000,000	100% of total expenditure claimed
<b>Total</b>	<b>118,000,000</b>	

ADB = Asian Development Bank.

<sup>a</sup> Subject to the condition for withdrawal described in loan agreement paragraph 6 of Schedule 3.

## E. Detailed Cost Estimates by Financier

**Table 6: Detailed Cost Estimates by Financier**  
(€ million)

				(C Million)							
Item				ADB		Participating Enterprises		Provincial Government		Total Cost	
				Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category		
A. Investment Costs											
1. Civil works				59.06	100.00	-	-	-	-	-	59.06
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform				13.19	100.00	-	-	-	-	-	13.19
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County				-	-	-	-	-	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County				5.80	100.00	-	-	-	-	-	5.80
d. Wuwei Integrated Industry for Potatoes in Gulang County				6.99	100.00	-	-	-	-	-	6.99
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County				7.07	100.00	-	-	-	-	-	7.07
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District				13.93	100.00	-	-	-	-	-	13.93
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry				12.08	100.00	-	-	-	-	-	12.08
2. Civil works (non-ADB financed)				-	-	3.41	100.00	-	-	-	3.41
3. Equipment and Materials				55.60	100.00	-	-	-	-	-	55.60
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform				6.58	100.00	-	-	-	-	-	6.58
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County				14.11	100.00	-	-	-	-	-	14.11
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County				4.35	100.00	-	-	-	-	-	4.35
d. Wuwei Integrated Industry for Potatoes in Gulang County				8.89	100.00	-	-	-	-	-	8.89
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County				3.74	100.00	-	-	-	-	-	3.74
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District				11.85	100.00	-	-	-	-	-	11.85

Item	ADB		Participating Enterprises		Provincial Government		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	6.07	100.00	-	-	-	-	6.07
4. Equipment and Materials (non-ADB financed)	-	-	14.79	100.00	-	-	14.79
5. Consulting Services	1.34	100.00	-	-	-	-	1.34
6. Capacity Building	-	-	2.48	100.00	-	-	2.48
7. Project Management	-	-	8.52	100.00	-	-	8.52
8. Unallocated	2.00	100.00	-	-	-	-	2.00
<b>Subtotal (A)</b>	<b>118.00</b>	<b>80.17</b>	<b>29.20</b>	<b>19.08</b>	<b>-</b>	<b>-</b>	<b>147.20</b>
<b>B. Contingencies</b>							
1. Physical Contingency	-	-	7.19	100.00	-	-	7.19
2. Price Contingency	-	-	4.76	100.00	-	-	4.76
<b>Subtotal (B)</b>	<b>-</b>	<b>-</b>	<b>11.95</b>	<b>100.00</b>	<b>-</b>	<b>-</b>	<b>11.95</b>
<b>C. Financing Charges During Implementation</b>	<b>-</b>	<b>-</b>	<b>4.30</b>	<b>99.24</b>	<b>0.03</b>	<b>0.76</b>	<b>4.33</b>
<b>Total Project Cost (A+B+C)</b>	<b>118.00</b>	<b>72.18</b>	<b>45.44</b>	<b>27.80</b>	<b>0.03</b>	<b>0.02</b>	<b>163.48</b>
<b>% Total Project Cost</b>		<b>72.18</b>		<b>27.80</b>		<b>0.02</b>	<b>100.00</b>

ADB = Asian Development Bank.

Note: Numbers may not sum up precisely because of rounding.

Source: ADB estimates.

## F. Detailed Cost Estimates by Outputs and/or Components

**Table 7: Detailed Cost Estimates by Outputs**  
(€ million)

Item	Total Cost	Output 1		Output 2		Output 3	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>							
1. Civil works	59.06	13.19	22.33	45.87	77.67	-	-
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	13.19	13.19	100.00	-	-	-	-
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	-	-	-	-	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	5.80	-	-	5.80	100.00	-	-
d. Wuwei Integrated Industry for Potatoes in Gulang County	6.99	-	-	6.99	100.00	-	-
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	7.07	-	-	7.07	100.00	-	-
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	13.93	-	-	13.93	100.00	-	-
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	12.08	-	-	12.08	100.00	-	-
2. Civil works (non-ADB financed)	3.41	0.90	26.27	2.51	73.73	-	-
3. Equipment and Materials	55.60	20.69	37.22	34.90	62.78	-	-
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	6.58	6.58	100.00	-	-	-	-
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	14.11	14.11	100.00	-	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	4.35	-	-	4.35	100.00	-	-
d. Wuwei Integrated Industry for Potatoes in Gulang County	8.89	-	-	8.89	100.00	-	-
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	3.74	-	-	3.74	100.00	-	-
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	11.85	-	-	11.85	100.00	-	-

Item	Total Cost	Output 1		Output 2		Output 3	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	6.07	-	-	6.07	100.00	-	-
4. Equipment and Materials (non-ADB financed)	14.79	2.38	16.10	12.41	83.90	-	-
5. Consulting Services	1.34	-	-	-	-	1.34	100.00
6. Capacity Building	2.48	1.10	44.20	1.38	55.80	-	-
7. Project Management	8.52	2.90	34.01	5.62	65.99	-	-
8. Unallocated	2.00	-	-	2.00	100.00	-	-
<b>Subtotal (A)</b>	<b>147.20</b>	<b>41.15</b>	<b>27.96</b>	<b>104.70</b>	<b>71.13</b>	<b>1.34</b>	<b>0.91</b>
<b>B. Contingencies</b>							
1. Physical Contingency	7.19	2.06	28.61	5.14	28.61	-	-
2. Price Contingency	4.76	1.32	27.78	3.44	72.22	-	-
<b>Subtotal (B)</b>	<b>11.95</b>	<b>3.38</b>	<b>28.28</b>	<b>8.57</b>	<b>71.72</b>	-	-
<b>C. Financing Charges During Implementation</b>	<b>4.33</b>	<b>0.96</b>	<b>22.16</b>	<b>3.34</b>	<b>77.08</b>	<b>0.03</b>	<b>0.76</b>
<b>Total Project Cost (A+B+C)</b>	<b>163.48</b>	<b>45.49</b>	<b>27.83</b>	<b>116.61</b>	<b>71.33</b>	<b>1.38</b>	<b>0.84</b>

ADB = Asian Development Bank.

Note: Numbers may not sum up precisely because of rounding.

Source: ADB estimates.

**G. Detailed Cost Estimates by Year****Table 8: Detailed Cost Estimates by Year**

(€ million)

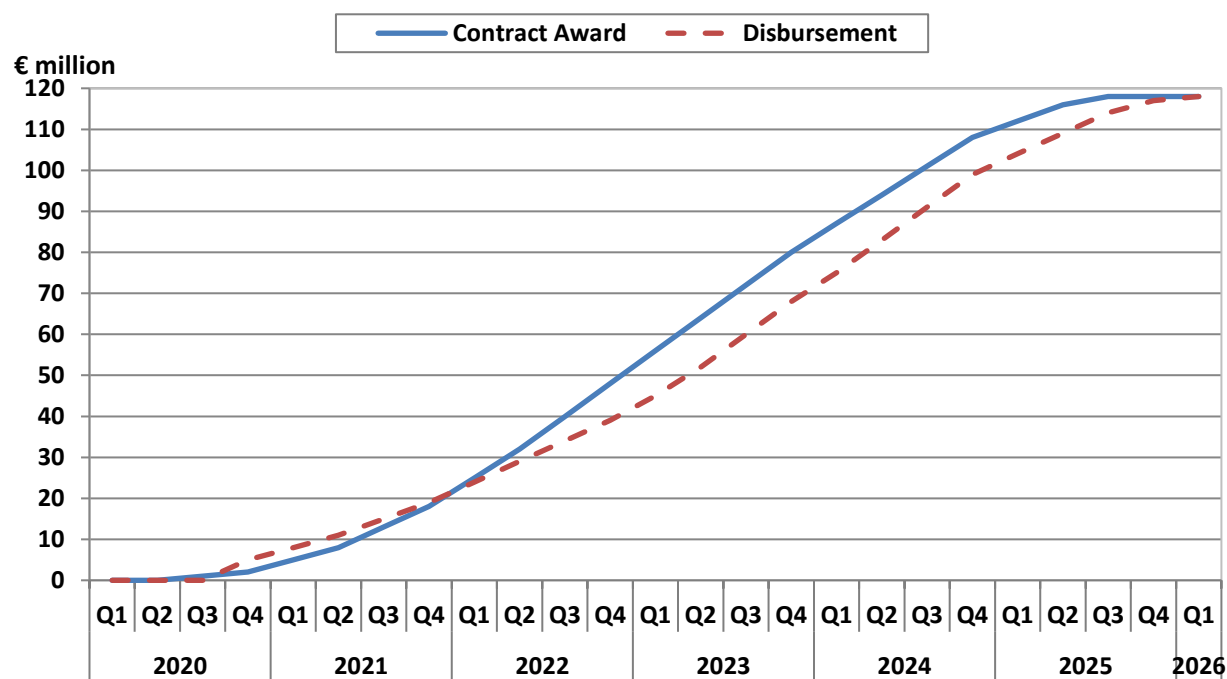
Item	Total Cost	2020	2021	2022	2023	2024	2025
<b>A. Investment Costs</b>							
1. Civil works	59.06	24.88	22.97	11.17	0.05	-	-
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	13.19	1.83	6.81	4.54	-	-	-
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	-	-	-	-	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	5.80	3.13	2.08	0.59	-	-	-
d. Wuwei Integrated Industry for Potatoes in Gulang County	6.99	-	3.97	3.01	-	-	-
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	7.07	-	4.95	2.12	-	-	-
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	13.93	13.93	-	-	-	-	-
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	12.08	5.99	5.15	0.90	0.05	-	-
2. Civil works (non-ADB financed)	3.41	1.33	2.07	-	-	-	-
3. Equipment and Materials	55.60	34.28	10.52	9.22	1.59	-	-
a. Gansu Internet-Plus Based Socialized Agricultural Service System Platform	6.58	5.60	-	0.98	-	-	-
b. Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	14.11	8.21	2.04	3.86	-	-	-
c. Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County	4.35	2.47	1.77	0.11	-	-	-
d. Wuwei Integrated Industry for Potatoes in Gulang County	8.89	6.15	1.52	1.22	-	-	-
e. Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	3.74	-	2.54	1.20	-	-	-
f. Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	11.85	11.85	-	-	-	-	-
g. Tianshui Whole Industrial Chain Service System for Paper Mulberry	6.07	-	2.64	1.84	1.59	-	-
4. Equipment and Materials (non-ADB financed)	14.79	1.85	11.39	1.55	-	-	-
5. Consulting Services	1.34	0.32	0.38	0.38	0.13	0.13	-
6. Capacity Building	2.48	0.78	0.95	0.69	0.05	-	-
7. Project Management	8.52	6.51	1.52	0.48	-	-	-
8. Unallocated	2.00	-	-	-	-	2.00	-
<b>Subtotal (A)</b>	<b>147.20</b>	<b>69.96</b>	<b>49.80</b>	<b>23.50</b>	<b>1.81</b>	<b>2.13</b>	<b>-</b>
<b>B. Contingencies</b>							
1. Physical Contingency	7.19	3.48	2.47	1.16	0.08	-	-
2. Price Contingency	4.76	1.78	2.08	0.84	0.06	-	-
<b>Subtotal (B)</b>	<b>11.95</b>	<b>5.26</b>	<b>4.55</b>	<b>1.99</b>	<b>0.14</b>	<b>-</b>	<b>-</b>
<b>C. Financing Charges During Implementation</b>	<b>4.33</b>	<b>0.37</b>	<b>0.63</b>	<b>0.79</b>	<b>0.85</b>	<b>0.86</b>	<b>0.83</b>
<b>Total Project Cost (A+B+C)</b>	<b>163.48</b>	<b>75.59</b>	<b>54.99</b>	<b>26.28</b>	<b>2.81</b>	<b>2.98</b>	<b>0.83</b>
<b>% Total Project Cost</b>		<b>46.24</b>	<b>33.64</b>	<b>16.08</b>	<b>1.72</b>	<b>1.83</b>	

ADB = Asian Development Bank.

Note: Numbers may not sum up precisely because of rounding.

Source: ADB estimates.

## H. Contract and Disbursement S-Curve



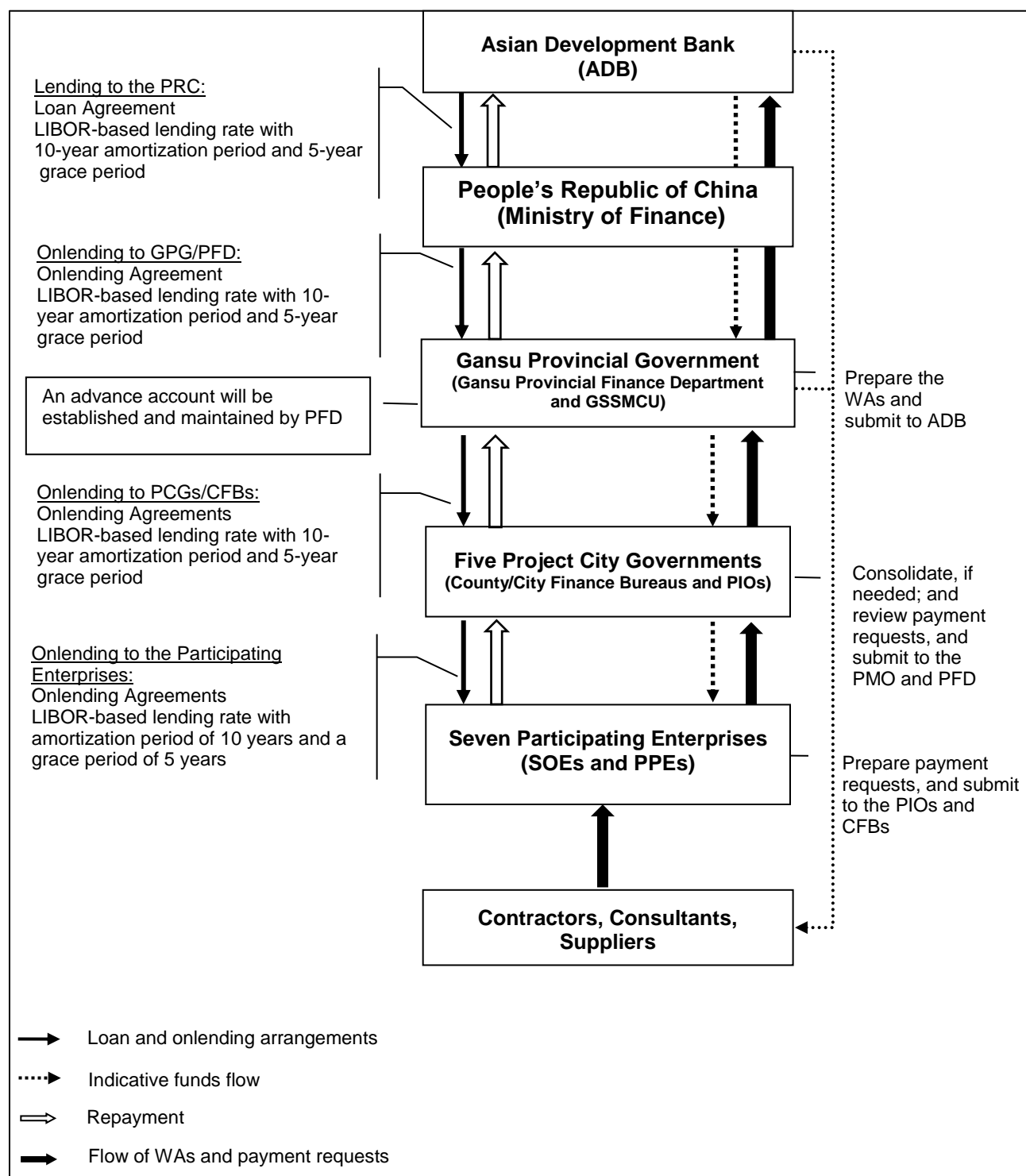
(€ million)

Year	Contract Award					Disbursement				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	0.0	0.0	1.0	1.0	2.0	0.0	0.0	0.0	5.0	5.0
2021	3.0	3.0	5.0	5.0	16.0	3.0	3.0	4.0	4.0	14.0
2022	7.0	7.0	8.0	8.0	30.0	5.0	5.0	5.0	5.0	20.0
2023	8.0	8.0	8.0	8.0	32.0	6.0	7.0	8.0	8.0	29.0
2024	7.0	7.0	7.0	7.0	28.0	7.0	8.0	8.0	8.0	31.0
2025	4.0	4.0	2.0	0.0	10.0	5.0	5.0	5.0	3.0	18.0
2026	0.0				0.0	1.0				1.0
<b>Total</b>					<b>118.0</b>					<b>118.0</b>

Source: Asian Development Bank estimates.



## I. Fund Flow Diagram



CFB = city finance bureau, GPG = Gansu Provincial Government, GSSMCU = Gansu Supply and Marketing Cooperatives Union, LIBOR = London interbank offered rate, PCG = project city government, PFD = Gansu Province Finance Department, PIO = project implementation office, PMO = project management office, PPE = private participating enterprise, PRC = People's Republic of China, SOE = state-owned enterprise, WA = withdrawal application.

Source: Asian Development Bank estimates.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

23. The financial management assessment is conducted in accordance with ADB's Guidelines on the Financial Management and Analysis of Projects (2005), Financial Due Diligence: A Methodology Note, and Technical Guidance Note: Financial Management Assessment (2015). The financial management assessment assesses the financial management capacity of GPG (involving the PFD), GSSMCU, the implementing agency of the project and seven project participating agencies that act as PIUs to respectively implement each of the seven subprojects under the project. The assessment covers funds-flow arrangements, staffing, accounting and financial reporting systems, internal and external auditing arrangements, and financial information systems.

24. The assessment confirms that the executing agency, the implementing agency, and the seven PIUs have satisfactory financial management capacity and capability to effectively and efficiently implement the project, including administering statement of expenditure procedure. The PFD has managed the advance accounts of several ADB-financed projects in Gansu which established its financial management capacity as satisfactory.

25. The identified main financial management risks are: (i) less familiar with ADB disbursement procedures and requirements which could delay project implementation, (ii) less familiar with ADB requirements on accounting, reporting, and auditing, which may delay project reporting and detail identification of issues on the use of loan proceeds, and (iii) delay in the provision of counterpart funds which could delay project implementation. The overall financial management risk-rating of the project before considering mitigating measures is moderate.

26. The identified financial management risks will be mitigated by the proposed action plan as shown in Table and will be closely monitored during project implementation.

**Table 9: Financial Management Action Plan**

Action	Responsibility	Timing
1. Training on ADB financial management requirements and procedures, including disbursement, accounting, auditing, and reporting	implementing agency/PMO/PIUs/Provincial Finance Department /Provincial Audit /ADB	1 month before loan effectiveness
2. Recruitment of experienced financial management consultant to support project implementation and further enhance financial management capacities	implementing agency/PMO/PIUs	During consulting service recruitment
3. Deployment of financial management staff with adequate English language proficiency	implementing agency/PMO/PIUs	Before loan effectiveness
4. Development of financial management manuals	implementing agency/PMO/PIUs/Provincial Finance Department	Before loan effectiveness

ADB = Asian Development Bank, PMO = project management office, PIU= project implementation unit.

Source: Asian Development Bank.

## B. Disbursement

### 1. Disbursement Arrangements for ADB Funds

27. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),<sup>15</sup> and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.<sup>16</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

28. No withdrawals may be made from the Loan Account for onlending to a PIU until GPG, through the PMO, has delivered to ADB an Onlending Agreement, using the template agreed upon between GPG and ADB, between the PIU and an appropriate government finance bureau and a Project Implementation Agreement, using the template agreed upon between GPG and ADB, between the PIU, project implementing agency, and related local government.

29. The county finance bureaus, in collaboration with the PIUs, will prepare withdrawal applications and submit them to ADB through GSSMCU. At the end of each year, GSSMCU will prepare realistic projections of contract awards and disbursements for the following year and submit them to GFD for approval prior to submitting to ADB.

30. GSSMCU will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds for government-financed activities, (iii) collecting supporting documents, and (iv) preparing withdrawal applications. GSSMCU will consolidate and send the withdrawal applications to ADB. Subproject PIUs will be responsible for providing counterpart funds for subproject implementation.

31. **Advance fund procedure.** The Provincial Finance Department (PFD) will establish a separate advance account promptly after loan effectiveness at a commercial bank. The currency of the advance account is the Euro. The advance account is to be used exclusively for ADB's share of eligible expenditures. PFD, which administers the advance account, is accountable and responsible for proper use of advances to the advance account.

32. The loan proceeds will be released from PFD advance account based on the claims made by the subproject state-owned enterprises (SOE)/private participating enterprises (PPE) through the county finance bureaus.

33. The total outstanding advance to the advance account should not exceed the estimate of ADB's share of expenditures to be paid through the advance account for the forthcoming 6 months. PFD may request for initial and additional advances to the advance account based on an Estimate of Expenditure Sheet setting out the estimated expenditures to be financed through the account for the forthcoming 6 months.<sup>17</sup> Supporting documents should be submitted to ADB or retained by PFD, GSSMCU, or the SOEs/PPEs in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), and other detailed arrangements agreed by ADB and the government. The *Loan Disbursement Handbook* 2017, as amended from time to

<sup>15</sup> The handbook is available electronically from the ADB website. <http://www.adb.org/documents/loan-disbursement-handbook>

<sup>16</sup> Disbursement eLearning. [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning)

<sup>17</sup> The estimate of expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

time), describes which supporting documents should be submitted to ADB and which should be retained by the government for liquidation and replenishment of the advance account.

34. **Statement of expenditure procedure.**<sup>18</sup> The statement of expenditure procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the advance account. Supporting documents and records for the expenditures claimed under the statement of expenditure should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments exceeding the statement of expenditure ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

35. Before the submission of the first withdrawal application, the government should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in ADB's *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid (i) by the SOEs/PPEs, and subsequently claimed to ADB through reimbursement; or (ii) through the advance fund procedure, unless otherwise accepted by ADB. PFD should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements system is encouraged for submission of withdrawal applications to ADB.<sup>19</sup>

## **2. Disbursement Arrangements for Counterpart Funds**

36. Counterpart funds will come from PIUs which will contribute €45.44 million, or 27.80% of the total project cost, to finance part of civil works; equipment; environmental management and monitoring; social safeguards monitoring; surveys, design, and supervision; taxes and duties for civil works and equipment; and contingencies.

### **C. Accounting**

37. GSSMCU and each PIU will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following Accounting Methods for Projects Financed by the World Bank (reference No. 2000 [13]).<sup>20</sup> Each PIU will prepare annual statement of utilization of project funds for submission to GSSMCU. GSSMCU will consolidate the annual statement of utilization of project funds and prepare financial statements for the project in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

### **D. Auditing and Public Disclosure**

38. GSSMCU will cause the detailed consolidated project financial statements to be audited in accordance with the International Standards on Auditing and the PRC's auditing standards by an auditor acceptable to ADB. The audited project financial statements together with the auditor's

<sup>18</sup> The statement of expenditure forms are available in Appendixes 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>19</sup> The Client Portal for Disbursement system facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The forms to be completed by the borrower are available online at <https://www.adb.org/documents/client-portal-disbursements-guide>.

<sup>20</sup> Accounting regulations issued by the Ministry of Finance for all foreign aid-funded projects.

opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by GSSMCU.

39. The audited entity financial statements of PIUs, together with the auditor's report, will be submitted in English language to ADB within 1 month after their approval by the relevant authority.

40. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover whether the (i) project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) proceeds of the loan were used only for the purposes of the project; and (iii) borrower or executing agency was in compliance with the financial covenants contained in the legal agreements.

41. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision; and followed up regularly with all concerned, including the external auditor.

42. GPG, GSSMCU, and the subproject enterprises have been made aware of ADB's approach to delayed submission; and the requirements for satisfactory and acceptable quality of the audited project financial statements.<sup>21</sup> ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower); or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB; or if the audits are substantially delayed. ADB reserves the right to verify the project's financial account to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

43. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy<sup>22</sup> and Section 2.09 of the Project Agreement.<sup>23</sup> After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements not later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter and additional auditor's opinions will not be disclosed.

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<sup>21</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

<sup>22</sup> Available at <https://www.adb.org/documents/access-information-policy>.

<sup>23</sup> Accessible from the list of linked documents in Appendix 2 of the Report and Recommendation of the President.

## VI. PROCUREMENT AND CONSULTING SERVICES

44. A project procurement risk assessment was conducted for the project, in accordance with the Guide on Assessing Procurement Risks and Determining Project Procurement Classification (ADB, 2015). Overall project procurement risk is moderate.

45. The main weaknesses identified include: (i) lack of experience of the implementing agencies in internationally financed projects; (ii) some discrepancies between domestic and ADB practices; and (iii) lack of procedures in place for procurement management and project implementation.

46. Proposed mitigation measures include training to be provided to relevant staff of PMO and PIUs, and other stakeholder agencies. The procurement trainings were delivered by the ADB officials and transaction TA consultants during the project preparation to the PMO and PIUs on topics in ADB procedures for procurement of goods, works and consulting services to ensure that the non-familiarity with ADB procurement framework has been addressed. The procurement trainings will be delivered on a well-defined interval by national project procurement and management consultant for initial project management support and the loan implementation consultants during the project implementation to ensure that procurement activities are undertaken in full conformity with ADB procurement policy and regulations.

47. A procurement market assessment was undertaken to understand and assess the availability of potential qualified bidders to supply works, goods and services for each sector. It was concluded that no works contracts would require international advertising to attract enough qualified bidders but two goods supply contract requires international advertising due to the following reasons: (i) the civil works for project components are all normal infrastructures requiring only mature technology which are widely available nationally; (ii) contract values of civil works are relatively small for attracting international contractors; (iii) there are good number of national bidders who have adequate capacities and resources to meet the requirements; (iv) practices evidenced that all bidders were national though the contracts were advertised internationally; and (v) some goods are high level technology and need to be imported so that the contract using internationally advertising are worthwhile. All works contracts can therefore be advertised nationally following open competitive bidding (OCB) procedures.

### A. Advance Contracting and Retroactive Financing

48. Advance contracting will apply to the urgent procurement of civil works and goods, and recruitment of consulting services. All advance contracting and retroactive financing will be undertaken in conformity with ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).<sup>24</sup>

49. **Retroactive financing.** Retroactive financing will apply to the urgent procurement of civil works and goods. Retroactive financing will be subject to a maximum amount equivalent to 20% of the loan amount for eligible expenditures incurred prior to loan effectiveness, but not earlier than 12 months before the loan agreement is signed.

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<sup>24</sup> Available at: <https://www.adb.org/documents/adb-procurement-policy>

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

50. All procurement of the ADB-financed works, goods and non-consulting services, and consulting services will be undertaken in accordance with Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

51. Before the start of any procurement, ADB and the government will review the public procurement laws and regulations of the national and provincial governments to ensure that all procurement transactions undertaken are consistent with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

52. A procurement plan for the initial 18 months period indicating methods and review procedures; works, goods and non-consulting services, and consulting service contract packages; and guidelines for open competitive bidding national advertising are in Section C.

### **1. Open Competitive Bidding**

53. OCB will be used for contracts estimated to cost over \$200,000 equivalent for civil works, and over \$100,000 equivalent for goods. OCB using national advertising will be used for all civil works contracts. One goods contract has been assessed to require international advertising based on the market assessment. The remainder will be contracted using national advertisement.

54. For procurement under OCB to be advertised nationally, the following provisions will be applied: (i) the advertisement will be limited to the national press, an official gazette, or an open access website; (ii) standard bidding documents issued in 2016 by the Ministry of Finance (the new OCB standard bidding document locally advertised which is under preparation may be used after its available) will be used, while the standard bidding document for ICT procurement issued by the ADB can be adopted for some supply contracts related to the ICT equipment supply with software development ; and (iii) bidding documents will only be in Chinese language (except for contracts which require ADB's prior review and approval), and the currency for bidding and payment will be Chinese Yuan, unless otherwise agreed between GPG/GSSMCU and ADB; and set forth in the procurement plan. Procurement under OCB will use the single-stage, one-envelope procedure. The relevant sections of ADB's Anticorruption Policy (1998, as amended from time to time) will be included in all procurement documents and contracts.<sup>25</sup> The biddings could be conducted using electronic system tools within the Public Resources Trading Center designated by the Gansu Province Authority<sup>26</sup> if the nondiscriminatory, fair, and transparency of the bidding process from advertising, bids opening to bids evaluating and contract awarding can be firmly ensured to satisfy with the ADB's procurement policy and regulations. If the rules of the biddings set by the Public Procurement Center are inconsistent with the ADB's procurement policy and regulations, the ADB's procurement policy and regulations shall prevail.

<sup>25</sup> Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/default.asp>

<sup>26</sup> All the public procurements funded by the government sources are mandatory conducted within the trading center designated by the government authority, while the procurement funded by the sources from multilateral financial institutions is optional conducted within the center. The designated trading center for ABD financed contract is Gansu Hailin Public Resources Trading Center.

## 2. Request for Quotation

55. Request for quotation will be used for ADB-financed simple civil works of small value and readily available goods and or standard-specification commodities of small-value goods. Request for quotation shall indicate the description and quantity of the goods, a description of the services or specifications of works, as well as desired delivery (or completion) time and place.

## 3. Consulting Services

56. All consultants will be recruited according to ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). Appendix 1 contains the indicative terms of references for the individual start-up consultant, and project implementation support consulting services. The consulting firm will be engaged using the quality- and cost-based selection with a standard quality: cost ratio of 90:10 using simple technical proposal procedure. The individual consultant will be engaged through individual consultant selection procedure.

## 4. Thresholds for the ADB Review

57. For (i) the first ADB-financed OCB contracts for civil works and goods; (ii) the ADB-financed OCB contracts to be advertised internationally, (iii) all the ADB-financed contracts for consulting services, and (iv) ADB-financed contracts under advance contracting arrangement, ADB's prior review and approval of the following documents (if applicable) will be required: invitation for bids, bidding documents, bid evaluation report, signed contract, and contract variations.

58. ADB-financed contracts not mentioned in para. 55 will be subjected to post review (sampling) and post procurement audits. The following procedure should be followed: (i) ADB's approval is not required for invitation for bids and bidding document; however the first bidding document approved by ADB, if relevant, should be used as a model without substantial modification; (ii) procurement process will be conducted without ADB's prior approval; and (iii) only a copy of the signed contract needs to be submitted to ADB for records. PMO and PIUs will maintain all documents related to the procurement of these contracts (procurement file) for ADB post reviews and other supervision process including compliant handling, including but not limited to invitation for bids, bidding documents and amendments (if any), bid evaluation reports, bids submitted by the bidders, minutes/records, contract award letters, and signed contracts etc. Post review will be conducted on a sampling bases by ADB annual review mission and/or by third party authorized by the ADB as a procurement audit.

59. For all consultant recruitments, ADB's prior review and approval of each step will be required.

## C. Procurement Plan

60. The procurement plan shall be updated as needed throughout the duration of the project.

### Basic Data

<b>Project Name:</b> Gansu Internet-Plus Agriculture Development Project	
<b>Project Number:</b> 50393-002	<b>Approval Number:</b>
<b>Country:</b> People's Republic of China	<b>Executing Agency:</b> Gansu Provincial Government
<b>Project Procurement Classification:</b> B	<b>Implementing Agency:</b> Gansu Supply and Marketing Cooperatives Union
<b>Procurement Risk:</b> Moderate	



<b>Project Financing Amount:</b> <b>ADB Financing:</b> €118.00 million <b>Non-ADB Financing:</b> €45.48 million	<b>Project Closing Date:</b> 31 March 2026
<b>Date of First Procurement Plan:</b> 16 August 2019	<b>Date of this Procurement Plan:</b> 16 August 2019

## 1. Methods, Review and Procurement Plan

61. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods, works, non-consulting services, and consulting services:

### Procurement of Goods and Works

Method	Comments
Open Competitive Bidding:	
Advertised Internationally	The procurement assessment examined potential for attracting enough qualified bidders to ensure contract would be delivered on time, to requisite quality and exhibit value for money. It was concluded that relevant national markets are matured enough with sufficient number of qualified national bidders and unlikely to attract qualified foreign bidders. All works contracts can therefore be advertised nationally following OCB procedures. Two goods contracts assessed where either it was of too high a value or technologically advanced and therefore would require advertising internationally to attract enough qualified bidders. All other remaining goods contracts can be advertised nationally following OCB procedures.
Advertised Nationally	
Request for Quotation	
RFQ - Works	Up to equivalent of \$200,000
RFQ - Goods	Up to equivalent of \$100,000

### Consulting Services

Method	Comments
Quality-and cost-based selection	The following submissions are required for prior review and approval by ADB: Submission 1 (Preparing Cost Estimates, Shortlist, and Request for Proposals), Submission 2 (Evaluating Technical Proposals and Preparing Evaluation Report), Submission 3 (Opening and Evaluating the Financial Proposal(s), Ranking the Proposals, and Recommending Contract Award). Quality and cost ratio – 90:10
Individual consultant selection)	The following submissions are required for prior review and approval by ADB: Submission 1 (short-list, evaluation of consultants, first ranked consultant, and draft contract), and Submission 2 (signed contract).

ADB = Asian Development Bank.

## 2. Lists of Active Procurement Packages (Contracts)

62. The following table lists goods, works, non-consulting services, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan duration.

<b>Goods, Works, and Non-Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Procurement Method</b>	<b>Review (Prior/ Post)</b>	<b>Bidding Procedure</b>	<b>Advertise -ment Date (quarter/ year)</b>	<b>Comments (US\$ '000 Equivalent)</b>
NZ-CW-01	Construction of intelligent fertilizers distribution stations in Jiuquan	1,828	OCB	Post	1E1S	Q1 2020	\$2,039
NZ-CW-02	Construction of integrated logistic industrial park of branded agricultural inputs & products in Lintao	11,358	OCB	Post	1E1S	Q2 2021	\$12,670
BH-CW-01	Construction of fertilizer warehouse, fermentation workshops, fermentation tanks, substrate processing workshops one harmless treatment workshops	1,531	OCB	Post	1E1S	Q1 2020	\$1,708
BH-CW-02	Construction of intelligent solar greenhouses, connected steel arch sheds and small arch sheds to be used for vegetables' culture	1,745	OCB	Post	1E1S	Q1 2020	\$1,946
BH-CW-03	Construction of fresh vegetable storages including vegetable chilling store and refrigeration rooms, plateau summer vegetable deep processing including freeze-dried sterile processing workshops, drying workshops and IOT control center	2,528	OCB	Post	1E1S	Q1 2020	\$2,820
MZY-CW-01	Constructions of main building and greenhouse for potato culture	5,733	OCB	Post	1E1S	Q1 2020	\$6,396
MZY-CW-03	Construction of potato processing workshops, biological bacteria fertilizers production workshops and accessory facilities	940	OCB	Post	1E1S	Q1 2020	\$1,049
JM-CW-01	Construction and installation of 17,727m2 licorice processing plants	7,068	OCB	Post	1E1S	Q1 2020	\$7,884
XQ-CW-01	Construction of intelligent glass greenhouses in the agricultural IOT application demonstration base	25,782	OCB	Prior	1E1S	Q3 2019	\$28,760 and advance contracting
DN-CW-01	Construction of tissue culture center of paper mulberry seedlings	3,032	OCB	Post	1E1S	Q1 2020	\$3,382
DN-CW-02	Construction of intelligent greenhouses	4,914	OCB	Prior	1E1S	Q1 2020	\$5,482 First OCB civil works contract;
DN-CW-03	Construction of silage fermentation workshops, paper mulberry processing workshop	3,799	OCB	Post	1E1S	Q3 2020	\$4,238

<b>Goods, Works, and Non-Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Procurement Method</b>	<b>Review (Prior/Post)</b>	<b>Bidding Procedure</b>	<b>Advertise -ment Date (quarter/year)</b>	<b>Comments (US\$ '000 Equivalent)</b>
DN-CW-04	Construction of power supply facilities, water supply facilities, drainage system and heat supply facilities	173	RFQ	Post	1E1S	Q1 2021	\$193
NZ-GD-01	Supply of equipment and software development for agricultural socialized service platform	1,554	OCB	Post	1E1S	Q2 2020	\$1,733  BD: ADB standard BD for ICT under OCB
ZY-GD-03	Supply of equipment on internet-plus disease/virus control and internet-plus fertilizer applicators, maize elevated spraying vehicles and intelligent mechanical fertilizer applicators	1,816	OCB	Prior	1E1S	Q4 2019	\$2,026  Advance contracting
ZY-GD-04	Supply of heavy unmanned aerial vehicles	2,083	OCB	Post	1E1S	Q1 2021	\$2,324
ZY-GD-05	Supply of internet-plus farming machinery: combine harvester, corn harvester, combined soil preparation machine, disc plough, rotary cultivator, and reversible plow.	7,123	OCB	Post	1E1S	Q1 2020	\$7,945  OCB – international
ZY-GD-06	Supply of equipment for fresh-keeping, cold chain warehousing and storage of agricultural products and inputs	1,418	OCB	Post	1E1S	Q2 2021	\$1,582
ZY-GD-07	Supply of equipment for rural logistic services like electric distribution vans	1,673	OCB	Prior	1E1S	Q3 2019	\$1,867  First OCB goods contract and advance contracting
BH-GD-01	Supply of fertilizer production line equipment, auxiliary materials harmless treatment equipment and transportation equipment, water and fertilizer integrated facilities including pipe-containing sprinkler head, storage tank-containing control equipment, fresh vegetable storage equipment including sorting and packaging and storage equipment, air conditioning equipment	1,215	OCB	Post	1E1S	Q1 2020	\$1,355
BH-GD-02	Supply of plateau summer vegetable processing equipment including freeze-drying production line	2,214	OCB	Post	1E1S	Q2 2020	\$2,469

<b>Goods, Works, and Non-Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Procurement Method</b>	<b>Review (Prior/ Post)</b>	<b>Bidding Procedure</b>	<b>Advertise -ment Date (quarter/ year)</b>	<b>Comments (US\$ '000 Equivalent)</b>
	equipment, sunlight shed, connected shed, arched shed rolled film, and IOT program control center equipment including warm shed system - sunlight shed, connected shed, arched shed rolled film						
BH-GD-03	Supply of IOT program control center equipment including hot shed system - solar shed, connected shed, arch shed film rolling, program control system - IOT screens, intelligent monitoring system, testing center equipment, 300 people space training equipment and channel docking brand packaging equipment	925	OCB	Post	1E1S	Q1 2021	\$1,031
MZY-GD-01	Supply of potato integrated chip production line	2,439	OCB	Prior	1E1S	Q3 2019	\$2,720 Advance contracting
MZY-GD-02	Supply of fresh potato cutting processing lines and potato biscuit processing lines	3,642	OCB	Post	1E1S	Q2 2020	\$4,062
MZY-GD-03	Supply of biological fertilizer production line equipment	488	OCB	Post	1E1S	Q1 2020	\$545
MZY-GD-04	Supply of testing equipment	110	RFQ	Post	1E1S	Q1 2021	\$123
MZY-GD-07	Supply of transportation vehicle	241	OCB	Post	1E1S	Q1 2020	\$269
MZY-GD-08	Supply of public utilities and monitoring equipment	136	OCB	Post	1E1S	Q2 2021	\$151
MZY-GD-09	Supply of Office equipment	585	OCB	Post	1E1S	Q1 2021	\$653
JM-GD-01	Supply of agricultural IOT equipment	1,703	OCB	Post	1E1S	Q2 2020	\$1,900
JM-GD-02	Supply of licorice farming machines	751	OCB	Post	1E1S	Q2 2020	\$838
JM-GD-04	Supply of licorice processing equipment	1,023	OCB	Post	1E1S	Q1 2020	\$1,141

<b>Goods, Works, and Non-Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Procurement Method</b>	<b>Review (Prior/ Post)</b>	<b>Bidding Procedure</b>	<b>Advertise -ment Date (quarter/ year)</b>	<b>Comments (US\$ '000 Equivalent)</b>
JM-GD-05	Supply of public utilities and monitoring equipment	177	OCB	Post	1E1S	Q2 2020	\$198
JM-GD-06	Supply of testing equipment	86	RFQ	Post	1E1S	Q2 2020	\$96
DN-GD-01	Supply of intelligent greenhouse equipment, heat supply equipment and IOT equipment	1,241	OCB	Post	1E1S	Q4 2020	\$1,384
DN-GD-02	Supply of equipment for the production of seedling substrate, silage fermentation equipment and dry paper mulberry processing equipment	2,179	OCB	Post	1E1S	Q2 2021	\$2,431

<b>Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Recruitment Method</b>	<b>Review (Prior / Post)</b>	<b>Advertise-ment Date (quarter/year)</b>	<b>Type of Proposal</b>	<b>Comments</b>
CS-01	Project Implementation Management Support and Capacity Development	1,273	QCBS	Prior	Q3 2019	FTP	\$1,420  Assignment: international Ratio of Quality to Cost: 90:10  Advance contracting
CS-02	National Project Procurement and Management Consultant at start-up period	70	ICS	Prior	Q2 2019	N/A	\$79  Advance contracting

1S1E =single-stage one-envelop, ADB = Asian Development Bank, BD = bidding document, CQS = consultant qualification selection, ICT= information and communication technology, ICS = individual consultant selection, IOT = internet-of-things, N/A = not applicable, NCB = national competitive bidding, OCB = open competitive bidding; Q = quarter, QCBS = quality- and cost- based selection, FTP = full technical proposal.

Note: all procurements will be advertised nationally unless otherwise stated.

Source: Asian Development Bank estimates.

### **3. Indicative List of Packages (Contracts) Required Under the Project**

63. The following table lists goods, works, non-consulting services, and consulting services contracts for which procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e., those expected beyond the current procurement plan duration).

<b>Goods, Works, and Non-Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (€'000)</b>	<b>Procurement Method</b>	<b>Review (Prior/ Post)</b>	<b>Bidding Procedure</b>	<b>Advertisement Date (quarter/ year)</b>	<b>Comments</b>
MZY-CW-02	Development of potato production bases	313	OCB	Post	1E1S	Q3 2021	\$349
DN-CW-05	Construction of in-plant ground hardening, plant gate, in-plant monitoring rooms, plant enclosure and plant landscape etc.	165	RFQ	Post	1E1S	Q3 2022	\$185
NZ-GD-02	Supply of equipment for the internet-plus agricultural inputs service platform and the internet-plus agricultural technical extension service system	2,968	OCB	Post	1E1S	Q3 2021	\$3,311 BD: ADB standard BD for ICT under OCB
NZ-GD-03	Supply of equipment for the internet-plus branded e-commerce system	2,058	OCB	Post	1E1S	Q2 2022	\$2,296
MZY-GD-05	Supply of internet-of-things	66	RFQ	Post	1E1S	Q4 2021	\$74
MZY-GD-06	Supply of production base equipment	1,185	OCB	Post	1E1S	Q4 2021	\$1,322
DN-GD-03	Supply of seedling transport vehicles, medium transport vehicles, dumpers, special vehicles for agro-technical services, forklifts, matrix production and trunk material production equipment	1,266	OCB	Post	1E1S	Q4 2021	\$1,413
DN-GD-04	Supply of small and medium harvesting machines	1,218	OCB	Post	1E1S	Q2 2022	\$1,358
DN-GD-05	Supply of weighbridge	27	RFQ	Post		Q4 2022	\$30
DN-GD-06	Supply of water supply and firefighting equipment	26	RFQ	Post		Q2 2022	\$29
DN-GD-07	Supply of monitoring equipment	30	RFQ	Post		Q4 2022	\$33
DN-GD-08	Supply of tissue culture frames	80	RFQ	Post		Q1 2022	\$89

<b>Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (Cumulative) (€ million)</b>	<b>Estimated Number of Contract</b>	<b>Recruitment Method</b>	<b>Review (Prior / Post)</b>	<b>Type of Proposal</b>	<b>Comment</b>

1S1E =single-stage one-envelop, ADB = Asian Development Bank, BD = bidding document, CQS = consultant qualification selection, ICS = individual consultant selection, ICT= information and communication technology; N/A = not applicable, NCB = national competitive bidding, OCB = open competitive bidding; Q = quarter, QCBS = quality- and cost- based selection, FTP = full technical proposal.

Source: Asian Development Bank estimates.

#### 4. List of Awarded and Completed Contracts

64. The following table lists the awarded and completed contracts for goods, works and consulting service.

##### a. Awarded and Ongoing Contracts

<b>Goods, Works and Non-Consulting Services</b>					
<b>Package Number</b>	<b>General Description</b>	<b>Contract Value</b>	<b>Date of ADB Approval of Contract Award</b>	<b>Date of Completion</b>	<b>Comments</b>

<b>Consulting Services</b>					
<b>Package Number</b>	<b>General Description</b>	<b>Contract Value</b>	<b>Date of ADB Approval of Contract Award</b>	<b>Date of Completion</b>	<b>Comments</b>

#### 5. Non-ADB Financing

65. The following table lists the works, goods, non-consulting, and consulting services contracts over the life of the project, financed by non-ADB sources.

<b>Goods, Works and Non-consulting services</b>					
<b>General Description</b>	<b>Estimated Value (cumulative) (€'000)</b>	<b>Estimated Number of Contracts</b>	<b>Procurement Method</b>	<b>Comments</b>	
Construction of internet-plus agriculture socialized services facilities for Zhongyun Subproject (Subproject 2)	896	4	Domestic procedure	\$999	
Supply of equipment for Zhongyun Subproject (Subproject 2)	2,382	3	Domestic procedure	\$2,657	
Constructions of production facilities and accessory facilities under New Baihui Subproject (Subproject 3)	2,143	2	Domestic procedure	\$2,390	
Supply of drip irrigation facilities and office equipment for Jingmao Licorice Subproject (Subproject 5)	2,994	2	Domestic procedure	\$3,340	
Equipment Supply for Lanzhou New District Subproject (Subproject 6)	8,961	2	Domestic procedure	\$9,996	
Construction of seedlings production workshops for Denong Paper Mulberry Subproject (Subproject 7)	417	1	Domestic procedure	\$466	
Supply of tissue cultural equipment and testing equipment for Denong Paper Mulberry Subproject (Subproject 7)	452	2	Domestic procedure	\$505	
Investigation/Design/Supervision for Gansu Nongzi Subproject (Subproject 1)	1,658	2	Domestic procedure	\$1,850	
Capacity Building for Gansu Nongzi Subproject (Subproject 1)	391	1	Domestic procedure	\$436	
Investigation/Design/Supervision for Zhongyun Subproject (Subproject 2)	1,239	2	Domestic procedure	\$1,382	
Capacity Buildings under Zhongyun	706	1	Domestic	\$787	

<b>Goods, Works and Non-consulting services</b>				
<b>General Description</b>	<b>Estimated Value (cumulative) (€'000)</b>	<b>Estimated Number of Contracts</b>	<b>Procurement Method</b>	<b>Comments</b>
Subproject (Subproject 2)			procedure	
Investigation/Design/Supervision for New Baihui Subproject (Subproject 3)	781	2	Domestic procedure	\$872
Capacity Buildings under New Baihui Subproject (Subproject 3)	70	1	Domestic procedure	\$78
Investigation/Design/Supervision for Zhenyang Potato Subproject (Subproject 4)	1,344	2	Domestic procedure	\$1,500
Capacity Building for Zhenyang Potato Subproject (Subproject 4)	164	1	Domestic procedure	\$183
Investigation/Design/Supervision for Jingmao Licorice Subproject (Subproject 5)	608	2	Domestic procedure	\$678
Trainings and Extension Services for Jingmao Licorice Subproject (Subproject 5)	646	3	Domestic procedure	\$720
Investigation/Design/Supervision for Lanzhou New District Subproject (Subproject 6)	1,668	2	Domestic procedure	\$1,861
Capacity Building for Lanzhou New District Subproject (Subproject 6)	293	1	Domestic procedure	\$327
Investigation/Design/Supervision for Denong Paper Mulberry Subproject (Subproject 7)	1,218	2	Domestic procedure	\$1,359
Capacity Buildings under Denong Paper Mulberry Subproject (Subproject 7)	211	1	Domestic procedure	\$235

PRC = People's Republic of China.

Source: Asian Development Bank.

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

66. The outline terms of reference for the consulting services packages are detailed in Appendix 1 of the PAM.



## VII. SAFEGUARDS

### A. Environment

67. **Environment due diligence.** The project is classified as category B for environment according to ADB's Safeguard Policy Statement (2009). The initial environmental examination (IEE), including an environmental management plan, was prepared and disclosed on the ADB website. The IEE concluded that full and effective implementation of the project environmental management plan (EMP), together with the training and project assurances, will minimize the environmental risks of the project and achieve compliance with the policy and regulatory standards applied in this project environmental impact assessment.

68. **Environmental management plan.** The project EMP (Appendix 4) is to be implemented in all phases of the project: design, pre-construction, construction, and operation. The EMP is to ensure project compliance with PRC's environmental laws and ADB's Safeguard Policy Statement (2009). The EMP describes: the roles and responsibilities of project agencies to implement the EMP; anticipated impacts and mitigation measures; inspection, monitoring, and reporting arrangements; training and institutional strengthening; grievance redress mechanism; and future public consultation. In the engineering design stage, GPG, through the PMO and PIUs, will pass the EMP to the firms contracted to prepare the detailed engineering designs for the project facilities. The EMP will be updated at the end of the detailed design, as needed. To ensure that bidders will respond to the EMP's provisions, GPG, through the PMO and PIUs, will prepare and provide the specification clauses for incorporation into the bidding documents: (i) a list of environmental management requirements to be budgeted by the bidders in their bids; (ii) environmental clauses for contractual terms and conditions; and (iii) the project IEE and updated EMP.

69. **Environmental management plan implementation.** The PIUs will be responsible for ensuring that the project will be designed, constructed, commissioned, and operated in accordance with (i) the domestic environmental, health, and safety laws, regulations, procedures, and guidelines; (ii) ADB's Safeguards Policy Statement, and (iii) the project IEE and EMP. The PMO holds the final responsibility for the implementation and compliance with the EMP. The following positions will coordinate and/or implement the EMP: the PMO environment officer; the PIU social and environmental focal staff; and loan implementation consultants. The roles of these positions are as follows:

- (i) **PMO environment officer.** Lead overall coordination and implementation of the EMP, including coordination of PIU safeguard focal staff, monitoring, and reporting;
- (ii) **PIU social and environmental focal staff** (one per PIU). Responsible for daily coordination and implementation of the EMP at the site level;
- (iii) **Loan implementation environment consultant.** A national specialist will be recruited by PMO to provide technical support for EMP implementation; and
- (iv) Draft terms of reference for these positions are in Appendix 1 (for the loan implementation environment consultant) and Appendix 2 of the IEE (for all positions).

70. **Capacity building.** The PIUs have limited experience with ADB-funded projects or safeguard requirements. During the project design phase, on-the-job training on EMP implementation was conducted, including roles and responsibilities of contractors and construction supervision companies for EMP implementation, the project impacts and mitigation measures. During implementation, a capacity building program will be implemented on: (i) the EMP, including the mitigation measures, monitoring, and reporting; (ii) incorporation of the EMP into bidding documents; (iii) integrated pest management; (iv) occupational health and safety, and

(v) other topics. Training will be provided by the PMO environment and social officers, loan implementation consultants, and construction supervision companies. Trainees will include the PIU staff of existing PIU operations as well as new staff engaged for the ADB-funded project facilities and activities, contractors, and farmers that work with the PIUs. The PMO will arrange the training programs, supported by the loan implementation consultants. The capacity building program is described in the EMP.

71. Costs of EMP implementation are provided in the EMP. The PMO will bear the salary costs for the PMO environment officer and costs for establishment of the grievance redress mechanism. The PIUs will each bear the cost of assigning a social and environmental focal staff, and, engaging an environmental monitoring agency to undertake the external monitoring specified in the EMP. The costs for mitigation measures to be undertaken by the contractors during construction will be included in the contract documents. The estimated costs for EMP implementation are described in the EMP. During project implementation, cost estimates will be updated as needed.

72. **Climate change.** Climate mitigation is estimated at €17.0 million and climate adaptation is estimated at €63.8 million. ADB will finance 84.4% of mitigation and adaptation costs for civil works and 99.5% for equipment and materials.<sup>27</sup>

## **B. Involuntary Resettlement**

73. The project was classified by ADB as category C on involuntary resettlement according to ADB's Safeguard Policy Statement (2009). The project does not involve involuntary land acquisition and resettlement impacts. The PIUs will use 5,114.5 *mu* state-owned lands for the construction of agriculture processing or logistic facilities.

74. **Land leasing.** For agriculture production purposes, the PIUs will use collective owned lands (COL) leased through the voluntary land use right transfer (LURT) process. The LURT is a land leasing arrangement and will not change the ownership of COL. It is estimated that PIUs will use a total of 66,240.4 *mu* COL (41,380.4 *mu* leased already; and 24,860.0 *mu* to be leased). The land use arrangements for existing or already leased lands were reviewed for due diligence during the transaction TA; and it was concluded that the LURT agreements were conducted in voluntary, transparent and fair manner and they had followed relevant principles of voluntary land leases.<sup>28</sup> For the LURT agreements that will be finalized after the project approval, a LURT has been prepared providing necessary guidance on principles and procedures to be followed during the project implementation (Appendix 5). With the help of loan implementation consultants, the executing agency/implementing agency will internally monitor implementation of LURT framework and land leases, resolve any issues related to LURT, and report findings through periodic progress reports during project implementation. An external social monitoring expert, who will be financed under ADB loan, will externally monitor land leases and submit annual monitoring reports during the project implementation.

## **C. Indigenous Peoples**

75. The project was classified as category C on indigenous peoples according to ADB's Safeguard Policy Statement (2009). The project will not impact any distinct and vulnerable ethnic minority communities that would trigger requirements on indigenous peoples under ADB's

<sup>27</sup> Details are in the Climate Change Assessment linked document and its attachments.

<sup>28</sup> The LURT principles include: agreements follow legal procedures; contracting parties are informed and consulted; agreements are voluntary; farmers or lessors will benefit from lease payment and other benefits, such as employment; and the lessors will not be adversely impacted. The same principles will apply to house renting as well.

Safeguards Policy Statement (2009). The executing and implementing agency will ensure that the project remains category C on indigenous peoples' impact and any activities that would trigger ADB safeguard requirements would not be included in the project scope in the future.

#### **D. Grievance Redress Mechanism**

76. A project grievance redress mechanism (GRM) has been developed in compliance with ADB's Safeguard Policy Statement (2009) requirement to address environmental, health, safety, and social concerns associated with project. The GRM is designed to achieve the following objectives: (i) provide channels of communication for local communities to raise concerns about environmental and social-related grievances which might result from the project; (ii) prevent and mitigate adverse environmental and social impacts to communities caused by project construction and operation; and (iii) contribute to cooperation between the project agencies and communities. Public grievances related to the project components to be addressed by the GRM may include damage to public roads, interruption of public services, dust emissions, noise, soil erosion, inappropriate disposal of waste materials, and safety for the general public and construction workers. The GRM is accessible to all members of the communities, including women, elderly, disabled youth, minorities, and poverty-stricken residents. Multiple points of entry are available, including face-to-face meetings, written complaints, telephone conversations, e-mail, and social media. The details of the GRM, including a time-bound flow chart of procedures, are included in the project EMP and the LURT framework.

#### **E. Capacity for Implementation and Monitoring of Social and Gender Measures**

77. The GPG has experience in implementation of ADB projects, including an ADB-financed agriculture project. However, the GSSMCU and PIUs do not have experience of implementing ADB projects. To implement social and gender measures properly, (i) the GSSMCU and PIUs will each appoint a social and gender focal staff; (ii) the loan implementation consultant will include a social and gender consultant to provide training and capacity building to the focal staff for implementation, monitoring, and reporting of social and gender measures; and (iii) an external social monitoring expert to monitor the implementation of social measures, including gender action plan (GAP), social development action plan (SDAP), and LURT framework.

## VIII. POVERTY, SOCIAL AND GENDER DIMENSIONS

78. **Poverty and social.** The poverty and social analysis was undertaken based on intensive stakeholder consultations and socioeconomic surveys. It indicated that the project will provide opportunities for inclusive social development and poverty reduction in the project area. The project will (i) support a cumulative of 2,397 full-time and 13,992 part-time local jobs; (ii) involve 12,866 farmer households for contract farming; and (iii) benefit 110,000 rural households in the project counties<sup>29</sup> as internet-based service system/platform users. Among the beneficiary households, 30% are poor and low-income households that will benefit from local employment and other socio-economic opportunities. The farmers will benefit from working or cooperating with agriculture enterprises or PIUs as their employees, contractual farmers, land lessors, and users of services supported during implementation and operation of the project. In addition, the project services will also benefit 8,500 entities that include enterprises, cooperatives, county-and township-level supply and marketing cooperatives, and other relevant entities. An SDAP has been prepared based on the poverty and social analysis, with specific targets for the poor and low-income people. Consultations were undertaken with farmers and stakeholders during the project preparation. The consultation and participation plan for the project implementation stage has been included as Appendix 8.

79. **Gender.** The project is classified as effective gender mainstreaming, following ADB's Guidelines for Gender Mainstreaming Categories of ADB Projects (2012). Women are involved in agricultural and household works. Most of them are primarily engaged in labor-intensive farming with low income. Women have lower knowledge of agricultural technology, low job opportunities, and much lower representation in decision-making. The project is expected to benefit women significantly, as majority of the employment and training opportunities will be provided to women. A gender action plan has been prepared (Table 11: Gender Action Plan) based on gender analyses to ensure that the project contributes to improved gender equality. The GAP includes the following key measures and targets for women: (i) 10,000 women trained to access the project information, agricultural inputs and other online services; (ii) including 30 female specialists in the technical teams; (iii) a cumulative of 10,456 women employment opportunities by the project enterprises; (iv) capacity building and training for 10,456 women on employment and labor skills; (v) consultation with women in contract farming and land leasing (50% women); (vi) involving women in consultation and participation for implementation of project's social aspects (50% women); and (vii) collection of sex-disaggregated data for monitoring of GAP and other relevant measures. Key gender targets have also been included in the design and monitoring framework.

80. For implementation of the SDAP and GAP, the GSSMCU and PIUs will each appoint a social and gender focal staff; and the loan implementation consultant will include a social and gender consultant to provide training and support to the social and gender focal staff for implementation of social and gender measures. An external social monitoring expert will be recruited to monitor the implementation of social measures.

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<sup>29</sup> The project area consists of seven counties, of which three and one are nationally and provincially designated poverty counties, respectively.

**Table 10: Social Development Action Plan**

Activities	Target	Budget	Responsible Agency	Timeline
<b>1. Output 1: Comprehensive information service and management platform developed</b>				
<b>1.1 Ensuring beneficiary's access to the project's information service, input supply and other online services</b>				
1.1.1 Developing project APP (i.e., smart mobile phone-based platform) in consultation with and targeting beneficiaries	<ul style="list-style-type: none"> <li>Two APPs (one for each subproject) developed in consultation with and targeting beneficiaries, including the poor and low-income <sup>a</sup></li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2020
1.1.2 Training CSMSs and TSMCs on operating the project developed platforms, IOT, and e-commerce,	<ul style="list-style-type: none"> <li>Seven CSMSs and 87 TSMCs trained</li> <li>Baseline: 0</li> </ul>	GSSMCU budget	PMO	2019–2022
1.1.3 Training and supporting village service stations and farmers by TSMCs for accessing the project's information and technical services	<ul style="list-style-type: none"> <li>1,514 village service stations supported</li> <li>20,000 beneficiaries trained, including 30% from poor/low income HHs</li> <li>Baseline: 0</li> </ul>	GSSMCU budget	TSMCs	2019–2024
1.1.4 Timely online disclosure of relevant project information, including market and employment information	<ul style="list-style-type: none"> <li>Updated information disclosed at least once in a month</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2025
1.1.5 Advertising (sales promotion) project's platforms and services by TSMCs	<ul style="list-style-type: none"> <li>1,514 villages received advertisement</li> <li>Baseline: 0</li> </ul>	GSSMCU budget	PMO CSMSs & TSMCs	2019–2025
1.1.6 Interlinking project platforms with <a href="http://www.gansu.gxyj.com">www.gansu.gxyj.com</a> and other platforms, including local government and enterprises' websites	<ul style="list-style-type: none"> <li>Project platforms interlinked with the stated platforms</li> <li>Baseline: 0</li> </ul>	GSSMCU budget	GSSMCU	2019–2025
<b>1.2 Ensuring high quality technical services to farmers</b>				
1.2.1 Establishing an expertise team for providing online and/or on-the-spot technical services to farmers	<ul style="list-style-type: none"> <li>100 specialists engaged</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2021
1.2.2 Developing E-learning courses on standardized cultivation, operation of IOT, E-commerce, and etc.	<ul style="list-style-type: none"> <li>10 courses developed targeting farmers, including the poor and low-income</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2023
1.2.3 Distance training of farmers on standardized cultivation, operation of the IOT, E-commerce, and etc.	<ul style="list-style-type: none"> <li>300,000 person-times training provided, 30% are from poor &amp; low income HHs</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2023
<b>1.3 Subproject 2 and local government's partnership for internet-based poverty reduction in Linze County</b>				
1.3.1 Crowdfunding for green pork production for poverty reduction	<ul style="list-style-type: none"> <li>50 HHs in 4 villages received crowd funding, 100% of poor/low income HHs</li> <li>Baseline: 9 HHs of 1 village</li> </ul>	PIU contribution	PIU	2019–2020
1.3.2 E-marketing of jujube	<ul style="list-style-type: none"> <li>500 HHs supported through e-marketing, 100% of poor/low income HHs</li> <li>Baseline: 0</li> </ul>	PIU contribution	PIU	2019–2023
<b>2. Output 2: Agricultural Production, Processing, Storage, and Marketing Modernized</b>				
<b>2.1 Promoting contract farming with protected buy-back prices</b>				

Activities	Target	Budget	Responsible Agency	Timeline
2.1.1 Engaging rural HHs in contract farming at household level	<ul style="list-style-type: none"> <li>12,866 HHs engaged in contract farming at household level, 32.7% are poor &amp; low income HHs</li> <li>Baseline: 726 HHs, 20.0% poor and low income HHs</li> </ul>	PIU budget	PIUs	2019–2022
2.1.2 Engaging farmers' cooperatives in contract farming	<ul style="list-style-type: none"> <li>115 cooperatives with 2,480 members HHs involved in contract farming at cooperative level</li> <li>Baseline: 55 cooperatives with 960 members HHs</li> </ul>	PIU budget	PIUs	2019–2022
2.1.3 Engaging big farmers <sup>b</sup> in contract farming	<ul style="list-style-type: none"> <li>206 big farmers engaged in contract farming</li> <li>Baseline: 26 big farmers</li> </ul>	PIU budget	PIUs	2019–2022
2.1.4 Provide seeds and production means as advance payments to HHs, cooperatives and big farmers involved in contract farming	<ul style="list-style-type: none"> <li>12,866 HHs, 115 cooperatives and 206 big farmers received seeds and production support in advance</li> <li>Baseline: 726 HHs, 56 cooperatives and 26 big farmers</li> </ul>	PIU budget	PIUs	2019–2023
2.1.5 Free technical training of HHs, cooperatives and big farmers involved in contract farming	<ul style="list-style-type: none"> <li>12,866 HHs, 115 cooperatives and 206 big farmers received seeds and production support in advance</li> <li>Baseline: 726 HHs, 56 cooperatives and 26 big farmers</li> </ul>	PIU budget	PIUs	2019–2023
<b>2.2 Voluntary LURT</b>				
2.2.1 Distribution of LURT framework copies	<ul style="list-style-type: none"> <li>Each affected village receives 5 copies of LURT framework</li> <li>Baseline: 0</li> </ul>	PIU budget	PIUs and villages	2019–2022
2.2.2 Consultation with farmers before signing new LURT agreement during the project implementation	<ul style="list-style-type: none"> <li>3,060 HHs, including 29.4% poor &amp; low income HHs are consulted on LURT before signing the new agreements</li> <li>Baseline: 0</li> </ul>	PIU budget	PIUs and villages	2019–2022
2.2.3 Implement LURT following the LURT framework during project implementation	<ul style="list-style-type: none"> <li>All LURT agreements comply with LURT framework during project implementation</li> <li>Baseline: 0</li> </ul>	PIU budget	PIUs and villages	2019–2022
2.2.4 Engaging village committees for GRM	<ul style="list-style-type: none"> <li>20 village committees are engaged for implementation of GRM</li> <li>Baseline: 0</li> </ul>	PIU budget	PIUs and villages	2019–2023
<b>2.3 Complementary actions for poverty reduction</b>				
2.3.1 Subproject 3: Continue providing bonus (at least per capita CNY2,600/year) to farmers that have invested poverty reduction funds <sup>c</sup>	<ul style="list-style-type: none"> <li>50 people, 100% poor, received bonus</li> <li>Baseline: 50</li> </ul>	PIU budget	PIU	2019–2023
2.3.2 Subproject 4: Coordinate local government to timely disburse subsidy (CNY 150/mu/year) for seed potatoes (Qualified I Class)	<ul style="list-style-type: none"> <li>Subsidy provided for 50 HHs, 100% poor</li> <li>Baseline: 50 poor HHs</li> </ul>	CNY 300,000 Government budget	Gulang County Government	2019–2020

Activities	Target	Budget	Responsible Agency	Timeline
to poverty HHs for contract farming <sup>d</sup>				
2.3.3 Subproject 5: Scaling up the Licorice Sheep Association	<ul style="list-style-type: none"> <li>400 members HHs, 20% are low income HHs involved in sheep association</li> <li>Baseline: 260 HHs</li> </ul>	PIU budget	PIU	2019–2025
2.3.4 Subproject 6: Supporting poverty HHs in partnership villages <sup>e</sup> of Manwan and Chenjajing	<ul style="list-style-type: none"> <li>25 HHs, 100% poor</li> <li>Baseline: 25 HHs</li> </ul>	PIU budget	PIU	2019–2023
2.3.5 Subproject 6: Developing Yuchuan village into a tourism village	<ul style="list-style-type: none"> <li>300 HHs, 20% are poor and low income HHs</li> <li>Baseline: 0</li> </ul>	Government budget	PIU	2019–2023
2.3.6 Subproject 7: Free seedlings for establishment of forage mulberry plantations for officially designated poverty villages <sup>f</sup>	<ul style="list-style-type: none"> <li>2 poverty villages supported with forage mulberry seedlings</li> <li>Baseline: 0</li> </ul>	PIU budget	PIU	2019–2020
2.3.7 Subproject 7: Exemption of CNY0.2 per mulberry seedling for officially designated poverty HHs (full price is CNY2.1/seedling)	<ul style="list-style-type: none"> <li>500 poor HHs supported with the exemption to buy mulberry seeding</li> <li>Baseline: 0</li> </ul>	PIU budget	PIU	2019–2023
2.3.8 Subproject 7: Guaranteed mulberry silage supply and technical support for follow up animal production	<ul style="list-style-type: none"> <li>1,000 poor HHs supported with mulberry silage</li> <li>Baseline: 0</li> </ul>	PIU budget	PIU	2019–2023
<b>3. Output 3: Capacity of GSSMCU Improved</b>				
3.1 Training the technical expertise team	<ul style="list-style-type: none"> <li>100 specialists trained</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2021
3.2 Assigning social officer at PMO and social focal points at PIUs for social monitoring and reporting	<ul style="list-style-type: none"> <li>1 social officer at PMO and 7 social and environmental focal staff at PIUs assigned</li> <li>Baseline: 1 social officer at PMO, 0 focal staff at PIUs</li> </ul>	PMU and PIUs	PMO and PIUs	2018–2019
3.3 Training of PMO and PIU staff on social aspects	<ul style="list-style-type: none"> <li>100 person-times of training for social staff provided</li> <li>Baseline: 0</li> </ul>	Project budget	PMO	2019–2020
<b>4. All outputs: Employment, Labor Safety by PIUs</b>				
4.1 Priority of full-time employments to the poor and low income HHs	<ul style="list-style-type: none"> <li>Total 2,397 jobs, 20% for poor &amp; low income HHs</li> <li>Baseline: 652 jobs, 5.1% for poor &amp; low income HHs</li> </ul>	PIU budget	PIUs	2019–2023
4.2 Priority of part time jobs to the poor and low income HHs	<ul style="list-style-type: none"> <li>Total 13,992 jobs, 20% for poor &amp; low income HHs</li> <li>Baseline: 10,325 jobs, 20% for poor &amp; low income HHs</li> </ul>	PIU budget	PIUs	2019–2023
4.3 Formal employment contracts with newly employed staff working for over 3 months each year	<ul style="list-style-type: none"> <li>3,500 new contracts formalized (100% full time and about 50% of part time new employees)</li> <li>Baseline: 0</li> </ul>	PIU budget	PIUs	2019–2023
4.4 Employment skill training of employees	<ul style="list-style-type: none"> <li>16,389 employees trained, 20% are from poor and low income HHs</li> <li>Baseline: 10,977, 17% from poor and low income</li> </ul>	PIU budget	PIUs	2019–2023

Activities	Target	Budget	Responsible Agency	Timeline
4.5 Semi-annual awareness trainings on labor safety and control of communicable diseases	<ul style="list-style-type: none"> <li>• 16,389 employees trained, 20% are from poor and low income HHs</li> <li>• Baseline: 10,977, 17% from poor and low income</li> </ul>	PIU budget	PIUs	2019–2023
4.6 Equipping basic sanitation and healthcare equipment, including first-aid kits, in collective workplaces	<ul style="list-style-type: none"> <li>• 140 sets (about 20 for each enterprise) are installed at new work places</li> <li>• Baseline: 0</li> </ul>	PIU budget	PIUs	2019–2023
4.7 Cooperating local WFs for GRM on social issues	<ul style="list-style-type: none"> <li>• 20 village WFs engaged in grievance redress on social issues</li> <li>• Baseline: 0</li> </ul>	PIU budget	PIUs	2019–2023
<b>5. All Outputs: Consultation, Participation, and Disclosure</b>				
5.1 Disclosure of the Chinese versions of SDAP, GAP, LURT framework and other relevant project documents on GSSMCU and local government websites	<ul style="list-style-type: none"> <li>• Chinese versions of SDAP, GAP, LURT framework and other relevant project documents disclosed on GSSMCU and local government websites</li> <li>• Baseline: 0</li> </ul>	PIU budget	PMO	2019
5.2 Consultation meetings on implementation of social aspects in each project enterprise	<ul style="list-style-type: none"> <li>• A total of 50 meetings in project implementation period, including 20% participants from poor and low income HHs</li> <li>• Baseline: 0</li> </ul>	PIU budget	PIUs	2019–2025
5.3 Notification to and consultations with neighboring communities and residents before subproject construction	<ul style="list-style-type: none"> <li>• Neighboring communities and residents notified and consulted with before start of construction in all subprojects</li> <li>• Baseline: 0</li> </ul>	PIU budget	PIUs	2019–2023

ADB = Asian Development Bank, APP = an application, especially as downloaded by a user to a mobile device, CSMC = county supply and marketing cooperative, DMF = design and monitoring framework, GAP = gender action plan, GSSMCU = Gansu Supply and Marketing Cooperatives Union, HHs = households, IOT = internet-of-things, LND = Lanzhou New District, LURT = land use right transfer, MSMC = municipal supply and marketing cooperative, PIU = project implementation unit, PMO = project management office, SDAP = social development action plan, SMC = supply and marketing cooperative, SPS = Safeguard Policy Statement, TSMC = township supply and marketing cooperative.

<sup>a</sup> To improve APP design, the developed APPs will be tested among 400 users including 200 females before formal disclosure.

<sup>b</sup> Big farmers refer to capable individual farmers who lease farmland from others and hire labors for scaled farming.

<sup>c</sup> CNY1.75 million poverty reduction funds from central government, for 50 poor of 15 HHs, were invested in the enterprise. Each poor person can enjoy a bonus of not less than 7% of the investment each year, equivalent to not less than CNY2,600.

<sup>d</sup> It is included in the Three-Year Action Plan on Precise Poverty Reduction through Potato Industrial in Gansu Province (<http://www.gsny.gov.cn/apps/site/site/issue/tzgg/xztz/2018/01/31/1517376620788.html>). The subsidy is CNY150.0/mu/year for 3 years (2018–2020) and it covers 50% of total costs for seed potatoes of (qualified I Class) 150kg/mu/year.

<sup>e</sup> A county government department/agency must have one to two partnership poverty villages for development assistances.

<sup>f</sup> The government officially announced to eliminate poverty by 2020, but development assistances will be continued.

Source: ADB estimates.



Table 11: Gender Action Plan

Activities	Target	Budget	Responsible Agency	Timeline
<b>1. Output 1: Comprehensive Information Service and Management Platform Developed</b>				
<b>1.1 Ensuring women's access to the project's information service, input supply, E-learning and other online services</b>				
1.1.1 Developing project APP (i.e., smart mobile phone-based platform) in consultation with and targeting beneficiaries, including women	Two APPs developed in consultation with and targeting beneficiaries, including 50% women <sup>a</sup> (Baseline: 0)	Project budget	PMO	2019–2020
1.1.2 Training CSMs and TSMCs on operating the project's platforms, internet-of-things (IOT) and E-commerce.	Seven CSMs and 87 TSMCs trained, including 50% participants being women (Baseline: 0)	GSSMCU budget	PMO	2019–2022
1.1.3 Training women for accessing the project's information and technical services	10,000 women (50% of total participants) trained (Baseline: 0)	GSSMCU budget	TSMCs	2019–2024
1.1.4 Timely online disclosure of relevant project information, including market and employment information, that are accessible for women	Full access enabled and the project tracks users accessing the service (Baseline: 0)	Project budget	PMO	2019–2025
1.1.5 Advertising project's platforms and services, that are accessed by women	Full access enabled (and the project tracks users accessing the service) (Baseline: 0)	GSSMCU budget	PMO CSMCs & TSMCs	2019–2025
1.1.6 Interlinking project platforms with <a href="http://www.gansu.gxyj.com">www.gansu.gxyj.com</a> and other platforms, including all china women's federation	Project platforms are linked with relevant platforms, including all china women's federation (Baseline: 0)	GSSMCU budget	GSSMCU	2019–2025
<b>1.2 Ensuring high quality technical services to women</b>				
1.2.1 Engaging female specialists in the technical expertise team for providing online and/or on-the-spot technical services to farmers	30 female specialists engaged (30% of total specialists) (Baseline: 0)	Project budget	PMO	2019–2021
1.2.2 Developing e-learning courses on standardized cultivation, operation of IOT and e-commerce targeting farmers including women	10 courses developed targeting farmers (50% women) (Baseline: 0)	Project budget	PMO	2019–2023
1.2.3 Providing distance training to women on standardized cultivation, operation of IOT and e-commerce.	150,000 person-times of distance training provided to women (50% of total person-times) (Baseline: 0)	Project budget	PMO	2019–2023
<b>1.3 Subproject 2 and local government's partnership for empowerment of women through internet-based poverty reduction in Linze County</b>				
1.3.1 Crowdfunding for green pork production for poverty reduction	40 women supported through crowd funding (Baseline: 7 women)	PIU budget	PIU	2019–2020
1.3.2 E-marketing of jujube support women	300 women supported through e-marketing (Baseline: 0)	PIU budget	PIU	2019–2023
<b>2. Output 2: Agricultural Production, Processing, Storage, and Marketing Modernized</b>				
<b>2.1 Engaging women in contract farming with protected buy-back prices</b>				
2.1.1 Engaging women in contract farming at HHs level	12,200 women engaged in contract farming at household level (Baseline: 690 women)	PIU budget	PIUs	2019–2022
2.1.2 Engaging women in contract farming at farmers' cooperatives level	2,350 women engaged in contract farming at cooperatives level (Baseline: 91 women)	PIU budget	PIUs	2019–2022
2.1.3 Engaging big farmers <sup>c</sup> in contract farming	206 big farmers engaged in contract farming, including at least 30% women (Baseline: 26 big farmers)	PIU budget	PIUs	2019–2022
2.1.4 Employment skills training, technical and management support services provided	At least 22,000 farmers, including 50% women (11,000) receive technical and management support services through comprehensive	PIU budget	PIUs	2019–2023

Activities	Target	Budget	Responsible Agency	Timeline
	information service and management platform (2019 Baseline: 0)			
2.1.5 Provide seeds and production means as advance payments to HHs, cooperatives, and big farmers involved in contract farming	14,600 women received seeds and production support in advance (Baseline: 800 women)	PIU budget	PIUs	2019–2023
<b>2.2 Voluntary Land Use Right Transfer</b>				
2.2.1 Online disclosure of LURT Framework	All affected farmer households including women have access to LURT framework (Baseline: 0)	PIU budget	PIUs and villages	2019–2022
2.2.2 Consultation with women farmers before signing new LURT agreements during the project implementation	1,600 women (50% of total farmers) are consulted on new LURT agreements during implementation (Baseline: 0)	PIU budget	PIUs and villages	2019–2022
2.2.3 Encourage women to co-sign LURT contracts	600 contracts (20% of total) are co-signed by women (Baseline: 0)	PIU budget	PIUs and villages	2019–2022
2.2.4 Engaging women in village committees for GRM	30% women in village committees engaged for implementation of GRM (Baseline: 0)	PIU budget	PIUs and villages	2019–2023
<b>2.3 Complementary actions for poverty reduction</b>				
2.3.1 Subproject 3: Continue providing bonus (at least per capita CNY2,600/year) to farmers that have invested poverty reduction funds <sup>d</sup>	25 women from poor households (50% of total beneficiaries) continued receiving bonus (Baseline: 25 women)	PIU budget	PIU	2019–2023
2.3.2 Subproject 4: Coordinate local government to timely disburse subsidy (CNY 150/mu/year) for seed potatoes to women from poverty HHs for contract farming) <sup>e</sup>	50 women from poor households continue receiving subsidy (Baseline: 50 women)	Government budget	Gulang County Government	2019–2020
2.3.3 Subproject 5: Involving women in scaling up the Licorice Sheep Association	100 women (25% of total) involved in sheep association [Baseline: 25 women (10% of total)]	PIU budget	PIU	2019–2025
2.3.4 Subproject 6: helping women from poverty HHs in partnership villages) <sup>f</sup> of Manwan and Chenjajing	25 women from poor households received continued support in the two villages (Baseline: 25 women)	PIU budget	PIU	2019–2023
2.3.5 Subproject 6: involve women in developing Yuchuan village into a tourism village for the agricultural park	50 women involved in tourism business (Baseline: 0)	Government budget	PIU	2019–2023
2.3.6 Subproject 7: provide free seedlings to women for establishment of forage mulberry plantations in officially designated poverty villages) <sup>g</sup>	400 women supported with free forage mulberry seedlings (Baseline: 0)	PIU budget	PIU	2019–2020
2.3.7 Subproject 7: Provide exemption of CNY0.2 per mulberry seedling for designated poverty HHs	500 women from poor households supported with the exemption to buy mulberry seeding (Baseline: 0)	PIU budget	PIU	2019–2023
2.3.8 Subproject 7: guarantee mulberry silage/feed supply and technical support	1,000 women supported with silage (Baseline: 0)	PIU budget	PIU	2019–2023
<b>3. Output 3: Capacity of GSSMCU Improved</b>				
3.1 Training female specialists in the expertise team for providing online and/or on-the-spot technical services to farmers	600 GSSMCU staff received on-the-job training (30% women), including 200 GSSMCU staff (30% women) report improved knowledge on internet-of-things applications in agriculture (Baseline: 0)	Project budget	PMO	2019–2021
3.2 Participation in technical training and study groups supported	100 GSSMCU staff report improved skills in precision agriculture, of which 30% are women			

Activities	Target	Budget	Responsible Agency	Timeline
3.3 Assigning female social officer at PMO and social focal points at PIUs for social monitoring and reporting	One woman officer at PMO and 3 women focal staff at PIUs assigned (50% of total focal staff) (Baseline: One woman officer at PMO, 0 women focal staff at PIUs)	PMO/ PIU budget	PMO and PIUs	2018–2019
3.4 Training of PMO and PIU staff on social aspects; and conduct surveys and data collection for monitoring GAP targets	50 person-times of training for women staff (50% of total) (Baseline: 0)	Project budget	PMO	2019–2020
<b>4. All Outputs: Employment and Labor Safety by the PIUs</b>				
4.1 Full time employment supported	A cumulative 2,397 full-time jobs supported by PIUs, of which at least 50% (1,199) for women (2019 Baseline: 277)	PIU budget	PIUs	2019–2023
4.2 Seasonal employment supported	Cumulative 13,992 part-time employment opportunities supported by PIUs of which at least 50% (6,996) for women (2019 Baseline: 7,512)	PIU budget	PIUs	2019–2023
4.3 Semi-annual awareness trainings on labor safety and control of communicable diseases	10,456 women employees trained (>50 % of total participants) [Baseline: 7,513 women employees (>50% of total participants)]	PIU budget	PIUs	2019–2023
4.4 Equipping basic sanitation and healthcare equipment, including first-aid kits, in collective workplaces	All work places have sanitation and healthcare equipment, including separate toilets and shower for women (Baseline: 0)	PIU budget	PIUs	2019–2023
4.5 Engaging township Women Federation (WF) for grievance redress regarding women employees	20 WFs engaged in grievance redress (Baseline: 0)	PIU budget	PIUs	2019–2023
<b>5. All Outputs: Consultation and Participation</b>				
5.1 Consultation meetings on implementation of social aspects in relevant subproject	A total of 50 meetings in project implementation period, with at least 50% women participants (Baseline: 0)	PIU budget	PIUs	2019–2025
5.2 Notification of and consultations with neighboring communities and residents before subproject construction	Communities and residents are notified and consulted before construction, including at least 50% participants are women (Baseline: 0)	PIU budget	PIUs	2019–2023

ADB = Asian Development Bank, APP = an application, especially as downloaded by a user to a mobile device, PMO= project management office, CSMC = county supply and marketing cooperative, DMF = design and monitoring framework, GAP = gender action plan, GSSMCU = Gansu Supply and Marketing Cooperatives Union, HHs = households, LND = Lanzhou New District, LURT = land use right transfer; MSMC = municipal supply and marketing cooperative, PIU = project implementation unit, SDAP = social development action plan, SMC = supply and marketing cooperative, SPS = Safeguard Policy Statement, TSMC = township supply and marketing cooperative, WF = women's federation.

<sup>a</sup> To improve APP design, the developed APPs will be tested among 400 users including 200 females before formal disclosure.

<sup>b</sup> "Person-times" refers to a cumulative number of persons attending the training. There may be overlap if same person attends the training more than one time.

<sup>c</sup> Big farmers refer to capable individual farmers who lease farmland from others and hire labors for scaled farming.

<sup>d</sup> CNY1.75 million poverty reduction funds from central government, for 50 poor of 15 HHs, were invested in the enterprise. Each poor person can enjoy a bonus of not less than 7% of the investment each year, equivalent to not less than CNY2,600.

<sup>e</sup> It is included in the Three-Year Action Plan on Precise Poverty Reduction through Potato Industrial in Gansu Province (<http://www.gsny.gov.cn/apps/site/site/issue/tzgg/xztz/2018/01/31/1517376620788.html>). The subsidy is CNY150/*mu*/year for 3 years (2018–2020) and it covers 50% of total costs for seed potatoes of (qualified I Class) 150 kg/*mu*/year.

<sup>f</sup> A county government department/agency must have one to two partnership poverty villages for development assistances.

<sup>g</sup> The government officially announced to eliminate poverty by 2020, but development assistances will be continued.

Source: ADB estimates.

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

### A. Project Design and Monitoring Framework

<b>Impacts the Project is Aligned with</b> Inclusive economic opportunities in rural areas of Gansu province increased <sup>a</sup> Poverty in rural areas of Gansu province reduced <sup>b</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b> Income-generating opportunities from agricultural production and marketing increased	By 2026: a. Average income of farm households supplying products to PIUs increased by at least 10% more than the average increase in provincial rural household income (2019 baseline: 0)  b. A cumulative 2,397 full-time jobs and 13,992 part-time employment opportunities supported by PIUs, of which at least 50% are women <sup>c</sup> (2019 baseline: 652 for full-time employment and 10,305 for part-time employment)  c. At least 12,866 smallholder farmer households benefited <sup>d</sup> from contract farming (2019 baseline: 726)	Sample household survey and the provincial statistical yearbook	Significant fall in the prices of agricultural products  Disputes between PIUs and affected farmers
<b>Outputs</b> 1. Comprehensive information service and management platform developed	By 2025: 1a. At least 12 services are marketed through internet-plus platforms (2019 baseline: 1)  1b. At least 110,000 farmer households serviced by internet-plus platforms including at least 30% poor and low-income households (2019 baseline: 0)  1c. Knowledge and skills on ICT use in agriculture sector of 640 participating enterprise staff and 8,500 associated entities enhanced (2019 baseline: 0)  1d. 20,000 farmers trained to access the project's information and technical services including at least 50%	1a–1d. Participants survey	Business downturns because of external factors (e.g., fall in prices of products) are too financially stressful for enterprises to implement project activities  Lack of appropriate risk insurance mechanism  Loss of agricultural production from more extreme

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	women and 30% poor and low-income households (2019 baseline: 0)		weather events than projected
2. Agricultural production, processing, storage, and marketing modernized	<p>By 2025:</p> <p>2a. Crop value per hectare increased by at least 5% for farm households supplying products to PIUs (2019 baseline: 0%)</p> <p>2b. At least 118,700 <i>mu</i><sup>e</sup> of production area managed by PIUs and participating farmers become operational with access to comprehensive information service and management platform (2019 baseline: 0)</p> <p>2c. Chemical fertilizer application reduced by 40% and pesticide use in PIUs reduced by 30% (2019 baseline: 0%)</p> <p>2d. At least 17 project products have access to e-commerce platform (2019 baseline: 0)</p> <p>2e. At least 90% of project processing facilities monitor raw material quality through comprehensive information service and management platform (2019 baseline: 0)</p> <p>2f. At least 22,000 farmers including 50% women receive technical and management support services through comprehensive information service and management platform (2019 baseline: 0)</p>	2a–2f. Results of participants survey	Unfavorable market conditions
3. Capacity of GSSMCU improved	<p>By 2025:</p> <p>3a. 600 GSSMCU staff (30% women) received on-the-job training, including 200 GSSMCU staff (30% women) report improved knowledge on internet-of-things applications in the agriculture sector (2019 baseline: 0)</p>	3a–3b. Results of participants survey	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	3b. 100 GSSMCU staff report improved skills in precision agriculture, of which 30% are women (2019 baseline: 0)		
<b>Key Activities with Milestones</b> <b>1. Comprehensive information service and management platform developed</b> 1.1 Implement investment component for data centers and training facilities (Q4 2022) 1.2 Apply ICT system for integrated and automated information exchange network (Q2 2023) 1.3 Train farmers on ICT application and e-commerce (Q4 2023) 1.4 Train participating enterprise staff on ICT application and e-commerce (Q1 2023) <b>2. Agricultural production, processing, storage, and marketing modernized</b> 2.1 Implement investment component for agricultural production (Q4 2022) 2.2 Implement investment component for processing, storage, and marketing facilities (Q4 2022) 2.3 Apply ICT system for integrated and automated information exchange network (Q3 2023) 2.4 Train GSSMCU staff on ICT application in facilities (Q4 2023) <b>3. Capacity of Gansu Supply and Marketing Cooperatives Union of Gansu Province improved</b> 3.1 Recruit capacity-building consultants by Q2 2020 3.2 Train GSSMCU staff on ICT application in information service and management platform in agriculture production enterprises (Q3 2022) 3.3 Conduct three national study tours (Q4 2023) <b>Project Management Activities</b> Recruit project implementation and contract management consultants by Q2 2020 Conduct training on project management (Q2 2020–Q1 2021) Establish project performance management system, monitor project implementation progress, and submit semiannual project progress reports to ADB (Q1–Q4 2025) Implement the environmental management plan and submit semiannual environmental safeguard monitoring reports to ADB (Q1–Q4 2025) Implement the gender action plan, social development action plan, and land use right transfer framework, and submit annual social monitoring reports to ADB (Q1–Q4 2025)			
<b>Inputs</b> ADB: €118,000,000 Participating enterprises €45,440,000 Government: €30,000			
<b>Assumptions for Partner Financing</b> Not applicable.			

ADB = Asian Development Bank, GSSMCU = Gansu Supply and Marketing Cooperatives Union, ICT = information and communication technology, PIU = project implementation unit, Q = quarter.

<sup>a</sup> ADB. 2016. [Country Partnership Strategy: Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020](#). Manila.

<sup>b</sup> Government of the People's Republic of China, State Council. 2011. [Outline for Development-Oriented Poverty Reduction Program for Rural China](#). Beijing.

<sup>c</sup> Targets are based on data collected during project preparation.

<sup>d</sup> Entered into contract farming arrangements with agro-enterprises.

<sup>e</sup> A *mu* is a Chinese unit of measurement (1 *mu* = 666.67 square meters or 0.067 hectares).

Source: Asian Development Bank estimates.

## B. Monitoring

81. **Project performance monitoring.** To monitor the progress of the project in achieving the planned outcome and outputs, the PMO will coordinate with the PIUs for the establishment and maintenance of the project performance management system (PPMS)—equivalent to the management information system—which will permit adequate flexibility to adopt remedial action

regarding project design, schedules, activities, and development impacts.<sup>30</sup> In addition, risk management for the project shall be incorporated in the PPMS. The monitoring will cover all indicators listed in the design and monitoring framework as well as the indicators reflecting the development results contributed by the project. The PPMS will cover the following aspects of the project implementation: (i) project physical and financial progress; (ii) progress and results of capacity development; (iii) implementation of the EMP; (iv) implementation of the GAP, LURT framework, and SDAP; and (v) compliance with loan covenants (policy, financial, economic, sector, and others).

82. The PMO agrees that they will (i) establish the PPMS; (ii) recruit the loan implementation consultants to provide consulting service as described in Appendix 1; (iii) confirm that targets are achievable; and (iv) develop recording, monitoring, and reporting arrangements.

83. At the beginning of project implementation, PMO will finalize the comprehensive PPMS procedures to systematically generate data in the above areas in consultation with the implementing agencies. PMO 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 PMO, and the PIUs will assign staff or consultants to collect baseline and progress data at the requisite time intervals, including progress report on the implementation of the EMP, GAP, LURT framework, and SDAP. The PMO will be responsible for analyzing and consolidating reported data through its management information system, and reporting outcomes to ADB through semiannual progress reports.

84. A project progress report, monitoring the project inputs and activities, should be submitted to ADB semiannually starting from project inception. These semiannual progress reports and project monitoring and evaluation reports will provide information necessary to update ADB's PPMS.

85. Promptly after physical completion of the project, but in any event not later than 6 months thereafter or such later date as ADB may agree for this purpose, GSSMCU will prepare and submit to ADB a project completion report, in such form and in such detail as ADB shall reasonably request, on the implementation and evaluation of the project, including project description, evaluation of design and implementation, evaluation of performance, and overall assessment and recommendations.

86. **Compliance monitoring.** During project implementation, ADB and GSSMCU 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 progress report by GSSMCU and will be reviewed during project review missions.

87. **Environmental safeguard monitoring.** The PMO environment officer and PIU social and environmental focal staff will monitor the implementation of the EMP, including the GRM, and include progress as part of the overall reporting to the PIU. Progress reporting will be: (i) semi-annual, during construction and implementation of the EMP; and (ii) annual, during operation of the project facilities until issuance of the project completion report. In the event of any environmental incidents, accidents, or complaints, the PIUs will immediately report these to the PMO, who will inform ADB. If required, corrective actions will be developed and agreed upon between the executing and implementing agencies, PIU, ADB and other relevant agencies. To

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<sup>30</sup> ADB's project performance reporting system is available at: <http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

assist the PMO in the preparation of progress reports to ADB, a report template has been provided.

88. **Involuntary resettlement and indigenous peoples.** The project will not involve any involuntary land acquisition and resettlement impacts or any impacts on communities of indigenous peoples as defined under ADB SPS.

89. **Social and gender monitoring.** Internal monitoring of the GAP, LURT framework, and SDAP implementation will be conducted and the targets are specified in the relevant action plans, and some indicators are also included in the design and monitoring framework. Each PIU will appoint a social and gender focal point for implementation and internal social monitoring. A national social and gender specialist will be engaged under the project implementation consultant. The specialist will assist PMO and PIUs in setting up effective internal social and gender monitoring system. Results of internal monitoring will be reported through regular progress reports. The PMO will engage an external social monitoring specialist to monitor LURT and other social measures, who will prepare and submit annual social monitoring reports to ADB and PMO.

## C. Evaluation

90. In addition to regular monitoring, project progress and performance will be monitored at least once a year jointly by ADB and GSSMCU during the ADB review missions. The review will assess implementation performance and achievement of project outcome and outputs, assess financial progress, identify issues and constraints affecting implementation, and work out a time-bound action plan for their resolution. ADB and GSSMCU will undertake a midterm review in the mid-year of the project implementation period to (i) conduct a detailed evaluation of the project scope, implementation arrangements, progress of the overall project and each component, and status of achieving the performance targets; and (ii) recommend appropriate measures, including changes in the project scope and/or implementation arrangements, reallocation of loan proceeds, changes in the ADB financing ratios, and extension of the loan closing date. Promptly after physical completion of the project, but in any event not later than 6 months thereafter or such later date as ADB may agree for this purpose, GSSMCU will prepare and submit to ADB a project completion report, in such form and in such detail as ADB shall reasonably request, on the implementation and evaluation of the project.<sup>31</sup>

## D. Reporting

91. GSSMCU will provide ADB with (i) semiannual progress reports in a format that acceptable to ADB (format of the progress report included in appendix 7), including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, (d) compliance status with loan covenants, and (e) updated implementation plan for the next reporting period; (ii) audited annual report; (iii) consolidated financial statements; and (iv) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and consolidated audited project financial statements, and the PIU's audited financial statement, together with the associated auditor's report, should be adequately reviewed.

92. GPG/GSSMCU has agreed on the following reporting commitments:

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<sup>31</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>



Report	Timing	Reference
Semiannual project progress reports	Semiannual, within 1 month after the end of each reporting period	Project agreement, schedule
Audited financial statements	Not later than 6 months after the closure of fiscal year	Project agreement, schedule
Social monitoring report comprising: ➤ LURT progress ➤ GAP and SDAP implementation progress and results	Annually, within 1 month after the end of each reporting period)	Project agreement, schedule
Environmental safeguard Construction phase ➤ Environmental safeguard monitoring reports  Operational phase ➤ Environmental safeguard monitoring reports	Semiannually, within 1 month after each quarter (i.e. April, July, October, then January of the following year)  Annually, within 1 month after the end of each year (February), until the project completion report	Project agreement, schedule
Project completion report	Not later than 6 months after the physical completion of the project	Project agreement, schedule

LURT = land use rights transfer, GAP = gender action plan, SDAP = social development action plan.

Source: Asian Development Bank.

## E. Stakeholder Communication Strategy

93. Project information will be disclosed through ADB's and government's websites, CPP, meetings, interviews, focus group discussions, and community consultation meetings, in accordance with requirements of ADB's information disclosure policy. Main stakeholders are the different agencies of GPG, GSSMCU, the participating counties/cities, the participating enterprises, beneficiary farm households, and participants in the project implementation. Stakeholder communication is also part of the GAP, LURT, and SDAP.

94. **Environment.** Meaningful consultation, participation, and information disclosure were conducted during preparation of the IEE and EMP. Public consultations will be maintained with communities in the project areas during project implementation. Consultations will be arranged and facilitated by the PMO environment and social officers and PIU social and environmental focal staff. Methods of consultation and information disclosure may include household visits and village meetings. In particular, consultations will be made with residents living close to the subproject sites and who may be affected by construction or operational noise, dust, or other issues. Such communities are identified in the IEE and EMP.

95. **Social and gender.** Consultations with communities were conducted during preparation; and will be continued during the implementation of the GAP, LURT, and SDAP—not only to inform people about project components or activities; but also, to enable people to ask questions, make suggestions, state preferences, and/or express concerns. Special attention will be paid to the participation of women, the poor, and other vulnerable groups. Social monitoring reports will be disclosed publicly.

96. **Public disclosure.** ADB, GPG, GSSMCU, and the city GSSMCU will disclose relevant project information to the public and interested parties. This includes particularly the information

regarding the overall project and environment and social safeguards. The information disclosure measures for different stakeholders are described in Table 12.

**Table 12: Public Disclosure Measures**

<b>Information</b>	<b>Means of Communication</b>	<b>Responsibility</b>	<b>Audience</b>	<b>Frequency</b>
Report and recommendation of the President with links to relevant documents	ADB website	ADB	Public	Once
Project information during design and construction	Stakeholder consultations and public notice boards	GPG and GSSMCU	Project beneficiaries and affected people	Regular intervals during design and construction phase
Social monitoring reports	ADB and GPG websites, and public notice boards	GPG and GSSMCU	Project beneficiaries/ affected people and other interested stakeholders	Annually
Information on the GAP, LURT, and SDAP activities	Stakeholder consultation, ADB and GPG websites, and public notice boards	GPG and GSSMCU	Project beneficiaries/ affected people and other interested stakeholders	Regularly
Project information documents	ADB website	ADB	Public	Semiannually
Project completion report	ADB website	ADB	Public	Once

ADB = Asian Development Bank, EMDP = ethnic minority development plan, GAP = gender action plan, GPG = Gansu Provincial Government, GSSMCU = Gansu Supply and Marketing Cooperatives Union.

Source: Asian Development Bank.

97. Detailed consultation, participation, and information disclosure related to social and environmental safeguards/measures are included in the EMP, GAP, SDAP and LURT framework.

## **X. ANTICORRUPTION POLICY**

98. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>32</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 the ADB-financed activity and may not be awarded any contracts under the project.<sup>33</sup>

99. To support these efforts, relevant provisions are included in the loan and project agreements and the bidding documents for the project.

## **XI. ACCOUNTABILITY MECHANISM**

100. 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 the 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 an effort in good faith 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>34</sup>

## **XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**

101. All revisions and/or updates during the course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the project administration manual, including revision to contract awards and disbursement schedules.

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<sup>32</sup> Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>33</sup> ADB's Integrity Office web site: <http://www.adb.org/integrity/unit.asp>

<sup>34</sup> Accountability Mechanism. <http://www.adb.org/Accountability-Mechanism/default.asp>.

## APPENDIX 1: TERMS OF REFERENCES FOR THE LOAN CONSULTING SERVICES

1. The consulting services to be financed by the Asian Development Bank (ADB) loan are divided into two packages: (i) project implementation support and capacity development (CS-01, international firm); and (ii) project implementation startup support (CS-01; national consultant).
2. The scope and tasks of the consulting services financed by the loan are described below. The project management office (PMO) on behalf of Gansu Provincial Government will be responsible for engaging all the consulting service contract packages in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The consulting firm will be selected for the project implementation support and capacity development by (i) inviting full technical proposals; and (ii) using the quality- and cost-based selection method, with a quality–cost weighting ratio of 90:10.
3. In addition to the consulting services financed by the loan, domestically funded consulting services will be recruited by the PMO and PIUs. The PMO will recruit a procurement agent to provide bidding support including preparation of bidding documents, invitation for bids and bid evaluation reports, while the PIUs will engage domestic design institutes to carry out preliminary and detailed engineering designs. Construction supervision engineers will also be recruited by the PIUs for overseeing and inspecting the construction sites to ensure compliance with national regulations, safety standards, and the ADB requirements.

### Summary of Consulting Services

No	Package Name	Summary Details
CS-01	Project Implementation Support and Capacity Development	An international firm with national experts. Selected by the PMO through ADB's QCBS (90:10) selection method Expected duration: 4.5 years
CS-02	Project implementation start-up Support	Individual consultant: a national procurement and project management specialist Expected duration: 9 months Selected by the PMO through ADB's ICS selection method

ADB = Asian Development Bank, CS = consulting service, ICS = individual consultants selection, PMO = project management office, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

4. **Project Implementation Support and Capacity Development (CS-01).** The consulting services for project implementation support and capacity development will be carried out by a team of consultants that will be engaged through a consulting firm. The consultant team will have 13 national consultants with a total input of 148 person-months. The requirements of the consulting services and the budget are detailed in the following tables.

### Summary of Consultant Inputs for Project Implementation Support and Capacity Development

Area of Expertise	National (person-months)
1 Project management specialist/team leader	26
2 Procurement and contract management specialist / Deputy team leader	16
3 Financial management and disbursement specialist	12
4 Project economist	5

<b>Area of Expertise</b>		<b>National</b> (person-months)
5	Environment specialist	15
6	Social and gender specialist	10
7	External social monitoring specialist	10
8	ICT specialist	15
9	Bigdata specialist	6
10	Data architect	6
11	Information security expert	6
12	E-commerce specialist	15
13	Featured agriculture specialist	6
<b>Total person-months</b>		<b>148</b>

ICT = information and communication technology.

Source: Asian Development Bank.

**Cost Estimates for Project Implementation Support and Capacity Development  
Consulting Services (Package CS-01)**

<b>Item</b>	<b>Amount (€'000)</b>
Consultants Fees - remuneration and per diem (incl. domestic travel)	
National	953
Training and Study Tours	170
Provisions	90
Contingencies	60
<b>Total</b>	<b>1,273</b>

Source: Asian Development Bank.

5. The consulting services for the project implementation support and capacity development will include but not be limited to: (i) project management; (ii) detailed engineering design reviews and bidding documents reviews; (iii) review of procurement contracts; (iv) disbursement and contract management; (v) construction management including planning, supervision and monitoring; (vi) financial management; (vii) project performance monitoring and reporting requirements; (viii) safeguard management and monitoring; (ix) technical support for the internet-plus agriculture development; (x) data archives management; (xi) facilitation of the ADB's missions to review the project implementations; (xii) formulation of the capacity development plan and implementation initiatives as required assisting the PMO/project implementation unit (PIU) in preparation of additional subprojects; and (xiii) evaluation of project implementation at mid-term and completion .

6. Detailed tasks include but are not limited to the following:

**a. Project management specialist/team leader** (national, 26 person-months)

7. The international project management specialist should have: (i) master's degree or higher degree in natural resources management or closely related fields; (ii) at least 15 years of relevant experience with recognized expertise for the support to implement international organizations funded projects; (iii) good knowledge of ADB project operations; (iv) good facilitation and presentation skill; (v) full proficiency in English including excellent report writing skills; and (vi) experience as team leader.

8. The specialist shall take overall leadership to ensure the successful management and implementation of the project and provide all the supports for the PMO and PIUs to fully comply with the loan covenants. Specific tasks include but are not limited to the following:

- (i) Coordinate all project management support activities as team leader;
- (ii) Finalize the approach for project management support, assist the PMO in setting up the institutional framework, operational procedure, document control, design supervision, and contract management systems for the project; and the work plan to guide and facilitate project implementation using and adapting, as necessary, the arrangements set up for earlier ADB projects in Gansu Province;
- (iii) Responsible for the preparation of the inception report on the consulting services, semiannual project progress report, mid-term project implementation review report and project completion report;
- (iv) Develop comprehensive project implementation plans and procedures for monitoring and controlling overall project activities;
- (v) In collaboration with other implementation consultants, provide guidance to the PMO and involved PIUs, together with local design institutes, on the preparation of documents required by ADB for approving additional subproject(s) proposed for financing from the unallocated category;
- (vi) Assist the PMO in establishing and operating the project performance management system based on the framework developed during the transaction technical assistance implementation in accordance with ADB requirements, including operating mechanism for data collection, analysis, and reporting;
- (vii) Provide overall technical guidance and maintain oversight on the implementation of all project outputs;
- (viii) Assist the PMO in preparing semiannual project progress reports in a format accepted by ADB,
- (ix) In cooperation with the procurement and contract management expert, monitor the executing agency's procurement activities under the project and assist the PMO in preparing, updating, and implementing the procurement plan,
- (x) Assess needs for capacity development for staff of the PMO/PIUs, and others, referring to capacity development activities, and plan, design, organize, and implement seminars, workshops, training, and/or study tours, for project management, financial management, disbursement arrangements, implementation, monitoring and evaluation of social development including gender development, and environmental management, and project monitoring and evaluation and assist PMO in initiating the capacity development plan including national study tours;
- (xi) Monitor compliance with the loan assurances, assess key implementation issues, and make recommendations for improvement;
- (xii) In corporation with other team members conduct the assessment of project implementation and initial operation of the project, detailing achievements of the project results including impacts, outcomes and outputs, the impact of activities, the sustainability context, lessons learned, and best practices obtained during project implementation and prepare a project completion report acceptable to the ADB; and
- (xiii) Conduct any other necessary work for smooth and appropriate implementation of the project as requested by the ADB and executing agency/PIUs.

**b. Procurement and contract management specialist/deputy team leader**  
(national, 16 person-months)

9. The procurement and contract management specialist should have: (i) a bachelor's degree or higher degree in procurement and contract management closely related fields; (ii) at least 10 years of relevant experience with recognized expertise in the preparation or implementation of international financial institutions funded projects; (iii) good knowledge on the

ADB project operations; (iv) good facilitation and presentation skill; and v) proficiency in written and spoken English.

10. The specialist shall take a leading role as the deputy team leader (DTL) to work with team leader to provide overall project management and coordination for the project implementation. The specialist will be responsible to provide technical and management support for bidding document review, procurement assistance, contract bid review and evaluation, and other procurement related tasks. Specific tasks include but are not limited to the following:

- (i) Conduct technical review, and provide expert comments on detailed engineering design in accordance with the design codes and standards;
- (ii) Reviewing designs, drawings, and the bidding documents, including the identification of potential technical problems and suggestions for their means of resolution; and incorporation of environmental mitigation measures, where appropriate;
- (iii) Ensure that (a) the bidding documents include contractors' provision of equipment operation and maintenance (O&M) manuals in Chinese, and (b) training in equipment O&M is adequately provided for;
- (iv) Conduct technical, financial, and procedural review of bid evaluation; and hold contract negotiations;
- (v) Conduct routine site visits; and provide technical inputs to construction planning, supervision, and monitoring for quality control of the project construction;
- (vi) Conduct contract management, including preparing contract strategy and management plan, monitoring construction progress, preparing semiannual progress reports, reviewing the contractors' claims for payments, coordinating project implementation among contractors and various stakeholders, and coordinating daily operational tasks;
- (vii) Conduct technical review for construction supervision and management, including (a) approval of construction methods; (b) ensuring work is undertaken according to the intent of contract specifications; (c) control over construction quality; (d) adherence to contract work programs; (e) site health and safety procedures; (f) recordkeeping systems to protect client interests in event of claims; and (g) claims assessment and determination;
- (viii) Assist the team leader in the provision of guidance to the PMO and involved PIUs, together with local design institutes, on the preparation of documents, including in particular the procurement plan, required by ADB for approving additional subproject(s) proposed for financing from the unallocated category
- (ix) Provide expert inputs, review, and justification for contract variation; and prepare necessary documentations in accordance with the requirements of ADB and the Government of the People's Republic of China (PRC), if necessary;
- (x) Provide expert inputs on asset commissioning and handover, including a review of documentation provided by the contractors; and ensure that they have fully discharged their training obligations;
- (xi) Undertake site visits to all project implementation units during subproject construction and operation; and
- (xii) Undertake any other necessary work ADB assigned by the team leader and or requested by PMO/PIUs and the ADB.

**c. Financial management and disbursement specialist** (national, 12 person-months)

11. The national financial management and disbursement specialist shall have: (i) a bachelor degree or higher degree in financial management related fields; (ii) a certified public accountant qualification or equivalent qualification; (iii) a minimum 10 years working experience in financial

management, accounting, auditing or related field; (iv) working experience in preparation or implementation of World Bank/ADB funded projects; and (v) proficient communication and writing skills in English.

12. The specialist will work closely with the executing and implementing agencies, PMO, and PIUs to provide support, advice and assistance in respect to all aspects of financial management for the implementation of project in compliance with relevant ADB and national requirements. The specialist will also provide training on ADB loan disbursement procedures and financial management practices to relevant staff in the implementing agency, PMO, and PIUs. The scope of the services includes but not limited to the following activities:

- (i) Establish an efficient and effective financial management system for the project implementation in accordance with ADB's policy and procedural requirements, and implement such financial management system;
- (ii) Assist the PMO to set up the project accounts;
- (iii) Identify areas for improvement and training needed with respect to the quality of financial statements, disclosure, and notes to the financial statements; and develop templates for the annual financial statements, and prepare project annual financial statements;
- (iv) Provide the PMOs and PIUs with assistances in preparing loan withdrawal application including collecting the supporting documents/evidence and filling the application formats, and review disbursement applications and supporting documents;
- (v) Prepare semi-annual contract awards and disbursement targets and monitor closely with the progress to ensure timely contract awards and disbursement;
- (vi) Assist the PMO/PIUs, and city/county/district finance bureau in establishing and implementing the financial management system;
- (vii) Regularly update the project cost estimate and financing plan, including counterpart funding, ADB funding, and other source of financing;
- (viii) Together with the PIU and design institute conduct the financial analysis of additional subproject(s) proposed for use of allocated funds in accordance with ADB requirements;
- (ix) Conduct financial analyses of the overall project and each subproject at the midterm of project implementation (in about two years after the consulting services start) and at physical completion of the project;
- (x) Organize and conduct financial management training and capacity development, coordinate with the team leader and other team specialists to carry out training program and provide support to the capacity development activities for financial management and loan disbursement procedures and requirements;
- (xi) Provide support to the team leader and DTL for the preparation of the required reports; and
- (xii) Other necessary activities assigned by team leader/DTL.

**d. Project economist** (national, 5 person-months)

13. The national project economist shall have: (i) a bachelor's degree or higher in economic or closely related fields; (ii) 10 years working experience as economist; (iii) working experience in preparation or implementation of World Bank/ADB funded projects; and (iv) proficiency in written and spoken English.

14. The specialist will be responsible to undertake the economic evaluation at the midterm of project implementation and at physical completion of the project. The specific tasks may include:

- (i) Review background documents, including the economic analysis of the project undertaken during project preparation;



- (ii) Together with the PIU and design institute, conduct the economic analysis of additional subproject(s) proposed for use of allocated funds in accordance with ADB requirements;
- (iii) Conduct economic analyses of the overall project and each subproject to determine economic internal rate of return of the overall project and each subproject at the midterm of project implementation (in 2022), and at physical completion of the project;
- (iv) Provide support to the project management specialist/team leader for assessing needs for capacity development; and planning, designing, organizing, and implementing seminars, workshops, and/or training for economic analysis, as necessary;
- (v) Provide support to the project management specialist/team leader for preparing the inception report, annual reports, draft and final project completion report; and
- (vi) Undertake any other necessary work assigned by the team leader/DTL.

**e. Environment specialist** (national, 15 person-months)

15. The specialist will have: (i) an undergraduate degree or higher in environmental management or related field; (ii) at least 10 years of experience in environmental management, monitoring, and/or impact assessment; (iii) familiarity with ADB project management requirements and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; (vi) willingness and health to regularly visit the subproject sites; and (vii) proficiency in spoken and written English.

16. Working closely with the PMO Environmental Officer and other staffs and agencies, the environment specialist will function as the loan implementation environment consultant and will do the following:

**Before construction**

- (i) Ensure project environmental readiness, including: (a) all contractor contracts include, and will comply with, the environmental management plan (EMP); and (b) relevant sections of the EMP are incorporated in construction plans and contracts;
- (ii) Assist the PMO and PIUs to implement the grievance redress mechanism (GRM), including: (a) establish and publicize the GRM; and (b) collate and evaluate grievances received;
- (iii) Develop procedures to: (a) monitor EMP implementation progress; (b) collate and evaluate data collected in the EMP environmental monitoring program; and (c) prepare and submit the semi-annual environmental monitoring reports to ADB (to continue until project completion report);
- (iv) Provide hands-on support and on-the-job training to the PMO, PIUs, and contractors on the specific requirements of the EMP, as required.

**During project implementation**

- (v) Undertake site visits to all PIUs during subproject construction and operating phase;
- (vi) Assist in the ongoing public consultation process as described in the project initial environmental examination;
- (vii) Conduct and monitor project compliance with the EMP and all relevant assurances and covenants in the loan and project agreements for environmental safeguards; identify any environment-related implementation issues; and, propose necessary responses in corrective action plans;
- (viii) Assist the PMO and PIUs in managing the accredited environmental external

- monitoring agencies for conducting periodic environmental impact monitoring in compliance with the approved monitoring plan defined in the EMP;
- (ix) Undertake training of project agencies as required by the EMP training plan, and provide hands-on support and on-the-job training to the PMO and/or PIUs and contractors on the specific requirements of the EMP, as required;
  - (x) Undertake simple and cost-effective on-site quantitative measurements to regularly check that the construction complies with the environmental monitoring standards and targets, especially for noise, and water turbidity (during the dredging and embankments), using a basic hand-held meter;
  - (xi) Design a simple and cost-effective water monitoring program for the subprojects involving crop production. The objective of the program is to assist the PMO and PIUs in measuring and reporting monthly and annual water use for agriculture in each subproject. This will enable: (a) the PMO, PIUs, and county water bureaus to monitor water use in relation to allocation quotas and overall sustainability; (b) the PMO, PIUs, and ADB to assess whether the project is achieving improvements in water use (compared with existing crop production). Prepare and finalize the program methodology in consultation with the PMO and PIUs;
  - (xii) Assist PMO to prepare semiannual environmental monitoring progress reports for submission to ADB. The reports will focus on progress with implementation of the EMP, compliance with environment-related project assurances, and results of the water monitoring;
  - (xiii) Provide input of environmental protection to progress report, midterm report, project completion report, and other project required documents;
  - (xiv) In collaboration with other implementation consultants, provide guidance to the PMO and involved PIUs, together with local design institutes, on the preparation of documents required by ADB for approving additional subproject(s) proposed for financing from the unallocated category; and
  - (xv) Undertake any other necessary work assigned by the team leader/DTL.

**f. Social and gender specialist** (national, 10 person-months)

17. The national social and gender specialist shall have: (i) a bachelor's degree or higher degree in sociology or related fields; (ii) 10 years working experience as a social and gender specialist; (iii) working experience in preparation or implementation of World Bank/ADB funded projects; (iv) good knowledge on the ADB's social, gender and safeguards policies; and (v) proficiency in spoken and written English.

18. The specialist will be responsible to provide social and gender aspect support for the project implementation in compliance of ADB social policies and procedures, covenants on social aspect. The specific tasks include:

- (i) Develop a work plan for implementing and monitoring the poverty, social and gender dimensions of the project based on key socioeconomic indicators, and support implementing the project performance management system; take leadership to assist implementing the social development plans/framework including social development action plan (SDAP), gender action plan, and land use right transfer (LURT) framework in accordance with the ADB approved plans/framework documents; provide practical advice and support to PMO/PIUs on the implementation of relevant plans/framework following both ADB and domestic policy frameworks;
- (ii) Closely monitor to ensure that the project does not have any indigenous peoples impacts within the meaning of the Safeguards Policy Statement. In the event that the project does have any such impact, assist the executing agency and PIUs to take all steps required to ensure that the project complies with the applicable laws

- and regulations of the PRC and with the SPS;
- (iii) Closely monitor to ensure that the project does not involve involuntary land acquisition and resettlement impacts as defined under the ADB SPS;
  - (iv) Assist the PMO to ensure that all land use by the project is either state-owned land provided by the government; or is through a voluntary LURT of collectively owned lands. Assist the PMO to (a) closely monitor and ensure that all LURT follows the legal procedures, farmers are informed and consulted regarding the land use, agreements are voluntary, farmers benefit fairly, and there are no adverse impacts to farmers; (b) supervise land use agreements, resolve any issues and submit monitoring reports through regular progress reports during the project implementation; and (c) assist the external social monitor to externally monitor implementation of LURT agreements;
  - (v) Assist the PMO and PIUs in supervising contractors to ensure there are no issues triggering involuntary resettlement as defined under the ADB's Safeguard Policy Statement;
  - (vi) Closely monitor and verify to ensure that the necessary budgetary and human resources to fully implement the LURT framework, SDAP and GAP are available;
  - (vii) Review the bidding documents to ensure all the provisions related to labor and health, and the measures set forth in the LURT framework, GAP and in the SDAP have been incorporated into the bidding documents;
  - (viii) Assist providing training on prevention and control of transmissible diseases and HIV/AIDS, and community disturbance to contractors;
  - (ix) Assist the executing agency and PIUs in undertaking public awareness campaigns through information disclosure, education and consultation on the project and its benefits;
  - (x) Provide the inputs for the executing agency and PIUs in the establishment and operation of GRM;
  - (xi) Assist the PMO and PIUs in supervising contractors to ensure compliance with requirements of LURT framework, SDAP and GAP, applicable laws and regulations, and ADB's social policies;
  - (xii) Assist the PMO and PIUs in supervising the implementation processes of LURT framework, SDAP and GAP, by collecting and updating basic data, closely coordinating between the PMO, PIUs, and other relevant agencies;
  - (xiii) Together with the PIU and design institute, conduct the social analysis of additional subproject(s) proposed for use of unallocated funds in accordance with ADB requirements;
  - (xiv) Provide inputs of social and gender to project progress reports, annual monitoring reports, midterm report, project completion report, and other project required documents;
  - (xv) Provide input for the training and capacity development, coordinate with the team leader and other team specialists to carry out training program and provide support to the capacity development activities for implementation and monitoring and evaluation of LURT framework, SDAP, GAP, and other social measures, as necessary;
  - (xvi) In collaboration with other implementation consultants, provide guidance to the PMO and involved PIUs, together with local design institutes, on the preparation of documents required by ADB for approving additional subproject(s) proposed for financing from the unallocated category; and
  - (xvii) Undertake any other necessary work assigned by the team leader/DTL.

**g. External social monitoring specialist** (national, 10 person-months)

19. The external social specialist will independently monitor the project's social dimensions, particularly LURT to ensure that the project is implemented in compliance with ADB requirements. The specialist will report directly to PMO and ADB. The position is intermittent over the entire project implementation duration of 5 years. The specialist will have: (i) a graduate degree or higher in social science or related field; (ii) at least 10 years of experience in social development and safeguards; (iii) familiarity with ADB projects and ADB's social policies; and (iv) proficiency in spoken and written English, including an ability to prepare reports meeting ADB requirements.

20. The external social monitoring specialist will be responsible for the following common coordination tasks and specific tasks of external monitoring of LURT agreements.

**Common Tasks for the Project's Social Plans/Framework**

- (i) Coordinate with the PMO/PIUs and confirm that they have maintained up-to-date information and database on implementation of LURT framework, GAP and SDAP, and other aspects through document review, fieldwork, and meetings;
- (ii) Coordinate with the PMO/PIUs and confirm that they have established detailed internal monitoring arrangements for implementation of LURT framework, GAP, SDAP, and others;
- (iii) Coordinate with the PMO/PIUs and confirm that they have formulated and delivered training to focal staff of the PMO and PIUs in monitoring of the project's SDAP, GAP, and LURT framework;
- (iv) Coordinate with the PMO/PIUs and confirm that they have implemented the GRM and resolved any problems or grievances that may arise during the project implementation;
- (v) Coordinate with the PMO/PIUs and confirm that they have undertaken periodic monitoring and preparing internal monitoring reports on social aspects, including implementation of LURT framework, SDAP, GAP, and other aspects (to be included in periodic progress reports to ADB); and
- (vi) Coordinate with the PMO/PIUs and confirm that they have documented consultations with concerned stakeholders following the principles of meaningful consultation.

**Specific Tasks of External Monitoring of LURT Agreements**

- (i) Monitor to ensure that LURT agreements are implemented according to the agreements that were signed between the parties and that any grievances that might arise are resolved quickly and effectively.
- (ii) For LURT contracts that were not verified during the transaction technical assistance implementation, following the LURT verification methodology in the LURT framework appendix, review and verify to ensure that all contracts meet the LURT criteria for the project.
- (iii) Monitor to ensure that implementing agencies have undertaken socially inclusive consultations with relevant parties to the leasing agreements and they have proper documentation of the consultations including the sex-disaggregated data of participants and issues raised and responses provided during the consultation processes;
- (iv) Monitor to ensure that whether annual or periodic payments were made by the PIUs according to the LURT agreements.
- (v) Monitor and evaluate whether farmers leasing land to the PIUs were able to retain and preferably improve upon their pre-leasing income and livelihoods.
- (vi) Monitor the implementation of the GRM provisions in the LURT agreements;
- (vii) Monitor and evaluate the effectiveness of GRM provisions during project

- implementation;
- (viii) Monitor other relevant aspects in LURT agreements to ensure that they comply with the Project's LURT framework; and
- (ix) Undertake any other necessary work assigned by the team leader/DTL.

21. PMO will provide the following support and assistance to the external social monitoring specialist:

- (i) Hard and soft copies of the feasibility study reports, available survey data, LURT agreements, and other supporting materials, as necessary to ensure the specialist can undertake the tasks;
- (ii) Vehicle transport, office materials, and other logistical supports, as necessary for the specialist to visit the various project sites and local villages;
- (iii) Arranging meetings and distributing relevant materials; and
- (iv) Overall coordination, including review of the draft monitoring reports and final submission of the monitoring reports to ADB.

**h. Information and communication technology (ICT) specialist** (national, 15 person-months)

22. The national ICT specialist shall have: (i) a master's degree or higher degree in computer science or related fields; (ii) 10 years working experience as a software or information system development specialist; and (iii) good knowledge on internet-plus agriculture; and (iv) proficiency in spoken and written English.

23. The specialist will be responsible to provide ICT support for the project implementation. The specific tasks include:

- (i) Train provincial and city/county supply and marketing cooperatives in the use of ICT technologies;
- (ii) Assist PIUs in the technical designs on the establishment of internet platforms;
- (iii) Assist PIUs in designing the technical specification of ICT and internet-of-things (IOT) equipment and software;
- (iv) Assist PMO in developing the project management information system;
- (v) Provide expert inputs, review, and justification for the technical designs of the specifications of the internet equipment, IOT equipment, and software development;
- (vi) Assist PIUs in developing the big data platform on the services of internet-plus agriculture production, processing, and marketing in Gansu Province;
- (vii) Provide PIUs the technical advices in addressing the issues related to the operation of platforms;
- (viii) Provide the trainings on the operations of project management information system and big data platform;
- (ix) Guide the PIU and design institute in the inclusion of ICT needs for the additional subproject(s) proposed for use of unallocated funds; and
- (x) Undertake any other necessary work assigned by the team leader/DTL.

**i. Bigdata specialist** (national, 6 person-months).

24. The specialist should have (i) a postgraduate degree in engineering, technology, management, agribusiness, or in other relevant field; and (ii) at least 3–5 years of working experience in bigdata ecosystem comprising of Blockchain, Bigdata, IOT, and cloud technology; and (iii) intensive working experience in the design of bigdata systems in the PRC. Oral and written English and Mandarin proficiency is required. The specialist will:

- (i) Work with project implementation units, understand the bigdata ecosystem being

- designed and implemented;
- (ii) Document the functional and technical details of the architecture;
- (iii) Provide review and improvement suggestions for the architecture;
- (iv) Produce bigdata blueprint of Gansu internet-plus action;
- (v) Collect baseline data prior to implementation of the internet-plus system and develop benefit quantification models;
- (vi) Conduct periodic technical project review meetings and document the progress;
- (vii) Identify timely resolution techniques and advice project implementation units to overcome technical problems;
- (viii) Develop appropriate bigdata training materials and conduct training to government and project implementation units (technical and functional based on need basis to appropriate teams);
- (ix) Review adequacy of factoring maintenance and operational arrangements; and
- (x) Undertake any other necessary work assigned by the team leader, executing agency, and ADB.

**j. Data architect** (national, 6 person-months)

25. The developer should have (i) a graduate degree in information science, engineering and technology, or in other relevant field; and (ii) at least 3 years of working experience in internet-plus technologies, and particularly in IOT enabled bigdata and e-commerce systems. Oral and written English and Mandarin language proficiency is required. The architect will be responsible for following key tasks:

- (i) Work with the project implementation units and document the data model of the bigdata ecosystem being implemented using business process notation models;
- (ii) Document the communication infrastructure used in the project;
- (iii) Capture the information architecture in an end to end manner (farm to market to consumer) applying enterprise data architecture techniques;
- (iv) Develop detailed process and data flow and elaborate the functional and technical architecture involved in the e-commerce usage;
- (v) Develop appropriate training materials and conduct training to government and project implementation units (technical and functional based on need basis to appropriate teams);
- (vi) Review data governance and information management aspects of project implementation unit and provide necessary advice;
- (vii) Produce data architecture blueprint;
- (viii) Test the system being implemented and provide improvement suggestions;
- (ix) Together with bigdata specialist review the technical components periodically and provide needed advisory services; and
- (x) Undertake any other necessary work assigned by the team leader, executing agency, and ADB.

**k. Information security expert** (national, 6 person-months)

26. The expert should have (i) a graduate degree engineering, technology, management, or in other relevant field; and (ii) at least 8 years of working experience in information architecture, cyber security and data protection. In addition, working experience certification in cyber security will be an advantage. Oral and written English and Mandarin proficiency is required. The expert will:

- (i) Provide inputs to PMO team, project implementation unit, on cyber security aspects and data protection, and information security aspects;

- (ii) Assess the stakeholder technology environment, and information security aspects prevailing in the PRC and develop cyber security and data protection mechanism;
- (iii) Assess appropriate data encryption protocols;
- (iv) Review information security processes followed in the project implementation units and appropriate government agencies and provide advisory inputs;
- (v) Document information security architecture and processes;
- (vi) Develop cyber security and data protection training and maintenance manuals;
- (vii) Support team leader to conduct the two training workshops for local government officials and experts; and
- (viii) Undertake any other necessary work assigned by the team leader, executing agency, and ADB.

**I. E-commerce specialist (national, 15 person-months)**

27. The national e-commerce specialist shall have: (i) a bachelor's degree or higher degree in e-commerce or related fields; (ii) 10 years working experience as an e-commerce specialist; and (iii) good knowledge on agricultural products and their marketing; and (iii) proficiency in spoken and written English.

28. The specialist will be responsible to provide e-commerce support for the project implementation. The specific tasks include:

- (i) Provide the technical advice to PMO and PIUs in developing e-commerce systems;
- (ii) Review the current agricultural products logistic system and marketing models in the project areas;
- (iii) Develop the internet-plus agriculture value chain models, the internet-based agriculture services models and the rural e-commerce platform models, which can be practically applied in the project areas, based on the above assessments, reviews and other necessary studies and surveys;
- (iv) Assist PIUs in setting up e-commerce flagships stores, including market positioning, product attributes, packaging design, marketing strategy, conversion rate, and product mix sales etc.;
- (v) Conduct the trainings on effective applications of the internet-plus agriculture value chain models, the internet-based agriculture services models and the rural e-commerce platform models;
- (vi) Conduct the trainings on the e-commerce marketing and brand development strategy to PIUs; and
- (vii) Undertake any other necessary tasks requested by the PMO and PIUs.

**m. Featured agriculture specialist (national, 6 person-months)**

29. The national featured agricultural specialist shall have: (i) a bachelor's degree or higher degree in agriculture or related fields; (ii) 15 years working experience as an agronomist; (iii) demonstrated experiences in involving featured agricultural production, and good knowledge on internet-plus agriculture; and (iv) proficiency in spoken and written English.

30. The specialist will be responsible to provide featured agricultural technic supports for the project implementation. The specific tasks include:

- (i) Provide the technical advice to PIUs in the establishment of featured agricultural production bases, including field design and layout, variety selection, high-quality seedling propagation, production base development and management, pest management (including potential for integrated pest management), intercropping, harvesting, postharvest (grading, drying, storage, packaging) etc.;

- (ii) Assist PIUs in establishing the internet-plus agriculture socialized service system;
- (iii) Develop the featured agricultural technical services database available for PIUs to adopt;
- (iv) Conduct technical training on the featured agricultural development related topics; and
- (v) Undertake any other necessary tasks requested by the PMO and PIUs.

31. **Project Implementation Start-up Support (CS-02).** In consideration of the executing agency/implementing agency's weak project implementation capacity for ADB and other international institutional funded projects, and in order to assist the executing and implementing agencies to plan and prepare the project implementation in the early stage of the implementation, especially for the advanced contracting and retroactive financing packages, a start-up consulting service package has been developed to provide assistance in procurement and project management. A national procurement and project management specialist with the total input of 9 person-months is required to recruit the national consultants through ICS procedure, right after the loan negotiations. The costs of the package are in the table below. The project management specialist will work on an intermittent basis with a schedule agreed with the PMO/PIO to facilitate the start-up of project implementation.

**Cost Estimates for Project Implementation Start-up Support**  
(Package CS-02)

No	Item	Amount (€'000)
1	Consultants fees - remuneration and per diem (incl. domestic travel)	65
2	Contingencies	5
	<b>Total</b>	<b>70</b>

Source: Asian Development estimates.

32. The specialist will provide advice and support to the PMO in the initial setting up of (i) project management systems, (ii) procurement systems, and (iii) record keeping. In conjunction with the procurement agent, the specialist will provide advice on (i) procurement procedures in accordance with the ADB procurement policy/regulations and preparation of procurement manual; and (ii) timely recruitment of the project implementation support and capacity development consulting firm and external environment monitoring agency making use of the ADB advance procurement action facility (review of expression of interest and shortlisting, preparation for the request for proposal, evaluation of technical/financial proposals, finalization of contracts etc.).

33. The national procurement and project management specialist shall have a university degree or above in management, or related field with demonstrated knowledge in procurement procedures and processes. He/she shall have a minimum of 10 years of experience in ADB or World Bank project management/procurement. Knowledge of ADB or other international funding agency procurement guidelines and procedures and PRC's procurement regulations/practices will be required. This position requires English language proficiency. Tasks and responsibilities of the specialist include but are not limited to the following:

- (i) Assist the PMO in drafting a list of pre-implementation activities to be carried out by the PMO/PIUs together with the steps to taken, schedule, and guidelines to be followed;
- (ii) Assist PMO in developing a procurement manual, advise and assist the PMO in designing and developing specific and standard documentation systems (including the associated templates) for project procurement procedures;
- (iii) Assist PMO to finalize the TOR for project implementation support and capacity



development package (CS-01) and to recruit the consulting firm through QCBS method in accordance with ADB Procurement Policy/Regulations and procedural requirements;

- (iv) Assist PMO and PIUs to carry out the advance contracting activities;
- (v) Assist PMO in initial establishment of document control and record keeping in advance of project implementation;
- (vi) Assist PMO in preparing project progress reports during the initial period;
- (vii) Provide project management training including procurement and project financial management, as required;
- (viii) Undertake other activities relating to the facilitation of project implementation, as required by the PMO and ADB.

## APPENDIX 2: SUBPROJECT SELECTION CRITERIA AND GUIDING PRINCIPLES

### A. Introduction

1. The Project Management Office's (PMO) main focus on selection criteria relates to: (i) meeting essential requirements for government supporting policies in the west of the People's Republic of China (PRC); (ii) focusing on promotion of local specialty crops with the potential to increase the incomes of rural poor farmers; and (iii) promoting the application of internet-plus agriculture as emphasized in the PRC's 'No. 1 Central Document' in February 2017. Internet-plus technologies include but not limited to, internet-of-things, bigdata systems with or without technology concepts such as blockchains and artificial intelligence, cloud computing, and e-commerce and traceability systems.

2. Discussion of project area and subproject selection process and criteria started between the Asian Development Bank (ADB) and the PMO in early 2017. Following the transaction technical assistance (TA) commencement in July 2017, selection criteria have been further discussed between the technical assistance team, PMO and the ADB team. A key conclusion was that selection criteria should be separated into selection criteria for the overall project area, and selection criteria for subprojects.

### B. Project Area Selection

3. The selection of the project area was based on three guiding principles:

- (i) **The principle of industrial advantage.** The selected project area must have a number of industries of featured agricultural products with characteristics of Gansu or resource advantages such as for plateau summer vegetables and fruits. The industries must have capacity for promoting the products and the rural households potentially involved must be representative.
- (ii) **Relative concentration of the project area.** The project area should be concentrated in a few administrative divisions to reduce management costs and maximize focus and benefits. Secondly, there should be relatively concentrated featured industries in the project area to develop industrial clusters and belts, which will promote competitiveness for the featured agricultural products in the market.
- (iii) **The principle of inclusion.** The project area should promote inclusive development: that is, it should focus on harmonious development of the whole society. In particular, it should focus on including relatively poor rural households in the project scope in order to make them to benefit directly from the project. Moreover, it should pay attention to gender mainstreaming to help poor women in the project area and allow them to share the social resources equally and equitably and increase their incomes, which will make gender equality a reality.

4. Based on these principles, eight districts/counties in seven prefectures were initially selected: (i) Jinta County in Jiuquan; (ii) Kongtong District in Pingliang; (iii) Lintao County in Dingxi; (iv) Ganzhou District and Linze County in Zhangye; (v) Jingtai County in Baiyin; (vi) Chengguan District in Lanzhou; and (vii) Maiji District in Tianshui.

5. Within this project area, six standardized demonstration bases that cover the whole industrial chain with respect to Gansu's feature agriculture products were initially selected. These were (i) Zhangye summer vegetables; (ii) Pingliang apples; (iii) Tianshui paper mulberry; (iv) Zhangye Jinhua Village millet; (v) Baiyi licorice; and (vi) Lintao potato.

## C. Subproject Selection

### 1. Overall Process

6. A total of seven subprojects passed a 4-stage selection process. Among them, two are state-owned enterprises (SOE) and five are participating private enterprises (PPE). The selection process is presented in Figure A23.1

7. **Stage 1: Call for proposals.** In June 2017, the Gansu Supply and Marketing Cooperatives Union (GSSMCU) issued a document—"A Notice on Collecting Sub-Projects of the Gansu Internet + Socialized Agricultural Services Development Project across Gansu Province." (Gan Gongxiao [2017] No.85)—to every city- and county-level supply and marketing cooperatives, asking them to collect sub-projects of enterprises or special cooperatives which are willing to apply for this project. Proposed subprojects were required to (i) assist farmers to increase their incomes through increased agricultural production, (ii) support the local economy for sustainable development, (iii) have the capacity to use loan funds and repay the loans from generated income, and (iv) submit detailed justification and plans for the subproject. By the end of August 2017, 43 proposed subprojects had been submitted: 11 from Jiuquan, eight from Zhangye, eight from Dingxi, two from Tianshui, seven from Qingyang, one from Pingliang, one from Baiyin, and four from subordinate enterprises of GSSMCU.

8. **Stage 2: Subproject appraisal and shortlisting.** In August 2017, after receiving the initial proposals, GSSMCU together with the Provincial Finance Department conducted a comprehensive appraisal of the 43 proposed subprojects by analyzing and investigating the relevant material covering project contents, financing plans, financial indexes, and quality and capability of the subproject proponents. Seventeen subprojects were short-listed for further investigation.

9. **Stage 3: Draft final selection.** In September 2017, the PMO of GSSMCU organized a team with relevant experience to further appraise the shortlisted 17 subprojects together with an additional one that had been submitted. After further analyzing their business, financial, quality and ability to pay debts, and conducting field research, they selected 16 sub-projects for further discussion and review, including seven service systems, three demonstration bases for internet-of-things applied agriculture, one platform (big data center) for socialized agricultural comprehensive services, and five county-level centers for socialized agricultural comprehensive services. Following field research and quantification on the basis of 40 indexes in six categories, 12 subprojects were selected for inclusion in the project.

10. **Stage 4: Final selection.** From May to August 2018, the Provincial Finance Department contracted a detailed financial assessment of the selected subprojects, plus two new ones, to ensure that all have sufficient financial capacity to participate in the project. Based on this analysis only six of the previously 13 selected subprojects, plus the new ones were confirmed for inclusion in the project. Of these subprojects, two are internet-based and five are crop-based.

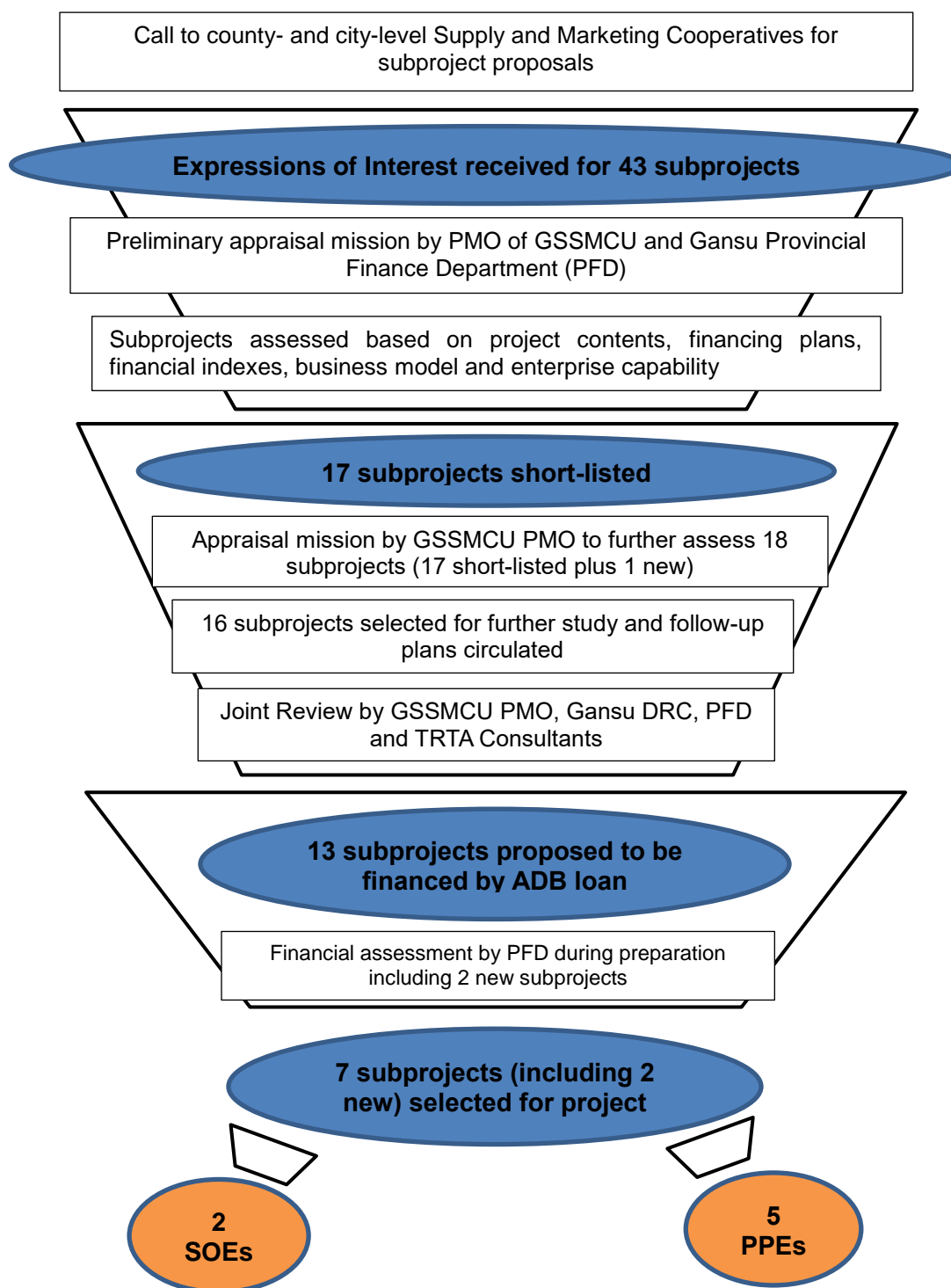


Figure A2.1: Flowchart of Subproject Selection Process and Criteria

## 2. Subproject Selection Criteria

11. The subproject selection criteria used for the initial appraisal included:
  - (i) Subprojects should be designed in light of relevant requirements mentioned in ADB's Concept Paper and the "A Notice on Collecting Sub-Projects of the Gansu Internet-Plus Socialized Agricultural Services Development Project across Gansu Province;
  - (ii) Subproject proponents should have been in operation for at least 3 years after registering above county-level relevant departments and should be well-organized in terms of internal system and organization structure;
  - (iii) The financial condition of subproject proponents should be sound with independent accounting and should also submit their financial statements of 2016;
  - (iv) Subproject proponents should have sufficient assets for development, construction, management and sustainable growth;
  - (v) Subproject proponents should actively participate in the pre-investigation, appraisal and review with relevant materials submitted;
  - (vi) Supporting funds for subprojects should be put in place;
  - (vii) Subproject proponents should be prepared to use project funds rationally based on relevant regulations and make clear who will be responsible for receiving and repaying loans;
  - (viii) Subproject proponents should cooperate with relevant departments to examine and audit their companies and revise their designs based on professional advice; and
  - (ix) Subprojects should result in increased rural incomes and reduced rural poverty through promoting agricultural development.
12. The six categories of subproject selection criteria used for the final review are listed below and the compliance of the selected subprojects with the 40 criteria:
  - (i) At least three years after industrial and commercial registration.
  - (ii) At least A-level- credit ratings of implementing agencies.
  - (iii) Counterpart financial guarantee.
  - (iv) The nature of construction land and type of impoverished counties.
  - (v) The capacity of operating team.
  - (vi) Appraisal indexes on business, growth, operation, capacity for gaining profits and paying debts and so on.

## D. Technical Guiding Principles – Subprojects

13. Technical guiding principles relate to those practices that are required to ensure that the subprojects meet the requirements for (i) developing a comprehensive information service and management platform; (ii) modernizing agricultural processing, storage, and marketing; and (iii) modernizing agricultural production are detailed below.

### 1. Developing a Comprehensive Information Service and Management Platform

14. Technical guiding principles related to developing a comprehensive information service and management platform include:
  - (i) Enabling real-time data collection, storage, and organization of information that will support farm to market and order to cash business processes;
  - (ii) Supporting data based automated / semi-automated decision taking and execution;

- (iii) Establishing technology infrastructure that is secured, and scalable;
- (iv) Providing an implementation environment that includes establishing sustainable business models, maintenance and operation capabilities;
- (v) Utilizing service-oriented architecture aides in efficient operations and reduces total cost of ownership;
- (vi) Incorporating best practices in data gathering, data governance and sharing of information using multiple formats and channels;
- (vii) Aiding efficient business transactions through online methods; and
- (viii) Assisting agile system development principles with easy to use and maintain features; and including capacity development, training and organizational set up to implement the system as an integral part of the solution.

## **2. Modernizing Agricultural Processing, Storage, and Marketing**

15. Technical guiding principles related to modernizing agricultural processing, storage, and marketing include:

- (i) All project interventions along the agricultural value chain from processing to storage and marketing should include information and communication technology applications to trace and monitor the origin and safety of inputs;
- (ii) PPEs and SOEs must be committed to sharing data on the origin of inputs for modernizing the agricultural processing, storage and marketing facilities for the purpose of quality and food safety inspection by responsible government authorities; and
- (iii) The processing, storage and marketing facilities will include internet-plus solution components, institutional capacity, and business models that aides in establishing the modernizing environment.

## **3. Modernizing Agricultural Production**

16. Technical guiding principles related to modernizing agricultural production include:

- (i) All activities for the modification of land use, including preparation land for either annual or perennial crop production, should comply with strict regulations to ensure that exposure to erosive forces is kept to a minimum. Land clearing must be conducted according to technical specifications of soil and water conservation;
- (ii) In the choice/promotion of new crops or new farming systems, the protection of the soil must be ensured. For any new system or crop, the time and degree of exposure to erosive forces must be taken into consideration. This is critical for crops that develop slowly or develop little canopy, or farming/cultivation systems where soil has to be tilled intensively for seedbed preparation;
- (iii) Recommendations for fertilizer application rates based on local soil and crop conditions must be followed to avoid non-point source pollution;
- (iv) Subprojects involving transfer of contracted land must not include either land-lease arrangements against current laws and regulations concerning land or land-lease arrangements signed by village officials without knowledge and consent of village members. For transfer of un-contracted land, village representatives meeting records and signatures are required;
- (v) PPEs and SOEs must be committed to adopting international best-practices for soil and water management and conservation within their project designs; and
- (vi) All Agricultural Production process will include internet-plus sustainable technology solutions to enable modernizing production requirements stated above.

### APPENDIX 3: MAJOR ACTIVITIES OF THE PROJECT ENTERPRISES

No.	Enterprise	Major Activities		Added Capacity	Main Equipment and Materials Supported
		Existing	As Result of Project		
1.	Gansu Agricultural Materials and Fertilizer Co., Ltd.	1) Wholesale and retail of chemical fertilizer, low toxic pesticides, crop seeds 2) Warehouse service 3) House leasing	1) Wholesale and retail of chemical fertilizer, low toxic pesticides, crop seeds, and agricultural products 2) Production and processing of compound fertilizer, mixed and compound fertilizer, formula fertilizer, drip irrigation fertilizer, organic fertilizer, chemical-organic mixed fertilizer 3) Warehouse service 4) Logistics service 5) House leasing	1) Cold store and service facilities (1,252,8 m <sup>2</sup> ), Cold chain distribution services (15,000 tons), agricultural store and warehouse (1,374 m <sup>2</sup> ), and agricultural distribution services (18,000 tons) 2) Organic fertilizer substrate plant (30,000 tons capacity) 3) Fertilizer distribution station (5,000 tons) 4) Online flagship stores on the main e-commerce platforms in the PRC 5) 50 agricultural specialists	1) Agricultural social service big data center with 200 terabyte cloud technology-based data storage and maintenance capacity in a 60 m <sup>2</sup> room in existing GSSMCU facility 2) An organic fertilizer substrate plant (annual output 30,000 tons) in Jiuquan 3) A fertilizer production station (annual output 5,000 tons) in Jiuquan including procuring equipment for soil testing and fertilizer recommendations 4) An agricultural products integrated logistics park including 2,088 m <sup>2</sup> of constant temperature library and sorting area, 2,290 m <sup>2</sup> of agricultural material warehouse, 8,926 m <sup>2</sup> of agricultural products trading market, 610 m <sup>2</sup> of agricultural materials sales area, 9,810 m <sup>2</sup> of shops, and 14,318 m <sup>2</sup> of service center and life service building
2.	Linze Zhongyun Data Company	1) Data collection, analysis and processing 2) High-tech industry incubation 3) Internet technology development and application 4) E-commerce marketing planning, designing, production, agency and advertising 5) Internet information service	1) Logistics service 2) Application of internet-of-things 3) Overall implementation of modern agricultural 4) Design and operation of modern farm, internet-plus agriculture 5) Comprehensive socialized agricultural service 6) Agricultural financial service 7) E-commerce marketing planning, online wholesale and retail	1) Service modules available to clients including agricultural insurance, catering, labor market, input purchasing, sales, agricultural services, extension, traceability, etc. 2) Open 24 online shops 3) Agricultural exhibition flagship store 4) Financial services including forage bank, fertilizer bank, livestock bank, seed bank and land bank	1) Refurbish offices and procure electronic equipment for 1 rented county-level and 77 rented village-level socialized agricultural service centers (1,000 m <sup>2</sup> and 100-200 m <sup>2</sup> each, respectively) 2) Farm machinery for hire to farmers for land preparation and sowing, pesticide spraying using drones, and crop harvesting 3) Cold chain equipment, and 18 vehicles for products distribution to support rented 4,000 m <sup>2</sup> cold storage warehouse, 4,800 m <sup>2</sup> warehouse 4) 8 electric medium-sized trucks for distribution and 73 electric minibuses for village-level logistic stations purchased to support rented county- and township-level sorting centers, and village-level sorting stations

No.	Enterprise	Major Activities		Added Capacity	Main Equipment and Materials Supported
		Existing	As Result of Project		
					5) Exhibition equipment for rented 1,000 m <sup>2</sup> show shop 6) 3 sets of modular sheds (designed for quick installation and taking down) for storage and storage tarpaulins, and 100 x 1-ton seed safety storage tanks
3.	Linze New Cooperation Baihui Business and Trade Company Limited	1) Seedling breeding 2) Vegetable planting, purchasing 3) Cold storage, sales 4) Fruit and vegetable cardboard box production and sales	1) Vegetable planting 2) Vegetable sorting, packaging, storage and sales 3) Dried vegetable deep processing and sales 4) Organic fertilizer and cultivate substrate productions and sales 5) Training and promotion of cultivation techniques	1) Freeze-dried vegetable production line with an annual output of 200 tons 2) Baked-dried vegetable production line with an annual output of 2000 tons 3) Fresh fruit and vegetable marketing warehouse (150,000 tons) 4) Cultivation substrates production line with an annual output of 50,000 tons	1) 499 <i>mu</i> of new greenhouses including 30 intelligent solar greenhouses, 20 intelligent connected steel arch greenhouses, 100 intelligent small arch greenhouses, 4 water storage tanks (5,000 m <sup>3</sup> capacity each), access roads, and on-site landscaping. 2) Vegetable production lines comprising central production line for drying summer vegetables (annual output 200 tons of freeze-dried and 2,000 tons of heat-dried vegetables). 3) Production line for cultivation substrates (50,000 tons annual output). 4) Insulated storehouse (50,000 m <sup>3</sup> ) 5) Demonstration Gobi agricultural IOT control demonstration center (2,840 m <sup>2</sup> ).
4.	Gansu Zhengyang Modern Agricultural Service Company Ltd.	Produce Potato Powder	1) Research and develop a series of potato leisure food 2) Research and develop microbial fertilizer 3) provide agricultural technique training and seminar.	1) Potato chips production lines with an annual output of 5,000 tons 2) Potato biscuit production line with an annual output of 5000 tons 3) Pressed potato chips production line with an annual output of 5,000 tons 4) Solid biological fertilizer 4,000 tons and liquid biological fertilizer 16,000 tons	1) Center building with a floor area of 8,808 m <sup>2</sup> 2) 3,000 m <sup>2</sup> of multi-span greenhouses with IOT network and data systems. 3) 1,620 m <sup>2</sup> staff dormitory 4) Equipment and software to develop an electronic information management platform linked to the provincial e-commerce platform 5) Planting and harvesting machinery for renting to farmers 6) 500 m <sup>2</sup> thermostatic storage. 7) 1,800 m <sup>2</sup> bio-fertilizer production workshop 8) 2,000 m <sup>3</sup> liquid fertilizer storage tank 9) Expansion of the original processing center by increasing the floor area by 15,728 m <sup>2</sup> , purchase production lines



No.	Enterprise	Major Activities		Added Capacity	Main Equipment and Materials Supported
		Existing	As Result of Project		
					for annual output of potato paste (5,000 tons), potato biscuits (5,000 tons), and potato chips (5,000 tons) 10) Biological fertilizer production line annual output of 4,000 tons of solid fertilizer and 16,000 tons of liquid fertilizer 11) 493 sets of other equipment
5.	Jingmao Ecological Agricultural Technical Company Limited	1) Agricultural product cultivation, processing, storage, and sales 2) Chicken, lamb and beef raising and sales 3) Grain trading 4) Frozen food processing and sales 5) Logistics service 6) Meat products processing, sales import and export	1) Standardized cultivation of licorice, radix Istatidis, astragalus and goji berry 2) Standardized sheep raising	1) Annual production: 2,500 tons of licorice root, 7,000 tons of licorice slice, and 1,000 tons of licorice branches 2) Annual production of 4,000 tons of corn	1) Software and equipment to develop the data acquisition, video surveillance, transmission network, and water and fertilizer integration systems for Licorice cultivation IOT 2) Machinery for licorice seedling nursery (4,000 <i>mu</i> ) and licorice planting area (60,000 <i>mu</i> ) 3) 43 <i>mu</i> licorice processing facility including 2,473 m <sup>2</sup> licorice processing workshop, 1,690 m <sup>2</sup> licorice drying and cleaning workshop, 2,462 m <sup>2</sup> warehouse, 2,864 m <sup>2</sup> sunshine shed, 3,490 m <sup>2</sup> office building, 3,896 m <sup>2</sup> dormitory building, and 27,969 m <sup>2</sup> licorice drying square 4) Software, hardware, and ancillary facilities, and licorice processing and product inspection equipment
6.	Lanzhou New District Land Assets Investment and Management Company Limited	1) Comprehensive land development and utilization 2) Ecological restoration and engineering construction 3) Land development and real estate construction 4) Infrastructure facilities	1) Comprehensive land development and utilization 2) Ecological restoration and engineering construction 3) Land development and real estate construction 4) Infrastructure facilities 5) Protected agriculture, seedling cultivation, flower cultivation 6) Smart agriculture	1) Annual production of 47 million seedlings, including strawberry, cherry tomato and other agricultural products 2) Fresh-cut flowers including roses and lilies, total annual production of 130 million 3) Fresh fruit and vegetables including cherry tomatoes (10,000 tons) and strawberries (4,500 tons) 4) Provide agricultural technical training 1,000 person-times	1) Establish IOT based platform for smart greenhouses and implement sampling IOT networks to collect soil chemistry data from 8 villages including purchase of 192 sets of equipment 2) Construct 3 large-scale intelligent sunlit greenhouses (148,896 m <sup>2</sup> ) including purchase of drip pipes and integrated water and fertilizer facilities 3) Upgrade the existing cold-chain warehouse logistics system, including purchase of equipment for cold-chain logistics temperature control management and traceability system, and five 10-ton refrigerated trucks

No.	Enterprise	Major Activities		Added Capacity	Main Equipment and Materials Supported
		Existing	As Result of Project		
					4) Comprehensive management room (floor area 4,968 m <sup>2</sup> ), including a modern marketing service system for agricultural products and modern agricultural IOT control center (1,728 m <sup>2</sup> ), technical training center (864 m <sup>2</sup> ), inspection and testing center (864 m <sup>2</sup> ), and packaging workshop (1,728 m <sup>2</sup> ).
7.	Tianshui Denong Supply and Marketing Seed Industry Limited Company	Hybrid paper mulberry seedlings, apple seedlings, cherry seedlings, walnut seedlings breeding and sales	1) Hybrid paper mulberry seedlings breeding 2) Paper mulberry forage processing and sales 3) Industry chain services	1) annual production of 60 million paper mulberry seedlings 2) annual production of 150,000 tons paper mulberry silage 3) annual production of 50000 tons dried feed	1) equipment and software for electronic information management platform, and reapers for leasing to farmers 2) 852 m <sup>2</sup> training centre, 1,704 m <sup>2</sup> dormitory, conversion of a 1,512 m <sup>2</sup> building for office space, pump houses and sewage network 3) Forage mulberry seedling tissue culture facility (39.8 <i>mu</i> ), including tissue culture centre (5,175 m <sup>2</sup> ), #1 bottle seedling room (3,630 m <sup>2</sup> ) and #2 bottle seedling room (3,840 m <sup>2</sup> ) 4) 517 items of small operational equipment 5) Seedling hardening center (78.9 <i>mu</i> ) including six intelligent seedling hardening greenhouses (17,971 m <sup>2</sup> ), one intelligent seedling greenhouse (4,838 m <sup>2</sup> ), seedling production workshop (1,200 m <sup>2</sup> ), and storage warehouse (1,620 m <sup>2</sup> ) 6) 80 sets of equipment

GSSMCU = Gansu Supply and Marketing Cooperatives Union, IOT = internet-of-things, *mu* = Chinese unit of measurement (1 *mu* = 666.67 square meters or 0.067 hectares), m<sup>2</sup> = square meter, PRC = People's Republic of China.

Source: Asian Development Bank.

## **APPENDIX 4: ENVIRONMENTAL MANAGEMENT PLAN**

### **A. Objectives**

1. This Environmental Management Plan (EMP) is for the Gansu Internet-Plus Agriculture Development Project (the Project). The EMP is to be implemented in all phases of the project – design, pre-construction, construction, and operation. The EMP is to ensure project compliance with PRC environmental laws and ADB's Safeguard Policy Statement (SPS 2009). The EMP describes: the roles and responsibilities of all project agencies to implement this EMP; anticipated impacts and mitigation measures; inspection, monitoring, and reporting arrangements; training and institutional strengthening; grievance redress mechanism (GRM); and future public consultation.

2. In the engineering design stage, the Project Management Office (PMO) will pass this EMP to the design institutes for incorporating mitigation measures into the detailed engineering designs. The EMP will be updated at the end of the detailed design, as needed. To ensure that bidders will respond to the EMP's provisions, the PMO and the project implementation units (PIU) of the project counties and districts will prepare and provide the specification clauses for incorporation into the bidding documents: (i) a list of environmental management requirements to be budgeted by the bidders in their bids; (ii) environmental clauses for contractual terms and conditions; and (iii) the project EIA and updated EMP.

### **B. Implementation Arrangements**

3. Gansu Supply and Marketing Cooperatives Union (GSSMCU) will be the project implementing agency and responsible for overall guidance during project preparation and implementation. The GSSMCU will establish the PMO, which will be responsible for the day-to-day management of the project. Five project city governments (Baiyin, Lanzhou Tianshui, Weiwu and Zhangye) which are represented by their Supply and Marketing Cooperatives (SMC) will be Implementing Agencies and seven benefiting state-owned enterprises and participating private enterprise (PPE) will be the PIUs. The PIUs will be responsible for implementing the project and administering and monitoring contractors and suppliers.

4. The PMO will designate a qualified environment and safety officer, who will take overall responsibility for supervising the implementation of the EMP, including mitigation measures, coordinating the project level GRM and preparing monitoring reports for submission by the PMO to ADB. The PMO will engage a loan implementation environmental consultant (LIEC) prior to the engagement of construction contractors, who will support the PMO in mitigation implementation, environmental monitoring, reporting, and addressing any environment-related issues that arise including grievances. The LIEC will also support contractors in developing construction site-specific environmental management plans (CEMP) prior to construction and operation.

5. The PIUs will implement project components, administer and monitor contractors and suppliers, and be responsible for construction supervision and quality control. The PIUs will ensure that the EMP is implemented proactively and responds to any adverse impact beyond those foreseen in the IEE. The PIUs will also attend to requests from relevant agencies and ADB regarding the mitigation measures and monitoring program. Each PIU will include one qualified social and environmental focal staff, to (i) supervise contractors and ensure compliance with the EMP; (ii) conduct regular site inspections; (iii) coordinate periodic environmental quality monitoring in compliance with the approved monitoring plan; (iv) act as local entry point for the project GRM; and (v) submit semi-annual monitoring results to the PMO and ADB. The PIUs will

also engage an environmental monitoring agency (EMA) to undertake construction and operation phase ambient environmental monitoring, as per the requirements of the environmental monitoring plan presented in this EMP.

6. The PMO and PIU environment officers with support of the LIEC will (i) provide overall coordination and support on environmental aspects; (ii) supervise contractors and construction supervision companies (CSC) and their compliance with the EMP; (iii) conduct regular site compliance inspections; (iv) act as PMO entry point for the project GRM; (v) collect and submit environmental monitoring data provided by (a) contractors and/or CSCs to the PMO, and (b) the EMA to the PMO; and (vi) support PMO with preparation of EMP progress section as a part of semiannual project progress reports and semiannual environmental monitoring reports (EMR). The PIUs will be responsible for EMP implementation during operation.

7. The PMO environmental officer and PIU social and environmental focal staff will be in place prior to starting of any construction works in the project.

8. Construction contractors will be responsible for implementing the mitigation measures during construction under the supervision of the PIUs and the PMO. In their bids, the contractors will prepare CEMPs which detail how the contractors will comply with the EMP. Each contractor will engage Environment, Health and Safety Officer, who will oversee CEMP implementation, take all reasonable measures to minimize the impact of construction activities on the environment, develop and prepare monthly reports for submission to the IA. Contractors are also required to report any spills, accidents, and grievances received, and take appropriate action. The Environment, Health and Safety Officer will also be responsible for developing CEMPs and an Occupational Health and Safety Plan.

9. CSCs will be responsible for supervising and guiding construction contractors during the project construction phase. CSCs will have a qualified Environment, Health and Safety Officer who will be responsible for supervising construction contractors to ensure proper the implementation of EMP and CEMPs; and preparing and submitting consolidated monthly EMRs to the PMO based on the CEMPs implementation.

10. ADB will conduct due diligence of environment issues during project review missions. ADB will also review the semiannual EMRs submitted by the PMO and will disclose the reports on its website. If the PMO fails to meet safeguards requirements described in the EMP, ADB will seek corrective measures and advise the PMO on items in need of follow-up actions.

11. Roles and responsibilities for the EMP implementation are presented in Table 1.

**Table 1: Roles and Responsibilities for Implementation of the Environment Management Plan**

<b>Organization</b>	<b>Role and Responsibility</b>
Executing Agency	<ul style="list-style-type: none"> <li>- Coordinating and overseeing project preparation and implementation</li> <li>- Coordination of strategic issues at the regional or national level</li> <li>- Providing policy guidance and facilitation during implementation</li> <li>- Facilitating interagency coordination with other involved parties at the regional level (and facilitate issues and decision making at the national level, if required)</li> </ul>
Project Implementation Units (PIU)	<ul style="list-style-type: none"> <li>- Contracting and administering contractors and suppliers</li> <li>- Supervising construction and monitoring quality control</li> <li>- Appointing a PIU social and environmental focal staff</li> <li>- Internal environmental monitoring for the tasks specified in EMP Table 4, to ensure contractors comply with EMP</li> </ul>

Organization	Role and Responsibility
	<ul style="list-style-type: none"> <li>- Engaging an EMA for environmental monitoring</li> <li>- Ensuring compliance with EMP and resettlement plan</li> <li>- Responding to any adverse impact beyond those foreseen in the IEE and ensuring that if there are any changes in scope, the IEE/EMP will be updated, as needed</li> <li>- Responding to requests from relevant agencies and ADB regarding the mitigation measures and environmental monitoring program</li> <li>- Identifying and implementing O&amp;M arrangements</li> <li>- Take corrective actions, if needed</li> <li>- Prepare environmental monitoring reports semi-annually during construction and annually during operation</li> </ul>
Project Management Office (PMO)	<p>On behalf of the executing agency, the PMO will be responsible for all project organization and implementation activities, including the following:</p> <ul style="list-style-type: none"> <li>- Updating IEE/EMP, if needed, including the environmental monitoring plan</li> <li>- Ensuring that mitigation measures are included in engineering detailed design</li> <li>- Ensuring the project's compliance with loan and project agreements and safeguards requirements</li> <li>- Managing the activities of the design institutes, procurement agents, and consultants in accordance with government and ADB regulations</li> <li>- Coordination with concerned offices, including Gansu Provincial Government, and with external contacts.</li> <li>- Taking part in capacity development and training</li> <li>- Establishing and operating the project complaint center with a hotline</li> <li>- Overseeing the project program and activities of the IA in the implementation of the project outputs</li> <li>- Monitoring the project's physical and financial progress and compliance with the project's reporting requirements, ensuring project progress reports are prepared and submitted to ADB on time</li> <li>- Preparing progress reports for submission to the implementing agency and/or PMO</li> <li>- Coordinating the activities of and meeting the requirements of ADB's review missions</li> </ul>
Loan Implementation Environmental Consultant (LIEC)	<ul style="list-style-type: none"> <li>- Review the updated IEE and EMP</li> <li>- Confirm that mitigation measures have been included in detailed engineering design</li> <li>- Review bidding documents to ensure that the EMP clauses are incorporated</li> <li>- Review CEMPs to ensure compliance with the EMP</li> <li>- Provide technical assistance and support to the PMO and contractors on mitigation measures and EMP implementation</li> <li>- Deliver the construction and operation phase capacity building programs to the staff of the implementing agency, PMO, and contractors</li> <li>- Conduct site inspections in compliance with the environmental monitoring plan</li> <li>- Review reports prepared by contractors and assist the PMO in preparing semiannual environmental monitoring reports</li> </ul>
Environment monitoring agency (EMA)	<ul style="list-style-type: none"> <li>- A qualified independent environmental monitoring agency will be recruited to implement the ambient monitoring portion of the environmental monitoring plan.</li> </ul>
Contractors	<ul style="list-style-type: none"> <li>- Ensure sufficient funding and human resources for proper and timely implementation of required mitigation and monitoring measures in the EMP and CEMPs throughout the construction phase</li> <li>- Responsible for grievance redress mechanism operation during the construction phase</li> </ul>
Construction supervision company (CSC)	<ul style="list-style-type: none"> <li>- Ensure sufficient funding and human resources for supervising and instructing contractors for proper and timely implementation of required mitigation and monitoring measures in the EMP and CEMPs throughout the construction phase.</li> <li>- Appoint an EHS officer to supervise and instruct contractors and their EHS officers for EMP and CEMPs implementation related to the environment, occupational health and safety on construction site.</li> <li>- Prepare and submit monthly EMP and CEMP monitoring reports to the PMO.</li> </ul>

Organization	Role and Responsibility
Asian Development Bank (ADB)	<ul style="list-style-type: none"> <li>- Review and clear the IEE and EMP and disclose on ADB website.</li> <li>- Approve updated IEE/EMP if appropriate and disclose on ADB website</li> <li>- Provide guidance for executing and implementing agencies.</li> <li>- Conducting review missions.</li> <li>- Monitoring status of compliance with loan and project covenants, including safeguards.</li> <li>- Regularly updating the project information documents for public disclosure at the ADB website, including the safeguards documents.</li> </ul>

CEMP = construction site-specific environmental management plan, EHS = Environmental, Health and Safety, EMP = environmental management plan, IEE = initial environmental examination, O&M = operation and maintenance.

Source: Asian Development Bank.

### C. Potential Impacts and Mitigation Measures

12. Table 2 lists the potential impacts of the project components during project preparation, design, construction and operation, and, proposed mitigation measures. The mitigation measures will be incorporated into detailed design, bidding documents, construction contracts and operational management manuals, by the design institutes (during detailed design) and contractors (during construction), under the supervision of the PMO, PIUs, and CSCs, with technical support from the LIEC. The effectiveness of these measures will be evaluated based on environmental inspections and monitoring to determine whether they should be continued, improved or adjusted.

### D. Environment Monitoring Plan

13. Three types of project monitoring will be conducted under the EMP: (i) internal monitoring – to be conducted by the PIUs and CSCs; (ii) external monitoring – of air, water, noise and soil standards – to be conducted by a certified EMA(s); and (iii) compliance monitoring – to be conducted by both the EMA and LIEC, to ensure the EMP is being implemented.

14. The project monitoring program (Table 3) covers the scope of monitoring, monitoring parameters, time and frequency, and implementing and supervising agencies. Monitoring shall comply with the methodologies provided in the relevant national environmental monitoring standards. Other associated standards to be followed are the national environmental quality standards of ambient air, surface water, sediment and noise, and the pollutant discharge standards.

15. **Internal monitoring.** During construction, the PIUs and CSCs will be responsible for conducting internal environmental monitoring in accordance with the monitoring plan. Results will be reported through the CSC monthly reports to the PIUs and PMO.

16. **External monitoring.** The PIUs will contract at least one EMA to conduct environmental monitoring in accordance with the monitoring program. A detailed cost breakdown will be provided by the EMA when the environmental monitoring program is updated at the start of each component implementation. Monitoring will be conducted during construction and operation periods, until a project completion report (PCR) is issued. Quarterly monitoring reports will be prepared by the EMAs and submitted to the PIUs and PMO.

17. **Compliance monitoring for EMP and progress reporting.** The LIEC will review project progress and compliance with the EMP based on field visits, and the review of the environmental monitoring reports provided by the EMAs. The findings of the LIEC will be reported to ADB through

the semi-annual EMP monitoring and progress reports. The reports will include (i) progress made in EMP implementation, (ii) overall effectiveness of the EMP implementation (including public and occupational health and safety), (iii) environmental monitoring and compliance, (iv) institutional strengthening and training, (v) public consultation (including GRM), and (vi) any problems encountered during construction and operation, and the relevant corrective actions undertaken. The LIECs will help the PMO prepare the reports and submit the English report to ADB for disclosure.

18. **Project completion environmental audits.** Within three months after each subproject completion, or no later than a half year with permission of the local EEBs, environmental acceptance monitoring and audit reports of each subproject completion shall be (i) prepared by a licensed environmental monitoring institute (usually the county EMA under the EEB) in accordance with the PRC Guideline on Project Completion Environmental Audit (2001), (ii) reviewed for approval of the official commencement of individual subproject operation by environmental authorities, and (iii) finally reported to ADB through the semiannual EMP monitoring and progress reporting process.

19. **Quality assurance (QA) /quality control (QC) for compliance monitoring.** To ensure accuracy of the monitoring, QA/QC procedures will be conducted in accordance with the following regulations:

- i) Regulations of QA/AC Management for Environmental Monitoring issued by the State Environmental Protection Administration in July 2006;
- ii) QA/QC Manual for Environmental Water Monitoring (Second edition), published by the State Environmental Monitoring Centre in 2001; and
- iii) QA/QC Manual for Environmental Air Monitoring published by the State Environmental Monitoring Centre in 2001.

## **E. Institutional Strengthening and Capacity Building**

20. The PIUs have limited previous experience with ADB-funded projects or safeguard requirements. The experience and qualifications of staff within the district and county EEBs for environmental management varies. Domestic EIAs and project approvals generally include limited mitigation measures, but there is not yet a regulatory requirement in the PRC for EMPs of the scope required by ADB. Implementation of the current EMP represents a significant new task for the local agencies. During the project design phase, trainings on EMP implementation were conducted, including roles and responsibilities of contractors and CSCs for EMP implementation, the project impacts and mitigation measures.

21. During implementation, a capacity building program (Table 4) will be implemented on: (i) the EMP, including the mitigation measures, monitoring, and reporting; and (ii) PRC environmental laws and regulations. Training will be provided by the Gansu Provincial EED, county and district EEBs, and LIEC. Trainees will be the PMO, implementing agencies, PIUs, contractors, CSCs, and local water resources bureaus, agriculture bureaus, and forestry bureaus. The PMO environmental officer will arrange the training programs, supported by the LIEC.

**Table 2: Environment Impacts and Mitigation Measures**

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
<u>A. Detailed Design Phase</u>					
Incorporate Mitigation Measures and Monitoring in Detailed Design and Bidding and Contracting	Include mitigation measures and monitoring program in detailed design	<ul style="list-style-type: none"><li>Environmental mitigation and pollution control measures identified in the IEE, the EMP and the domestic EIAs will be incorporated into the detailed design. These include installation of electrostatic precipitators for the dust control, exhaust chimneys, exhaust fans, and oil flume purifiers. Sedimentation tanks and septic tanks will be built for collection and treatment of wastewater discharges from the subprojects.</li><li>For subprojects requiring the use of industrial coolants (for the operation of cold-storage warehouses), the cooling systems will be designed for the use of “R32”, “R290” or other coolants with <b>low-impacts</b> to greenhouse gases. The designs will <b>not</b> use the coolant “R134a”.</li></ul>	PMO supported by LIEC	Executing agency	Detailed Design Budget
	Include mitigation measures and monitoring program in bidding documents	Environmental mitigation measures identified in this EMP and domestic EIA will be incorporated in the bidding documents for the project and will be included in contract documents for civil constructions and equipment installations. All contractors shall be required to strictly comply with the EMP.	PMO supported by LIEC	Executing agency	Detailed Design Budget
	Existing use of hazardous pesticides	Confirm with all subproject PIUs that the use of at least two pesticides, <b>omethoate</b> and <b>methamidophos</b> , which are classified as “hazardous” or for restricted use by WHO and/or the government, are halted in <b>all existing subproject farming operations</b> where they are currently being used. Remind PMO and PIUs this is an official requirement under the loan agreement	PMO supported by LIEC	Executing agency	Not applicable
	Inclusion of a Environmental, Health and Safety Officer (EHS Officer) as the Contractor’s Key Personnel at the Site	The Contractor/bidder shall propose an Environmental, Health and Safety Officer (EHS Officer) as the Contractor’s Key Personnel at the Site. The Bidder shall provide detailed the proposed EHS Officer including academic qualifications and experience. The responsibilities of the EHS Officer are given in Table 1 of the EMP.	PMO supported by LIEC	Executing agency	Detailed Design Budget
	Environmental monitoring incorporated into	The environmental monitoring program will be incorporated into the design to ensure that environmental impacts are closely monitored, and activities of the project construction and operating are closely supervised against the PRC	PMO supported by LIEC	Executing agency	Detailed Design Budget



Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
	design.	environmental laws, regulations and standards, ADB SPS, and the project EMP and approved domestic EIA.			
<b>Grievance Redress Mechanism</b>	Impacts on project Affected Persons	PMO environment officer and PMO social and environmental focal staff will be responsible for coordination of the GRM. GRM training will be provided for PIU members and GRM access points; and the GRM access point phone numbers, fax numbers, addresses and emails will be disclosed to the public.	PMO supported by LIEC	Executing agency, ADB	PMO
<b><u>B. Construction Phase</u></b>					
<b>Construction EMP</b>	Environmental, Health and Safety risks and impacts from the construction activities	<p>The Contractor shall be required to submit for approval, and subsequently implement a Construction Environmental Management Plan (CEMP) and Occupational Health and Safety Plan with the following site-specific management plans:</p> <ul style="list-style-type: none"> <li>• Occupational health and safety management plan</li> <li>• Community health and safety management plan</li> <li>• Waste management plan</li> <li>• Wastewater discharges management plan</li> <li>• Air and noise emissions management plan</li> <li>• Hazardous material management and spill control plan</li> <li>• Water supply and sanitation management at the worksites and labour camps</li> <li>• Management of labour camps</li> <li>• Traffic management plan</li> <li>• Training plan for environmental, health and safety risks</li> <li>• Emergency Response Plan</li> <li>• Demobilization plan after completion of works</li> </ul>	Contractors	PIU supported by LIEC	Contractor
<b>Ecological environment</b>	Flora and fauna protection	<ul style="list-style-type: none"> <li>• To reduce the risk of spreading weeds, pest animals, and/or soil-based organisms, the project will: (a) prohibit the use of any plant species classified in the PRC as weeds – including native species – as defined by the China National Invasive Plant Database (<a href="http://www.agripests.cn">http://www.agripests.cn</a>) and by the Ministry of Ecology and Environment and Chinese Academy of Sciences.</li> <li>• All re-vegetation activities under the project, including for the rehabilitation of construction sites, and for landscaping, will be subject to operation and maintenance procedures after planting, to ensure the planted vegetation is adequately protected and maintained.</li> <li>• To avoid soil and water pollution, no pesticides and no top-dressing fertilizers</li> </ul>	Contractors	PIU supported by LIEC	Contractor

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>will be used for any of the re-vegetation, planting, or landscaping activities under the project.</p> <p>For <b>Subproject 3</b>, the site does not support unique natural desert landforms and is already modified by use. However, to adopt a precautionary approach, the following good practice will be followed:</p> <ul style="list-style-type: none"> <li>• The layout of construction sites shall minimize the areal extent of construction activities being undertaken at any time. Construction machinery and construction workers shall be strictly assigned to work areas and access corridors as part of site planning and without occupying land randomly. Construction machinery and construction materials will not be placed in naturally vegetated areas.</li> <li>• Imported construction materials such as brick, stone, sand and cement, shall be transported to the construction site in batches to meet demand so that stockpiles do not overflow onto naturally vegetated areas. After the completion of the project, cleaning and greening work shall be carried out to restore any damage</li> </ul>			
<b>Erosion and Spoil</b>	Soil erosion, spoil disposal	<ul style="list-style-type: none"> <li>• At the construction site, the potential for the stormwater runoff will be assessed, and appropriate stormwater drainage systems to minimize soil erosion will be implemented, including perimeter bunds and the establishment of temporary detention and settling ponds to control topsoil runoff.</li> <li>• Land excavation and filling will be balanced so as minimize the requirement for fill material transportation.</li> <li>• During earthworks, the area of soil exposed to potential erosion at any time will be minimized through good project and construction management practices.</li> <li>• Temporary spoil storage sites will be identified, designed, and operated to minimize impacts. Spoil sites will be restored after storage activities.</li> <li>• Spoil will be reused on-site to the maximum extent feasible as fill. Excess spoil that cannot be used on-site will be transported to an approved spoil disposal site.</li> <li>• Spoil and aggregate piles will be covered with landscape material and/or regularly watered.</li> <li>• Waste construction material such as residual concrete, asphalt, etc., will be</li> </ul>	Contractors	PIU supported by LIEC	Contractor

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>properly handled for reuse or disposal.</p> <ul style="list-style-type: none"> <li>• Construction and material handling activities will be limited or halted during periods of rains and high winds.</li> <li>• Any planned paving or vegetating of areas will be done as soon as practicable after the materials are removed to protect and stabilize the soil.</li> <li>• Once construction is complete disturbed surfaces will be properly sloped and revegetated with native trees and grass.</li> </ul>			
<b>Air Pollution</b>	Dust, vehicle emissions	<ul style="list-style-type: none"> <li>• Water will be sprayed on active construction sites including where fugitive dust is being generated daily, and more frequently during windy days.</li> <li>• Transport vehicles will be limited to low speeds in construction sites.</li> <li>• Loads will be covered during truck transportation to avoid spillage or fugitive dust generation. Fine materials will be transported in fully contained trucks.</li> <li>• Construction site roads will be well maintained and watered and swept on an as-needed basis. Construction site road entry points will be equipped with the truck drive through wash ponds.</li> <li>• Transport routes and delivery schedules will be planned to avoid densely populated and sensitive areas and high traffic times.</li> <li>• Store petroleum or other harmful materials in appropriate places and cover to minimize fugitive dust and emission.</li> <li>• Provide regular maintenance to vehicles to limit gaseous emissions (to be done off-site).</li> <li>• Construction spoil and other construction materials will be temporarily stored using containers, but they may the potential to generate dust. Thus, containers will be covered and/or watered if necessary.</li> <li>• Muddy or dusty materials on public roads outside the exits of works areas will be cleaned immediately.</li> <li>• On-site asphaltting and concrete batching are prohibited.</li> <li>• The disturbed sites will be revegetated as soon as possible.</li> </ul>	Contractors	PIU supported by LIEC	Contractor
<b>Wastewater</b>	Surface and groundwater contamination from construction wastewater, and domestic water	<ul style="list-style-type: none"> <li>• Existing toilets at the component site will be provided for the workers.</li> <li>• Construction wastewater generated during the construction phase will be discharged to the existing municipal sewer system. All discharged construction wastewater will meet the appropriate PRC standard GB/T 31962-2015 before discharge. Discharged water will then be treated in the nearby WWTP.</li> </ul>			

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<ul style="list-style-type: none"> <li>• All necessary measures will be undertaken to prevent construction materials and waste from entering the drainage system.</li> <li>• Maintenance of construction equipment and vehicles will not be allowed on sites to reduce wastewater generation.</li> <li>• Oil traps are provided for service areas and parking areas, and oil-water separators are installed for oil-containing wastewater;</li> <li>• All construction machinery is repaired and washed at special repairing shops. No on-site machine repair, maintenance and washing shall be allowed to reduce wastewater generation;</li> <li>• Storage facilities for fuels, oil, and other hazardous materials are within secured areas on impermeable surfaces with 110% volume of the materials stored, and provided with bunds and cleanup kits;</li> <li>• The contractors' fuel suppliers are properly licensed, follow proper protocol for transferring fuel, and are in compliance with Transportation, Loading and Unloading of Dangerous or Harmful Goods (JT 3145-88).</li> </ul>			
<b>Noise</b>	Impacts from construction noise on sensitive resources	<p>To ensure construction activities meet PRC noise standards (Noise Standards for Construction Site Boundary, GB 12523-2011) and to protect workers, the following measures will be implemented:</p> <ul style="list-style-type: none"> <li>• Construction activities will be planned in consultation with local authorities and communities so that activities with the greatest potential to generate noise and vibration are planned during periods of the day that will result in the least disturbance.</li> <li>• Construction activities and particularly noisy ones are to be limited to reasonable hours during the day and early evening. Construction activities will be strictly prohibited during the nighttime (22:00 h to 07:00 h). Exceptions will only be allowed in special cases, and only after getting the approval of the surrounding residents, local EEB and other relevant departments. And nearby residents should be notified of such nighttime activities well in advance.</li> <li>• When undertaking construction planning, simultaneous high-noise activities will be avoided, and high noise activities will be scheduled during the day rather than evening hours. Similarly, the construction sites will be planned to avoid multiple high noise activities or equipment from operating at the same location.</li> </ul>	Contractors	PIU supported by LIEC	Contractor

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<ul style="list-style-type: none"> <li>• Low-noise equipment will be selected as much as possible. Equipment and machinery will be equipped with mufflers and will be properly maintained to minimize noise.</li> <li>• Noise protective equipment will be provided to workers to meet the requirements in occupational exposure limits for hazardous agents in workplace Part 2: physical agents (GBZ 2.2-2007) and EHS Guidelines.</li> <li>• Transportation routes and delivery schedules will be planned during detailed design to avoid densely populated and sensitive areas and high traffic times.</li> <li>• Vehicles transporting construction materials or waste will slow down and not use their horn when passing through or nearby sensitive locations, such as residential communities, schools and hospitals.</li> <li>• For Tongzhuang Village (subproject 4), the following additional measures will be implemented:               <ul style="list-style-type: none"> <li>(i) installation of sound barriers around the construction site which are design-certified of sufficient thickness, height, and suitable material to mitigate noise levels of 70 dB(A) to 60 dB(A) (the Class II standard for daytime noise);</li> <li>(ii) during peak construction period, daily noise measurements by the contracted environment monitoring agency to ensure noise levels at the sound barriers meet the Class II daytime noise standard. In the event that noise levels exceed the Class II standard, the construction works emitting the noise will be immediately halted and discussions held on how to resolve the issue, including the installation of additional noise barriers;</li> <li>(iii) during peak construction, daily consultations with residents, led by the PIU safeguard officer, and attended by the construction supervision companies and contractors</li> </ul> </li> </ul>			

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
<b>Solid Waste</b>	Inappropriate Waste Disposal	<ul style="list-style-type: none"> <li>• Wastes will be reused or recycled to the extent possible.</li> <li>• Littering by workers will be prohibited.</li> <li>• Excavated soil will be backfilled onsite to the extent possible. Excess spoil that cannot be used on-site will be transported to an approved spoil disposal site.</li> <li>• Existing domestic waste containers will be used for domestic waste collection at work sites. Domestic waste will be collected regularly by the local sanitation departments and transported for disposal at local licensed landfills and incineration plants.</li> <li>• Construction waste dumpsters will be provided at all construction sites. Construction waste will be collected regularly by a licensed waste collection company and transported for disposal at local licensed landfills.</li> <li>• There should be no final waste disposal on site. Waste incineration at or near the site is strictly prohibited.</li> <li>• Contractors will be held responsible for proper removal and disposal of any significant residual materials, wastes, spoil, that remain on the site after construction.</li> </ul>	Contractors, local sanitation departments (domestic waste), licensed waste collection companies (construction waste)	PIU supported by LIEC	Contractor
<b>Hazardous and Polluting Materials</b>	Inappropriate transportation, storage, use and spills	<ul style="list-style-type: none"> <li>• A hazardous material handling and disposal protocol that includes spill emergency response will be prepared and implemented by contractors.</li> <li>• Storage facilities for fuels, oil, chemicals and other hazardous materials will be within secured areas on impermeable surfaces provided with dikes with a 110% volume, and at least 300 m from drainage structures and important water bodies. A standalone site within the storage facility will be designated for hazardous wastes.</li> <li>• Signs will be placed at chemicals and hazardous materials storage sites to provide information on the type and name of chemicals and hazardous materials.</li> <li>• Suppliers of chemicals and hazardous materials must hold proper licenses and follow all relevant protocols and PRC regulations and requirements.</li> <li>• A licensed company will be hired to collect, transport, and dispose of hazardous materials following relevant PRC regulations and requirements.</li> <li>• <b>For subproject 5</b>, the following additional measures will be implemented, and which comply with the PRC Standard for Pollution Control on Hazardous Waste Storage (GB 18597-2001: (i) laboratory chemicals will be stored in a</li> </ul>	Contractors, waste management companies	PIU supported by LIEC	Contractor

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		specified and locked room, with limited access; (ii) handling of the chemicals will be by qualified staff only; (iii) waste chemicals will not be discharged into drains but will be collected in closed containers and stored in the locked chemicals room; and (iv) the full containers will be periodically collected by a certified agency for hazardous waste collection, which will also treat and dispose the liquid waste in accordance with national procedures.			
<b>Socioeconomic Resources</b>	<b>Community Disturbance and Safety</b>	<ul style="list-style-type: none"> <li>Each contractor will undertake an OHS risk assessment of construction works and implement relevant construction phase EHS plan in line with construction good practice as set out in EHS Guidelines</li> <li>Transportation routes and delivery schedules will be planned during detailed design to avoid densely populated and sensitive areas and high traffic times.</li> <li>Vehicles transporting construction materials or wastes will slow down and not use their horn when passing through or nearby sensitive locations, such as residential communities, schools and hospitals.</li> <li>Signs will be placed at construction sites in clear view of the public, warning people of potential dangers such as moving. All sites will be made secure, discouraging access by members of the public through appropriate fencing with security guards whenever appropriate.</li> </ul>	PMO (plan design), Contractors (plan implementation)	PIU supported by LIEC	Contractor
	<b>Worker Occupational Health and Safety</b>	<p>Contractors will implement adequate precautions to protect the health and safety of their workers:</p> <ul style="list-style-type: none"> <li>Each contractor will undertake a 'job hazard analysis' at each new construction site to identify potential hazards that may arise from the proposed works or working conditions to the project workers, particularly those that may be life-threatening.</li> <li>Identify and minimize the causes of potential hazards to workers. Implement appropriate safety measures.</li> <li>Provide training to workers on occupational health and safety, emergency response, especially concerning using potentially dangerous equipment and storage, handling and disposal of hazardous waste. The induction will be conducted before construction, and no worker is allowed on site without induction.</li> <li>Ensure that all equipment is maintained in a safe operating condition.</li> <li>Provide appropriate protective equipment to workers.</li> <li>Provide procedures for limiting exposure to high noise or high temperature</li> </ul>	<p>EHS Plan Developed by LIEC</p> <p>EHS Plan implemented by contractors</p>	<p>PIU supported by LIEC</p> <p>PIU supported by LIEC</p>	<p>LIEC</p> <p>Contractor</p>

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>working environments in compliance with PRC occupational exposure limits for hazardous agents in workplace Part 2: physical agents (GBZ 2.2-2007 and EHS Occupational Health and Safety Guidelines).</p> <ul style="list-style-type: none"> <li>• Ensure regular safety meetings with staff.</li> </ul>			
<b>Physical Cultural Resources</b>	As yet unknown physical cultural resources may be damaged if proper precautions are not taken.	<p>A construction phase chance find procedure will be established and activated if any chance finds of physical cultural resources are encountered:</p> <ul style="list-style-type: none"> <li>• construction activities will be immediately suspended if any physical cultural resources are encountered;</li> <li>• destroying, damaging, defacing, or concealing physical cultural resources will be strictly prohibited in accordance with PRC regulations;</li> <li>• local Cultural Heritage Bureau will be promptly informed and consulted; and,</li> <li>• construction activities will resume only after thorough investigation and with the permission of the local Cultural Heritage Bureau.</li> <li>• In case of any physical cultural resource is found, ADB SPS 2009 requirements, as well as PRC laws and regulations, will be followed.</li> </ul>	Contractors	PIU supported by LIEC and local Cultural Heritage Bureau	PMO
<b><u>C. Operation Phase</u></b>					
<b>EHS Plan</b>	Environmental Health and Safety hazards at the facilities, particularly at the processing facilities may have an impact on the workers' health and safety and environment	<p>An Occupational Health and Safety Plan for the Construction Phase will be developed and implemented for each Project facility. The Plan will be prepared by carrying out a job-safety hazard assessment at each facility to address the following risks and will include facility-specific management plans:</p> <ul style="list-style-type: none"> <li>• Hazards at work sites such as running machinery, rotating and moving equipment, work at heights, electricity, and so on. Safety precautions will be developed specifically to each facility with necessary provisions of PPEs.</li> <li>• Health and Hygiene at the Work Sites</li> <li>• Fire safety and firefighting and first aid facilities</li> <li>• Waste including hazardous waste</li> <li>• Storage and handling of hazardous material</li> <li>• Wastewater</li> <li>• Air and noise emissions</li> </ul>	PIU supported by Consultant	Executing agency supported by LIEC	Implementing Agency
<b>Water quality</b>	Impact on surface water quality from agricultural chemicals	<ul style="list-style-type: none"> <li>• Minimize the use of chemical fertilizer and maximize the use of organic fertilizers by project design</li> <li>• For subprojects 3, 5, and 6, fertilizer will be mixed with water and provided via drip irrigation, ensuring that only small quantities are required, in small</li> </ul>	PIU	Executing agency supported by LIEC	Implementing Agency



Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>doses, and that fertilizers are retained at root bases</p> <ul style="list-style-type: none"> <li>For subprojects 3 and 6 (greenhouses), vegetables will be grown in substrate and there will be no percolation of fertilizer into the soil</li> <li>For subproject 4 (potato farming in open fields), fertilizer use will be reduced through real-time monitoring soil nutrient levels</li> <li>For all subprojects, the design measures (improved monitoring and growing techniques) will achieve large reductions in fertilizer use compared to existing application rates (IEE Section V.E.2)</li> <li><b>Monitoring.</b> The types and volumes of fertilizers and pesticides used by the subprojects will be documented by each PIU and stored at the PIU and PMO centralized computer systems, in order to monitor overall use and efficiency over time.</li> </ul>			
<b>Water quantity</b>	Monitoring of water use; ensure that subprojects 1 and 3–7 do not exceed annual water allocations	<ul style="list-style-type: none"> <li>Water usage measured by the project-funded sensors will be stored at the PIU and PMO centralized computer systems. The PMO and each PIU will summarize this information in semi-annual reports to the implementing agencies. The information will also be included in the semi-annual environment monitoring reports to ADB.</li> <li>The PMO, PIUs and county water bureaus will review the data to (a) ensure that water use is maintained within the levels of the county water allocations, and (b) maximize water use efficiency in the subproject farming operations.</li> <li>The PMO and each PIU will summarize this information on water use and water quality in semi-annual reports to the implementing agencies. The information will also be included in the semi-annual environment monitoring reports to ADB</li> </ul>	PIU	Executing agency supported by LIEC	Implementing Agency
<b>Air pollution</b>	Discharge of air pollutants	<p>For subproject 1, mitigation measures are:</p> <ul style="list-style-type: none"> <li>Deodorizing microorganism will be used to reduce odor pollutants;</li> <li>Odor pollutants generated during substrate production will be collected and discharged by fans; and</li> <li>Modelling of odor diffusion was carried out by the EIA Institute and the results are compliance with relevant PRC standard: Emission standards for odor pollutants (GB14554-93).</li> </ul> <p>For subproject 3, mitigation measures are:</p> <ul style="list-style-type: none"> <li>Modelling of biogases boiler emission diffusion was carried out by the EIA Institute, and the results are compliance with relevant PRC standard:</li> </ul>	PIU	Executing agency supported by LIEC	Implementing Agency

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>Emission standard of air pollutants for boilers (GB13271-2014);</p> <ul style="list-style-type: none"> <li>• Emission of biogas boilers will be discharged through the 15m high chimney;</li> <li>• Odor inhibitor will be used at material storage sheds and ventilation of material storage sheds will be enhanced;</li> <li>• Dust generated from the straw shattering process will be collected and treated by bag filters (99%) and reused as fertilizer and/or silage. The remaining 1% of dust collected will be discharged through the 15m high chimney; and</li> <li>• Odor pollutants generated from the fermentation process will be collected by fans then discharged through the 15m high chimney.</li> </ul> <p>For subproject 4, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Dust – as for subproject 3;</li> <li>• Oil fume purifier generated from potato processing will be collected and treated by oil fume purifier, then discharged through the 15m high chimney.</li> </ul> <p>For subproject 5, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Dust – as for subproject 3;</li> </ul> <p>For subproject 7, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Dust generated from shattering and mixing process will be collected and treated by bag filters (99%) and reused as fertilizer and/or silage. The remaining 1% of dust collected will be discharged through the 20 m high chimney</li> </ul> <p>For all subprojects requiring the use of industrial coolants (for the operation of cold-storage warehouses):</p> <ul style="list-style-type: none"> <li>• Only coolants with low greenhouse gas impacts will be used e.g. “R32” or “R290”</li> <li>• The use of coolant “R134a” is prohibited in all subprojects.</li> </ul>			
<b>Wastewater</b>	Discharge of Production and Domestic Wastewater	<p>For the domestic wastewater, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Domestic wastewater will be treated in a digestion tank and will be discharged to the local municipal sewerage systems.</li> </ul> <p>For production waste water of subproject 1, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• For the Jiuquan component, production wastewater generated from the ground clean and equipment clean and will be discharged to the local municipal sewerage system.</li> <li>• For the Lintao component, wastewater generated from the ground cleaning</li> </ul>	PIU	Executing agency supported by LIEC, EEB	Implementing Agency

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>process and will be discharged to the local municipal sewerage system.</p> <p>For production waste water of subproject 3, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Wastewater generated from the cleaning process will be recycled to produce substrate after sediment removal; and</li> <li>• Boiler blowdown will be discharged to the local municipal sewerage system.</li> </ul> <p>For production waste water of subproject 4, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Wastewater generated from the cleaning process will be reused in the cleaning process after sediment; and</li> <li>• Wastewater generated from the scalding process will be discharged to the local municipal sewerage system.</li> </ul> <p>For production waste water of subproject 5, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Wastewater generated from the cleaning process and infiltration process will be reused as licorice irrigation water after sediment removal; and</li> </ul> <p>For production waste water of subproject 6, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Wastewater generated from culture bottle cleaning process and purified water production process will be discharged to the local municipal sewerage system; and</li> </ul> <p>For production waste water of subproject 7, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Wastewater generated from the purified water production process will be reused as landscape water; and</li> <li>• Wastewater generated from the silage production process, and the tissue culture process will be reused as landscape water after sediment removal.</li> </ul>			
<b>Solid Waste</b>	Collection and Disposal	<p>For domestic waste, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Domestic waste bins will be provided; and</li> <li>• Domestic waste will be routinely collected by the local sanitation departments for final disposal at approved waste disposal sites.</li> </ul> <p>For the plastic film, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Film mulching practices which optimize the timing of mulching and timely removal of film to shorten the mulching period;</li> <li>• Use of biodegradable polymers for the agricultural plastic films such as aliphatic polyesters and aliphatic co-polyesters; and</li> <li>• Manufactures will be responsible for waste plastic film recovery and recycling.</li> </ul> <p>For waste packagings such as chemical fertilizer and pesticide, mitigation</p>	PIU, District Sanitation Departments	Executing agency supported by LIEC, EEB	Implementing Agency

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>measures are:</p> <ul style="list-style-type: none"> <li>• Training will be conducted for farmers on packaging handling and recycling; and</li> <li>• Manufactures will be responsible for waste packaging recovery and recycling.</li> </ul> <p>For production waste of subproject 1, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Production waste of the subproject 1 Jiuquan component will be recycled to produce substrate; and</li> <li>• Waste generated by the subproject 1 Lintao component will be collected by the local sanitation departments for final disposal at Lintao Urban Area Landfill.</li> </ul> <p>For production waste of subproject 3, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Waste vegetable of the subproject will be recycled to produce organic fertilizer;</li> <li>• Sediment generated from the cleaning process will be collected by the local sanitation department and treated at Linze Urban Area Landfill; and</li> <li>• Waste bark and root will be reused by local cattle and sheep breeders.</li> </ul> <p>For production waste of subproject 4, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Waste potato and waste bark will be reused to produce organic fertilizer;</li> <li>• Sediment generated from the cleaning process will be collected by the local sanitation department for final disposal at Gulang Landfill;</li> <li>• Residue generated from the potato processing process will be recycled to the biomass production process;</li> <li>• Dust generated from the granulation process of solid fertilizer production will be collected by bag filters with a collection rate of 99% and reused for fertilizer and/or silage. The remaining 1% of dust collected will be discharged through one 15 m high chimney after treatment.</li> </ul> <p>For production waste of subproject 5, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Sediment generated from the cleaning process will be collected by the local sanitation department and treated in Jingtai Urban Area Landfill;</li> <li>• Waste licorice will be collected by the local sanitation department and treated in Jingtai Urban Area Landfill;</li> <li>• Hazardous waste generated from the test process will be collected, transported and treated by a certified 3rd party hazardous waste treatment company.</li> </ul>			

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>For production waste of subproject 6, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Waste samples and substrate generated from the culture process will be mixed with organic fertilizer after high-temperature sterilization then reused as base fertilizer; and</li> <li>• Waste leaf, barks, fruits and plants will be collected to produce organic fertilizer.</li> </ul> <p>For production waste of subproject 7, mitigation measures are:</p> <ul style="list-style-type: none"> <li>• Waste spire and leaf primordium will be reused to produce substrate;</li> <li>• Waste tissue culture and substrate will be reused for substrate production after heat sterilization;</li> <li>• Waste bud seedling will be reused as organic fertilizer after heat sterilization; and</li> <li>• Waste forage mulberry and dust from silage production will be reused as fodder by nearby farmers.</li> </ul>			
<b>Chemical and Hazardous Materials</b>	Inappropriate Management	<ul style="list-style-type: none"> <li>• No pesticides classified as “hazardous” or for restricted use by WHO or the government, including <b>omethoate</b> and <b>methamidophos</b>, shall be used in the project; <b>and</b>, the use of these chemicals in the existing subproject farming operations shall be halted by the start of construction of the new project</li> <li>• A registry of all activities that involve the handling of potentially hazardous substances will be developed, including protocols for the storage, handling and spill response.</li> <li>• All chemicals, toxic, hazardous, and harmful materials will be transported in spill-proof tanks with filling hoses and nozzles in working order.</li> <li>• All chemicals, toxic, hazardous, and harmful materials will be stored in secure areas with impermeable surfaces and protective dikes such that spillage or leakage will be contained from affecting soil, surface water or groundwater systems. The area should be a 110% volume of storage capacity. Their usage will be strictly monitored and recorded.</li> <li>• Good housekeeping procedures will be established to avoid the risk of spills.</li> <li>• Spills will be dealt with immediately, and personnel will be trained and tasked with this responsibility.</li> <li>• Workers will be properly trained before handling hazardous wastes and have the requisite protective equipment.</li> <li>• Fertilizers, chemicals, and laboratory chemicals (subproject 5; for sampling)</li> </ul>	PIU, Licensed Contractors	Executing agency supported by LIEC, EEB	Implementing Agency

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>will be stored in specific rooms with restricted access, and out of direct sunlight</p> <ul style="list-style-type: none"> <li>• Hazardous waste (used chemicals from subproject 7) will be temporarily stored in closed containers away from direct sunlight, wind, water and rain in secure designated areas with impermeable surfaces and protective dikes such that spillage or leakage will be contained.</li> <li>• Hazardous wastes including oily waste, waste chemicals and waste ion exchange resin will be collected and disposed of by licensed contractors.</li> <li>• First-aid equipment and fire extinguishers will be installed in key locations on-site and well-maintained</li> </ul>			
<b>Noise</b>	Impact on Sensitive Receptors	<ul style="list-style-type: none"> <li>• Low-noise equipment will be used as far as possible, and noise reduction measures such as noise elimination, shock absorption, insulated enclosures and sound dampening materials on exterior walls will be implemented.</li> <li>• All equipment will be properly maintained to minimize noise.</li> <li>• Appropriate noise protective equipment will be provided to the workers who are likely to be exposed to high noise level environments to meet the requirements in occupational exposure limits for hazardous agents in workplace Part 2: physical agents (GBZ 2.2-2007) and EHS Guidelines on OHS.</li> <li>• Layout for subproject sites will be planned to reduce noise levels on nearby communities.</li> </ul>	PIU	Executing agency supported by LIEC, EEB	Implementing Agency
<b>Community and Occupational Health and Safety</b>	Risks to Workers and Community	<ul style="list-style-type: none"> <li>• Operation phase EHS plan and traffic management plan will be developed and implemented, and workers will be trained regularly on their implementation.</li> <li>• Protective equipment including goggles, gloves, safety shoes will be provided to workers. Noise protection equipment will be provided to workers in the high-noise area. Noise areas with more than 85 dB(A) shall be marked, and hearing protection shall be provided to workers.</li> <li>• Provide training to workers on occupational health and safety, and emergency response.</li> <li>• Vehicles transporting materials or wastes will slow down and not use their horn when passing through or nearby sensitive locations, such as residential communities, schools and hospitals.</li> <li>• Adequate ventilation in work areas to reduce heat and humidity will be</li> </ul>	<p>Plans developed by LIEC</p> <p>Plans implemented by PIU</p>	EA supported by LIEC and authorities	Implementing Agency

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		installed. Surfaces, where workers come in close contact with hot equipment, will be shielded. The warning sign will be placed in high-temperature areas.			
	<b>Emergency Response</b>	<p>A draft emergency risk and response has been established in accordance with the “National Environmental Emergency Plan” (24 January 2006), other relevant PRC laws, regulations and standards, as well as World Bank EHS Guidelines and ADB’s SPS 2009, and will include measures in the World Bank EHS guidelines with respect to occupational and community health and safety. The plan must be established and in place before the component is operational.</p> <p><b>Indicative plan requirements are as follows:</b></p> <ul style="list-style-type: none"> <li>• Procedures for responding to different types of emergency situations will be identified in the response plan.</li> <li>• Emergency exercises will be conducted, and they should include different emergency scenarios.</li> </ul> <p><b>Training Requirements</b></p> <ul style="list-style-type: none"> <li>• Appropriate operating and maintenance employees will be trained to ensure that they are knowledgeable of the requirements of the emergency response plan. Training will be provided as follows: <ul style="list-style-type: none"> <li>– Initial training to all employees before the facilities are put in operation.</li> <li>– When new equipment, materials, or processes are introduced.</li> <li>– When emergency response procedures have been updated or revised.</li> </ul> </li> </ul> <p><b>Annual Emergency Simulation</b></p> <ul style="list-style-type: none"> <li>• Simulated emergency exercises will be conducted at least annually.</li> </ul> <p><b>Receiving Notification of a Possible Emergency</b></p> <ul style="list-style-type: none"> <li>• When a supervisor receives a report of a possible emergency situation, he/she should obtain at a minimum the following information from the reporting person: <ul style="list-style-type: none"> <li>– Name of the person reporting an emergency;</li> <li>– Nature of emergency - leak, fire, interruption of service if a leak, odor present, etc.</li> <li>– Details of emergency: location, amount, how long has the odor been noticed, what actions have been taken, etc.</li> <li>– Leaks or other emergencies require prompt investigation.</li> </ul> </li> </ul> <p><b>Immediate On-site Action</b></p> <ul style="list-style-type: none"> <li>• The first responder will assess the nature of the report. This assessment</li> </ul>	<p>Plans developed by PMO with support from LIEC</p> <p>Plans implemented by PIU</p>	<p>Executing agency supported by LIEC and local emergency authorities</p>	<p>LIEC; Implementing Agency</p>

Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		<p>should include the status of the emergency, an estimation of how the incident might progress, and an evaluation of the manpower, equipment, and materials needed to adequately cope with the situation.</p> <ul style="list-style-type: none"> <li>• If there is a strong odor or any measurable reading of gas detected inside a structure: <ul style="list-style-type: none"> <li>– Clear the building of all occupants.</li> <li>– Eliminate potential ignition sources.</li> <li>– Localize or isolate the problem and shut off the gas as needed.</li> <li>– Determine the extent of the hazardous area and establish a restricted area.</li> </ul> </li> <li>• The responding supervisor shall determine the extent of the emergency and inform the dispatcher of the condition at the site.</li> <li>• If emergency procedures are put into effect, the responding supervisor should select a location and establish an emergency command post.</li> <li>• The responding supervisor will assign one person to remain at the command post to maintain communications until the emergency is over.</li> <li>• When necessary, the command post will be coordinated with the local emergency responders. When local emergency responders are involved, they will be in charge of the incident.</li> <li>• The responding supervisor will make himself known to fire and/or police department officials, or other authority having jurisdiction and will remain with them during the emergency.</li> <li>• All employees reporting to the scene of the emergency will report to the command post for identification and instructions.</li> <li>• Key personnel will be alerted, and it will be their responsibility to keep the emergency personnel under their supervision informed and available for emergency call out.</li> <li>• When a system failure cannot be made safely by normal procedures, emergency shutdown procedures should be implemented.</li> <li>• Reduce system pressure or segment a section before repair procedures are implemented.</li> <li>• Well trained and qualified personnel will be dispatched to monitor system pressure and repair work.</li> </ul> <p><b>Communication with Public Officials</b></p> <ul style="list-style-type: none"> <li>• When an emergency resulting in a hazard to the public safety occurs, the</li> </ul>			



Category	Potential Impacts and Issues	Mitigation Measures	Responsibility		Fund Source
			Implement	Supervise	
		local fire department, police, the city medical emergency center and other relevant public officials should be notified. An emergency call list will be prepared and make it available at the plant control room.			

ADB = Asian Development Bank, CSC = construction supervision company, DI = design institute, EA = executing agency, EEB = environment protection bureau, EMA = Environmental Monitoring Agency, EEB = the municipal and district/county environment protection bureau, GRM = grievance redress mechanism, IA = implementing agency, LIEC = loan implementation environment consultant, PMO = project management office.

Source: Domestic Project EIA Report (2018) and TRTA consultants.

**Table 3: Environmental Monitoring Plan**

<b>Subject</b>	<b>Parameter/Methodology</b>	<b>Monitoring Location</b>	<b>Frequency</b>	<b>Implement</b>	<b>Supervise</b>
<b>A. Construction Phase</b>					
<b>Air Pollution</b>	Ambient dust monitoring (TSP, PM <sub>10</sub> , PM <sub>2.5</sub> ) following PRC requirements	Boundaries of the construction site	Quarterly during construction season	EMA	Executing agency, EEB
	Visual/compliance inspection of implementation of air pollution control measures	Construction site	Daily during construction season	PIU	Executing agency, EEB
<b>Wastewater</b>	Wastewater sampling - COD, TSS, pH etc. following PRC requirements	Wastewater discharge point of the construction site	Monthly during construction	PIU	Executing agency, EEB
<b>Noise</b>	Ambient noise monitoring (day and night Leq dB(A)) using a portable monitoring device following the PRC requirements	Boundaries of the construction site and sensitive receptors in 100 meters	Daily during construction	EMA	Executing agency, EEB
<b>Soil</b>	Soil contamination test following the PRC requirement	At construction sites	Once before construction	PIU	Executing agency, EEB
<b>Solid Waste</b>	Compliance inspection of implementation of solid waste management measures	Waste collection and disposal sites	Monthly during construction	PIU	Executing agency, EEB
<b>Hazardous and Polluting Materials</b>	Compliance inspections of implementation of hazardous materials management measures	Storage facilities for fuels, oil, chemicals and other hazardous materials. Vehicle and equipment maintenance areas.	Monthly during construction	PIU	Executing agency, EEB
<b>Flora and Fauna</b>	Compliance inspection of land clearing to ensure mitigation measures are being	Construction site	Monthly during construction	PIU	Executing agency, EEB

Subject	Parameter/Methodology	Monitoring Location	Frequency	Implement	Supervise
	implemented				
<b>Socioeconomic Impacts</b>	Compliance inspection of implementation of traffic control measures	Construction site roads. Transportation routes.	Monthly during construction season	PIU	Executing agency, EEB
	Compliance inspection of implementation of Occupational and Community Health and Safety measures including records on the near miss, minor, major, fatal accidents and an Emergency Response Plan	Construction site	Monthly during construction season	PIU	Executing agency, EEB
<b>B. Operation Phase</b>					
<b>Wastewater</b>	Wastewater sampling - COD, TSS, pH etc. following PRC requirements	Discharge outlet to the municipal sewer of the component site	Quarterly during none heating season and once during heating season for two weeks per year	PIU	Executing agency, EEB
<b>Solid Waste</b>	Compliance inspection to of operation phase solid waste management measures implementation	Subproject site	Semi-annually	PIU	Executing agency, EEB
<b>CO<sub>2</sub> monitoring</b>	GHG emission monitoring of the component	Subproject site	Semi-annually	PIU	Executing agency, EEB
<b>Noise</b>	Noise monitoring (day and night Leq dB(A))	Boundaries of the component site and sensitive receptors in 100 meters	Quarterly	EMA	Executing agency, EEB

<b>Subject</b>	<b>Parameter/Methodology</b>	<b>Monitoring Location</b>	<b>Frequency</b>	<b>Implement</b>	<b>Supervise</b>
<b>Hazardous and Polluting Materials</b>	Compliance inspection of operation phase Hazardous Materials Management Plans (HMMPs) implementation	Subproject site	Semi-annually	PIU	Executing agency, EEB
<b>Health and Safety and Emergency Response</b>	Compliance inspection of operation phase occupational and community health and safety management measures including keeping records on the near miss, minor, major, fatal accidents and an Emergency Response Plan implementation	Subproject site	Semi-annually	PIU	Executing agency, EEB
<b>Environmental acceptance</b>	Compliance testing for environment acceptance	Subproject site	Once	PIU	Executing agency, EEB

ADB = Asian Development Bank, CSC = construction supervision company, DI = design institute, EEB = environment protection bureau, EMA = Environmental Monitoring Agency, EEB = the municipal and district/county environment protection bureau, GRM = grievance redress mechanism, LIEC = loan implementation environment consultant, PMO = project management office.

Source: Domestic Project EIA Report (2018) and TRTA consultants.

Table 4: Institutional Strengthening and Training Program

Training Topic	Trainers	Attendees	Contents	Times	Days	# Persons	Budget (€)
<b>Construction Phase Environment, Health and Safety Training</b>	LIEC	Contractors, PMO, PIU, EA	<b>ADB and PRC laws, regulations and policies</b> <ul style="list-style-type: none"> <li>– ADB's Safeguard Policy Statement</li> <li>– Project applicable PRC environmental, health and safety laws, policies, standards and regulations</li> <li>– World Bank EHS Guidelines and international industry best practices</li> </ul> <b>GRM</b> <ul style="list-style-type: none"> <li>– GRM structure, responsibilities, and timeframe</li> <li>– Types of grievances and eligibility assessment</li> </ul> <b>Implementation of Construction Phase EMP</b> <ul style="list-style-type: none"> <li>– Impacts and mitigation measures</li> <li>– Monitoring and reporting requirements</li> <li>– Non-compliance and corrective actions</li> </ul>	3 (once prior to starting of construction, and then once during second and third years)	2	30	<b>Training Development</b>  Fixed costs: about €1,756 per course delivery x 3 = €5,268
<b>Operation Phase Environment, Health and Safety Plan Training</b>	LIEC	PMO, PIU, EA	<b>ADB and PRC laws, regulations and policies</b> <ul style="list-style-type: none"> <li>– ADB's Safeguard Policy Statement</li> <li>– Project applicable PRC environmental, health and safety laws, policies, standards and regulations</li> <li>– World Bank EHS Guidelines and international industry best practices</li> </ul> <b>GRM</b> <ul style="list-style-type: none"> <li>– GRM structure, responsibilities, and timeframe</li> <li>– Types of grievances and eligibility assessment</li> </ul> <b>Implementation of Operation Phase EMP</b> <ul style="list-style-type: none"> <li>– Impacts and mitigation measures</li> <li>– Monitoring and reporting requirements</li> <li>– Non-compliance and corrective actions</li> </ul> <b>Environmentally friendly farming methods</b> <ul style="list-style-type: none"> <li>– Integrated pest management</li> <li>– Safe handling and use of pesticides and other chemicals</li> <li>– Safe handling of mobile phones to minimize health risks (e.g. use of speaker function)</li> </ul>	3 (once prior to starting of operation, and then once during second and third years)	2	30	<b>Training Development</b>  Fixed costs: about €1,756 per course delivery x 3 = €5,268

Training Topic	Trainers	Attendees	Contents	Times	Days	# Persons	Budget (€)
			<ul style="list-style-type: none"> <li>– Safe disposal of old mobile phones and batteries</li> <li>– Safe O&amp;M of licorice planting machines and harvesting machines for mulberry and potato, and other farming equipment</li> <li>– Use of protective clothing for handling of chemicals and/or O&amp;M of planting and harvesting machines</li> </ul>				
	<b>Total</b>			<b>6</b>		<b>60</b>	<b>€10,536</b>

## F. Grievance Redress Mechanism

22. The environmental and social officers of the PMO and seven PIUs will be the lead coordinators for GRM implementation. However, all project agencies and staff will be trained in the GRM and will take an active role in supporting these staff as and when necessary.

23. At the PMO level, the PMO environmental officer and social officer will establish a GRM tracking and documentation system, conduct daily coordination with the PIU officers, arrange meetings and conduct site visits as necessary, maintain the overall project GRM database, and prepare the reporting inputs for progress reports to ADB. At the PIU level, the PIU social and environmental focal staff will instruct contractors and CSCs on the GRM procedures, and coordinate with the local EEBs and other government divisions as necessary. PMO and PIU staff will be trained and supported by the LIEC and Loan Implementation Social Consultant (LISC).

24. The contact persons for different GRM entry points, such as the PMO and PIU environmental and social officers, contractors, operators of project facilities (OPF), and local EEBs, will be identified prior to construction. The contact details for the entry points (phone numbers, addresses, e-mail addresses) will be publicly disclosed on information boards at construction sites and on the websites of the local EEBs.

25. Once a complaint is received and filed, the PMO and PIU officers will identify if complaints are eligible. Eligible complaints include those where (i) the complaint pertains to the project; and (ii) the issues arising in the complaint fall within the scope of environmental issues that the GRM is authorized to address. Ineligible complaints include those where: (i) the complaint is clearly not project-related; (ii) the nature of the issue is outside the mandate of the environmental GRM (such as issues related to resettlement, allegations of fraud or corruption); and (iii) other procedures are more appropriate to address the issue. Ineligible complaints will be recorded and passed to the relevant authorities, and the complainant will be informed of the decision and reasons for rejection. The procedure and timeframe for the GRM is as follows and also summarized in Figure EMP-1.

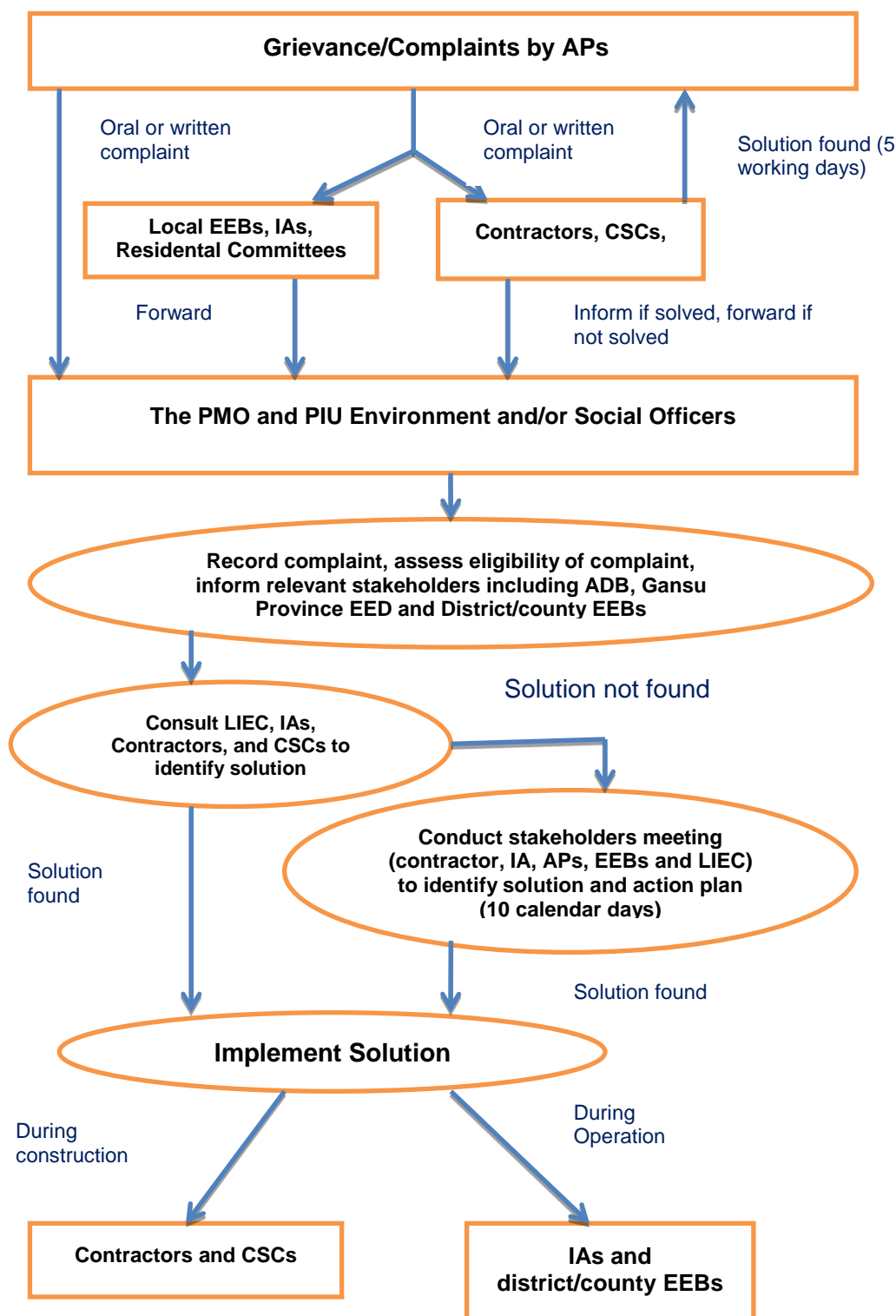
- **Stage 1:** If a concern arises during construction, the affected person may submit a written or oral complaint to the contractor. Whenever possible, the contractor will resolve the issue directly with the affected person. The contractor shall give a clear reply within five (5) working days. The contractor will keep the PIU and PMO fully informed at all stages.
- **Stage 2:** If the issue cannot be resolved in Stage 1, after five calendar days, the PMO and/or PIU will take over responsibility. Eligibility of the complaint will be assessed, and a recommended solution given to the complainant and contractors within five (5) working days. If the solution is agreed by the complainant, the contractors and/or facility operators (in operation) will implement the solution within seven (7) calendar days. Written records will be made of all stages and outcomes. At Stage 2, PMO will also inform the ADB project team of the issue, steps taken in Stage 1, and, planned steps for Stage 3.
- **Stage 3:** If no solution can be identified by the PMO and/or PIU, and/or the complainant is not satisfied with the proposed solution, the PMO will organize, within ten (10) calendar days, a stakeholder meeting (including the complainant, contractor and/or operator of the facility, local EEB, PIU, PMO). A solution acceptable to all shall be identified including clear steps. The contractors (during construction) and facility

operators (during operation) will immediately implement the agreed solution. Written records will be made of all stages and outcomes.

26. The GRM does not affect the right of an affected person to submit their complaints to any agency they wish to, for example the local village committee, community leaders, courts, PMO, PIUs, Gansu Provincial Government, district/county government, and/or ADB.

27. The PMO and PIUs shall bear any and all costs of implementing the GRM, including meeting, travel, and/or accommodation costs of the project staff or affected person. The GRM will be implemented throughout project construction and at least the first year of operation for each project facility.





**Figure 1: Operation Chart of the Project Grievance Redress Mechanism**

AP = affected person, CSC = construction supervision company, EEB = environment protection bureau, EED = environment protection department, IA = implementing agency, LIEC = loan implementation environment consultant, PIU = project implementation unit, PMO = project management office.

## G. Reporting Requirements

28. Environmental reporting. The CSCs will submit monthly reports to the PIUs on implementation and compliance with the EMP and CEMPs, including information on all spills, accidents, grievances received, and actions taken.

29. Based on the CSCs' monthly EMP progress reports and the compliance inspection and ambient monitoring results, the PIU social and environmental focal staff will prepare semi-annual environmental monitoring reports (EMR) including EMP implementation and monitoring results for submission to the PMO. The PMO environment officer, with the support from the LIEC, will compile the findings and prepare semi-annual EMRs for submission to ADB, on behalf of the PMO. The reports will assess the project compliance with the EMP and PRC environmental standards; identify any environment-related implementation issues and necessary corrective actions; and reflect these in a corrective action plan. The performance of the contractors in respect of environmental compliance will also be reported, as will the operation and performance of the project GRM, environmental, institutional strengthening and training, and compliance with safeguard covenants.

30. ADB will review the semi-annual EMRs, provide feedback, and then disclose the EMRs on the ADB public website. ADB missions will inspect the project progress and implementation once to twice a year. For environmental issues, inspections will focus mainly on (i) monitoring data; (ii) the implementation status of project performance indicators specified in the loan covenants on the environment, environmental compliance, implementation of the EMP, and environmental institutional strengthening and training; (iii) the environmental performance of contractors, CSCs and the PMO; and (iv) operation and performance of the project GRM.

31. Within 3 months after completion, or no later than 1 year with permission of the Gansu Environment Protection Department, an environmental acceptance report shall be prepared by a licensed institute in accordance with the PRC Regulation on Project Completion Environmental Audit (MEP, 2001), approved by the relevant environmental authority, and reported to ADB. The environmental acceptance report will indicate the timing, extent, effectiveness of completed mitigation and of maintenance, and the need for additional mitigation measures and monitoring (if any) during operation at least until the project completion report is prepared.

32. The environmental reporting requirements are summarized in Table 5.

**Table 5: Reporting Requirements**

Report	Prepared by	Submitted to	Frequency
<b>A. Construction Phase</b>			
EMP implementation reports	CSCs	PIUs	Monthly
Compliance monitoring reports	EMA	PIUs, PMO	Quarterly
Environmental monitoring reports	PMO with the support of LIEC	ADB	Semi-annual
<b>B. Operation Phase</b>			
Environmental monitoring report	PMO with the support of LIEC	ADB	Annual

ADB = Asian Development Bank, CSC = construction supervision company, EMA = environment monitoring agency, PIU = project implementation unit, PMO = project management office.

## H. Performance Indicators

33. Performance indicators (Table 6) have been developed to assess the implementation of the EMP. These indicators will be used to evaluate the effectiveness of environmental management during project implementation.

**Table 6: Performance Indicators**

No.	Description	Indicators
1	Staffing	(i) PMO established with appropriately qualified staff including Environmental Officer. (ii) PIU will assign or hire a qualified PIU social and environmental focal staff. (iii) EMA is engaged.
2	Budgeting	(i) Environment mitigation cost during construction and operation is sufficiently and timely allocated. (ii) Environment monitoring cost is sufficiently and timely allocated. (iii) The budget for capacity building is sufficiently and timely allocated.
3	Monitoring	(i) Compliance monitoring is conducted by PIUs as per the environment monitoring plan. (ii) Construction phase and operation phase environment monitoring is conducted by environmental monitoring agency.
4	Supervision	(i) PMO to review the implementation of EMP; (ii) ADB review missions
5	Reporting	(i) Semi-annual environmental monitoring reports during the construction phase and operation phase prepared by the PMO are submitted to ADB.
6	Capacity Building	(i) Training on ADB safeguard policy, EMP implementation, and GRM are provided during project implementation.
7	Grievance Redress Mechanism	(i) GRM contact persons are designated at all IA and the PMO, and GRM contact information disclosed to the public before construction. (ii) All complaints are recorded and processed within the set time framework in the GRM of this IEE.
8	Compliance with PRC standards	(i) The project complies with the PRC's environmental laws and regulations and meets all required standards.

ADB = Asian Development Bank, EA = executing agency, EMA = Environmental Monitoring Agency, GRM = grievance redress mechanism, IA = implementing agency, IEE = initial environmental examination, LIEC = loan implementation environment consultant, PMO = project management office, PRC = People's Republic of China.

## I. Estimated Budget for EMP Implementation

34. The estimated budget for the EMP implementation of the project is presented in Table 7. Costs are presented for mitigation implementation, ambient monitoring, capacity building, implementation support if needed, and GRM implementation.

## J. Mechanisms for Feedback and Adjustment

35. The effectiveness of mitigation measures and monitoring plans will be evaluated through a feedback reporting system. If during compliance inspections and monitoring, substantial deviation from the EMP is observed, then the PMO environment officer and LIEC will consult with the executing agency and local EEBs and propose appropriate changes to the EMP monitoring and mitigation plan.

36. Any EMP adjustments will be subject to ADB review and approval, and ADB may pursue additional environmental assessment and, if necessary, further public consultation. The revised EMP with ADB confirmation will be re-disclosed on ADB's public website. The revised EMP will be passed on to the contractor(s) for incorporation into the CEMPs for implementation.

**Table 7: Estimated Budget for Implementing the Project Environment Management Plan**

<b>Construction Phase</b>					
	<b>Unit</b>	<b>Unit Cost (CNY)</b>	<b>Quantity</b>	<b>Cost (CNY)</b>	<b>Source of Funds</b>
<b>1. Staffing</b>					
PMO environment officer	Months	6,000	60	360,000	Counterpart Financing
PIU social and environmental focal staff - 7	Months	6,000	420	2,520,000	
<b>Subtotal</b>				<b>2,880,000</b>	
<b>2. Ambient Monitoring</b>					
Air - TSP	Quarterly	1,500	84	126,000	Counterpart Financing
Noise	Quarterly	1,100	84	92,400	
<b>Subtotal</b>				<b>218,400</b>	
<b>3. Capacity Building</b>					
Construction Phase HSE Plan Development and Training	EHS Plan Development	15,000	3	45,000	Counterpart Financing
	EHS Course Development	15,000	1	15,000	
	EHS Course Delivery	30,000	1	30,000	
<b>Subtotal</b>				<b>90,000</b>	
<b>TOTAL Construction Phase</b>				<b>3,188,400</b>	
<b>Operation Phase (first 2 years)</b>					
<b>1. EHS Plans during Operation Phase</b>					Counterpart Financing
Consultant	Months	6,000	12	72,000	
<b>Subtotal</b>				<b>72,000</b>	
<b>2. Ambient Monitoring</b>					
Boiler exhaust gas monitoring	Quarterly	1,500	8	12,000	Counterpart Financing
Odor pollutants emission monitoring	Quarterly	1,100	8	8,800	
Noise	Quarterly	1,100	56	61,600	
Wastewater	Quarterly	750	56	42,000	
<b>Subtotal</b>				<b>124,400</b>	
<b>3. Capacity Building</b>					
Operation Phase HSE Plan Development and Training	EHS Plan Development	15,000	3	45,000	Counterpart Financing
	EHS Course Development	15,000	1	15,000	
	EHS Course Delivery	30,000	1	30,000	
<b>Subtotal</b>				<b>90,000</b>	
<b>TOTAL Operation Phase</b>				<b>286,400</b>	
<b>GRAND TOTAL Construction + Operation</b>				<b>3,474,800</b>	
<b>LIEC</b>					
Loan Implementation Environment Consultant	Person Months	40,000	15.0	<b>600,000</b>	ADB Loan

## APPENDIX 5: DRAFT TERMS OF REFERENCE FOR ENVIRONMENTAL POSITIONS

### 1. Project Management Office Environment Officer (hired by PMO and financed by Government)

#### A. Scope and Duration of Work

1. The officer will work on behalf of the Gansu project management office (PMO) to coordinate the implementation of the project environment management plan (EMP). The EMP is the critical guiding document to manage, monitor, and report upon project environmental impacts. Implementation of the EMP is a full-time task. For this reason, the PMO will assign at least one full-time officer for this role. These terms of reference describe the requirements for this officer. The officer will report directly to the PMO. The position is for the entire project duration (5 years).

#### B. Qualifications

2. The officer will have: (i) a undergraduate degree or higher in environmental management or related field; (ii) at least 5 years of experience in environmental management, monitoring, and/or impact assessment; (iii) ability to communicate and work effectively with local communities, contractors, and government agencies; (iv) ability to analyze data and prepare technical reports; (v) willingness and health to regularly visit the project construction sites and in different seasons; and (vi) ideally, proficiency in spoken and written English.

#### C. Detailed Tasks

3. The PMO environment officer will have a detailed understanding of the project EMP and supporting documents, including the domestic environmental reports, the project initial environmental examination (IEE), and project environmental assurances. The officer will have the following tasks.

- (i) Assess whether the EMP requires updating due to any changes in project design, which may have occurred after the EMP was prepared.
- (ii) Distribute the Chinese language version of the EMP to all relevant agencies, including the implementing agencies, and provincial and municipal agencies for environment protection. This should occur at least 3 months before construction begins.
- (iii) Conduct meetings with agencies as necessary to ensure they understand their specific responsibilities described in the EMP.
- (iv) Ensure that relevant mitigation, monitoring, and reporting measures in the EMP are included in the bidding documents, contracts, and relevant construction plans.
- (v) Confirm that the implementing agencies responsible for the internal environment monitoring described in the EMP understand their tasks and will implement the monitoring in a timely fashion.
- (vi) At least 2 months before construction begins, establish and implement the project grievance redress mechanism (GRM) described in the EMP. This will include: (a) preparation of a simple table and budget identifying the type, number, and cost of materials needed to inform local communities about the GRM and starting dates and scope of construction; (b) design, prepare, and distribute these materials, and plan and conduct the community meetings; (c) prepare a form to record any public complaints; (d) preparation of a summary table to record all complaints, including

- dates, issues, and how they were resolved; and (e) ensure that all relevant agencies, including contractors, understand their role in the GRM.
- (vii) Prior to construction, ensure that the implementation agencies and their contractors have informed their personnel, including all construction workers, of the EMP requirements. This will include all mitigation measures relating to impacts to air, water, noise, soil, sensitive sites, ecological values, cultural values, worker and community health and safety, respectful behavior when communicating with local communities, and responding to and reporting any complaints.
- (viii) During project construction, make regular site visits with the loan implementation environment consultant (LIEC) to assess progress, meet with contractors and/or local communities, and assess compliance with the EMP.
- (ix) Ensure that all relevant agencies submit required progress reports and information, including environmental monitoring and reports of any issues or grievances.
- (x) Compile, review, and store environmental progress reports from the implementation agencies, records of any grievances, and any other relevant issues. Maintain digital copies of all information. When necessary, enter data into summary tables in digital format (e.g., to transfer records of grievances from hard copy forms). Ensure that all information is stored in the PMO filing system, backed up, and can be easily retrieved.
- (xi) Prepare semiannual environment progress reports.
- (xii) Work closely with the PMO, implementing agencies, project implementation units, loan implementation consultants, and other agencies as necessary to conduct these tasks.

#### **D. Reporting Requirements**

4. Semiannual environment monitoring reports using the template provided by ADB or a domestic format reviewed and approved by ADB.

#### **E. Logistical Support Provided by the PMO to the Environment Officer**

- (i) Provision of hard and soft copies of the project EMP, domestic and project environmental reports, feasibility study reports, loan and project agreements, maps, and other supporting materials as necessary to ensure the officer can implement the tasks.
- (ii) Vehicle transport, office materials, and other logistical support, as necessary for the officer to visit the project construction sites and local communities, arrange and conduct meetings, and prepare and distribute consultation materials.
- (iii) Overall coordination, including review of the draft semiannual monitoring reports, and final responsibility for submission of the monitoring reports to ADB.

## **2. Project Implementation Unit Social and Environmental Focal Staff (to be appointed from staff in PIUs)**

#### **A. Scope and Duration of Work**

5. Overall coordination of the project SDAP, GAP, land use right transfer framework (LURTF), and EMP is the responsibility of the PMO social and environment officers. At the field level, daily coordination and implementation of the SDAP, GAP, LURTF and EMP will be undertaken by the project implementation units (PIUs) responsible for each subproject. For this purpose, each PIU

requires a PIU social and environmental focal staff. The seven PIU officers will work on behalf of the PIUs to implement the project SDAP, GAP, LURTF and EMP. The officers will report directly to each of their PIU managers and work closely with the county social and environment protection bureaus (SEBs), social and environment monitoring agencies or experts (SEMA), and PMO social and environment officers. The positions are for the entire project duration (5 years).

## **B. Qualifications**

6. The officers will have: (i) a master's degree or higher in social and environmental management or related field; (ii) at least 10 years of experience in social and environmental management, monitoring, and/or impact assessment, including specific experience on the management and monitoring of agriculture projects; (iii) ability to communicate and work effectively with local communities, contractors, and government agencies; (iv) ability to analyze data and prepare technical reports; (v) willingness and health to regularly visit the project construction sites and in different seasons; and (vi) ideally, proficiency in spoken and written English.

## **C. Detailed Tasks**

7. The PIU social and environment focal staff will have a detailed understanding of the project SDAP, GAP, LURTF and EMP and supporting documents, including the domestic social and environmental reports, project IEE, and project social and environmental assurances. The officers will have the following tasks.

- (i) Work closely with the PMO social and environment officers, SEB, social and environment monitoring agencies, contractors, construction supervision companies, and all other relevant agencies to implement the SDAP, GAP, LURTF and EMP.
- (ii) Distribute the Chinese language version of the SDAP, GAP, LURTF and EMP to all relevant agencies, including the implementing agencies, provincial and municipal agencies for social and environment protection. This should occur at least 3 months before construction begins.
- (iii) Conduct meetings with agencies as necessary to ensure they understand their specific responsibilities described in the SDAP, GAP, LURTF and EMP.
- (iv) Ensure that contractors implement the relevant measures in the SDAP, GAP, LURTF and EMP.
- (v) Implement the monitoring and reporting requirements in the SDAP, GAP, LURTF and EMP, including timely submission of progress reports to the PMO social and environment officers.
- (vi) Implement the project grievance redress mechanism.
- (vii) Make regular inspections of construction sites to assess progress, meet with contractors and/or local communities, and assess compliance with the SDAP, GAP, LURTF and EMP.
- (viii) Maintain digital records of all progress and information.
- (ix) Support the PMO social and environment officers in all of their tasks.

## **D. Reporting Requirements**

8. Monthly reports to the PMO social and environment officers.

**3. Loan Implementation Environmental Consultant [to be hired under Project Implementation Support and Capacity Development (CS-01)]**

**A. Qualifications**

9. The specialist will have: (i) a master's degree or higher in environmental management or related field; (ii) at least 10 years of experience in environmental management, monitoring, and/or impact assessment; (iii) familiarity with ADB project management requirements and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; (vi) willingness and health to regularly visit the subproject sites; and (vii) proficiency in spoken and written English.

**B. Tasks**

10. Working closely with the PMO environment officer and PIU social and environmental focal staff, and other staff and agencies, the loan implementation environment consultant (LIEC) will do the following.

11. Before construction:

- (i) Ensure project environmental readiness, including: (i) all contractor contracts include, and will comply with, the EMP; and (iii) relevant sections of the EMP are incorporated in construction plans and contracts.
- (ii) Assist the PMO and PIUs to implement the grievance redress mechanism (GRM), including: (i) establish and publicize the GRM; and (ii) collate and evaluate grievances received.
- (iii) Develop procedures to: (i) monitor EMP implementation progress; (ii) collate and evaluate data collected in the EMP environmental monitoring program; and (iii) prepare and submit the semiannual environmental monitoring reports to ADB (to continue until project completion report).
- (iv) Undertake training of project agencies as required by the EMP training plan.
- (v) Provide hands-on support and on-the-job training to the PMO, implementing agencies, and contractors on the specific requirements of the EMP as required.

12. During project implementation:

- (i) Undertake site visits to all PIUs during subproject construction and operating phase.
- (ii) Assist in the ongoing public consultation process as described in the project IEE.
- (iii) Conduct and monitor project compliance with the EMP and all relevant assurances and covenants in the loan and project agreements for environmental safeguards; identify any environment-related implementation issues; and, propose necessary responses in corrective action plans.
- (iv) Assist the PMO and PIUs in managing the accredited environmental external monitoring agencies for conducting periodic environmental impact monitoring in compliance with the approved monitoring plan defined in the EMP;
- (v) Undertake training of project agencies as required by the EMP training plan, and provide hands-on support and on-the-job training to the PMO and/or PIUs and contractors on the specific requirements of the EMP, as required.
- (vi) Undertake simple and cost-effective on-site quantitative measurements to regularly check that the construction complies with the environmental monitoring standards and targets, especially for noise, and water turbidity (during the dredging



- and embankments), using a basic hand-held meter.
- (vii) Design a simple and cost-effective water monitoring program for the subprojects involving crop production. The objective of the program is to assist the PMO and PIUs in measuring and reporting monthly and annual water use for agriculture in each subproject. This will enable: (a) the PMO, PIUs, and county water bureaus to monitor water use in relation to allocation quotas and overall sustainability; (b) the PMO, PIUs, and ADB to assess whether the project is achieving improvements in water use (compared with existing crop production). Prepare and finalize the program methodology in consultation with the PMO and PIUs. The program should include the data collected through the soil moisture sensors to be installed by the project; and, be integrated with the data collection and storage system to be prepared by the PIUs, so that the water monitoring data is incorporated as part of the overall project computer systems and can be easily viewed as needed by the PMO and PIUs.
  - (viii) Assist PMO to prepare semiannual environmental monitoring progress reports for submission to ADB. The reports will focus on progress with implementation of the EMP, compliance with environment-related project assurances, and results of the water monitoring.

## APPENDIX 6: RESTRICTED-USE PESTICIDES IN THE PEOPLE'S REPUBLIC OF CHINA

Pesticide use in the PRC is guided by a wide range of regulations. Key regulations and sources are as follows.

Directory for restricted use pesticides (2017) issued by the former Ministry of Agriculture (MOA) now Ministry of Agriculture and Rural Affairs (MARA):

Order 2567 of former MOA issued in August 2017:

[http://www.moa.gov.cn/govpublic/ZZYGLS/201709/t20170911\\_5810706.htm](http://www.moa.gov.cn/govpublic/ZZYGLS/201709/t20170911_5810706.htm)

Prohibited pesticides in China which are issued in different orders from MARA and former MOA:

Order 194 of former MOA issued in April 2002 :

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200210/t20021016\\_14307.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200210/t20021016_14307.htm)

Order 199 of former MOA issued in June 2002 :

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200210/t20021016\\_14307.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200210/t20021016_14307.htm)

Order 274 of former MOA issued in April 2003 : The link is missing in MOA's website.

Order 322 of former MOA issued in December 2003: The link is missing in MOA's website.

Order 747 of former MOA issued in November 2006:

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200612/t20061213\\_739003.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200612/t20061213_739003.htm)

Order 1157 of former MOA issued in February 2009:

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200902/t20090227\\_1226994.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/200902/t20090227_1226994.htm)

Order 1586 of former MOA issued in July 2011:

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/201107/t20110705\\_2045813.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/201107/t20110705_2045813.htm)

Order 2032 of former MOA issued in December 2013:

[http://www.moa.gov.cn/govpublic/ZZYGLS/201312/t20131219\\_3718683.htm](http://www.moa.gov.cn/govpublic/ZZYGLS/201312/t20131219_3718683.htm)

Order 2289 of former MOA issued in August 2015:

[http://www.moa.gov.cn/govpublic/ZZYGLS/201508/t20150825\\_4803203.htm](http://www.moa.gov.cn/govpublic/ZZYGLS/201508/t20150825_4803203.htm)

Order 2445 of former MOA issued in September 2016:

[http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/201609/t20160913\\_5273423.htm](http://jiuban.moa.gov.cn/zwlrm/tzgg/gg/201609/t20160913_5273423.htm)

Order 2552 of former MOA issued in September 2017:

[http://www.moa.gov.cn/govpublic/ZZYGLS/201707/t20170721\\_5757240.htm](http://www.moa.gov.cn/govpublic/ZZYGLS/201707/t20170721_5757240.htm)

## **APPENDIX 7: LAND USE RIGHTS TRANSFER FRAMEWORK**

**Prepared by GSSMCU/PMO**

February 2019

**ABBREVIATIONS**

AAOV	Average Annual Output Value
ADB	Asian Development Bank
COL	collective-owned land
GAP	gender action plan
GRM	Grievance Redress Mechanism
GSSMCU	Gansu Supply and Marketing Cooperatives Union
LND	Lanzhou New District
LURT	land use right transfer
LURTF	land use right transfer framework
PIU	project implementation unit
PMO	project management office
PRC	People's Republic of China
SDAP	social development action plan
TOR	terms of reference
TRTA	transaction technical assistance

## A. Introduction

1. The Gansu Internet-Plus Agriculture Development Project (hereafter refer as the project), consists of 7 subprojects with three outputs: (i) comprehensive information service and management platform developed; (ii) agricultural production, processing, storage, and marketing modernized; and (iii) capacity of Gansu Supply and Marketing Cooperatives Union (GSSMCU) improved.

2. The expected outcome is increased income generating opportunities from agricultural production and marketing. The impacts are inclusive economic growth and reduced rural poverty. The list subprojects to be implemented under the project is given in the following table.

**Table 1: List of Subprojects**

Subproject Name	Facilities to be built
Subproject 1: Gansu Internet Plus Based Socialized Agricultural Service System Platform	<ul style="list-style-type: none"> <li>• Data center for agricultural and social services</li> <li>• Organic fertilizer substrate plant</li> <li>• Cold chain storage facility</li> </ul>
Subproject 2: Zhangye County-Level Internet Plus Based Socialized Agricultural Service System in Linze County	<ul style="list-style-type: none"> <li>• IT-based service center to provide agricultural information to farmers</li> </ul>
Subproject 3: Zhangye Whole Industrial Chain Service System for Gobi Agriculture in Linze County.	<ul style="list-style-type: none"> <li>• Agriculture park for fruits, summer vegetables</li> </ul>
Subproject 4: Wuwei Integrated Industry for Potatoes in Gulang County	<ul style="list-style-type: none"> <li>• Potato breeding, cultivation and processing center</li> </ul>
Subproject 5: Baiyin Whole Industrial Chain Service System for Licorice in Jingtai County	<ul style="list-style-type: none"> <li>• Licorice breeding, plantation and processing center</li> </ul>
Subproject 6: Application Base of the Internet-of-Things for Featured Agricultural Products in Lanzhou New District	<ul style="list-style-type: none"> <li>• 3 large scale sunlit greenhouses</li> <li>• Cold chain logistics system</li> </ul>
Subproject 7: Tianshui Whole Industrial Chain Service System for Forage Mulberry	<ul style="list-style-type: none"> <li>• Mulberry breeding facility</li> <li>• Agricultural, social and technology demonstration park</li> </ul>

3. Three of the seven subprojects will lease land from farmers through land use right transfer (LURT) during project implementation (Table 2):

- (i) Subproject 4 plans to have LURT for 3,000.0 *mu* of farmland from 2 villages to scale up potato production.
- (ii) Subproject 5 plans to have additional LURT for 21,860.0 *mu* of farmland to scale up licorice cultivation.
- (iii) Subproject 6 will lease 1,000 *mu* of farmland from 386 households for vegetable production.

**Table 2: Planned LURT by Subproject**

Subproject	Planned LURT ( <i>mu</i> )	Households to be involved	Persons to be involved
4	3,000	210	650

Subproject	Planned LURT ( <i>mu</i> )	Households to be involved	Persons to be involved
5	21,860	5,070	15,150
6	1,000	386	1,379
Total	24,860	5,666	17,179

## B. Objective and Main Principles

4. The borrower will take necessary measures under the Project to avoid involuntary land acquisition and resettlement impacts as defined under the ADB Safeguard Policy Statement (SPS); and will obtain necessary land use rights through voluntary land leasing process. In order to ensure legal and effective land use right transfer (LURT), this LURT framework (LURTF) has been developed to guide the subprojects to carry out LURT works during project implementation. The LURTF is based the PRC laws and local policies and regulations regarding LURT. The LURTF also consistent with ADB good practice on voluntary land use agreements, but it is outside the scope of ADB SPS requirements on involuntary resettlement.

5. The guiding principles for LURT are:

- (i) **Equality, voluntary, legal procedure and fair compensation.** Equality refers to both parties have equal legal status. Voluntary refers to that LURT must be completely voluntary for both parties, and one party shall not force another party to transfer or accept transfer of land use right. Legal procedure refers to that LURT must be concluded per legal procedure with legal agreement. Fair compensation refers to the transferred land shall be compensated at negotiated market prices.
- (ii) **Unchanged ownership and agricultural use of transferred land.** LURT means transferring use right, not ownership, therefore ownership of transferred land shall remain unchanged. Yet future users of transferred land shall not change the agricultural land use nature, i.e., shall not convert transferred land for non-agricultural uses.
- (iii) **Government's direction and administration.** The agricultural station of relevant county governments shall direct and administrate legal transfer of LURT for farmland.
- (iv) **Conflict resolution through grievance redress mechanism (GRM).** The GRM of this framework (compatible with subproject counties' GRM) shall be used to resolute complaints and conflicts, if any.

6. The guiding principles of LURT– transparency, consultation, voluntariness, fairness/equity, no adverse impacts, written documentation, third-party verification, and legal and policy compliance – will apply to house renting as well.

## C. Policy and Legal Framework

7. The purpose of the policy and legal framework is to ensure that the LURT is in line with the Rural Land Contract Law and the Rural Land Management Right Transfer Management Method of the PRC, and other relevant policies of Gansu Province and local governments, as well as ADB requirements on voluntary agreements (i.e. without triggering IR under the Safeguard Policy Statement). These laws, regulations and policy documents, are the basis and foundation of legal and policy framework, which will support the LURT under the project.

8. The main provisions of relevant laws and policy documents are given as Attachment 1. Key applications of the laws and policies are as follows:

- (i) Law of the People's Republic of China on Land Contract in Rural Areas:
  - No change of collective ownership
  - No change of agricultural land use (not allowed to convert farmland into construction land for establishment of permanent structures)
- (ii) Administration Methods on Rural Land Use Rights Transfer, Ministry of Agriculture of PRC, relevant regulations of Gansu provincial and project county governments:
  - Negotiated settlements between transferor and transferee
  - Land use right transfer per legal procedures
  - Standard contract (with endorsement by a third party if transferor and transferee feel necessary)
  - Official registration and documentation for land transfer
- (iii) PRC Law on the Mediation and Arbitration of Rural Land Contract Disputes, and relevant implementation methods of Gansu provincial and project county governments:
  - Mediation and arbitration of disputes per a bottom-up grievance and redresses mechanism (GRM)
- (iv) ADB requirements on voluntary agreements:
  - Meaningful consultations
  - Negotiated/voluntary agreements
  - Establishment and functioning of a GRM
  - Record-keeping
  - External monitoring

9. In addition, the best practices in the project area also have good applications for the land transfer under the project, such practices include:

- (i) Signing LURT contracts by both husband and wife (a way of empowering women).
- (ii) Land transfer rate calculated in equivalent output value of grain (wheat or maize); this protects transferees from price fluctuations.

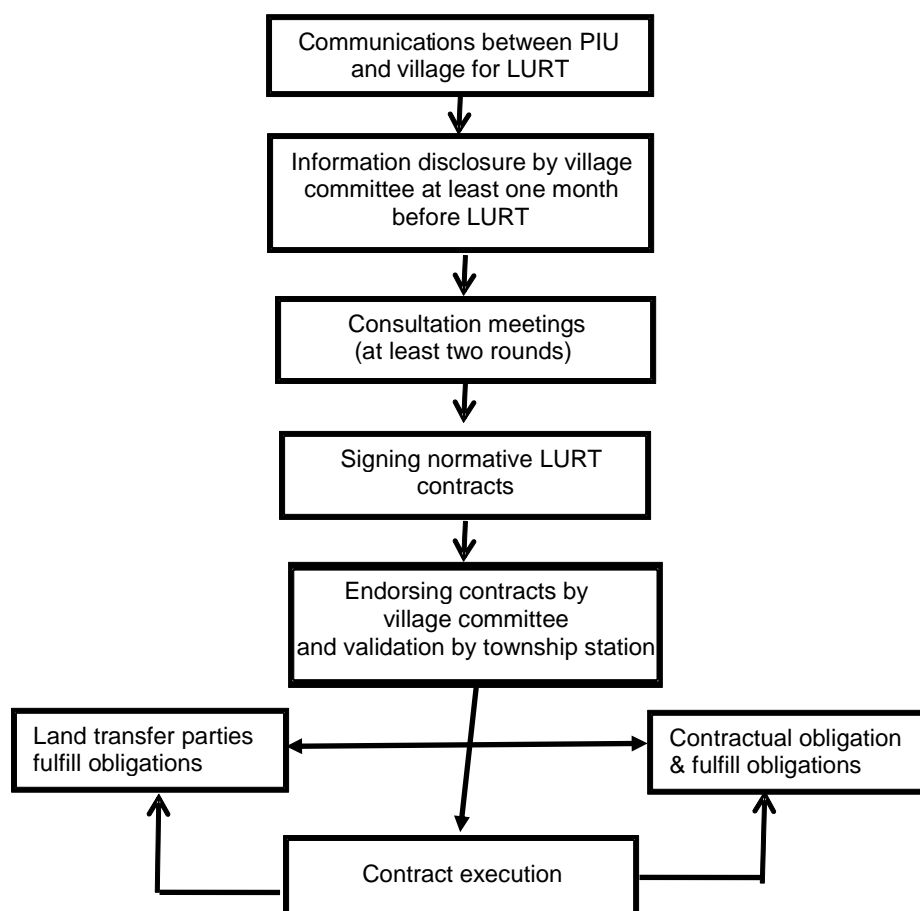
**Table 3: Main Policy and Legal Framework**

No.	Level	Laws and Policies	Effective Time
1	PRC	Law on Land Contract in Rural Areas of PRC	March 2003
2		Administration Methods on Rural Land Use Rights Transfer Ministry of Agriculture of PRC	March 2005
3		PRC Law on the Mediation and Arbitration of Rural Land Contract Disputes	January 2010
4	Gansu Province	Opinions on Guiding Orderly LURT for Promoting Scale Farming in Gansu Province	May 2015
5	City/ County/ District	Opinions on Guiding Orderly LURT for Promoting Scale Farming in Jingtai, County Government	January 2018
6		Rules for Administration of Rural LURT in Lanzhou (LND)	June 2011
7	ADB	Principles of voluntary agreements (without triggering involuntary resettlement under the Safeguard Policy Statement).	

#### **D. Procedures of LURT**

10. The LURT procedures are as follows:

- (i) Project implementation Unit (PIU) communicates with village committee, at least one month before LURT agreement, regarding desired land plots, lease duration, tentative rate, purpose, employment opportunities, etc.
- (ii) The village committee discloses LURT information among villagers at least one month before LURT.
- (iii) The village committee organizes consultation meetings of involved households for at least two rounds. PIU shall participate in the consultation meetings to respond villagers' concerns. PIU will assure that priority will be given to LURT involved households for employments. Through consultation meetings, PIU and willing individual households will reach agreement.
- (iv) PIU and involved individual households sign standard LURT contracts.
- (v) Village committee endorses the LURT contracts.
- (vi) Registration for land transfer by village committee and report to township's agricultural station for validation.
- (vii) Supervising contract execution. Both parties should perform the contract positively, and village committee supervises the contract execution. In case of conflicts or disputes, the village committee will play a leading role for resolution.



**Figure 1: LURT Procedure**



## **E. Institutional Arrangement and Responsibility**

11. Based on current practice, PIU and village committee will organize the LURT.

### **Responsibilities of village committee:**

- (i) LURT information disclosure
- (ii) Organization of consultation meetings
- (iii) Endorsing LURT contracts signed between PIU and individual households
- (iv) Supervising contract execution
- (v) Participation in settling disputes/conflicts, if any
- (vi) Employment information disclosure for PIU

### **Responsibilities of PIU:**

- (i) Execution of contracts and timely payment of land rent
- (ii) Timely disclosure of employment information to village and involved households
- (iii) Employment skill training of labors of involved households

## **F. Measures to Safeguard Interests of Contract Parties**

12. The following measures will be taken to safeguard the interests of contract parties:
- (i) Signing normative contract. Attachment 2 presents such a contract that was prepared by the Agricultural Department of Gansu Province.
  - (ii) In case of severe damage of land under LURT due to natural disasters or force majeure during the contract term, both parties can terminate or change the contract through negotiation, and the land shall be returned to the original users for cultivation. When there are specific contract provisions on severe damage of land, the provisions prevail.
  - (iii) Contract agreement regarding policy subsidies to farmers for grain production.
  - (iv) <sup>1</sup>
  - (v) Signing of contract by both husband and wife in case of involving individual HHs
  - (vi) Contract endorsement by village committee and validation by the township station, free of charge.
  - (vii) The LURT lease payment rate will be ensured according to land type, fertility, grade, and output of referential crops, or even the price of LURT in nearby villages. Taking farmer's interest into consideration, both transferor and transferee should set a time to renegotiate land price in case of LURT for over 5 years. It is recommended to adjust the rate after 5 years.

## **G. Grievance Redress Mechanism**

13. LURT will be based on consultations, negotiations and mutual agreement. Complicated disputes, therefore, may not occur. However, there might be some unpredictable issues during and after LURT. According to *Law of the PRC on the Mediation and Arbitration of Rural Land Contract Disputes*, a transparency and efficiency grievance redress procedure is set to settle such disputes and defaults after land use right transfer:

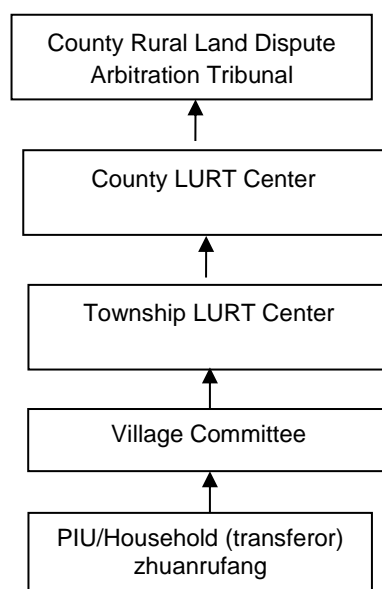
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<sup>1</sup> For example, an existing agreement between PIU of Subproject 3 and Huayin Village stated that government's grains production subsidies belong to farmers.

- Step 1:** When disputes or default happens, both PIU and involved household (both parties are referred as grievant below) shall negotiate with each other to settle the problem.
- Step 2:** If an agreement cannot be reached at step 1, the grievant shall report to village committee orally or in writing. In case of an oral appeal, the village committee shall make a written record. The village committee shall make decision to solve the problem within 1 week.
- Step 3:** If the grievant is dissatisfied with the resolution of the village committee, the grievant shall file an appeal to township LURT center (i.e., agricultural station) after receiving such decision. The township LURT center shall make a decision to solve the problem within 2 weeks.
- Step 4:** If the grievant is dissatisfied with the decision of township LURT center, the grievant shall file an appeal to the county LURT center after receiving such decision. The county LURT center shall make a resolution within 2 weeks.
- Step 5:** If the grievant still dissatisfied with the decision of county LURT center, he/she may file arbitration to the rural land transfer disputes tribunal for final resolution. The Tribunal will make a final resolution in 30 days.

14. Based on *Law of the People's Republic of China on the Mediation and Arbitration of Rural Land Contract Disputes*, charges for disputes arbitration of rural land contract are not allowed, and reasonable expenses will be paid by local fiscal budget. The complaints procedure maintains its validity throughout the implementation of whole project.

15. Land transferor and transferee can also file a lawsuit to local court at any stage they like.



**Figure 2: Grievance Redress Procedure**

#### **H. Monitoring Arrangement**

16. LURT during project implementation is subject to both internal and external monitoring.

17. GSSMCU/PMO's social officer, with assistances from social focal staff of PIUs, will carry out internal monitoring and reporting of LURT. The actual and accumulative LURT situation, sample contracts, rental payment status, complaint and grievance records (if any) will be included as a separate section in the project's progress reports which will be submitted to ADB semi-annually.

18. The social officer will carry out compliance review of LURT contracts village by village by using the form below.<sup>2</sup> Detailed review/verification methods are presented as Attachment 3. The officer shall review/verify 100% of the contracts signed between PIUs and villages/big farmer/cooperative. The compliance review results will be a sub-section in the LURT section of the progress report. The requirements for verification of LURT– transparency, consultation, voluntariness, fairness/equity, no adverse impacts, written documentation, third-party verification, and legal and policy compliance – will apply to house renting as well.

**Table 4: Compliance Review on LURT Contracts**

Reporting Period:

Sub-project	Village	No. of contracts signed	No. of contract reviewed	Transparency Y/N	Consultation Y/N	Voluntariness Y/N	Fairness/Equity Y/N	Adverse Impacts Y/N	Written documentation Y/N	Third-party verification Y/N
4										
5										
6										

19. A national social specialist will be engaged under the project implementation consultant. The specialist will assist PMO and PIUs in setting up effective internal social monitoring system, TOR for the national social specialist is given in Appendix 1 of the PAM.

20. An external social monitor will be engaged to monitor and evaluate the status of LURT to further verify the compliance review results. The external social monitor will submit his/her annual monitoring reports to GSSMCU and ADB semi-annually. A TOR for external social monitor is included in Appendix 1 of the PAM.

<sup>2</sup> The compliance review also applies to house leasing.

## **Attachment 1: Main Provisions of PRC Laws and Policies**

### **A. Land Contract Law**

#### **Chapter 5: Transfer of the Right to Land Contractual Management**

**Article 32** The right to land contractual management obtained through household contract may, according to law, be circulated by subcontracting, leasing, exchanging, transferring or other means.

**Article 34** In the transfer of the right to land contractual management, the contractor shall be the subject. The contractor shall have the right to make his own decision, according to law, on whether to circulate the right to land contractual management and on the means by which to circulate the right.

**Article 36** Such fees as the subcontract charges, rent and transfer charges to be collected for the transfer of the right to land contractual management shall be decided on by the two parties through consultation. Proceeds derived from the transfer shall belong to the contractor, which no organizations or individuals may retain or withhold without authorization.

**Article 37** Where the right to land contractual management is circulated by means of subcontract, lease, exchange, transfer or by other means, the two parties shall conclude a written contract. Where transfer is adopted for transfer, the matter shall be subject to consent by the party giving out the contract; and where subcontract, lease, exchange or other means is adopted for transfer, the matter shall be reported to the party giving out the contract for the record.

In general, the contract for the transfer of the right to land contractual management shall include the following clauses:

- (i) the names and domiciles of the two parties;
- (ii) the name, location, area and quality grade of land concerned;
- (iii) the term of transfer and the dates of beginning and end;
- (iv) the purpose of use of the land concerned;
- (v) the rights and obligations of the two parties;
- (vi) the price for the right circulated and the method of payment; and
- (vii) Liabilities for breach of the contract.

**Article 38** Where the parties to the transfer of the right to land contractual management by means of exchange or transfer request registration, they shall apply for registration to the local people's government at or above the county level. If the above is not registered, no one may oppose the third party acting in good faith.

### **B. Administration Methods on Rural Land Use Rights Transfer, Ministry of Agriculture of PRC, March 2005**

#### **Chapter II. Parties to the Transfer**

**Article 6** A contractor shall have the right to determine of its/his own will whether the contracted land shall be circulated and determine the objects and ways of transfer. No entity or individual may force or obstruct the contractor to circulate its/his contracted land according to law.

- Article 7** The income from the transfer of rural land contracted management right shall be owned by the contractor, no organization or individual may seize, retain or withhold it.
- Article 8** In case a contractor circulates its/his contracted land by entrusting a contract-issuing party or an intermediary organization voluntarily, the contractor shall issue a power of attorney for land transfer. The power of attorney shall specify the entrusted matters, power and time limit, etc. with the signature or seal of the entrusting party.
- Article 9** The assignee of the transfer of rural land contracted management right may be the contracting farmer or may be any other organization or individual that is allowed to undertake agricultural production and management according to the relevant laws and provisions. Under the same conditions, the member of the same collective economic organization shall have the priority.
- Article 11** After a contractor has reached an intention for transfer with an assignee, if the transfer is made by way of subcontracting, leasing, interchanging or other ways, the contractor shall put that on archives to the contract-issuing party in time. If the transfer is made by way of transfer, the contractor shall file an application for transfer to the contract-issuing party beforehand.
- Article 12** An assignee shall protect the land according to the provisions of the relevant laws and regulations, no assignee may alter the agriculture use of the circulated land.
- Article 13** An assignee shall win the consent of the former contractor when re-circulating the land which has been circulated by way of subcontracting or leasing.

### **Chapter III. Ways of Transfer**

- Article 15** The rural land contracted management right lawfully obtained by a contractor may be circulated by way of subcontracting, leasing, interchanging, transferring or other ways that comply with the provisions of relevant laws and state policies.
- Article 16** In case a contractor circulates part or all of the rural land contracted management right by way of subcontracting, leasing or contributing as a share according to law, the contracting relationship between the contractor and the contract-issuing party shall remain unchanged, and the right enjoyed, and the obligations undertaken by both parties shall remain unchanged.
- Article 20** The land contracted management right obtained by way of transfer and interchange may be circulated, after the land contracted management right has been obtained upon registration according to law, by taking such ways as subcontracting, leasing, interchanging, transferring or other ways complying with the provisions of laws and state policies.

### **Chapter IV. Transfer Contract**

- Article 21** The contractor shall sign a written transfer contract with the assignee on the basis of agreement through negotiation when circulating rural land contracted management right. The transfer contract of rural land contracted management right shall be in quadruplicate, each party of the transfer shall have one copy, the contract-issuing party and the department of rural land contracting management of the people's

government of any village or town shall have one copy respectively for archival purpose.

**Article 23** The transfer contract of rural land contracted management right shall cover the following contents in general:

- (i) The name and residence place of both parties;
- (ii) The four boundaries of a piece of land, its location, area and quality grade;
- (iii) The transfer term and the beginning and ending dates;
- (iv) Ways of transfer;
- (v) Purpose of the use of the circulated land;
- (vi) Rights and obligations of the two parties;
- (vii) Transfer price and ways of payment;
- (viii) The handling of the appurtenance of the land and the relevant facilities after the expiry of the transfer contract; and
- (ix) Liabilities for breach of contract.

The text format of the transfer contract of rural land contracted management right shall be determined by the administrative department of agriculture of the people's government at the provincial level.

**Article 24** The parties to the transfer of rural land contracted management right may apply for verification of a contract to the department of rural land contracting management of the people's government of any village or town.

The department of rural land contracting management of the people's government of any village or town may not force the parties to the transfer of land contracted management right to accept verification of a contract.

## **Chapter V. Transfer Administration**

**Article 25** A contract-issuing party shall handle archival filing in time upon the request of the contractor for circulating contracted land by subcontracting, leasing, interchanging or by other ways, and report to the department of rural land contracting management of the people's government of the village or town.

**Article 26** The department of rural land contracting management of the people's government of any village or town shall provide in time the transfer contract with uniform text format to the contractor that has reached the transfer intention and give guidance to the signing of the contract.

**Article 27** The department of rural land contracting management of the people's government of any village or town shall establish registries for the transfer of rural land contracted management right and record the conditions for the transfer of rural land contracted management right accurately and timely. In case any contracted land is circulated by ways of subcontracting, leasing or other ways, the relevant registration shall be gone through in time. If the contracted land is circulated by way of transfer or interchange, the relevant formalities for the alteration of the relevant contracting contract and certificate of land contracted management right shall be handled in time.

**Article 28** The department of rural land contracting management of the people's government of any village or town shall file the transfer contract of rural land contracted management right and the relevant documents, texts and materials and keep them properly.

**Article 30** Any intermediary organization that undertakes the service of rural land contracted management right shall put itself on archives at the administrative department of agriculture (rural management) of the local people's government at or above the county level and accept their guidance and provide transfer intermediary services according to laws and relevant provisions.

**Article 31** The department of rural land contracting management of the people's government of any village or town shall correct in time the stipulations of both parties to the transfer that violate laws and regulations discovered by it during guiding the conclusion and verification of any transfer contract.

**Article 33** In case there occurs any dispute or dissension in the transfer of any rural land contracted management right, the parties shall resolve it through negotiation according to law.

If the parties cannot reach an agreement through negotiation, they may ask for conciliation by the village committee or the people's government of the village or town.

If the parties are unwilling to negotiate with each other or cannot reach an agreement through conciliation, they may apply for arbitration to the rural land contracting arbitration institution or may file a lawsuit to the people's court directly.

### **C. Law on Mediation and Arbitration of Rural Land Contract Disputes**

**Article 2** The mediation and arbitration of disputes over contracted management of rural land shall be governed by this Law.

The disputes over the contracted management of rural land include:

- (i) Disputes arising from the conclusion, fulfillment, modification, cancellation and termination of rural land contracts;
- (ii) disputes arising from the sub-contract, lease, interchange, transfer, holding of shares and other means of turnover of contracted management rights to rural land;
- (iii) disputes arising from the withdrawal and adjustment of the contracted land;
- (iv) disputes arising from the confirmation of contracted management rights to rural land;
- (v) disputes arising from impairment to the contracted management rights to rural land; and
- (vi) Other disputes over contracted management of rural land as prescribed in law and regulations.

The disputes arising from requisition of collectively owned land and the compensations therefor do not fall within the scope of acceptance by the rural land contract arbitration commission; they may be settled by means of administrative reconsideration or lawsuits.

**Article 3** In the case of disputes over the contracted management of rural land, the parties may make reconciliation by themselves or may request mediation by the villagers' committee, people's government of the township, etc.

**Article 4** If the parties fail to make reconciliation, fail to reach an agreement in mediation, or are unwilling to make reconciliation or accept mediation, they may apply to the rural land contract arbitration commission for arbitration, or may directly lodge a lawsuit in the people's court.

**Article 6** The people's governments at and above the county level shall strengthen the guidance over the mediation and arbitration of disputes over contracted management of rural land.

The rural land contract administrative departments of the people's governments at and above the county level and other relevant departments shall, under their respective functions, support the relevant mediation organizations and the rural land contract arbitration commissions to carry out relevant work according to law.

## **Chapter II. Mediation**

**Article 7** The villagers' committees and the people's governments of townships (towns) shall strengthen the mediation of disputes over contracted management of rural land and help the parties to reach agreements on the settlement of disputes.

**Article 8** To apply for mediation of disputes over contracted management of rural land, a party may file a written or oral application. In the case of filing an oral application, the villagers' committee or the people's government of the township shall, on the spot, record the basic information of the applicant, disputes, grounds and time for which the mediation application is filed.

**Article 9** When mediating the disputes over contracted management of rural land, the villagers' committee or the people's government of the township shall fully hear the parties' statements of the facts and grounds, explain to them the relevant laws and policies of the state and patiently guide them so as to help them to reach an agreement.

**Article 10** Where an agreement is reached upon mediation, the villagers' committee or the people's government of the township shall prepare a mediation agreement.

The mediation agreement shall bear the signatures, seals or fingerprints of both parties, and shall come into effect after it is signed by the mediators and is under the seal of the mediation organization.

**Article 11** The arbitral tribunal shall mediate the disputes over contracted management of rural land. Where an agreement is reached upon mediation, the arbitration tribunal shall make a mediation paper. If the mediation fails, it shall timely make an award.

The mediation paper shall specify the arbitration claims and the result of the agreement between the parties. It shall be signed by the arbitrators and be under the seal of the rural land contract arbitration commission and be served on both parties.



The mediation paper shall be legally effective after both parties sign the receipt thereof. If either party goes back on his words before he signs the receipt of the mediation paper, the arbitration tribunal shall timely make an award.

## Attachment 2: Normative LURT Contract

### Contract Prepared by the Agricultural Department

Party A (transferor) county---township---village--group

Party B (transferee)

Both parties, based on the principles of equal consultation, voluntary and paid, according to pertinent clauses of *Contract Law of PRC*, *Law of PRC on Land Contract in Rural Areas*, *Measures of PRC for the Administration of the Certificates of the Right to Contracted Management of Rural Land* and *Administration Methods on Rural Land Use Rights Transfer*, Ministry of Agriculture of PRC, conclude this LURT contract by which they shall abide.

### 1. Land type, Area, and Directions

Land name	Land type	Length (m)	Width (m)	Area (mu)	Directions			
					East to	West to	South to	North to
<b>Total</b>								

### 2. LURT Mode, Duration, and Commencement and Completion Dates

Agreed by both parties, party A transferred use right of their own ----mu contracted land to party B for agricultural production or operation. The duration is ---years, from-- date---month---year to - date---month---year.

### 3. Party A's Rights and Obligations

#### 3.1 Rights

- (i) Supervise party B to utilize the leased land rationally
- (ii) Supervise party B to improve soil fertility and to prevent predatory conduct and abonnement
- (iii) Get lease payment in cash or in kind from party B
- (iv) Other rights defined by law and administrative regulations

#### 3.2 Obligations

- (i) Safeguard party B's autonomy to manage the land and disposal on agricultural products
- (ii) Execution of contract without illegal change and/or terminate the contract
- (iii) Other obligations defined by law and administrative regulations

#### **4. Party B's Rights and Obligations**

##### **4.1 Rights:**

- (i) Autonomy to manage the land and dispose of agricultural products in the promise of agriculture use of lease land
- (ii) Prevent party A from changing and terminating the contract during the execution of the contract
- (iii) Other rights defined by law and administrative regulations

##### **4.2 Obligations**

- (i) Safeguard agricultural production and operation use of the leased land, protect and utilize the land rationally in accordance with law, ensure soil fertility improvement constantly, prevent predatory conduct and abonnement of transferred land
- (ii) Safeguard the Party A's rights to obtain the land lease fee in full and on time in accordance with the contract
- (iii) Safeguard integrity of the ground attachment, forbidding arbitrary deforestation; when great damage happens, party B not only bear the contracted land lease fee, but also bear the new fee
- (iv) Other obligations defined by law and administrative regulations

#### **5. Price for land transfer and Payment Methods**

Agreed by both parties, party B pays for party A ---Yuan (or in kind ----Kilogram of ) per *mu* per year, and the total land lease fee is ---Yuan (or paid in kind ---kilogram of ) per year, which should be paid before--date--month--year at once.

#### **6. Liability for breach of contract**

- (i) During the execution of the contract, when disputes occur, agreement shall be sought through negotiations. In case of failing to reach agreement, both parties may apply for mediation or arbitration from management department of agricultural contract, or directly bring a lawsuit in the people's court.
- (ii) During the execution of the contract, when either party is unable to perform all or part of its obligations owing to irresistible force, land lease fee will be negotiated between both parties.
- (iii) During the execution of the contract, when one party breaches the contract, causing a loss to another party, breaching party have to pay the loss and penalty, ---% of land transfer fee.
- (iv) During the execution of the contract, party B shall not dispose of ground attachment arbitrarily, and compensation shall be made for damage caused to party A by disposal.
- (v) Other liabilities for breach of contract defined by law and administrative regulations

#### **7. Other matters**

- (i) In case of land expropriation by the state during the execution of the contract, the contract will itself terminate.
- (ii) Anything not covered hereunder may be negotiated and agreed upon between parties in the form of supplementary clauses, which shall have the same legal force

as the contract.

- (iii) When the land contract is transferred by circulation, it should be agreed by transferor; When the land contract is transferred by exchange sub-contract, it should be reported to transferor for the record.
- (iv) During the mediation, arbitration or lawsuit caused by disputes between both parties, the execution of the contract continues; When disputes affected production, production must be resumed before settlement of disputes.
- (v) When the contract is signed, the parties may apply for endorsement from township agricultural contract management committee.
- (vi) There are quadruplicating of this Contract (quintuplicate if endorsement needed), with Party A holding one, Party B one, contract issuing party one, and township agricultural contract management one for record (endorsement department one), which shall become valid on the date of signature

Party A (signature) :

Party B (signature) :

Endorsing agency

(seal)

:

Date: --date- month---year

### Attachment 3: Verification Methods for Compliance Review

	Key Requirements	Indicators to Verify Each Requirement	Methods to Collect and/or Verify Information or Evidence for Relevant Indicators
1	Transparency	<ul style="list-style-type: none"> <li>Was the contracting party (HH or village collective) provided information about the project?</li> <li>Was the contracting party provided information about specific purpose of land use?</li> <li>Did the contracting party support the project and intended use of land?</li> </ul>	<ul style="list-style-type: none"> <li>Collect and verify the copy of project information booklet provided or minutes of meeting to disclose project information</li> <li>Collect and verify the copy of information booklet or minutes of meeting to disclose purpose of land use</li> <li>Ask views of the contracting party during survey on these points.</li> </ul>
2	Consultation	<ul style="list-style-type: none"> <li>Was there consultation process (e.g. meetings) attended by contracted party?</li> <li>Were contents of the agreements explained to the contracting party?</li> <li>Were spouse and/or other dependents on the land of contracted party also consulted?</li> </ul>	<ul style="list-style-type: none"> <li>Collect and verify minutes of the meeting attended by the contracting party</li> <li>Collect and verify minutes of the meeting attended by the contracting party's spouse and/or other dependents</li> <li>Ask views of the contracting party during survey on these points.</li> </ul>
3	Voluntariness	<ul style="list-style-type: none"> <li>Did the contracted party sign agreement without any pressure?</li> <li>Did spouse and/or other dependents on the land of contracted party provide consent?</li> </ul>	<ul style="list-style-type: none"> <li>Ask views of the contracting party whether they signed agreement without any pressure.</li> <li>Check and verify in the agreement if it has been signed also by spouse and/or other dependents of the land of the contracting party</li> <li>Ask views of spouse and/or other dependents of the contracting party whether they provided their consent.</li> </ul>
4	Fairness/equity	<ul style="list-style-type: none"> <li>Is the rent equivalent to AAOV or market price?</li> <li>Are there provisions to adjust rent periodically</li> <li>Do the contracting party have access to grievance redress mechanism in case of any disputes?</li> <li>Has the contracted party received rents, etc. according to the contract? Cash or through banks?</li> </ul>	<ul style="list-style-type: none"> <li>Compare the rent with the AAOV of relevant village/town or market price (specify compared prices)</li> <li>Check in the agreement if there are clauses for periodic adjustment.</li> <li>Verify if there is a grievance redress mechanism</li> <li>Ask views of the contracting party during survey on these points.</li> </ul>
5	No adverse impacts	<ul style="list-style-type: none"> <li>Is the contracting party likely to suffer any adverse impacts (livelihoods, etc.?)</li> <li>Does the contract address any potential impacts?</li> </ul>	<ul style="list-style-type: none"> <li>Ask views of the contracting party during survey on these points.</li> <li>Calculate incomes of contracting party before and after land use contract (specify amounts)</li> <li>Assess any impacts from the contracts.</li> </ul>
6	written documentation	<ul style="list-style-type: none"> <li>Is the contracting party provided with a written contract?</li> <li>Is the contract in a simple language understandable to the contracting party?</li> </ul>	<ul style="list-style-type: none"> <li>Ask the contracting party during survey whether they have written copy</li> <li>Ask the contracting party during survey whether the contracts are understandable to them</li> </ul>
7	third-party verification	<ul style="list-style-type: none"> <li>Has the contracted verified/certified by a third-party?</li> <li>Is the contract copy available with the third-party?</li> </ul>	<ul style="list-style-type: none"> <li>Ask the contracting party whether the contract has been verified by a third party</li> <li>Verify with the third-party about the verification and whether they have kept records</li> </ul>
8	Legal and policy compliance	<ul style="list-style-type: none"> <li>Is the contract compliance with legal and policy compliance</li> </ul>	<ul style="list-style-type: none"> <li>Conclude based on examination whether the contract comply with local regulations</li> <li>Conclude whether contract complies with ADB policy and/or best practices on voluntary agreements.</li> </ul>

## APPENDIX 8: CONSULTATION AND PARTICIPATION PLAN

1. **Objectives.** While comprehensive consultation and participation (C&P) of stakeholders have been undertaken during the project preparation, this Consultation and Participation Plan (CPP) has been prepared for project implementation. The CPP provides both consultation activities as well as methods by which stakeholders could participate in project implementation. The purpose of the CPP is to further consolidate and continue consultation and participation of stakeholders throughout the project implementation phase. The objectives of CPP are to: (i) provide a systematic basis for consultation of stakeholder groups and to create a platform for them to participate during project implementation; (ii) present time-bound activities; and (iii) identify institutions and people responsible for implementation of C&P activities.
2. **Stakeholders.** The stakeholders identified and consulted during project preparation include: (i) Gansu Provincial Government (GPG) represented by its department of finance (DOF), development and reform committee (DRC) and GSSMCU/PMO; (ii) project county governments and their line agencies; (iii) subproject enterprises; (iv) user entities<sup>37</sup> of platforms to be developed by the project; (v) farmers who are or will be associated with the subproject enterprises through employments, land lease, contract farming, internet-plus based and socialized services; (vi) townships and villages where the project's production bases are located; etc.
3. **C&P methods.** The C&P methods in the CPP, also used during project preparation, include consultation meeting, focus group discussion (FGD), key informant interview and structured questionnaire survey. In addition, independent online C&P platform and/or C&P path on the project developed platform will be established and/or opened to further accomplish C&P.
4. **CPP.** The stakeholder consultation and participation are continuous processes that will be actively pursued during Project implementation. The consultation and participation activities will be focused on Project outputs, and the content, purpose and type of stakeholders to consult with will be output specific. The details of proposed C&P activities are presented in Table 1; while Annex 1 gives key elements, process and document points for C&P events.
5. **Implementation Arrangement.** The Project management office (PMO), on behalf of GSSMCU, will take the overall responsibility for implementation of this CPP; while subproject PIUs and county supply and marketing cooperatives (CSMCs) will lead the C&P activities in the respective counties. To effectively implement C&P activities, PMO already assigned a social officer and this officer will lead the project level implementation and documentation of CPP, as well as the implementation and reporting of SDAP, GAP and LURT framework. Each subproject PIU will assign a social (and environmental) focal staff before commencement of project implementation. These focal staffs will assist the social officer to implement and document CPP. Each focal staff will lead and document the C&P activities for his/her subproject.
6. **Capacity building.** The project will engage a national social specialist under the project implementation consultant. This specialist, once engaged, will provide necessary advice to and training of the social officer and focal staffs on implementation and documentation of CPP.
7. **Coordination with GRM.** The project and PIUs will establish and maintain a grievance redress mechanism (GRM) as an integral part of the EMP and LURTF. Any grievance issues that

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<sup>37</sup> These include commercial and service provision enterprises, government agencies, SMCs at county and township levels, village service stations associated with township SMSs.

are raised during C&P will be coordinated through the GRM process. The aggrieved persons will be informed of decisions through the GRM mechanism.

8. **Documentation.** Results of all C&P activities will be documented by PMO and PIUs. Annex 1 has given guidance for documentation of C&P events. Extracts from the documentations will provide inputs to the project progress reports or internal monitoring reports.

**Table A6.1: Consultation and Participation Plan**

<b>Output</b>	<b>Stakeholders</b>	<b>Purpose</b>	<b>Method</b>	<b>Time Period</b>	<b>Responsible agency</b>
Output 1: Comprehensive Information Service and Management Platform Developed	<ul style="list-style-type: none"> <li>• GPG</li> <li>• Project county governments</li> <li>• Subproject enterprises (PIUs)</li> <li>• Platform user entities</li> <li>• Platform user households</li> </ul>	<ul style="list-style-type: none"> <li>• Inform &amp; advertise project's service platform</li> <li>• Seek suggestions for improvement of platform design &amp; management</li> <li>• Share experiences and lessons</li> <li>• Assess training and other needs</li> <li>• Monitor and evaluate project and subprojects implementation</li> <li>• Monitor and evaluate EMP, GAP, SDAP and CPP implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation meetings in each project county</li> <li>• C&amp;P path on the project's platform</li> <li>• Online C&amp;P platform</li> <li>• Key informants' interviews</li> <li>• News conferences</li> </ul>	2019-2022	PMO CSMCs
Output 2: Agricultural Production, Processing, Storage, and Marketing Modernized;	<ul style="list-style-type: none"> <li>• County governments</li> <li>• Townships</li> <li>• Villages (including village WF)</li> <li>• Employees</li> <li>• Land transferee households</li> <li>• Contract farming households</li> </ul>	<ul style="list-style-type: none"> <li>• Disclose information on employment, safeguards policy, market, land lease, and others</li> <li>• Seek partnership with county and township governments and villages for featured agricultural production, poverty reduction and others</li> <li>• Facilitate land leasing, contract farming, labor recruitment, and etc.</li> <li>• Resolute conflicts through GRM</li> <li>• Assess training and other needs</li> <li>• Monitor and evaluate project and subproject implementation</li> <li>• Monitor and evaluate EMP, GAP, SDAP, CPP &amp; LURTF implementation</li> </ul>	<ul style="list-style-type: none"> <li>• County, village and enterprise level consultation meetings</li> <li>• Online C&amp;P platform</li> <li>• Village level FCDs</li> <li>• Key informants' interviews</li> <li>• Structured questionnaire survey</li> </ul>	2019-2023	PIUs, CSMCs Villages
Output 3: Capacity of GSSMCU improved	<ul style="list-style-type: none"> <li>• PIUs</li> <li>• CSMCs and TSMCs</li> <li>• VSCs</li> </ul>	<ul style="list-style-type: none"> <li>• Assess training and other needs</li> <li>• Monitor and evaluate project and subproject implementation</li> <li>• Monitor and evaluate EMP, GAP, SDAP and CPP implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation meeting of township SMC and village service stations—at least one township in each project county</li> <li>• FCDs among social focal points</li> <li>• Participation in C&amp;P activities under Outputs 1 and 2.</li> </ul>	PMO, CSMCs TSMCs	

CPP = Consultation and Participation Plan, CSMC = county supply and marketing cooperative; EMP = environment management plan, FCD = focus group discussion; GAP = gender action plan; GPG = Gansu Provincial Government; LURTF = land use right transfer framework; PIU = subproject implementation unit; PMO = project management office; SDAP = social development action plan; TSMC = township supply and marketing cooperative; VSC = village service station associated with TSMCs; WF = women's federation.

Source: Asian Development Bank.



## Attachment: Elements, Process and Documentation of C&P Events

### Three Elements of C&P Events

C&P events have to be prior-informed, inclusive and meaningful:

- (i) Prior-informed means relevant stakeholders should be informed of the event in advance. Such details as venue, time, purpose and who is expected to attend should be conveyed prior to the event.
- (ii) Inclusive means all stakeholders including vulnerable people (single/women-head HHs, elderly, ethnic minority people (if any), the poor, etc.) with a good balance of men and women should attend the event.
- (iii) Meaningful means seeking feedback from participants, involving them in decision making and ensuring their suggestions are integrated into project or subproject implementation process, as much as possible.

### C&P Process

A C&P event shall take place in the following sequence, but not limited to:

- (i) Introduction- facilitator (e.g., government officer, consultant, social officer or focal staff) introduces the project team whilst participants will be requested to introduce themselves.
- (ii) A specialist or the social officer or focal staff then explains to the participants clearly the purpose of intended C&P event.
- (iii) After explaining the purposes, the specialist (or social officer/focal staff) continues to brief project/subproject implementation status, follow-up actions of previous C&P events, if any.
- (iv) Ask for participants' feedback start discussions- Give them adequate time to discuss, raise their concerns, questions and issues. The relevant specialist of project team should answer questions or comments raised by participants. If any question cannot be answered, please inform them that they do not have the answer right now and assure to give them the answer within a reasonable time period.
- (v) The facilitator closes the discussions when there is not any issue.
- (vi) A project specialist then explains what will happen next and the time frame for such operations. Should emphasize that stakeholders' active participation during the implementation is vital for project sustainability.
- (vii) The facilitator closes the event and thanks participants for their presence and contributions.

### Key Points for Documentation

Once the C&P event started, one assigned person shall take notes regarding what were discussed, questions raised and answers given, feedback received and what were agreed to or disagreed to, proposed follow-ups, and etc. After a C&P event, following documents/notes should be produced with a hard copy stored in project file:

- Date, time and venue
- List of participants– name, sex, position, contact details including phone number (if voluntarily provided by participants) and the signature.
- Minutes or notes – this should include what was discussed, comments and feedback provided, answers given by team and any agreements reached.
- Photographs- several high-quality photos of the entire process
- Copies of other printed materials used/disclosed, if any

## **APPENDIX 9: TEMPLATE FOR PMO PROJECT PROGRESS REPORT**

### **A. Introduction and Basic Data**

1. Provide the following:

- (i) ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- (ii) Total estimated project cost and financing plan;
- (iii) Status of project financing including availability of counterpart funds;
- (iv) Dates of approval, signing, and effectiveness of ADB loan;
- (v) Original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- (vi) Date of last ADB review mission.

### **B. Utilization of Funds (ADB Loan, and Counterpart Funds)**

2. Provide the following:

- (i) Cumulative contract awards financed by the ADB loan and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- (ii) Cumulative disbursements from the ADB loan and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- (iii) Re-estimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

### **C. Project Purpose**

3. Provide the following:

- (i) Status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- (ii) An assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- (iii) An assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- (iv) Other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

### **D. Implementation Progress**

4. Provide the following:

- (i) Assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO or PIU;
- (ii) Information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;

- (iii) Progress or achievements in implementation since the last progress report;
- (iv) Assessment of the progress of each project component, such as,
  - a. recruitment of consultants and their performance;
  - b. procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - c. the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- (v) Assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the project progress including examples are shown in Appendix 2); and
- (vi) An assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

#### **E. Compliance with Covenants**

5. Provide the following:

- (i) The borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- (ii) The borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- (iii) The borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

#### **F. Major Project Issues and Problems**

6. Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).