



# Report and Recommendation of the President to the Board of Directors

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Project Number: 50393-002  
September 2019

## Proposed Loan People's Republic of China: Gansu Internet-Plus Agriculture Development Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 16 August 2019)

Currency unit	–	yuan (CNY)		
CNY1.00	=	\$0.1421	or	€0.1282
\$1.00	=	CNY7.0391	or	€0.9023
€1.00	=	CNY7.8009	or	\$1.1082

## ABBREVIATIONS

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
GAP	–	gender action plan
GPG	–	Gansu Provincial Government
GSSMCU	–	Gansu Supply and Marketing Cooperatives Union
ICT	–	information and communication technology
IOT	–	internet-of-things
IEE	–	initial environmental examination
LURT	–	land use right transfer
PAM	–	project administration manual
PIU	–	project implementation unit
PRC	–	People's Republic of China

## NOTE

In this report, “\$” refers to United States dollars.

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## PROJECT AT A GLANCE

1. Basic Data		Project Number: 50393-002	
Project Name	Gansu Internet-Plus Agriculture Development Project	Department /Division	EARD/EAER
Country Borrower	China, People's Republic of People's Republic of China	Executing Agency	Gansu Provincial Government
2. Sector	Subsector(s)	ADB Financing (\$ million)	
Agriculture, natural resources and rural development	Agricultural production	20.00	
	Agro-industry, marketing, and trade	20.77	
	Rural market infrastructure	40.00	
	Information and communication technology	ICT industries and ICT-enabled services	15.00
	ICT infrastructure	35.00	
		Total	130.77
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	CO2 reduction (tons per annum)	68,549
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	Medium
		ADB Financing	
		Adaptation (\$ million)	73.22
		Mitigation (\$ million)	19.51
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas	Effective gender mainstreaming (EGM)	
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Rural	High
Household Targeting	No		
General Intervention on Poverty	No		
SDG Targeting	Yes		
SDG Goals	SDG2, SDG5, SDG10, SDG12, SDG13		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B	Involuntary Resettlement: C	Indigenous Peoples: C
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		130.77	
Sovereign Project (Regular Loan): Ordinary capital resources		130.77	
Cofinancing		0.00	
None		0.00	
Counterpart		50.40	
Government		0.04	
Others		50.36	
Total		181.17	
Currency of ADB Financing: EUR			



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the People's Republic of China (PRC) for the Gansu Internet-Plus Agriculture Development Project.

2. The project will promote social and economic inclusion and sustainable livelihoods of poor people and vulnerable groups by providing an agriculture service system, information technology for value chains, and information support to areas where rural poverty is still endemic. The main beneficiaries of the project will be members of cooperatives, small and medium-sized enterprises, and contracted farmers in the seven prefectures that comprise the project area: Baiyin, Dingxi, Jiuquan, Lanzhou, Tianshui, Wuwei, and Zhangye. The project will include design features to ensure that farmers have access to high-value e-commerce markets and thereby increase their income.

## II. THE PROJECT

### A. Rationale

3. Agricultural production and rural livelihoods have lagged behind industrial production and urban livelihoods in the 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.

4. 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.

5. 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

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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.

\$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>

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

7. 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.

8. 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.

9. **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

<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.

<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.



growth in rural areas, which is contributing to structural reforms towards increased quality and market orientation of the agricultural supply chain.

10. **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 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).

11. **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

12. 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

13. **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

<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.

<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 Appendix 1.

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.

**14. 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 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.

**15. 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.

**16. 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.

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<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 of the project administration manual 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.

17. **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.

## D. Summary Cost Estimates and Financing Plan

18. The project is estimated to cost €163.48 million (Table 1).

19. Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).<sup>15</sup>

**Table 1: Summary Cost Estimates**  
(€ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Comprehensive information service and management platform developed	41.15
2. Agricultural production, processing, storage, and marketing modernized	104.70
3. Capacity of Gansu Supply and Marketing Cooperatives Union improved	1.34
<b>Subtotal (A)</b>	<b>147.20</b>
<b>B. Contingencies<sup>c</sup></b>	<b>11.95</b>
<b>C. Financial Charges During Implementation<sup>d</sup></b>	<b>4.33</b>
<b>Total (A+B+C)</b>	<b>163.48</b>

<sup>a</sup> Includes taxes and duties of €11.7 million. Such amount does not represent an excessive share of the project costs. The participating enterprises will finance taxes and duties of €3.3 million equivalent by cash contribution and the Asian Development Bank will finance the remaining €8.4 million. The government is not financing any taxes and duties.

<sup>b</sup> In early-2019 prices as of 5 March 2019.

<sup>c</sup> Physical contingencies computed at 0% for consulting services and 5% on all other base costs. Price contingencies computed at an average of 1.5% on foreign exchange costs and 2.3% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ordinary capital resources loan has been computed at the 5-year euro swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.0%. Commitment charges for the ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

20. The government 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 straight-line method, the average maturity is 10.25 years, and there is no maturity premium payable to ADB.

21. The summary financing plan is in Table 2. ADB 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

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

<sup>15</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

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 the GSSMCU (output 3), and ensure that counterpart funds for the project are provided.

**Table 2: Summary Financing Plan**

Source	Amount (€ million)	Share of Total (%)
Asian Development Bank	118.00	72.18
Participating enterprises	45.44	27.80
Provincial government <sup>a</sup>	0.03	0.02
<b>Total</b>	<b>163.48</b>	<b>100.00</b>

<sup>a</sup> Provincial government invested into setting up the enabling environment for internet-plus agriculture and requested the participating enterprises to make counterpart financing available for this specific project.  
Source: Asian Development Bank estimates.

22. 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>16</sup>

## E. Implementation Arrangements

23. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 15).

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	October 2019–September 2025		
Estimated completion date	30 September 2025		
Estimated loan closing date	31 March 2026		
Management			
(i) Oversight body	Gansu Provincial Foreign Debt Management Committee will be the project leading group.		
(ii) Executing agency	Gansu Provincial Government represented by the Gansu Provincial Finance Department		
(iii) Key implementing agency	Gansu Supply and Marketing Cooperatives Union		
(iv) Implementation unit	Seven participating enterprises in Baiyin, Lanzhou, Tianshui, Wuwei, and Zhangye prefectures in Gansu province; 652 existing staff and 1,745 new staff proposed		
Procurement	Open competitive bidding	39 contracts	€113.893 million
	Request for quotation	9 contracts	€0.764 million
Consulting services	Individual consultant selection	9 person-months	€70,382
	Quality- and cost-based selection	148 person-months	€1.273 million
Retroactive financing and/or advance contracting	Five contracts with an estimated value of €31.237 million will likely be awarded in advance contracting, while an estimated ceiling of 20% of the total loan amount will likely be retroactive financing.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank.  
Source: ADB estimates.

<sup>16</sup> Details are in the Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

### III. DUE DILIGENCE

#### A. Technical

24. The implementing agencies' domestic feasibility studies are technically sound, meet international standards, and provide sufficient information on the design's feasibility. Licensed domestic design institutes prepared all project components. The domestic feasibility studies include varied degrees of adoption of agriculture internet-plus ecosystems, such as IOT, big data systems, cloud technology architecture including internet connectivity, and e-commerce platform solutions across the subprojects. The project team can choose and adopt the internet-plus agriculture technologies appropriate for each subproject. This federated approach is a process innovation. The feasibility study also proposes centralized capacity building and institutional support activities by the GPG to sustain the federated adoption of internet-plus in the project. The implementation requirement factored in a total cost of ownership approach to include maintenance and operations dimensions.

#### B. Economic and Financial

25. The economic analysis indicated that the overall project is *economically viable*, with an economic internal rate of return (EIRR) of 20.4% and an economic net present value of CNY1.2 billion. The analysis also confirmed the economic viability of output 1 with an EIRR of 17.2% and output 2 with an EIRR of 21.8%, and of the seven subprojects. Sensitivity analysis indicated that the project is robust to negative scenarios examined, such as an increase in investment costs, reduction of benefits, and increase in operation and maintenance cost. The financial analysis included financial evaluations of the subprojects and financial statements analyses of the PIUs to determine the financial viability and financial sustainability of all the subprojects. The financial evaluations reveal that the financial internal rate of return of each subproject exceeds the weighted cost of capital, indicating that the overall project is financially viable. Sensitivity analysis indicated that the project remains financially viable when it is influenced by adverse changes in key quantifiable variables. The financial statements analyses demonstrate that the PIUs have adequate financial capacity to cover the incremental recurrent costs for operation and maintenance for all the subprojects. The project is considered *financially sustainable*.

#### C. Governance

26. The financial management assessment was conducted in accordance with ADB's Technical Guidance Note for Financial Management Assessment.<sup>17</sup> The financial management assessment assessed the financial management capacity of the GSSMCU, the project implementing agency, and the seven PIUs. The assessment confirmed that the project implementing agency and all the PIUs have adequate financial management systems and procedures in place to implement the project efficiently. The financial management risk is rated *moderate*. Given that the project implementing agency and the seven subproject implementing units are less familiar with ADB loan proceeds disbursement requirements and procedures, training activities will be required to further improve project implementation efficiency. The procurement risk assessment confirmed that the implementing agency, which will manage and monitor all procurements conducted by PIUs through a procurement agency, with the assistance of ADB and the consultants, have adequate procurement capacity to facilitate full compliance with the ADB Procurement Policy (2017, as amended from time to time) and ADB's Procurement Regulations for ADB Borrowers (2017, as amended from time to time). ADB's Anticorruption Policy (1998, as amended) was explained to and

<sup>17</sup> ADB. 2009. *Financial Due Diligence: A Methodology Note*. Manila.

discussed with the GSSMCU and PIUs. The specific policy requirements and supplementary measures are described in the PAM (footnote 15).

#### **D. Poverty, Social, and Gender**

27. **Poverty and social.** ADB prepared the poverty and social analysis 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 total 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 as internet-based service platform users. Among the beneficiary households, 30% are poor and low-income households that will benefit from local employment and other socioeconomic opportunities. The farmers will benefit from working or cooperating with agricultural 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, and supply and marketing cooperatives in the counties and towns. ADB prepared a social development action plan based on the poverty and social analysis, with specific targets for the poor and low-income people. ADB conducted consultations with the farmers and stakeholders during the project preparation and included in the PAM a consultation and participation plan for the project implementation stage.

28. **Gender.** The project is classified *effective gender mainstreaming*. Women are involved in agricultural and household work, and most are primarily engaged in labor-intensive farming and have low incomes. Women have less knowledge of agricultural technology, fewer job opportunities, and much lower involvement in decision making than men. The project is expected to benefit women significantly, as the majority of the employment and training opportunities will be provided to women. ADB prepared a gender action plan (GAP) based on gender analyses to ensure that the project contributes to improved gender equality.<sup>18</sup> The GAP includes the following key measures and targets for women: (i) 10,000 women trained to access project information, agricultural inputs, and other online services; (ii) 30 female specialists included in the technical teams; (iii) a total of 10,456 employment opportunities made available for women by the project enterprises; (iv) capacity building and training for 10,456 women conducted on employment and labor skills; (v) consultation facilitated with women in contract farming and land leasing (50% women); (vi) women's involvement ensured in consultation and participation for implementation of project's social aspects (50% women); and (vii) sex-disaggregated data collected for monitoring the GAP and other relevant measures. ADB also included key gender targets in the design and monitoring framework.

#### **E. Safeguards**

29. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.<sup>19</sup>

30. **Environment (category B).** The project team prepared an initial environmental examination (IEE) report, including an environmental management plan (EMP), and it follows ADB's Safeguard

<sup>18</sup> Details are in the Gender Action Plan (accessible from the list of linked documents in Appendix 2).

<sup>19</sup> ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>.

Policy Statement.<sup>20</sup> The project team will base the IEE and EMP on the approved domestic feasibility study and environmental assessment reports, site visits, and stakeholder consultations. Consultations included affected people and local government agencies, and the outcomes have been integrated in the project design. The draft IEE was disclosed on ADB's website. The GPG, through the project management office, will be responsible for implementation and compliance with the EMP, including inspection, monitoring, reporting, and initiating corrective actions or measures. The implementing agencies have no prior experience of ADB safeguard procedures, and loan implementation consultants and a capacity building program are included in the project design.

31. The project is expected to contribute to environmental improvement, including (i) conserved water resources through improved farming efficiency, soil moisture monitoring, and crop selection; and (ii) reduced pollution of soil and water through efficient use of agricultural chemicals. Construction risks include short-term impacts such as noise and dust. Operational risks include the unsustainable use of water resources and increased use of fertilizers and pesticides. Water balance assessments have confirmed that the project water use is within the capacity of sources. Mitigation measures are described in the EMP.

32. **Involuntary resettlement (category C).** The project does not involve involuntary land acquisition and resettlement impacts. The PIUs will use 5,114.5 *mu* of state-owned land for the construction of agricultural processing or logistics facilities.<sup>21</sup>

33. **Land leasing.** For agriculture production purposes, the PIUs will use collective-owned land leased through the voluntary land use right transfer (LURT) process. The LURT process is a land leasing arrangement and will not change the ownership of collective-owned land. PIUs will use a total of 66,240.4 *mu* of collective lands (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 technical assistance implementation and it was concluded that the LURT agreements were conducted in a voluntary, transparent, and fair manner and that relevant principles of voluntary land leases had been followed.<sup>22</sup> For the LURT agreements that will be finalized after the project approval, an LURT framework has been prepared providing necessary guidance on principles and procedures to be followed during the project implementation. With the help of loan implementation consultants, the executing and implementing agencies will internally monitor the implementation of the 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.

34. **Indigenous peoples (category C).** The project will not impact any distinct and vulnerable ethnic minority communities that would trigger requirements on indigenous peoples under ADB's Safeguard Policy Statement.

35. **Capacity for implementation and monitoring of social and gender measures.** The GPG has experience in implementing ADB projects, including an ADB-financed agriculture

<sup>20</sup> ADB's Safeguard Policy Statement (2009) is available both in English and Chinese (<http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf> and <http://www.adb.org/Documents/Translations/Chinese/Safeguard-Policy-Statement-cn.pdf>)

<sup>21</sup> A *mu* is a Chinese unit of measurement (1 *mu* = 666.67 square meters or 0.067 hectares).

<sup>22</sup> The LURT principles include that agreements follow legal procedures; contracting parties are informed and consulted; agreements are voluntary; farmers or lessors benefit from lease payment and other benefits, such as employment; and the lessors will not be adversely impacted. The same principles will also apply to house renting.



project. However, the GSSMCU and PIUs do not have experience in implementing ADB projects. To implement social and gender measures properly, (i) the GSSMCU and the PIUs will appoint a social and gender focal person; and (ii) the loan implementation consultant will include a social and gender consultant to provide training and capacity building to the focal staff for implementing, monitoring, and reporting social and gender measures including the GAP, social development action plan, and LURT framework.

## **F. Summary of Risk Assessment and Risk Management Plan**

36. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>23</sup>

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigation Measures</b>
Disputes between PIUs and affected farmers.	Project design based on maximizing collaboration between PIUs and farmers.

PIU = project implementation unit.  
Source: Asian Development Bank.

## **IV. ASSURANCES**

37. The government and the GPG have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

38. The government and the GPG have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement and project agreement.

## **V. RECOMMENDATION**

39. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of €118,000,000 to the People's Republic of China for the Gansu Internet-Plus Agriculture Development Project, from ADB's ordinary capital resources, in regular terms, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 15 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao  
President

2 September 2019

<sup>23</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).



## 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% women and 30% poor and low-income households (2019 baseline: 0)	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 weather events than projected

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
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> <p>3b. 100 GSSMCU staff report improved skills in precision agriculture, of which 30% are women (2019 baseline: 0)</p>	3a–3b. Results of participants survey	

**Key Activities with Milestones****1. Comprehensive information service and management platform developed**

- 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)

**2. Agricultural production, processing, storage, and marketing modernized**

- 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)

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

- 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)

**Project Management Activities**

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)

**Inputs**

ADB:	€118,000,000
Participating enterprises	€45,440,000
Government:	€30,000

**Assumptions for Partner Financing**

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.

### **LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=50393-002-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Agriculture, Natural Resources, and Rural Development; and Information and Communication Technology
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Risk Assessment and Risk Management Plan
12. Climate Change Assessment
13. Gender Action Plan
14. Initial Environmental Examination

### **Supplementary Documents**

15. Financial Management Assessment
16. Procurement Risk Assessment
17. Project Innovation and Knowledge Dissemination
18. Strategic Procurement Planning