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R2017-0254/1

November 28, 2017

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**Closing Date: Friday, December 15, 2017  
at 6 p.m.**

FROM: Vice President and Corporate Secretary

**China - Jiangxi Farm Produce Distribution System Development Project**

**Project Appraisal Document**

Attached is the Project Appraisal Document regarding a proposed loan to China for a Jiangxi Farm Produce Distribution System Development Project (R2017-0254) which is being processed on an absence-of-objection basis.

Distribution:

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Report No: PAD1714

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$150 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

JIANGXI FARM PRODUCE DISTRIBUTION SYSTEM DEVELOPMENT PROJECT

November 22, 2017

Agriculture Global Practice  
East Asia and Pacific Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective January 12, 2017)

Currency Unit = Renminbi (RMB)  
RMB 1.00 = US\$0.14  
US\$ 1.00 = RMB 6.94

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

BP	Bank Procedure
CBRC	China Banking Regulatory Commission
COSC	County Operations and Service Center
CQS	Selection based on Consultant's Qualifications
DA	Designated Account
DC	Direct Contracting
DOA	Department of Agriculture, Jiangxi Province
DOF	Department of Finance, Jiangxi Province
EA	Environmental Assessment
ECOP	Environmental Code of Practice
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ERR	Economic Rate of Return
FBS	Fixed Budget Selection
FM	Financial Management
FMM	Financial Management Manual
FRR	Financial Rate of Return
FYP	Five-Year Plan
GRS	Grievance Redress Service
IBRD	International Bank for Reconstruction and Development
IA	Implementing Agency
IC	Individual Consultant Selection Procedure
ICB	International Competitive Bidding
ICT	Information and Communication Technology
IFI	International Financial Institution
IPF	Investment Project Financing
IPM	Integrated Pest Management
JRCB	Jiangxi Rural Commercial Bank
JPAO	Jiangxi Provincial Audit Office
LCS	Least Cost Selection
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MOA	Ministry of Agriculture

MOC	Ministry of Commerce
MOF	Ministry of Finance
NCB	National Competitive Bidding
NDRC	National Development and Reform Commission
Nongxintong	Nongxintong Science and Technology Company
NPL	Non-performing Loan
OP	Operational Policy
PDO	Project Development Objective
PIM	Project Implementation Manual
PLG	Project Leading Group
PMO	Project Management Office
PMP	Pest Management Plan
PSC	Project Steering Committee
QBS	Quality Based Selection
QCBS	Quality and Cost Based Selection
RMB	Renminbi, Currency of China
RPF	Resettlement Policy Framework
SA	Social Assessment
SOE	Statement of Expenditures
TEG	Technical Expert Group
VFIH	Village Farmer Information Hub
WA	Withdrawal Application
WB	World Bank

Regional Vice President:	Victoria Kwakwa, EAPVP
Country Director:	Bert Hofman, EACCF
Senior Global Practice Director:	Juergen Voegele, GFADR
Practice Manager:	Nathan M. Belete, GFA02
Task Team Leader:	Xiaolan Wang, GSU13

**CHINA**  
**Jiangxi Farm Produce Distribution System Development Project**

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## PAD DATA SHEET

*China*

*Jiangxi Farm Produce Distribution System Development (P147009)*

### PROJECT APPRAISAL DOCUMENT

*EAST ASIA AND PACIFIC*

*0000009239*

Report No.: PAD1714

Basic Information			
Project ID P147009	EA Category B - Partial Assessment	Team Leader(s) Xiaolan Wang	
Financing Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date 15-Dec-2017	Project Implementation End Date 30-Jun-2023		
Expected Effectiveness Date 01-Mar-2018	Expected Closing Date 31-Dec-2023		
Joint IFC No			
Practice Manager/Manager Nathan M. Belete	Senior Global Practice Director Juergen Voegele	Country Director Bert Hofman	Regional Vice President Victoria Kwakwa
Borrower: People's Republic of China			
Responsible Agency: Jiangxi Provincial Rural Social Development Bureau within Jiangxi Provincial Department of Agricultural			
Contact: Telephone No.:	Mr. Chen Longxiang 079186213269	Title: Email:	Director chenlongxiang@jxagri.gov.cn
Project Financing Data (in USD Million)			
[ X ] Loan	[ ] IDA Grant	[ ] Guarantee	
[ ] Credit	[ ] Grant	[ ] Other	
Total Project Cost:	198.28	Total Bank Financing:	150.00
Financing Gap:	0.00		

<b>Financing Source</b>	<b>Amount</b>
Borrower	48.28
International Bank for Reconstruction and Development	150.00
<b>Total</b>	<b>198.28</b>

#### **Expected Disbursements (in USD Million)**

Fiscal Year	2018	2019	2020	2021	2022	2023	2024	0000	0000	0000
Annual	1.00	6.00	20.00	30.00	40.00	40.00	13.00	0.00	0.00	0.00
Cumulative	1.00	7.00	27.00	57.00	97.00	137.00	150.00	0.00	0.00	0.00

#### **Institutional Data**

##### **Practice Area (Lead)**

Agriculture

##### **Contributing Practice Areas**

##### **Proposed Development Objective(s)**

The Project Development Objective (PDO) is to improve the distribution systems of selected farm products in participating counties of Jiangxi.

##### **Components**

<b>Component Name</b>	<b>Cost (USD Millions)</b>
Component 1: Strengthening production logistics	38.46
Component 2: Improving Distribution Logistics	96.06
Component 3: Support Services for the Whole Distribution System	0.45
Component 4: Project Management, Monitoring and Evaluation	1.08

##### **Systematic Operations Risk- Rating Tool (SORT)**

<b>Risk Category</b>	<b>Rating</b>
1. Political and Governance	Low
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Moderate

7. Environment and Social	Moderate		
8. Stakeholders	Moderate		
9. Other			
<b>OVERALL</b>	Substantial		
<b>Compliance</b>			
<b>Policy</b>			
Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [ X ]		
Does the project require any waivers of Bank policies?	Yes [ ] No [ X ]		
Have these been approved by Bank management?	Yes [ ] No [ ]		
Is approval for any policy waiver sought from the Board?	Yes [ ] No [ X ]		
Does the project meet the Regional criteria for readiness for implementation?	Yes [ X ] No [ ]		
<b>Safeguard Policies Triggered by the Project</b>			
	<b>Yes</b>	<b>No</b>	
Environmental Assessment OP/BP 4.01	<b>X</b>		
Natural Habitats OP/BP 4.04		<b>X</b>	
Forests OP/BP 4.36		<b>X</b>	
Pest Management OP 4.09	<b>X</b>		
Physical Cultural Resources OP/BP 4.11		<b>X</b>	
Indigenous Peoples OP/BP 4.10		<b>X</b>	
Involuntary Resettlement OP/BP 4.12	<b>X</b>		
Safety of Dams OP/BP 4.37		<b>X</b>	
Projects on International Waterways OP/BP 7.50		<b>X</b>	
Projects in Disputed Areas OP/BP 7.60		<b>X</b>	
<b>Legal Covenants</b>			
<b>Name</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Institutional Arrangements, Section I(A) of the Schedule to the Project Agreement	<b>X</b>		CONTINUOUS
<b>Description of Covenant</b>			
Jiangxi maintains a Provincial Steering Committee, a PPMO at the provincial level and a Project Leading Group, a PMO at each of its eight Project counties.			
<b>Name</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Annual Work Plans, Section I(B) 1 of the Schedule to the Project Agreement	<b>X</b>		Yearly
<b>Description of Covenant</b>			

Jiangxi prepares, submits a draft Annual Work Plan for Bank review by October 31 in each year, and ensures Project implementation in accordance with the Annual Work Plans agreed with the Bank and in a manner satisfactory to the Bank. Amendments to the Annual Work Plans require prior written agreement of the Bank.

Name	Recurrent	Due Date	Frequency
Project Implementation Manual, Section I(B) 2 of the Schedule, Project Agreement	X		CONTINUOUS

**Description of Covenant**  
 Jiangxi applies the Project Implementation Manual throughout Project implementation in a timely and efficient manner satisfactory to the Bank. Amendments to the Project Implementation Manual require prior written agreement of the Bank.

Name	Recurrent	Due Date	Frequency
Safeguards, Section I (C) of the Schedule to the Project Agreement	X		CONTINUOUS

**Description of Covenant**  
 Jiangxi carries out Project activities in accordance with the provisions of the Safeguards Instruments. Amendments to any of these Safeguards Instruments require prior written agreement of the Bank.

Name	Recurrent	Due Date	Frequency
Sub-grants, Section I (E) of Schedule to the Project Agreement	X		CONTINUOUS

**Description of Covenant**  
 Jiangxi provides sub-grants in accordance with eligibility criteria and procedures acceptable to the Bank and under a Sub-Grant Agreement on terms and conditions approved by the Bank. Amendments to any Sub-Grant Agreement require agreement of the Borrower and the Bank.

Name	Recurrent	Due Date	Frequency
Risk-sharing Transfers, Section I (F) of Schedule to the Project Agreement	X		CONTINUOUS

**Description of Covenant**  
 Jiangxi enters into a Risk Sharing Agreement with JRCSB, and Implementation Agreement with the eligible beneficiaries. Amendments to any Risk Sharing Agreement or the Implementation Agreement require agreement of the Borrower and the Bank.

Name	Recurrent	Due Date	Frequency
Mid-term review, Section II.2 of the Schedule to the Project Agreement		31-Aug-2020	

**Description of Covenant**  
 Jiangxi furnishes to the Bank a mid-term review report for the Project, summarizing the result of the monitoring and evaluation activities carried out from the inception of the Project, and setting out the measures recommended to ensure the efficient completion of the Project and the achievement of the objectives thereof during the period following such data.

**Conditions**

Source of Fund	Name	Type		
IBRD	Risk Sharing Manual, Section IV.B.1(b) of Schedule 2 to the Loan Agreement	Disbursement		
<b>Description of Condition</b>				
Jiangxi has adopted and incorporated in the PIM, the Risk-sharing Manual, in form and substance acceptable to the Bank.				
<b>Team Composition</b>				
<b>Bank Staff</b>				
Name	Role	Title	Specialization	Unit
Xiaolan Wang	Team Leader (ADM Responsible)	Senior Operations Officer	Team leader/Financial sector related aspect	GSU13
Yunlong Liu	Procurement Specialist (ADM Responsible)	Procurement Specialist	Project procurement	GGO08
Yi Dong	Financial Management Specialist	Sr Financial Management Specialist	Project financial management	GGO20
Aristeidis I. Panou	Counsel	Counsel	Project lawyer	LEGES
Feng Ji	Environmental Safeguards Specialist	Senior Environmental Specialist	Safeguard (environment)	GEN2A
Garo J. Batmanian	Team Member	Lead Environment Specialist	Ex-task team leader	GENGE
Meixiang Zhou	Social Safeguards Specialist	Social Development Specialist	Safeguard (social)	GSU02
Paavo Eliste	Team Member	Lead Agriculture Economist	Agriculture GP coordinator	GFA02
Yunqing Tian	Team Member	Program Assistant	Operations support	EACCF
Zhuo Yu	Team Member	Finance Officer	Project disbursement	WFALN
<b>Extended Team</b>				
Name	Title	Office Phone	Location	
Bruce Trangmar	Sr. Agricultural Specialist, Consultant			
Jun Zhao	Rural Development Specialist			

Weiguo Zhou		Agricultural Economist			Washington DC
<b>Locations</b>					
<b>Country</b>	<b>First Administrative Division</b>	<b>Location</b>	<b>Planned</b>	<b>Actual</b>	<b>Comments</b>
China	Jiangxi Sheng	Pengze	<b>X</b>		
China	Jiangxi Sheng	Anyuan	<b>X</b>		
China	Jiangxi Sheng	Jing'an	<b>X</b>		
China	Jiangxi Sheng	Yushan	<b>X</b>		
China	Jiangxi Sheng	Huichang	<b>X</b>		
China	Jiangxi Sheng	Jiujiang	<b>X</b>		Economic Development District of Jiujiang
China	Jiangxi Sheng	Longnan	<b>X</b>		
China	Jiangxi Sheng	Taihe	<b>X</b>		
<b>Consultants (Will be disclosed in the Monthly Operational Summary)</b>					
Consultants Required? Consulting services to be determined					



## I. STRATEGIC CONTEXT

### A. Country Context

1. With an estimated population of 1.4 billion in 2015, China has experienced an average real GDP growth of about 9.7 percent per annum from 1978 to 2015<sup>1</sup>. Since the early 1980's, China has been shifting towards a market-based economy, resulting in rapid economic and social transformations that have lifted more than 800 million people out of poverty.<sup>2</sup> In 2015, China's GDP was estimated at close to US\$11 trillion, making it the second largest economy in the world. China achieved all the Millennium Development Goals (MDGs) by 2015 and made a major contribution to the achievement of the MDGs globally.

2. Despite significant economic and social accomplishments and rapid development of produce markets in China, farm produce logistics remain a bottleneck for an efficient farm produce distribution, which in turn hindered producers' potential for more efficient production and improved income. Poor market locations; inadequate physical infrastructure; poor market information services; outmoded transaction processes; and poor market management skills were identified as major constraints in the Ministry of Agriculture's (MOA) "*Outline on the National Agricultural Origin Market Development*" (May 2015).

3. Recognizing the challenges, the Chinese government drafted various policy notes<sup>3</sup> and has endeavored to develop modern, more effective farm produce distribution systems to improve agriculture competitiveness, and meet key objectives related to consumer welfare, rural development, and farm incomes. A State Council policy on the "*Transformative Change of Agricultural Development*" (July 30, 2015), called for "the creation of new types of agricultural marketing services; a strengthening of national and regional wholesale market development; supporting e-commerce in rural areas; and encouraging farmer cooperatives to be engaged in agricultural processing". The MOA's "*Outline on the National Agricultural Origin Market Development*" called on local authorities to address these issues, to promote brand building of local produce, and integrate physical markets more with e-commerce. The Outline also stressed the importance to improve the distribution system from post harvesting handling to the market. Both National and Jiangxi Provincial 13<sup>th</sup> Five Year Plans (FYP, 2016-2020) also prioritized agricultural produce distribution.

### B. Sectoral and Institutional Context

4. Jiangxi province accounts for only 2.3 percent of China's farmland, but makes a

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<sup>1</sup> Data from National Data published by National Bureau of Statistics of China.

<sup>2</sup> WBG External Website: Country Data.

<sup>3</sup> "Guidance on Accelerating Distribution Innovation for Fresh and Live Agricultural Products" (2012) by Ministry of Commerce (MOC); "Guidance on Strengthening Development of Distribution System for Fresh and Live Agricultural Products" (2012) by State Council's General Office; "Guidance on Deepening Distribution System Reform and Accelerating Distribution Sector Development" (2012) by the State Council; "Notice on Comprehensive Demonstration of Village E-commerce" (2014) by MOF, MOC; "Guidance on Further Strengthening Development of Market System for Agricultural Products" (2014) by MOC and 12 other ministries; Document #1 (2016) by the CPC Central Committee and the State Council; "Guidance on Strengthening Development of Public Goods Oriented Market System for Agricultural Products" (2016) by MOC and 11 other ministries.

disproportionate contribution to the country's food security and domestic food market through its sale of about 6 million tons of grain, 12 million head of pigs and 1.3 million tons of fish to other parts of the country. The agricultural sector represents 13.8 percent of Jiangxi's GDP yet involves 54.3 percent of its population. Jiangxi is still a low-income province. Its increased agro-food surplus has not translated into higher regional economic growth or major income growth among farmers. The average income among Jiangxi's 35.3 million farmers is one of the lowest in the country, with 5.8 percent of farm households living below the national poverty line<sup>4</sup>.

5. Jiangxi is well located geographically close to the major urban markets of Shanghai, Guangzhou and Hong Kong SAR, China with well-developed transportation routes by road, air and the Yangtze River. There is potential for growth through accessing these high value urban markets, if bottlenecks in the distribution system can be minimized. The demand from these high value urban markets also has the potential to drive the transition from low value and low quality products to higher value and higher quality products, and the use of information technology for buying and selling agro-products.

6. Jiangxi is also one of China's important cotton producing and textile industry bases. Contrary to a general declining trend in total cotton production and cotton growing area 2007 in China since 2007 driven by increasing cost of production and scarcity of land, both cotton production and cotton growing area in Jiangxi increased during the same period. While production of cotton yarn in China increased by about 75 percent from 2007 to 2013, the increase was almost tripled (over 295 percent) in Jiangxi. Pengze county is a historically key cotton county in Jiangxi in terms of growing acreage, total production, processing capacity, and geographic location for distribution. While both total cotton production and cotton growing area in Pengze have experienced a decline since 2007 (by 4 percent and 16 percent respectively), cotton yarn production increased dramatically by more than 320 percent. As such, demand for cotton is expected to continue to grow in the foreseeable future in Jiangxi (in particular Pengze and surrounding cluster counties) as the textile industry and related service sectors are already moving, from coastal provinces due to increasing cost and shortages of labor, to provinces such as Jiangxi with comparative advantages (e.g. traditional textile industrial base, skilled labor with relatively lower cost). While Jiangxi produces an annual average of 134,000 ton of lint cotton, the annual circulation through Pengze reaches about 500,000 ton. With only 20,000 ton of current storage capability without a modernized cotton trading market/distribution center, services to cotton farmers, regional textile industry and users along the lower reach of Yangtze River have been seriously restrained. Expanding cotton storage capacity in Pengze is an integral part of the national strategy for cotton distribution network<sup>5</sup>.

7. At present, about 70 percent of Jiangxi's agricultural commodities and raw materials are channeled typically through two to four intermediaries between farm-gate and the end-users. The result of these distribution chains, which are not closely coordinated, has generally been low farm-gate prices, little incentive for farmers to improve product quality, and low levels of food

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<sup>4</sup> Defined in 2011 as annual *per capita* income of RMB2300.

<sup>5</sup> Construction of a 200,000 ton of cotton storage capacity in Jiujiang region was specified in the "Modern Cotton Logistics Development Plan" (2014) jointly issued by the National Development and Reform Commission (NDRC) and All China Federation of Supply and Marketing Cooperatives in December 2014.

hygiene. Factors and gaps contributing to this have included:

- (a) Inefficient wholesale markets. In Jiangxi, about 90 percent of wholesale markets do not have refrigeration and nearly half do not have equipment and systems to monitor food quality and safety. They usually provide limited market information to farmers and traders. These markets tend to be far from key producing areas, giving rise to the multiple handling. Market buyers and sellers are generally unregulated. The markets' locations and physical design, together with their weak management have often resulted in patterns of congestion and the overflow of produce onto side-streets and pavements, thus contributing to physical losses, quality deterioration and added food safety risks.
- (b) Limited transportation from farm to the market. Most individual farmers do not have vehicles (or proper vehicles to handle highly perishable products—e.g. live fish), nor the financial resources to hire good transport services. As a result, 75 percent of rice, 70 percent of oranges, 70 percent of fish and 50 percent of tea are sold to intermediary dealers at the farm gate.
- (c) Inadequate storage and serious post-harvest losses. Most individual farmers have inadequate storage facilities or capacity, especially for perishable commodities. This leads them to sell their produce just after harvest, when prices are generally lowest, and eliminates any bargaining power that they may have. Lack of proper storage also contributes to high post-harvest losses. Based on various recent studies, there are about 20-30 percent post-harvest losses from farm gate to local markets. For example, for oranges - which have a short harvest season - up to 20 percent of harvested output goes to waste (or composting) when there is not enough immediate demand from buyers.
- (d) Under-developed off farm preliminary processing and grading. Some produces require initial processing prior to their sale. For example, tea leaves need to be dried and most fruits need to be washed and packed. The proper grading of produce can facilitate efficient distribution, reduce transaction costs, and add value to the farm product. For tea, when grading and packing after drying, the leaves can increase profit by 30-40 percent when compared with unprocessed tea. For oranges, profit can increase generally by 25-30 percent after grading, packing and waxing.
- (e) Small volume of production. In many cases, farmers are not organized in groups and their individual production is smaller than what is acceptable by wholesale markets. The absence of collective action inhibits the ability of farmers to realize any economies of scale in post-harvest preparation, storage, transport and marketing.
- (f) Food safety risks. The current fragmented system is fraught with food safety risks. Buyers do not know what practices the farmers have and multiple handling of produce exposes it to further hygiene, adulteration, and/or cross-contamination risks. The capacities of wholesale market and enforcement officials to undertake food safety inspection and surveillance are limited in general and such late efforts in the food supply chain can hardly assure adequate food safety. Improved food safety measures need to be applied earlier in the chain, enabling inspectorate services to focus on relatively high risk commodities. Food product traceability should be encouraged. Even if improved testing could be developed, it is likely to confirm that there are major problems at multiple steps along the chain.

- (g) Lack of market price information. Farmers often have no or limited access to real-time price information and end up selling the product at the price informed by the intermediary dealer at the farm-gate. Jiangxi has made some progress in rural information and communication technology (ICT), especially in availability of mobile and broadband access and public Internet access facilities for farmers and agriculture-related applications development. There is a need to further develop and improve mechanisms for real-time, location-based pricing information to farmers and for food safety/quality and traceability.
- (h) Poor coordination of development efforts. Various programs have been initiated in Jiangxi for different aspects of farm produce distribution funded by different Government agencies. These have been initiated without a well-coordinated effort.

8. The above listed factors and gaps all combine to inhibit Jiangxi's ability to: (a) improve its farm produce distribution system within its boundary; and (b) compete in the high value urban markets of the adjacent regions. This is well recognized by the Jiangxi provincial government which is making on-going and planned investment in farm produce markets/distribution centers to mitigate these constraints. The private sector is also investing in this area.

9. The supply chain linkage between the producers (through the farmer cooperatives) and the consumers comes through the role that the markets/distribution centers can play to:

- (a) facilitate farmer cooperatives to process, store and sell their products;
- (b) increase the buyer-seller interactions providing farmer cooperatives with more sales opportunities;
- (c) aggregate standardized and certified products for larger volume sales;
- (d) reduce wastage of farmer cooperative products through storage and cool/cold chain facilities;
- (e) act as a warehouse for farmer cooperative e-commerce sales; and
- (f) be a source of market information accessible online by farmer cooperatives.

### **C. Higher Level Objectives to which the Project Contributes**

10. The proposed Project is consistent with priorities set in the country's 13<sup>th</sup> FYP and Jiangxi's 13<sup>th</sup> FYP that call, among others, for green growth, eradication of absolute poverty and inclusive growth. The proposed Project is also consistent with the World Bank Group's China FY13-FY16 Country Partnership Strategy discussed by the World Bank Board of Executive Directors, on November 6, 2012 (Report No. 67566-CN). The Project will also contribute to the World Bank Group's twin goals of ending extreme poverty by 2030 and boosting shared prosperity, especially for the bottom 40 percent of the population who have currently limited access to agricultural postharvest services and markets. Overall, the proposed Project will contribute to development and improvement of more integrated and coordinated agricultural distribution logistics systems. Finally, the proposed Project would contribute to Jiangxi's overall goal of increasing farmers' incomes by linking producers and consumers through improved farm produce distribution system including the more dynamic high-value markets, and could have a positive impact on female farmers' business activities.

11. In addition to the achievement of the WBG strategic goals, the project will contribute to the climate change agenda. Climate change represents an additional risk for Jiangxi's agriculture sector. The annual severe drought likelihood for China is projected to increase by 13% on average (or 50 percentile) by 2020-2039 according to CMIP5 ensemble models under RCP8.5 scenario (or Business as Usual). All models agree that annual severe drought likelihood in Jiangxi Province is anticipated to increase, particularly in the northern region. The number of annual hot days (maximum temperature >35C) for China is projected to increase by roughly 5 days on average by 2020-2039. Northwestern, eastern, and southeastern regions will experience the highest increase in number of hot days (Source: WB Climate Change Knowledge Portal). These will have impacts on the Jiangxi economy, which relies heavily on its agriculture production. Efforts to enhance climate resilience in this sector (e.g., by integrating climate resilience practices in agriculture extension services) will therefore have important impacts on food security and livelihoods. Climate change represents a significant challenge for agriculture-based economic activities, which are exposed to extreme events such as heavier rains and floods and to a lesser extent longer dry spells on a seasonal basis, as well as climate variability. The project will reduce agriculture's contribution to climate change (mitigation) and strengthen the resilience of food production and distribution systems to climate change and disaster risks (adaptation). It aims to contribute to China's stated climate change policies and measures, as outlined in its Nationally Determined Contribution (NDC), which also takes into account several actions, specified in other relevant national processes. China's NDC focuses, among other points, on proactively adapting to climate change by enhancing mechanisms and capacities to effectively defend against climate change risks in key areas including agriculture, while progressively strengthening disaster reduction mechanisms. With respect to climate change mitigation, the NDC is also inclusive in promoting low-carbon development in agriculture. The project contributes to these commitments by building more resilient food production and distribution systems, while achieving mitigation co-benefits.

## **II. PROJECT DEVELOPMENT OBJECTIVES**

### **A. PDO**

12. The Project Development Objective (PDO) is to improve the distribution system of selected farm products in participating counties of Jiangxi.

### **B. Project Beneficiaries**

13. The proposed Project will be implemented in eight counties (including Huichang – a national poverty county) of Jiangxi Province with activities focused on selected value chains in which each county has comparative advantages. The farm structure and the distribution system of these counties remain fragmented and poorly managed, and farmer cooperatives are largely underdeveloped. The proposed counties and focal value chains are: (a) Jing'an (grain, fruits, tea); (b) Pengze (cotton); (c) Huichang (camellia oil, fruits, vegetables); (d) Taihe (grain, vegetables, fruits); (e) Jiujiang Economic Development District (Jiujiang EDD, aquatic products); (f)

Anyuan (vegetables, grain, fruits); (g) Yushan (grain, fruits, vegetables); and (h) Longnan (fruits, vegetables, fish). The Project investment will be integrated into the overall development plan in the selected counties to address key constraints and bottlenecks.

14. By upgrading and modernizing the farm produce distribution systems in Jiangxi, over 200,000 farmers will benefit from the proposed Project through increased efficiency of farm-to-market supply chains, including improved post-harvest handling methodologies, market information, certification, increased food safety, and greater volume of product sold out. The proposed Project will help address key bottlenecks in each of the selected value chains that currently limit smallholder's access to markets and have resulted in lower incomes.

15. Traders, vendors, wholesalers, buyers, processors, E-commerce operators, and retailers will benefit from more efficient produce distribution and transparent price formation. Staff and management of the markets/distribution centers will benefit from training and capacity building to more effectively manage the markets/distribution centers. Consumers also benefit through access to 'greener', higher quality foods with improved food safety. Provincial Department of Agriculture (DOA) and county level agricultural bureaus will receive Project support to develop their capacity in strengthening production logistics, improving farm produce distribution logistics systems, Project management, monitoring and evaluation.

16. The gender composition of farmer beneficiaries is expected to be 50:50 between women and men, as are the consumer beneficiaries. The value chain intermediaries (e.g., traders, vendors) are dominantly male, with an estimated male:female beneficiary ratio of 70:30 reflecting the gender composition of these intermediary roles.

### **C. PDO Level Results Indicators**

17. Achievement of the PDO would be assessed by the following PDO indicators:

- (a) Farmers reached with agricultural assets or services;
- (b) Female farmers reached with agricultural assets or services;
- (c) Increased number of farmer cooperatives with service access provided by the Project financed markets;
- (d) Increased producer's direct sales of farm produce (percentage) through Project financed markets.

## **III. PROJECT DESCRIPTION**

### **A. Project Components**

18. The proposed Project comprises four components, which are summarized below. A detailed Project description is provided in Annex 2.

**Component 1: Strengthening Production Logistics (total cost: US\$38.46 million. IBRD: US\$38.46 million)**

19. This component aims to increase efficiency and productivity of production logistics and farm systems, including the integration of systems to collect, sort, package, and store agricultural products. It aims to enhance farmer coordination through supporting farmer cooperatives<sup>6</sup> and help expand the scale of operation to better coordinate the flow of goods. It will also improve post-harvest handling of farm products to improve efficiency, add value and minimize handling exposure of products to avoid damage and loss. Activities to be financed under this component include: (a) small sub-grants to farmer cooperatives for purchase of trading booth equipment/tools (i.e. computers, printers, office furniture) to do business in the newly constructed/rehabilitated markets/distribution centers; technical assistance to address emerging issues constraining farmer cooperatives access to markets; supporting farm produce certification, trademark registrations and geographic identification producing marks; supporting E-commerce development and Village Farmer Information Hub (VFIH) establishment; and training to improve the business competency of farmer cooperatives; and (b) providing partial guarantees to back portfolios made by Jiangxi Rural Commercial Bank (JRCB) using their own funding, in financing improved post-harvest handling facilities at producer level (product collection, sorting/grading, storage, washing, labeling, and packing/packaging) to improve efficiency and reduce post harvesting loss. Each sub-grant will be provided under a Sub-Grant Agreement to be signed between the respective farmer cooperative and the county Project Management Office (CPMO) with terms and conditions satisfactory to the World Bank and set out in the Project Implementation Manual (PIM). The on-lending term of the sub-loans made by JRCB (using their own fund) to the producers will be market based and will meet the actual cash flow needs of the entity. JRCB has the managerial autonomy to make the decision regarding sub-loan appraising and disbursing based on JRCB's own established commercial practice. JRCB will manage the guarantee mechanism based on the agreement reached with the World Bank and the PPMO and specified in the PIM. Component 1 is expected to provide climate change co-benefits by: (i) supporting the scale up of farm products certification for non-polluting, green, and organic produce; and (ii) building the capacity of farmer cooperatives to provide technical and operational extension services to their members, including on aspects of mitigation and adaptation to climate change in production and post-harvest activities.

**Component 2: Improving Distribution Logistics (total cost: US\$140.25 million. IBRD: US\$96.06 million and local funding: US\$44.19 million)**

20. This component will improve the physical structures, services and management systems of the farm produce markets/distribution centers to increase their efficiency, provide value added benefits and reduce waste of farm produce. Activities to be financed under this component include: (a) rehabilitation of existing market infrastructure and building of new market/distribution infrastructure, including trading stores, halls, and sheds; processing workshops and warehouses; cold/cool chain storage; service and trading buildings; logistics and office equipment; equipment for processing, sorting, packaging, testing product quality and safety; weighbridges, forklifts and vehicles to transport farm produce; electronic settlement devices and a farm product traceability system; and (b) supporting the establishment of a market information system consisting of market/distribution center monitoring, operating and

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<sup>6</sup> The term farmer cooperatives under Component 1 is understood to include eligible family farms in Longnan County, as the fruits production in this County is dependent upon family farms.

management; information collection and disclosure; food safety tracing; and transaction management. The market information system would also include a County Operations and Service Center (COSC) for E-commerce at each market/distribution center. This COSC will be the connecting point of the e-commerce households, VFIHs, the e-trading/electronic settlement system, and the provincial information platform. Component 2 is expected to provide climate change co-benefits by supporting the development of market and distribution infrastructure that consolidates farm produce, reduces transportation cost and wastage, and enhances the quality and safety of food products. A farm product traceability system coupled with a marketing information system would also provide incentives to farmers to adopt climate smart agricultural practices, by reducing the use of chemical inputs, in order to reach higher end markets. The Project supported infrastructures design are expected to incorporate the latest standards related to energy efficiency.

**Component 3: Support Services for the Whole Distribution System (total cost: US\$0.45 million. IBRD: US\$0.45 million)**

21. This component will provide support services to the whole distribution system. Activities to be financed under this component include technical assistance to: (a) provide technical and analytical support for research on provincial farm product distribution system and the development of a provincial strategic planning for provincial farm product distribution system; and (b) train traders, vendors, processors, e-commerce operators, staff and management of the markets/distribution centers.

**Component 4: Project Management, Monitoring and Evaluation (total cost: US\$5.18 million. IBRD: US\$1.08 million and local funding: US\$4.10 million)**

22. The purpose of this component is to provide support for Project implementing agencies at both provincial and county levels to manage, implement, supervise and monitor Project activities and progress. Activities to be financed under this component include: (a) Project management and capacity building (training and study tours) for Project Management Office (PMO) staff, and support for consultant services; and (b) monitoring and evaluation (M&E) of Project physical and financial progress, Project impacts, and environmental and social safeguards compliance. The on-going Project monitoring will be conducted by the PMOs for Project physical and financial progress. Independent M&E institution(s) will be recruited to conduct the other monitoring at Project start-up, Project mid-term and Project completion.

## **B. Project Financing**

### **Lending Instrument**

23. The proposed Project will be financed through an IBRD Investment Project Financing (IPF) loan in the amount of US\$150.00 million. The Borrower has selected a US Dollar denominated commitment-linked variable spread loan based on six-month LIBOR plus an additional variable spread. It has also selected all available conversion options and annuity repayment of principal. The loan has a repayment period of 24 years, including a 5-year grace period and carries a commitment fee of 0.25 percent and a front-end fee of 0.25 percent.

## Project Cost and Financing

24. The Project total financing required was estimated at US\$198.28 million (equivalent to RMB1,376.09 million converted at an average exchange rate of RMB6.94/US\$1) which includes financial charges during Project implementation i.e. front-end fee, commitment fee, and interest during implementation. The proposed Project will be financed by an IBRD loan in the amount of US\$150.00 million and a counterpart fund of US\$48.28 million. Counterpart funds would comprise budgetary allocations from Jiangxi provincial and participating county governments. Project costs and financing by component are given in the table below.

Project Components	Project Cost (US\$ million)	IBRD Financing (US\$ million)	Financing %
1. Strengthening Production Logistics	38.46	38.46	100.0
2. Improving Distribution Logistics	140.25	96.06	68.5
3. Supporting Services for the Whole Distribution System	0.45	0.45	100.0
4. Project Management, Monitoring and Evaluation	5.18	1.08	20.9
Total Project Costs	184.33	136.05	73.8
Financial Charges during Implementation*	13.95	13.95	100.0
<b>Total Financing Required</b>	198.28	150.00	75.6

\*Including interest during implementation, commitment charges and Front-end fees.

### C. Lessons Learned and Reflected in the Project Design

25. The Project design incorporates lessons learned from international and domestic experiences and the Bank's global and China operations as described below.

26. **Project Design.** The approach guiding the design of this proposed Project is that the farm produce value chains must benefit all participants in the value chain from producer to consumer. The Project design is aimed at improving systems, facilities and services to add value at each step in the value chain. This approach is consistent with Chinese government policy and strategy at national and provincial levels, and with private sector participation in farm produce distribution systems.

27. **Standards.** Previous experience in China has shown that standards (quality, food safety, testing) need to be set that are consistent across regions to facilitate an efficient flow of farm produces. These standards need to be enforced consistently and their existence allows for a tighter integration of the production system (producers and farmer cooperatives) and the distribution system (traders, wholesalers, markets/distribution centers). This in turn increases the efficiency and safety of the agricultural logistics and distribution system.

28. **Capacity Building.** Past experience in China and elsewhere demonstrates that projects aiming at technology adoption and systems development require strong institutional capacity. The proposed Project will support the institutional capacity building by providing well designed and targeted training activities to improve: (a) business competency of farmer cooperatives in the areas of market trend and farm produce specific value chain analysis; strategic planning for agribusiness; development of marketing strategies and skills; e-commerce; branding and certification of farm produce; promotion of quality and food safety; farmer cooperatives and business management; (b) market management capacity for traders, vendors, wholesalers, processors, e-commerce operators, staff and management of the markets/distribution centers; and (c) Project implementation capacity building for project management staff at both provincial and county levels. The value chains supported by the proposed Project will function as demonstrations from which the introduced systems and technologies can be spread for adoption by other farm produce value chains.

29. **Interventions Focusing on Systematic Approach other than only on Building Physical Markets/Distribution Centers.** While the initial idea proposed by the Province was to rehabilitate and build physical markets/distribution centers only, the proposed Project aims to develop and improve the whole distribution system as its strategic goal which comprises not only rehabilitating and building the physical markets/distribution centers but also farmer cooperative development and post harvesting handling at the producer level.

30. **Information Systems.** Experience in China and elsewhere has shown that market information system development needs to entail a clear understanding of who the users are, what they are interested most in, and why they want to use the system; to define the level of effort required to upgrade or replace existing systems and cost/benefit that would arise; to develop a work plan for system design, implementation, and transaction processing to be tested prior to implementation. Experience has also shown that significant resources need to be applied daily to maintain market information systems to ensure they remain operational, up-to-date and maintain their relevance for users in the value chains. These factors have been taken into careful consideration in Project design.

31. **Realistic Counterpart Financing Plan.** In recent years, a considerable number of rural development projects implemented by sub-national governments in China have had difficulties with timely provision of adequate counterpart funds. During Project preparation, much attention was given to the review and optimization of the proposed counterpart funding plan. Close to three-fourths of the Project investment needs and the 100 percent of required financial charges (interest during Project implementation, commitment charges and front-end fees) will be funded by the IBRD Loan proceeds which reduced unrealistic request for the counterpart fund contribution. In addition, almost 60 percent of the counterpart fund will be provided in the form of land already acquired by the participating county governments.

32. **Monitoring and Evaluation.** A well-developed M&E system is the main instrument for assessing Project impact and identifying best practices for dissemination. An effective M&E system should feature: (a) simple procedures; (b) a small number of variables that are easy to measure or readily derived from simple measurements; and (c) focus on Project outcomes along

with Project activities. The proposed Project has developed an M&E framework with these features.

## **IV. IMPLEMENTATION**

### **A. Institutional and Implementation Arrangements**

33. **Project Steering Committee (PSC) and Project Leading Groups (PLGs).** At the provincial level, a PSC has been established that is headed by the Director-general of the Department of Agriculture and composed of members from the departments of agriculture, development and reform, finance, land, urban construction, environmental protection, audit and Women's Federation. The eight Project county governments serve as the Project owners and implementers. PLGs at county level have all been established that are headed by county government leaders in charge of agriculture with members from those agencies similar to the composition of the PSC. Key responsibilities of the PSC and PLGs include setting policy guidance; approving project's overall design; ensuring availability of counterpart funds; making decisions- on major Project issues; facilitating inter-agency coordination; evaluating and monitoring Project implementation; and providing guidance under their respective jurisdictions.

34. **Project Management Offices.** Under the PSC at the provincial level, the provincial PMO (PPMO), located in the Jiangxi Provincial Rural Social Development Bureau under the provincial DOA, is responsible for overall Project coordination and management during Project preparation and implementation. The county PMOs (CPMOs) are located in the corresponding county agriculture bureaus. The CPMOs are responsible for Project management and general coordination on a daily basis; supervising Project design and implementation; monitoring Project activities; preparing annual work plans; monitoring and reporting on Project progress, outputs, results; and supervising practical market development facilitators.

35. **Technical Support.** The Project would recruit two levels of consultant services. At the provincial level, a Technical Expert Group (TEG) has been established to provide technical support to ensure overall soundness of Project design and implementation. At the county level, technical support would be provided through recruitment by each CPMO of: (a) two full time practical marketing development facilitators (one for Pengze) and one each for legal and accounting advisory services to support the implementation of Component 1: Strengthening Production Logistics, in particular marketing efforts of farmer cooperatives; and (b) a team of market specialists to provide specific technical review and support to implementation of Component 2: Improving Distribution Logistics.

### **B. Results Monitoring and Evaluation**

36. The Results Framework describes the PDO-level outcome indicators and the component-specific intermediate indicators, including core sector indicators, and respective baselines and targets (Annex 1). Monitoring and evaluation arrangements and responsibilities are described in detail in the Project Implementation Manual (PIM). Project M&E will be the responsibility of the PPMO and CPMOs. On-going Project progress monitoring shall be carried out by the PPMO and CPMOs and all reporting requirements for physical progress monitoring, contract-based procurement management, and financial management reporting are to be satisfied by the PPMO and CPMOs. The PPMO will engage qualified institution(s) to carry out an independent Project

baseline survey at Project start-up, an impact assessment, environmental and social safeguards compliance assessment at mid-term and at the end of the proposed Project. Detailed terms of reference will be reviewed by the Bank during implementation prior to commencement of the specific M&E assignments. Project funding for the M&E assignments has been budgeted.

### **C. Sustainability**

37. Project sustainability is largely to be ensured by strong government commitments to and Jiangxi's increasing demands for development of farm produce distribution systems; practical technical support to farmer cooperatives and markets/distribution centers; and proven operation and management arrangements to improve efficiency and competitiveness of the markets/distribution centers.

38. Both the central and provincial governments are committed to an enhanced farm produce distribution system, which is critical for improving the competitiveness of the agricultural sector, and meeting other key objectives related to resilience to climate change, consumer welfare, rural development, and farm incomes. Strategies to address some of these challenges were made in the 12th Five-Year Plan (2011-2015) which incorporates the 'agro-produce distribution' as an integral part of the agricultural social service system. The 12th Five-Year Plan of Jiangxi Province also gives priority to strengthening agricultural logistics and distribution channels as a key part of agricultural modernization, and sustainability through reduced carbon emissions. The 2016 Document #1 calls for, among others, "creating new types of agricultural marketing service; accelerating transformative change and upgrading of agricultural product marketing system nationwide; strengthening development of origin market for agricultural products; and supporting e-commerce in rural areas"<sup>7</sup>. It is confirmed that the next National and Jiangxi Provincial Five Year Plan (2016-2020) also put "agricultural produce distribution" as a top priority area.

39. China's population is rapidly becoming more affluent with increasing demands for greater quantity and improved quality of foods. This population is also rapidly urbanizing, thereby increasing the distances between areas of production and consumption. These aspects all underscore the importance of, and need for, innovation in agricultural logistics. The proposed Project will support development of the farm produce distribution system in Jiangxi which has been in increasing demands by all actors involved. In addition to establishing modern markets/distribution centers, the Project activities are designed to focus on the overall efficiency of the value chain by addressing key bottlenecks in each of the distribution chains to benefit all market participants (i.e. producers, consumers, traders, service providers, policy regulators etc.). The proposed Project would also pilot and demonstrate farm production from Jiangxi to meet market and official standards for quality and food safety. By resolving these bottlenecks, the proposed Project will assist the value chains to operate more effectively and profitably.

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<sup>7</sup> The 2016 Document #1, entitled "Several Opinions on Implementing New Concepts for Development, Accelerating Agricultural Modernization and Achieving Goals of Comprehensive Well-off" 《关于落实发展新理念加快农业现代化 实现全面小康目标的若干意见》, was issued by the Central Committee of the Communist Party of China and the State Council of China on December 31, 2015 and published by the Chinese Xinhua News Agency on January 17, 2016.

40. Climate change. Interventions aimed at reducing climate vulnerabilities are designed to increase the resilience of food production and distribution systems in the face of climate variability and drought. These interventions will be designed to reduce the impact of occurrences and increase the adaptive capacity of producers. Long-term sustainability will depend on the availability of adequate technical assistance, particularly in the face of unexpected events.

41. Consultant Services. A two-level consultant services would be recruited to provide practical technical support to Project preparation and implementation. At the provincial level, a Technical Expert Group (TEG) has been established to provide technical support to ensure overall soundness of Project designs and implementation. At the county level, the technical support would be provided through recruitment by each CPMO of: (a) facilitators and advisors to support the implementation of Component 1: Strengthening Production Logistics; and (b) a team of experienced market specialists to provide specific technical review, functional design, advices for proper operation and management model of the market/distribution centers under Component 2: Improving Distribution Logistics. Annex 3 provides details of the technical support arrangements.

42. Operation and Management Arrangement of Market/Distribution Center. To ensure market efficiency, competitiveness and sustainability, two proven operation and management models will be introduced by the Project counties i.e. : (i) outsourcing to a third party professional market management firm or a group of professional market specialists through performance based contracts, which may include the number or volume of the trading/transaction in the market; and (ii) recruiting senior market professional to assist government management team in market operation and management.

## **V. KEY RISKS**

### **A. Overall Risk Rating and Explanation of Key Risks**

43. Based on the assessment of the main risks identified during Project preparation, the overall risk is rated as “Substantial.” The key risks and mitigation measures have been identified. The two main (Substantial) risks to the successful achievement of the Project objectives are: (a) technical design of the proposed Project is complex across eight counties with a range of value chains, and interventions into the entire distribution systems of the selected commodities in each county; (b) inadequate experience and capacity of the CPMOs in managing and implementing Bank-financed projects; and (c) inadequate number of the PPMO members with relevant experiences.

44. **Technical Design of Project. Wide Range of Participants with Limited Experience of Managing Logistic Centers.** Measures would be taken to mitigate this risk by engaging experienced and specialized design firms that would be selected through a competitive process for preliminary and detailed design of the farm produce markets/distribution centers. Most importantly, as the proposed Project counties have limited experience in operating and managing these centers, all county governments stated that operations and management of Project financed markets/distribution centers will be: (a) outsourced to a third party professional market management firm or a group of professional market specialists; or (b) assisted by recruiting senior market professionals to the government management team after the construction. In

addition, the Project design devotes one sub-component solely to farmer participation in post-harvest handling and distribution chains. The County Operations and Service Centers will work with the Village Farmer Information Hubs to facilitate the connection of the producers with the market.

45. **Institutional Capacity for Implementation and Sustainability. Inadequate Experience and Capacity.** The experience and capacity risk will be mitigated through equipping the CPMOs with a sufficient number of competent staff, and providing them with targeted training on Bank policies, procedures, Project management, and related technical skills during Project preparation and the early stage of implementation. During Project implementation, staff capacity will be enhanced by competent implementation support from the PPMO and specialized firms for detailed design, construction supervision, monitoring and evaluation.

## **VI. APPRAISAL SUMMARY**

### **A. Economic and Financial Analysis**

46. **Economic Analysis.** The proposed Project aims to improve the entire distribution systems of farm produces in Jiangxi province from post harvesting handling to markets/distribution centers and beyond. To assess the Project's economic viability, an economic analysis has been conducted for each Project county and for the entire proposed Project. An improved farm produce distribution system is expected to generate significant economic benefits which would derive from: (a) reduced loss from improved sluggish sales; (b) improved quality of the registered brand-names; (c) increased value of processing; and (d) increased storage capacity leading to extended marketing period for positive seasonal price variation. Other benefits which are important but difficult to quantify in a classical cost-benefit analysis include positive impact on the environment, through better agricultural practices for safer food products; increased employment opportunities; catalytic effect on economic development; and strengthened institutional capacity of Project management entities and relevant government agencies.

47. **Financial Analysis.** Financial analysis has been conducted to assess the financial viability of the Project-supported markets/distribution centers in "with and without project" scenarios. As the Project-supported markets/distribution centers would be constructed with a focus on public goods benefits, they are not expected to yield robust financial returns. The analysis followed a conservative approach and considered the following limited revenue sources only: (a) rental of trading booths; (b) preliminary processing of agricultural produces; (c) entrance fee from traders; (d) temporary storage service; and (e) logistics transportation services.

48. **Preliminary Results.** The proposed Project yielded a robust overall economic rate of return (ERR) of 22.6 percent and a reasonable aggregated financial rate of return (FRR) of 12.5 percent for all markets/distribution centers. The ERR for individual counties and the FRR for individual markets/distribution centers vary but are all above 13.2 percent and 9.8 percent respectively indicating the Project's strong economic and reasonable financial viability. The FRRs reflected the public goods benefit focus and indicated the relatively strong competitiveness of the proposed markets/distribution centers. Project investments are not expected to impose

significant fiscal impact on participating counties as they have been selected based on their strong fiscal positions in providing counterpart funds and servicing the IBRD loan.

## **B. Technical**

49. Project counties have proposed a set of lead agricultural industries and key commodity value chains for Project support. Through initial technical review during Project preparation, these commodity value chains have been accepted from a technical production, marketing chain and economic viability perspective.

50. The Project's technical design aims to address key bottlenecks in these commodity value chains to increase efficiency and add value for all participants in the value chain. At the producer level, the strengthening of farmer cooperatives and post-harvest handling technologies for farm produces are already widely applied in Jiangxi or elsewhere and pose few technical risks. The technical aspects of completing physical market and distribution center infrastructure are also well known and pose few technical risks. The design of any agro-processing facilities to be supported under the proposed Project will follow Hazard Analysis and Control of Critical Point principles.

51. The use of common agricultural produce quality and food safety standards across regions will allow for tighter integration of the production system (farmers, farmer cooperatives) with the distribution systems (traders, wholesalers, markets/distribution centers, consumers). Consistent adherence to these standards will require the commitment of all actors in the value chain. This will be reinforced by the Project support for promotion and enforcement of those standards through food safety testing, certification, and distribution system pricing according to product quality.

52. Potential changes to the climate will need to be considered in the choice of agricultural production technologies. The project would help transfer technical knowledge to farmers on a menu of agricultural practices aimed at increasing resilience to climate change including: soil conservation and land management (e.g. improved soil fertility management, integrated pest management), crop diversification, water management, and certification of green and non-polluted production systems, etc. These activities are expected to contribute to the reduction of GHG emissions from agricultural practices and technologies through reduction in fertilizer use, and generate climate co-benefits by reducing the reliance on chemical inputs, and conserving scarce resources.

53. The investment in ICT for real time market information and e-commerce are relatively new initiatives in Jiangxi, but build on the good progress the province has made in rural information and communication technology. The proposed Project will draw on the experience of ICT-based market information systems used by the major agricultural markets elsewhere in China. Significant technical support and user training will be provided for the application of ICT for market information and e-commerce at producer and market/distribution center levels. Development and implementation of the market information systems will be closely monitored by the PPMO and Bank supervision missions.

54. The steps in the value chains of the selected commodities are well-known in Jiangxi and China. However, there is a shortage of rigorous monitoring data on the value-added of the various steps for evaluation of the economic and social impacts and benefits derived from alleviating key bottlenecks. There is a strong need for systematic monitoring and evaluation of impacts to assess the overall effectiveness of the Project interventions and define the best practices associated with them for use in other commodity chains.

### **C. Financial Management**

55. The PPMO has Bank-financed project experience which will be introduced into the proposed Project. The IBRD loan proceeds, including overseeing the Designated Account (DA), will be managed by Jiangxi Provincial Department of Finance (DOF). The CPMOs will be responsible for the implementation of Components 1 and 2, including signing contract/agreement, monitoring Project progress, and requesting payment to contractor/beneficiary. In addition, the PPMO will provide guidance and supervision to the CPMOs so that Project activities could be implemented as planned. Of the Project counties, most do not have prior experience managing World Bank financed projects. An action plan to strengthen financial management (FM) capacity has been agreed with the implementing agencies, including modification and distribution of the FM manual, provision of extensive training, and establishment of a systematic monitoring mechanism. The FM assessment concluded that with the implementation of the proposed actions, the Project's FM arrangements satisfy the Bank's requirements under OP/BP 10.00.

### **D. Procurement**

56. The Jiangxi Provincial Rural Social Development Bureau, a division within Provincial Department of Agriculture, is designated as the lead agency responsible for management, coordination and supervision of the proposed Project. The PPMO will organize and carry out the procurement of all Project contracts financed by the Bank except for small value contracts, which will be managed via simple procurement methods, such as shopping or individual consultant methods. The PPMO will conduct contract procurement with active participation by the CPMOs and with the support and assistance of a professional procurement agent that has extensive procurement knowledge and experience of Bank financed projects. Project implementation, including construction supervision, contract management and quality control within each county level sub-project will be undertaken by the CPMOs. The PPMO will be responsible for the overall coordination and communication with the Bank, as well as submission of procurement documents for Bank review.

57. The PPMO is well staffed with procurement staff having previous experience in implementing projects funded by International Financial Institutions (IFIs). The CPMOs have been staffed with procurement personnel, some of whom have experience with Bank-funded projects, and most have experience with procurement, contract management, and Project management of local government funded projects. The major risks identified from the procurement capacity and risk assessment of the implementing agencies are possible procurement delays or non-compliance with Bank procurement policies. This may occur due to unfamiliarity with Bank procurement policies and procedures or as a result of procurement

process determinations that may be negatively affected by the local procurement regulations in the case of major differences from Bank procurement policies. These risks will be mitigated through: (a) employment of a qualified procurement agent and Project management staff with requisite experience in procurement in projects financed by the Bank or other multilateral financial institutions; (b) preparation of a procurement manual to guide procurement cycle management; (c) close coordination with the client and necessary guidance and supervision from the Bank; and (d) targeted training and capacity building of the PPMO and the CPMOs procurement staff. After proper implementation of the abovementioned measures, the procurement staff of the Project implementing agencies should have adequate capacity and experience to successfully carry out the Project procurement.

58. A procurement plan for the whole proposed Project dated October 27, 2017, prepared by the PPMO, was reviewed by the Bank and finalized during appraisal. The procurement plan will be updated in agreement with the Bank annually or as required to reflect actual Project implementation needs. Further details on procurement are provided in Annex 3.

#### **E. Social (including Safeguards)**

59. A social assessment (SA) has been done for all Project localities with a comprehensive report. The assessment was done with public consultation in all confirmed Project counties by PMOs through hiring a professional consulting team. The social assessment findings have confirmed that there is no presence of ethnic minorities meeting the definition of the World Bank Indigenous Peoples term and the Bank OP 4.10 is therefore not triggered.

60. The social assessment was conducted based upon intensive consultations with Project stakeholders in Project areas. According to the conclusions of the social assessment, the proposed Project will have significant positive social impacts on local community and farmers in Project areas after the Project investments help to improve farm produce distribution systems, facilities and supporting farmer cooperatives. Local farmers will have opportunities to benefit from Project trading infrastructure and facilities, capacity building, and more jobs and income generation opportunities. The proposed Project is expected to have very limited negative social impacts. All Project civil works will be built on existing public land. During Project construction, limited impacts may come from noise, dust and temporary restrictions to access roads which may affect local people near construction sites. During Project operation, negative impacts may also come from changes to traditional trading, pricing and business modalities, owing to influx of business brokers and influx of external pricing, valuing and new business models.

61. Appropriate Project design will take these impacts into consideration and mitigation measures will be taken to avoid or minimize negative impacts and promote positive ones. The SA also shows that future possible land acquisition may arise if the currently identified locations or scale of Project civil work changes. Some land may be needed for Project temporary use which might only be clear during actual construction. Based on the Social Assessment, to address social risks and impacts, two main social documents have been prepared: The Social Assessment report and the Resettlement Policy Framework.

62. The above social instruments have set out the principles, rules, guidelines and procedures to assess the social risks and impacts as per the World Bank safeguards policies and national laws/regulations. The PMOs are required to report and monitor potential social risks regularly, such as issues emerging from future involuntary resettlement as well as other social aspects regarding Project affected people and communities during Project implementation. As necessary, actions will be taken to address social risks and impacts and institutional arrangements, including designated staff of the PPMO and each CPMOs, will be put in place to address these social risks.

63. In accordance with the Bank's information disclosure policy, on November 24, 2016 the Social Assessment report and the Resettlement Policy Framework were disclosed in the Project areas and on websites of the local government agencies, and made accessible to the public by the PMOs. These social safeguards instruments were also disclosed on the InfoShop on December 1, 2016 and again the updated version on the InfoShop on September 20, 2017.

64. **Gender Aspects.** The proposed Project will take a gender sensitive approach to activities such as capacity building for farmers, support to farmer cooperatives and other such Project interventions to ensure equal opportunities are provided for women. As part of the M&E system, the proposed Project will measure the beneficiaries (male and female) by gender disaggregated data. Social and gender equality has also been considered through participation of men and women during consultations of Project sample sites. Such approach to gender equality will also be applied to compensation of affected male and female people related to the Project temporary and permanent land acquisition and resettlement if there is any. Specific gender responsive measures will be continually taken during project implementation, and also monitored, evaluated and documented as part of the Project monitoring and evaluation.

65. **Citizen Engagement.** This is a key aspect considered in the Project social assessment: public consultations were done during project preparation, including field investigations with relevant government agencies, group consultative meetings with Project communities and people, questionnaire surveys across selected villages in Project counties. During project implementation, such public consultation will continue to draw on local people's engagement and feedback in line with the Project objectives. Consultations will be continued with local residents (both men and women) in project sites on the needs for awareness and skill training associated with the Project-led changes. Public consultations will be further held for the selection of locations for post-harvest facilities and other relevant project interventions. As part of citizen engagement, farmer cooperatives will be promoted in farm products trading and marketing to engage farmers in the project intensively. A grievance redress mechanism will be established for affected people in the proposed Project as shown in the RPF and this document. Information on potential social impacts, community development, and planned mitigation measures will be shared with the public. Citizen engagement has been reflected in the Project Results Framework, through the following indicator: percentage of residents in Project areas reporting that they are consulted about the Project.

## **F. Environment (including Safeguards)**

66. This is a Category B Project. Applicable environmental safeguard policies for the Project include: Environmental Assessment (OP4.01) and Pest Management (OP4.09).

67. **Environmental Assessment (OP4.01).** The principal negative environmental impacts are mainly associated with Component 2 which finances the improvement or construction of eight markets/distribution centers. All the markets/distribution centers are located in peri-urban areas next to major roads which have been heavily influenced by human activities. The Project will cause general construction nuisance; and the improved or new markets/distribution centers will have adverse impacts including disposal of waste and wastewater generated at the markets/distribution centers, increased traffic, and fire safety issues etc. Adverse impacts are expected to be site specific, and limited in nature.

68. An Environmental Management Plan (EMP) has been prepared for the investments in accordance with Environmental Assessment (EA) Policy OP4.01. Mitigation measures consist of (a) Environmental Code of Practices (ECOPs) to address general construction related impacts; and (b) specific mitigation measures during design, construction and operation phase, including: (i) provision of treatment facilities for wastewater, and waste generated from the markets/distribution centers; (ii) provision of adequate traffic management facilities and safety measures; (iii) treatment and disposal of wastewater and waste collected from the markets/distribution centers; and (iv) maintenance of safety facilities and emergency plan for accidents. Measures for the construction phase will be entered into bidding documents and civil works contracts. Detail of the monitoring plan (e.g. monitoring for wastewater, noise), institutional arrangements (e.g. PPMO, County PMO) and capacity building activities (e.g. safeguards training) are specified in the EMP.

69. **Pest Management (OP4.09).** The proposed Project would not support any production activity other than the cost of obtaining the certification for the pollution free, green and organic produce. The certification would lead to reduction of pesticide and fertilizer use in the Project area by helping farmers to better manage the impacts of their agricultural activities. As such OP4.09 is triggered. Given the absence of significant pest management issues under the Project, a stand-alone Pest Management Plan (PMP) is not required. EMP includes training for cooperatives to improve agricultural produce quality which would help reduce pesticide use.

70. **Environmental Management Framework (EMF).** The Project may include some small investments (such as post-harvest handling through provisions of investments for farmer cooperatives to collect, sort, store, package, label farm produce, and for farm produce processing) which are not known during Project preparation. As such, an EMF has been prepared. The EMF includes, among others: (a) safeguards policies and guidelines and procedures to address environmental issues caused by physical activities financed by the Project, each of the proposed demonstration investments will be screened to identify/define its potential social and environmental impacts; safeguards policies triggered; environmental assessment category; safeguards instruments to be prepared; and consultation and disclosure requirements; and (b) institutional arrangements and the requirements for capacity building activities and budget.

71. **Public Consultations and Disclosure.** In accordance with OP4.01, public consultations have been conducted during the safeguards documents preparation process, including meetings with Project affected people and local governmental agencies. The consultations on the draft

safeguards documents were undertaken from 2014 to April 2016. The final safeguards documents were locally disclosed on the governmental website on November 21, 2016 and disclosed on InfoShop on December 1, 2016. The updated EA safeguards document was re-disclosed locally on January 10, 2017 and on the InfoShop on July 14, 2017.

#### **G. Other Safeguards Policies (if applicable)**

No other safeguard policies are triggered for the project.

#### **H. World Bank Grievance Redress**

72. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## Annex 1: Results Framework and Monitoring

**Country: China**

**Project Name: Jiangxi Farm Produce Distribution System Development (P147009)**

### Results Framework

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#### Project Development Objectives

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PDO Statement

The Project Development Objective (PDO) is to improve the distribution system of selected farm products in participating counties of Jiangxi.

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**These results are at** | Project Level

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#### Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values										
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target	
Farmers reached with agricultural assets or services (Number) - (Corporate)	0.00	22500.00	67500.00	135000.00	202500.00	225000.00						225000.00
Farmers reached with agricultural assets or	0.00	3700.00	11200.00	22400.00	33600.00	37300.00						37300.00

services - Female (Number - Sub- Type: Supplemental) - (Corporate)											
Increased number of farmer cooperatives with service access provided by the Project financed markets (Number)	0.00			500.00		700.00					700.00
Increased producers' direct sales of farm produce through Project financed markets (percentage) (Percentage)	0.00			10.00		25.00					25.00

### Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values									
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target
Number of farmer cooperatives supported by the	0.00										186.00

proposed Project (Number)											
New (Number - Sub-Type: Breakdown)	0.00		6.00	41.00	53.00	59.00					59.00
Established (Number - Sub-Type: Breakdown)	0.00		13.00	89.00	114.00	127.00					127.00
Number of farmers (person days) receiving training (Number)	0.00										88600.00
Males (Number - Sub-Type: Breakdown)	0.00	8800.00	22200.00	31100.00	40000.00	44300.00					44300.00
Female (Number - Sub-Type: Breakdown)	0.00	8800.00	22200.00	31100.00	40000.00	44300.00					44300.00
Number of certified farm products (Number)	0.00	31.00	62.00	93.00	124.00	155.00					155.00
Number of villages with farmer information hubs for the farmers	0.00	240.00	480.00	601.00	601.00	601.00					601.00

(Number)											
Number of markets/distribution centers constructed or rehabilitated (Number)	0.00										8.00
Rehabilitated (Number - Sub-Type: Breakdown)	0.00			1.00	1.00	1.00					1.00
New (Number - Sub-Type: Breakdown)	0.00			3.00	7.00	7.00					7.00
Number of markets/distribution centers connected to provincial market information platform (Number)	0.00			4.00	8.00	8.00					8.00
Number of person days for training of market/distribution center managers, staff and traders (Number)	0.00		3600.00	7200.00	9600.00	11900.00					11900.00
Percentage of	0.00	15.00		50.00		80.00					80.00

residents in Project areas reporting that they are consulted about the Project (Percentage)											
Incremental Amount of portfolio made through leverage of the partial guarantee (\$million) (Amount(USD))	0.00	5.00	20.00	40.00	50.00	60.00					60.00

### Indicator Description

#### Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Farmers reached with agricultural assets or services	Number of farmers directly benefitted from project financed agricultural assets or services	Annual	CPMO records, annual reports	PPMO, CPMOs
Farmers reached with agricultural assets or services – Female	Number of farmers directly benefitted from project financed agricultural assets or services who are females	Annual	CPMO records, annual reports	PPMO, CPMOs
Increased number of farmer cooperatives with service access provided by the Project financed markets	Number of farmer cooperatives directly accessing markets/distribution centers	Baseline, MTR, ICR	External social monitoring reports	PPMO, CPMOs, Farmer cooperative managers
Increased producers' direct sales of farm produce	% increase of produce traded directly via E-Commerce and market/distribution	Baseline, MTR, ICR	External social monitoring reports	PPMO, CPMOs, Market/distribution center

through Project financed markets (percentage)	center			managers
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### Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Number of farmer cooperatives supported by the proposed Project	Number of farmer cooperatives participating in Project	Annual	CPMO records, annual reports	CPMOs
New	Number of farmer cooperatives participating in Project	Annual	CPMO records, annual reports	CPMOs
Established	Number of farmer cooperatives participating in Project	Annual	CPMO records, annual reports	CPMOs
Number of farmers (person days) receiving training	Number of farmers (person times) receiving training (Project vs baseline)	Annual	Training records	CPMOs
Males	Number of farmers (person times) receiving training (Project vs baseline)	Annual	Training records	CPMOs
Female	Number of farmers (person times) receiving training (Project vs baseline)	Annual	CPMOs	Training Records
Number of certified farm products	Number of farm products certified (Project vs baseline)	Annual	Verification certificates, farmer cooperative records	PPMO, CPMOs, Farmer cooperative managers
Number of villages with farmer information hubs for the farmers	Number of information hubs established which provide services to the farmers	Annual	Cooperative records, annual reports	PPMOs, CPMOs
Number of markets/distribution centers constructed or rehabilitated	Number of markets/distribution centers built and functioning (new and rehabilitated)	Annual	Annual reports, construction contracts	PPMO, CPMOs
Rehabilitated	Number of markets/distribution centers rehabilitated and functioning	Annual	Annual Reports	PPMO, CPMOs
New	Number of markets/distribution centers built and functioning	Annual	Annual Reports	PPMO, CPMOs

Number of markets/distribution centers connected to provincial market information platform	Number of county ICT platforms operationally linked to village farmer information hubs, provincial information system (Project vs baseline)	Annual	Annual reports, market-Jiangxi DOA connection data	Jiangxi DOA, PPMO, CPMOs, County Operations and Service Center
Number of person days for training of market/distribution center managers, staff and traders	Number of person days training for market/distribution center managers, staff, and traders	Annual	Training records, annual reports	CPMOs
Percentage of residents in Project areas reporting that they are consulted about the Project	Percentage of residents in Project villages reporting that the local residents are consulted about the Project in Project cycle.	Three times during Project lifetime (every other year)	External social monitoring reports, MTR, ICR	Jiangxi DOA, PPMO, CPMOs, COSCs
Incremental Amount of portfolio made through leverage of the partial guarantee (\$million)	Amount of coverage (sub-loans) made by JRCB using their own resources but leveraged through the partial guarantee	Annual	JRCB report; MTR, ICR	PPMO, CPMOs and JRCB

## **Annex 2: Detailed Project Description**

### **China: Jiangxi Farm Produce Distribution System**

#### **Project Concept, Scope and Financing**

1. The Project Development Objective is to improve the distribution system of selected farm products in the participating counties of Jiangxi province. This will be achieved by the improvement of infrastructure, services and capacities throughout the commodity value chain, including (a) strengthening production logistics (post-harvest and preliminary processing), (b) improving distribution logistics (markets and distribution centers), (c) providing support services for the whole distribution system, and (d) assisting Project counties to strengthen their Project management capabilities to support improvement of farm produce distribution systems and improve monitoring and evaluation systems so that lessons can be learned to assist with replication and dissemination of best practices.

2. Achievement of the PDO will be assessed through key indicators measuring (a) Farmers reached with agricultural assets or services; (b) increased number of farmer cooperatives access to services provided by the Project financed markets, and (c) increased producers' direct sales of farm produce through Project financed markets.

3. The Project is expected to generate public benefits that would consist of (a) strengthened capacity of farmer organizations, (b) improved Project management capacity at province and county-level, (c) improved market information system for farm produce marketing and distribution, and (d) provision of higher quality and safer food products to the general consumer. By upgrading and modernizing the farm produce distribution systems in Jiangxi, over 200,000 farmers will obtain private benefits through increased efficiency of farm-to-market supply chains, including improved post-harvest handling methodologies, market information, branding, certification and food safety. Traders, processors and retailers will obtain private benefits from more efficient produce distribution and transparent price formation.

4. The total estimated Project cost is about US\$198.28 million (including financial charges during implementation), comprising an IBRD loan of US\$150.00 million and counterpart funding of about US\$48.28 million. Counterpart funds would comprise budgetary allocations from Jiangxi provincial and participating county governments and land already acquired by county governments.

#### **Bottlenecks in Jiangxi Food Supply Chains**

5. Key bottlenecks will be addressed in each of the selected value chains that limit smallholder farmers' access to markets and result in reduced incomes. The proposed Project aims to address these bottlenecks by supporting farmer organizations to meet consumer requirements through cooperative development; improving their capacity to meet buyer and consumer requirements (certification) through technical assistance and training, and basic post-harvest processing that can be done at producer level and add value to farm products. The Project also aims to introduce farmers/farmer cooperatives to new tools for obtaining market information, buying inputs and selling farm products through shortening the input and product supply chains

by enabling them more direct access to consumers and suppliers through the internet and e-commerce trading. The use of e-commerce for farmer cooperative trading is still in a fledgling state in Jiangxi, but over time will provide farmer cooperatives with another sales channel that will enable more direct access to the consumers.

6. At present, many farmer sales are at the farm gate to traders because of small volumes and fresh sales due to limited or no on-farm storage and basic processing, limited or no cool/cold chain transportation and storage, and limited market information. Most counties have small scattered wholesale/retail markets, but almost all of these also lack the above facilities. The scattered nature of producers results in inefficient logistics for traders to purchase farm products. The purpose of the proposed markets/distribution centers is to provide a coordinated, integrated 'one stop shop' or location that provides the above facilities (i.e., processing, cool/cold chain storage, logistics management, selling points) and services (e.g. market information, quality requirements, standards) to which farmers/farmer cooperatives and buyers can come to sell and buy farm products. Over time the markets/distribution centers are expected to drive the need for standardization and quality of farm product supply because of consumer demands. This in turn is expected to drive product price increases. Current post-harvest wastage during distribution is high (25 percent for vegetables in Huichang) because many farm produces are perishable. The provision of cold chain facilities at the markets/distribution centers will reduce wastage (estimated at 10 percent reduction in Huichang) resulting in greater volume of products sold by farmers/farmer cooperatives, thus increasing their sales revenues.

7. The markets/distribution centers will also serve as an information hub from which farmers can obtain market price and product demand information. For farmer cooperatives participating in e-commerce, the market/distribution center with its cold storage facilities would act as a warehouse from which products sold through the internet can be distributed. The markets/distribution centers would also connect VFIHs and the provincial information platform through a COSC physically located in each of these markets/distribution centers.

## **Project Counties**

8. The proposed Project will be implemented in eight counties of Jiangxi Province with activities focused on selected value chains in which the County has comparative advantages. Participating counties were selected based on the following criteria:

- (a) Investment activities conform to the agricultural development strategy, local economic plan, and overall land use plan for the county.
- (b) Projects comprise different types of agriculture development and any special agricultural products are representative for the county.
- (c) Proposed investments to the distribution system are suited to the production base, farm produce trade modes, and sales of agricultural products in Jiangxi.
- (d) Application for inclusion in the Project is voluntary.
- (e) The financial capacity of government at the county level and supporting funds, and loan repayment ability should be considered.
- (f) Investments do not lead to any environmental and social issues that cannot be eliminated

by design and contract execution, and conform to all environmental and social safeguard policies.

- (g) County sub-projects must be cost-effective and have acceptable economic and financial returns.

9. The selected Project counties are Jing'an; Pengze; Huichang; Taihe; Jiujiang EDD; Anyuan; Yushan and Longnan. While the many issues facing the farm produce distribution system in each county (except Pengze to focus on cotton) are similar (e.g., lack of cold storage, poor access to market information, small local markets of insufficient size to coordinate agro-product supply and distribution), each of the proposed counties has different development issues and market development focus with their own specific rationale for investment in a market/distribution center.

- (a) Jing'an is adjacent to Nanchang which is the major market for farm produce in Jiangxi and one which requires good coordination and certification of product supply. It has sixteen small rural retail markets in urban and town areas, with issues of noise, safety, garbage, lack of storage and low-value added for crop products because of limited processing and lack of storage.
- (b) Pengze will focus on cotton trading and storage only as the county is a historically key cotton county in Jiangxi in terms of growing acreage, total production, processing and geographic location. While both total cotton production and cotton growing area in Pengze have experienced a slight decline since 2007 (by 4 percent and 16 percent respectively), cotton yarn production increased dramatically by more than 320 percent. As such, demand for cotton is expected to continue to grow in Pengze and surrounding cluster counties. Pengze's issues are lacking cotton storage capacity and weak services to cotton sector and textile industry in the region which would be eased significantly by construction of a new cotton distribution center.
- (c) Huichang and Taihe mainly serve the local market, but lack wholesale markets of any size with small uncoordinated sales of product often along roadsides in dangerous situations. They also lack cold storage and temperature-controlled transportation to reduce product wastage. Both counties require a central facility where buyers can come and purchase product in a coordinated way.
- (d) Jiujiang is on the Yangtze River specializing in production and trading of aquatic products. Many sales are from farmers to traders, with issues of food safety and quality control. As a major center and distributor for aquatic products, Jiujiang requires a centralized facility that buyers can come to for purchase of product in volume. Jiujiang Economic Development District is strategically located and well prepared to take the role.
- (e) The current market in Anyuan is located in a residential area, and needs to relocate into a rural zone because it is very crowded with serious safety concerns, traffic congestion, and fire risks.
- (f) The market system in Yushan requires refurbishment in three locations including one wholesale market in downtown area and two rural retail markets in two townships. The key issue is obsolete and lacking essential facilities such as processing, cool/cold storage

in all market locations. This is a constraint because many of its products are perishable (vegetables, fruit). In addition, a new logistics transfer station is to be built for an extended service of farm produce distribution.

- (g) Longnan is located on the border with Guangdong and is a major center for trade between the two provinces. It is the only inland county in central China<sup>8</sup> with customs facilities and quarantine enabling it to serve the export market. It is a center for accumulating agro-products from the southern counties in Jiangxi and northern Guangdong for these reasons. It does not have a distribution center and requires a facility for conducting this trade.

## Project Components

10. **Component 1: Strengthening Production Logistics (US\$38.46 million).** The component aims to increase the efficiency and productivity of production logistics and farm systems, including the integration of systems to collect, sort, package, and store agricultural products. To address the challenge of low volumes of farm products contributed by multiple small-holders, farmer cooperatives will be supported to enhance farmer coordination and expand the scale of operations to better coordinate the flow of commodities.

- (a) **Sub-component 1.1: Farmer Cooperative Development Support.** This sub-component will provide sub-grant to support farmer cooperatives and their alliances/associations to improve market access. Each sub-grant will be provided under a Sub-Grant Agreement to be signed between the respective farmer cooperative<sup>9</sup> and the CPMO with terms and conditions satisfactory to the World Bank and set out in the PIM. Farmers/farmer cooperatives may apply for the sub-grant. All applications would be reviewed by the relevant CPMOs based on selection criteria and operational procedures for disbursement agreed with the Bank and specified in the PIM which would include i) eligibility; ii) an application template; iii) application, review and approval procedures; iv) implementation and supervision; and v) terms and conditions. Specifically, the sub-grants will be used for the following activities.
  - (i) Supporting farmer cooperatives establishment/improvement. The Project will provide sub-grants to select farmer cooperatives engaged in the logistics and distribution of farm products for trading booth equipment/tools (i.e. computers, printers, office furniture) to do business in the newly constructed/rehabilitated markets/distribution centers. The sub-grants will support both existing and newly established farmer cooperatives to increase the economies of scale/scope in operations and logistics at the producer level. Size of sub-grants will vary between existing farmer cooperatives (RMB8,000) and newly formed farmer cooperatives (RMB18,000). All farmer cooperatives supported by the Project would be offered a trading booth each (except Pengze where such farmer cooperatives would enjoy cotton ginning service on cost-recovery basis) in the Project financed

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<sup>8</sup> Including provinces of Hebei, Shaanxi, Henan, Hubei, Anhui, Hunan and Jiangxi.

<sup>9</sup> The term farmer cooperatives under Component 1 is understood to include eligible family farms in Longnan County, as the fruits production in this county is dependent upon family farms.

market/distribution center to improve their access to and increase their direct sales of farm produce through Project financed markets/distribution centers.

- (ii) Technical assistance. The Project will provide ongoing technical assistance to address emerging issues constraining farmer cooperatives access to markets including e-commerce, accounting, legal affairs and market development. Technical assistance will be provided by two full time practical marketing development facilitators (one for Pengze) to support the marketing efforts of farmer cooperatives, and one each of part-time legal advisor and accounting advisor. They will be recruited through competitive bidding process by each CPMO. Although based in the CPMOs, they focus their services on the farmer cooperatives. The qualifications and job descriptions for each position are specified in the PIM.
- (iii) Supporting farm produce certification. Food safety and quality status are fundamental part of product branding strategy. The Project will provide one-time sub-grant to the farmer cooperatives upon first-time certification of their farm produce for the labels of green food (RMB15,000), organic food (RMB20,000) and trademark registrations (RMB1,000)<sup>10</sup>. The geographic identification producing marks may also been supported. Supporting farm produce certification will focus on food safety certification, the certified commodity should be highly related to the priority and specialty commodities promoted by the county government. The list of qualified certifiers will be provided by the PPMO. Incentives would be developed by the Project financed markets/distribution centers to encourage farmer cooperatives to certify their products with food safety labeling. and the geographic identification producing mark
- (iv) Supporting e-commerce development. The Project will provide one-time sub-grant (RMB5,000) to support the customized design of websites, registration and other activities required for e-commerce to promote the farmers/farmer cooperatives/family farms and their products. The actual e-commerce transaction will go through the VFIHs which link to the major online shopping marketplaces. The VFIH provides free but generic e-commerce service to the farmer cooperatives as public goods co-financed by the Project and ear-marked fund by a Jiangxi government program. Farmers/farmer cooperatives/family farms can post their supply information (i.e. price, volumes) on the VFIH. The Project will provide support for the startup of such websites, but the extra cost of additional services would be covered by the farmers/farmer cooperatives on a commercial basis.
- (v) Supporting VFIH establishment. Jiangxi provincial government intends to build a Smart Agriculture System to better serve the farmers in the province. The VFIH is the root of the System to collect information from the farm level and provide online services to the farmers in terms of e-commerce and information. The Project will provide one-time sub-grant (RMB10,000) to the target villages in the Project counties to establish such VFIHs following the standards of the provincial Smart

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<sup>10</sup> Defined based on Order 2012 #6 of MOA issued on July 30, 2012 for Green Food; Public Announcement 2014 #11 of State Certification and Supervision Committee issued on April 23, 2014 for Organic Food; and the Regulations for the Implementation of the Law of the People's Republic of China on Trade Marks (August 3, 2002).

Agriculture System and link to the market/distribution center in terms of information interactions and e-commerce logistics services.

- (vi) Supporting capacity building of farmer cooperatives. The Project will provide training to improve the business competency of farmer cooperatives. It will focus on business operations especially marketing. The PPMO will contract third party training institute to deliver the module which required inter-county travels. CPMO will coordinate the training activities through the government institutions in the county. The PPMO will develop selection criteria of target trainees in consultation with DOA's Rural Economic Division and Jiangxi Farmer Cooperative Alliance. The third-party trainers will be contracted through competitive bidding process based on TORs to be developed by the PPMO, which includes but is not limited to training needs assessment, developing the training curriculum and materials, and organizing the delivery of training activities including logistics. The training methods will not be limited to classroom style presentations, but also consider case studies, experience sharing, farmer field school approach, study tours and new media (such as mobile phone APP) as flexible learning tools. Best practice of cooperative business training methods already initiated in Jiangxi will be adopted to design and deliver the training.

- (b) **Sub-component 1.2: Post-harvest Handling.** This sub-component will provide partial guarantees to back portfolios made by the local commercial Bank (Jiangxi Rural Commercial Bank) JRCB using their own funding in financing improved post-harvest handling facilities at producer level (product collection, sorting/grading, storage, washing, labeling, and packing/packaging) to improve efficiency and reduce post harvesting loss. Term loans based on cash-flow needs of the producers will be appraised, provided and managed by JRCB using their long established credit management procedures, and the IBRD funds will be utilized as risk-sharing to mitigate the risk perceived by the financial sector in providing term loans to farmers. This would enable farmer cooperatives to collect, sort, store, package, label and transport farm produce to improve efficiency and reduce post harvesting loss, i.e. the "first mile" issues of farm produce distribution systems. Investments would include building simple off-farm cool storage and initial processing facilities to wash and pack farm produces. The facilities will be managed and maintained by the farmer cooperatives and open for use by farmers, including both farmer cooperative members and non-members on a cost recovery basis.

- (i) The on-lending terms to the end-borrowers will be market oriented and will meet the actual cash flow needs of the entity. Nevertheless, each sub-loan's maturity will not be longer than 3 years and with a maximum 1-year grace period. Specific proposal for post-harvest handling activities will be reviewed by the CPMOs, a long list of recommended candidates for the sub-loan will be provided to JRCB for proper appraisal. The application will follow the agreed criteria and procedures specified in the PIM. It used to be a standard practice in China that the Project county finance bureau together with the Project Management Office were responsible for appraising the sub-loan requests from eligible farmers who are the target group from the Project financed by the WB. Under this Project, the WB's loan will provide a risk coverage for the sub-loans made by JRCB. The IBRD loan will reimburse JRCB the loss which is higher than 2% non-performing loan (NPL)

but with a ceiling of 10%. This loss sharing provides JRCB with the credit protection needed to mitigate the perceived high risk of term lending to farmers. This is an improvement of Jiangxi Government's on-going initiative which provides fund to participating commercial banks to cover full loss of NPL. It will motivate the commercial bank conduct proper borrower credit appraisal and apply strict loan underwriting criteria in making the necessary sub-loans to those farmers who are eligible to borrow. This will also contribute to long term sustainability, since there is scope for commercial banks to expand their lending to sub-loans if the market risks are better understood and mitigated.

- (ii) Based on the request from the Government, the IBRD Project fund will be built on and managed by the Jiangxi's pilot guarantee program in supporting the farmers to access financial resources. Jiangxi has set up a management mechanism including review and approval responsibility in providing funding to the commercial bank, communication with the commercial bank and related funds flow arrangement. Using the existing mechanism with enhancement would leverage the IBRD fund to achieve broader develop impact to ensure long term sustainability such as only providing much needed long-term sub-loan to the farmers and risk sharing instead of government's provision of full subsidy to the commercial bank. A study using the IBRD Project fund has been included to examine the approach and impact of the government's program and the Bank's initiative during the Project implementation. This is part of the government's intention to sustain this program beyond the Project life. During the Project' mid-term review, lessons learned, experience gained will be examined to determine what modifications, if necessary, are required for the guarantee program during the rest of the Project implementation phase and beyond.
- (iii) JRCB has showed a track record in prudent lending and commitment to increase lending in the target area, and has successfully managed the government's pilot guarantee program. JRCB was established since 1951 with 2400 branch offices and 14,000 village posts which is the only commercial bank covers the most rural area in the Province. JRCB is the biggest commercial bank in Jiangxi province in terms collection of deposit and outstanding loans. 40% of the loans made to the rural areas in the Province are made by JRCB. Regulation and supervision of China's banking system has made very impressive progress in the past few years, led by an active, forward-looking banking regulator, China Banking Regulatory Commission (CBRC), with a clear mandate. On bank loan classification, there are five classes, normal, special mention, substandard, doubtful and loss, the substandard, doubtful and loss are categorized as NPL. The NPL management framework covers the key elements first of all, CBRC reviews banks' NPL classification against its guidance on non-performing exposures and forbearance to ensure rigorous recognition of NPLs; and CBRC conducts on-site examination verifying the accuracy of the classification. Secondly, every commercial bank has got an external auditor who is concurred by CBRC. Currently the average NPL for JRCB is about 3%, and 1% for the pilot government program which leveraged US\$2 billion sub-loans made to the rural area. The well-established NPL management system will be used for this Project to trigger the payment to JRCB when the NPL occurred more than 2% but less than 10% for the sub-loans made by JRCB to the targeted farmers under this Project. The current PIM includes one session describing mechanism in managing

this guarantee facility including responsibility for the PPMO, the County Finance Bureau and the county PMO and JRCB, financial management and funds flow arrangement, trigger. A detailed description with templates and documentation requirements, procedures for guarantee coverage requests, verification of claims, staff responsible for review and decision on guarantee payouts and a timeline of how long the process takes will be prepared and reviewed by the Bank. This detail description will be part of the PIM which will be subject to the Bank's review and no objection before disbursement can be made for this sub-component. A banking specialist will join the Bank's supervision missions from time to time to review implementation of this guarantee arrangement. During the last year of Project implementation, an assessment focusing on three aspects will be carried out by the Banks' team to determine whether the undisbursed advance related to the risk-sharing transfer remained in the escrow accounts will be returned to the Bank or Jiangxi will continue using the fund for the same purpose to achieve long term sustainability, and the three aspects are 1) whether Jiangxi has adequate fiduciary oversight on utilization of this guarantee facility; 2) whether Jiangxi has a well-established model and procedures to manage this guarantee facility; and 3) whether the development objective of this activity has been achieved especially related to sustainability. A separate reporting is required for the escrow account during Project implementation and the format will be presented in the Disbursement and Financial Information Letter.

- (c) The selection criteria for farmer cooperatives to be supported by sub-grant under sub-component 1.1 are:
- (i) Completely complying to Specialized Agricultural Cooperatives Law.
  - (ii) Registered in the Project area by providing a copy of registration, including the list of investors or shareholders, clearly defined ownership and management structure.
  - (iii) Highly relevant to the farm produce supported by the Project and in line with the priority commodity and local specialty products promoted by the government.
  - (iv) Proven links with Project supported market and farmers.
  - (v) Proven performance of sharing dividends among the members.
  - (vi) Newly established farmer cooperatives (defined as registration after the Project Effectiveness) with a minimum of 10 registered members.
  - (vii) Able to provide financial reports including balance sheet and income statement.
- (d) The selection criteria for farmer cooperatives access to sub-loan under sub-component 1.2 are:
- (i) Complying to Specialized Agricultural Cooperatives Law.
  - (ii) Registered in the Project area by providing a copy of registration, including the list of investors or shareholders, clearly defined ownership and management structure.
  - (iii) Two years minimum in operation.
  - (iv) Highly relevant to the farm produce supported by the Project and in line with the priority commodity and local specialty products promoted by the government.

- (v) Proven links with Project supported market and farmers.
  - (vi) Established standard accounting and financial management, able to provide financial reports including balance sheets and income statement.
  - (vii) Able to provide satisfied documents and repayment guarantee as required by the loan lending agency.
- (e) The selection criteria for family farms to be supported under component 1 for Longnan county are:
- (i) Registered at the Administration for Industry and Commerce or filing at the Agricultural Bureau.
  - (ii) With regular residence location within the Project area.
  - (iii) Highly relevant to the farm produce supported by the Project and in line with the priority commodity and local specialty products promoted by the government.
  - (iv) Two years minimum in operation.
  - (v) Able to provide satisfied documents and repayment guarantee as required by the loan lending agency.

11. **Component 2: Improving Distribution Logistics (US\$140.25 million).** The objective of this component is to increase efficiency, provide value added benefits and reduce waste of farm produce through improved physical structures, services and management systems of farm produce markets/distribution centers. The operations and management of Project financed markets/distribution centers will be outsourced to a third party professional market management firm or a group of professional market specialists; or assisted by recruiting senior market professionals to the government management team. These firms, specialists or professionals would be selected through competitive process.

- (a) **Sub-component 2.1: Development of Market Infrastructure.** This sub-component will rehabilitate the existing market infrastructure by supporting the required additional facilities, equipment, and improved services to existing collection and distribution centers/markets. This sub-component will also support the building of new market/distribution infrastructure and related equipment. This includes trading stores, halls, and sheds; processing workshops and warehouses; cold/cool chain storage; service and trading buildings; logistics and office equipment; equipment for processing, sorting, packaging, testing product quality and safety; weighbridges, forklifts and vehicles to transport farm produce. Experienced market specialists would be recruited by each CPMO to provide technical assistance to construction and operation of the market/distribution center. Upon completion, such markets/distribution centers will be operated and managed by specialized companies or a group of professional specialists through performance based contracts, based on number or volume of the trading/transaction in the market.
- (b) **Sub-component 2.2: Market Information System.** This sub-component would support the establishment of a market information system consisting of market/distribution center monitoring, operating and management; information collection and disclosure; food safety tracing; and transaction management. The sub-component would include electronic

settlement devices with multiple functions for commodity weighing, bank card swiping, and billing management; and a farm product traceability system through provision of QR printers to all booth renters for every market/distribution center supported. The sub-component would also support the establishment of a COSC for E-commerce at each market/distribution center. This COSC will be the connecting point of the e-commerce households, VFIHs, the e-trading/electronic payment system, and the provincial information platform. It will also be the integration point between the Project e-commerce activities and those counties that have received funds from the provincial Department of Commerce for e-commerce activities in Huichang, Longnan and Yushan. The market information will be provided from the following sources: (i) the current Provincial information system; (ii) the Project investments; and (iii) other data from all Provincial wholesale markets. Pricing; demand and sales; production quantity and origin will be available on an aggregated level and can be analyzed. This will include a website to be shared with the general public. It will in particular help farmers and farmer cooperatives sell their produce online with the public good mandate to (i) provide operational and maintenance service to the VFIHs; (ii) provide market information to the farmers/farmer cooperatives to guide their future production; and (iii) provide value-added primary processing to the local specialty products sourced from those listed on the VFIH.

12. **Component 3: Support Services for the Whole Distribution System (US\$0.45 million).** The objective of this component is to provide support services to the whole distribution system and adding value to the physical market infrastructure investments.

- (a) **Sub-component 3.1. Farm Produce Distribution System Development Planning.** This sub-component would support special research on provincial farm product distribution system and development of a provincial strategic planning for provincial farm product distribution system. Both activities will be organized by the PPMO and contributed by all CPMOs. Consultant services would be provided to carry out these assignments.
- (b) **Sub-component 3.2: Capacity Building for Market Management.** This sub-component would provide market management training to targeting traders, vendors, processors, E-commerce operators, staff and management of the markets/distribution centers. This training will include marketing strategy, market/distribution center operations, product quality, food safety, brand development, and study tours to other markets.

13. **Component 4: Project Management, Monitoring and Evaluation (US\$5.18 million).** The objective of this component is to provide support to Project implementing agencies at each level to manage, implement, supervise and monitor Project activities and progress.

- (a) **Sub-component 4.1: Project Management.** This sub-component will comprise incremental costs associated with Project management at each level, office and training equipment, vehicle rental and consultant services. It will also strengthen the institutional capacity of the PPMO and the CPMOs to implement Project activities through staff training and study tours.

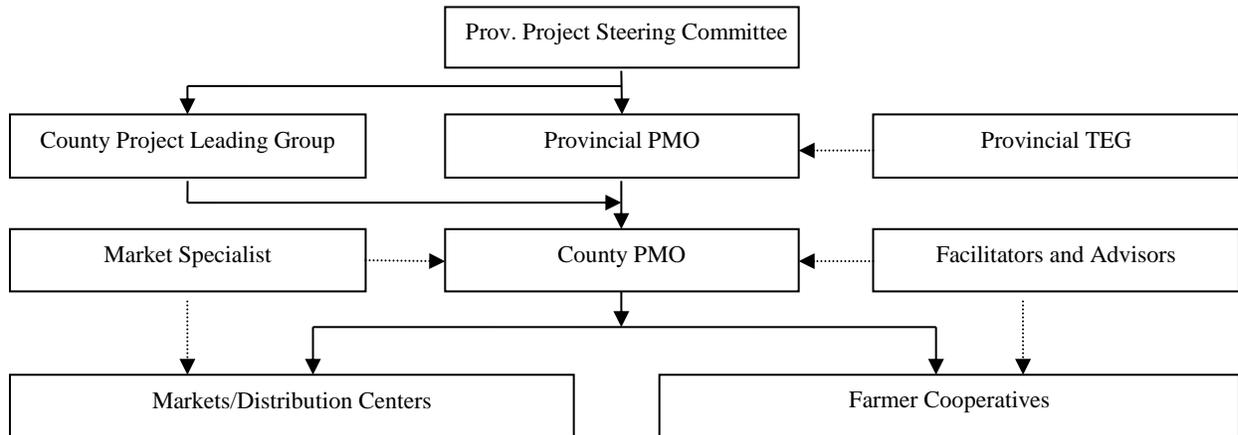
(b) **Sub-component 4.2: Monitoring and Evaluation.** This sub-component will support the establishment of the M&E system, which will comprise M&E of Project physical and financial progress, Project impacts, and environmental and social safeguards compliance. The on-going Project monitoring will be conducted by the PMOs for Project physical and financial progress. Other M&Es will be conducted at baseline, mid-term and the end of the Project by an independent M&E institution(s) to be recruited.

### Annex 3: Implementation Arrangements China: Jiangxi Farm Produce Distribution System

#### Project Institutional and Implementation Arrangements

1. The Project institutional and implementation arrangements follow a well-established model introduced for almost all World Bank Financed agricultural and rural development projects in China incorporating the Project’s uniqueness which is illustrated in Figure 1 below.

**Figure 1: Project Institutional and Implementation Arrangements\***



\*Note: Solid line indicates leadership relations while dash line indicates a technical supporting function.

2. At the provincial level, the following institutional structure was set up for Project preparation and implementation:

- (a) Provincial Project Steering Committee. The PSC, chaired by the Director General of Jiangxi provincial DOA and with members from provincial agencies including DOA, Development and Reform Commission, Department of Finance, Land Administration, Department of Urban Construction, Department of Environmental Protection, Audit Office, and Women’s Federation, has been established. The PSC would be responsible for (i) setting policy guidance; (ii) approval of Project’s overall design; (iii) ensuring availability of counterpart funds; (iv) decision-making on major Project issues; (v) facilitating inter-agency coordination; (vi) evaluating and monitoring Project implementation; and (vii) providing guidance to County PLGs.
- (b) Provincial Project Management Office. The PPMO, established and located in the Jiangxi Provincial Rural Social Development Bureau under the provincial DOA is responsible for the Project’s overall coordination and management during Project preparation and implementation. Specifically, the PPMO is responsible for organizing and developing the overall Project plan and design; consolidating the Project’s overall annual work plan and budget; reviewing and approving the work plans of the CPMOs and verifying Project costs; managing Project procurement activities; assisting the finance department to organize, verifying and consolidating reimbursement applications and overseeing Project financial management; monitoring Project’s physical and financial progress; coordinating

preparation of the Project progress report; and monitoring compliance with safeguard policies.

3. At the county level, the following institutional structure similar to that at the provincial level was set up for Project preparation and implementation:

- (a) County Project Leading Group. A PLG has been established at each county. The PLG is headed by a county government leader in charge of agriculture with members from county agencies similar to the composition of the PSC. The PLG has similar responsibilities as the PSC's within its jurisdictions.
- (b) County Project Management Office. All CPMOs have been established and are located in the county agriculture bureaus (or other relevant bureaus such as the agriculture and grain bureaus of Huichang and Longnan and the agriculture, forestry and water bureau in Jiujiang EDD). The CPMOs are responsible for Project management and general coordination on a daily basis; supervising Project design and implementation; monitoring Project activities; preparing annual work plans; monitoring and reporting on Project progress, outputs, results; and supervising practical market development facilitators.
- (c) Operation and Management Arrangement of Market/Distribution Center. To ensure market efficiency, competitiveness and sustainability, two operation and management models will be introduced by the Project counties i.e. (i) outsourcing to a third party professional market management firm or a group of professional market specialists through performance based contracts, which may include number or volume of the trading/transaction in the market; and (ii) recruiting senior market professionals to assist government management team in market operation and management. The key qualifications for such senior market professionals are (i) proven market experience and performance; (ii) public service commitment; and (iii) understanding of local market situation.

4. **Technical Support.** The Project would recruit two levels of consultant services. At the provincial level, a TEG has been established to provide technical support to ensure overall soundness of Project designs and implementation. At the county level, the technical support would be provided through the following arrangement:

- (a) Two full-time practical market development facilitators (one for Pengze) and two part-time advisors will be recruited by each county to support the implementation of Component 1: Strengthening Production Logistics, in particular marketing efforts of farmer cooperatives. The selected facilitators would dynamically communicate with the target farmer cooperatives to address their emerging issues during Project implementation. A selected facilitator does not necessarily have the capability to solve all the problems by himself/herself but would be able to facilitate the farmer cooperatives to find solutions from the provincial TEG and external resources. The key selection criteria for this position could include (i) university degree preferably with marketing or business management background; (ii) minimum two years of working experience; (iii) willing to accommodate in the county and work in countryside; (iv) good communication and computer skills, preferably familiar with e-commerce; (v) self-motivated and committed to rural and agriculture development; and (vi) team worker but also able to work independently. The selected facilitators will be based in the county, receive necessary training, and work with the target farmer cooperatives on a routine basis. A candidate

could also be an agribusiness employee with marketing skills and experiences willing to work in his/her hometown county or a retired village leader with practical skills and experience. The two part-time advisors will provide legal and accounting services necessary for farmer cooperatives in their business and marketing operations.

- (b) Given the substantial risk to design, construct and operate a new or rehabilitated market/distribution center, a team of experienced market specialists would be recruited by each CPMO to provide technical assistance to: (i) work with the designers to make sure the designs would meet the function of the market/distribution center; (ii) prepare detail operation and management plan of the market/distribution center; (iii) develop business strategy for the market/distribution center including action plan to engage potential producers; traders and buyers to the markets and subsequent active participation in the market transaction; and (iv) prepare relevant training plan for the managers and staff of the market/distribution center including training curriculum and effective training methodology.

## **Financial Management, Disbursements and Procurement**

### ***Financial Management***

5. The FM capacity assessments were conducted in December 2015 and January 2017, at the provincial and CPMOs in accordance with OP/BP 10.00 and the Financial Management Practice Manual. The assessment identified the principal risk as the lack of knowledge and experience in managing Bank-financed projects by the CPMO staff. This could lead to misuse or inefficient use of Project funds. Mitigation measures to address this risk are as follows: (a) distribution of an FM manual (FMM) to standardize Project FM coordination and reporting procedures; and (b) provision of FM technical training and knowledge sharing workshops to be arranged by the Bank and the PPMO. In addition, the risk of delayed delivery of counterpart funds by the government will be mitigated by preparing a realistic financing plan by local government and close Bank team monitoring during Project implementation. FM control risk was assessed as moderate because of the challenge of ensuring that funds are raised in a timely manner and payment to contractors is adequately accounted for.

6. Funding sources for the proposed Project include the IBRD loan and counterpart funds. The World Bank Loan Agreement will be signed between the World Bank and the Ministry of Finance (MOF). The on-lending agreement will be entered into by the MOF and the Jiangxi Provincial Government. The Provincial government will on-lend the IBRD loan to county governments directly. The county government will bear the repayment responsibility. The required counterpart funds will be raised by county government in the form of land and cash contribution. Given the local government's revenue from land sales is decreased in most places, timely delivery of the committed counterpart funds into the proposed Project might be a big challenge to county government. Some alternative measures should be considered by county government to address this issue. To ensure the counterpart fund will not be a bottleneck during Project implementation, a realistic financing plan should be prepared by each county government so that the funds delivery could be closely supervised during Project implementation.

7. **Audit Arrangements.** Jiangxi Provincial Audit Office (JPAO) has been identified and will be authorized by the National Audit Office as the auditor for the proposed Project. The annual audit report on the Project financial statements will be issued by this Audit Office and will be due to the Bank six months after the end of each calendar year (by June 30 each year). JPAO has extensive experience with previous Bank projects and is deemed acceptable to the Bank. The audit report and audited financial statements will be publicly available at both the World Bank and JPAO's websites.

8. **Budgeting.** The IBRD funds will be managed by government treasury in the specially set up accounts. The CPMOs are responsible for preparing the Project annual work plan and submitting to the PPMO for consolidation. Since the required counterpart funds for county sub-projects will be fully raised by county government, the CPMOs will be responsible for ensuring the required counterpart funds are committed in the county government's annual budget. A realistic financing plan prepared by county government will enable the Bank and government entities to supervise timely delivery of the committed funds.

9. Project funds will be paid to contractors based on the approved construction progress. Project annual plan variance analysis will be conducted regularly by all PMOs, thus enabling timely corrective actions to be taken.

10. **Funds Flow.** The DOF will open and manage a segregated U.S. dollar designated account for the IBRD loan proceeds in a commercial bank acceptable to the Bank. Payment for these activities under the IBRD loan will be delivered to the county finance bureau which will pay the consultants/beneficiaries. Payment request will be prepared by the CPMOs and submitted to county finance bureaus for review and approval, then the request will be sent to the PPMO and finally to the DOF for approval. An escrow account will be opened only used to provide Guarantee on the borrowing from local commercial banks by the farmers, details refers to paragraph 15(d). For those activities financed by counterpart funds, county finance bureaus will pay to the contractors directly based on CPMOs' request. The county finance bureaus should inform the CPMOs in a timely manner after the payment so that they can prepare accounting ledgers. Detailed disbursement procedures and funds flow arrangement are described in the Project FMM.

11. The proposed funds flow arrangement and related processing period should ensure contractors receive payment within required dates stipulated in the signed contracts. The Bank will closely monitor disbursement efficiency during implementation. If material payment delays resulting from slow disbursement are noted, the Bank will guide the proposed Project to explore more streamlined funds flow arrangement.

12. **Accounting and Financial Reporting.** The administration, accounting and reporting of the proposed Project will be set up in accordance with Circular #13: "Accounting Regulations for World Bank-financed Projects" issued in January 2000 by the MOF.

13. The CPMOs are the lowest level responsible for maintaining Project accounting records and preparing financial reports for Project activities. The PPMO is going to purchase a web-based accounting software named "User-friendly" to record and present Project activities and the

preparation and consolidation of Project financial statements will be conducted by the system automatically. The PPMO should provide more guidance and training to the CPMOs to ensure Project activities could be recorded properly and timely in line with the requirement of circular 13. The Project is required to prepare unaudited semi-annual Project financial reports and furnish these to the Bank as part of the semi-annual Progress Report no later than 60 days following each semester.

14. **Internal Controls.** The internal control environment of the proposed Project is adequate. All transaction processing will use the government's institutions, processes and systems that provide for segregation of duties, supervision, quality control review, reconciliations, and independent external audits and appear to meet the needs of the proposed Project. Although the internal audit function does not exist in the proposed Project, all payments will follow the official verification and payment routine. All Project funds are paid by government treasury directly although not all are from a single treasury account. A robust internal verification system has been established to ensure Project construction could be properly supervised and verified.

15. To make Project disbursement more efficient, the output based disbursement method is being introduced to the Component 1.1 activities. The agreed procedures for Component 1 are as follows:

- (a) Sub-grant for “two products and one mark” and trademark registration. Once the certificate for green food, organic food, and the geographic identification producing mark are obtained from related authorized entities and verified by the CPMOs, the predetermined subsidy (the detailed subsidy amount will be stated in the FM manual) will be given to the beneficiary. A one-time subsidy will also be provided to the beneficiaries who apply for the trademark successfully. Certificate renewal is not eligible for Project financing. The supporting documents include the verification issued by the CPMO and a copy of the certificate/mark/trademark obtained. The retroactive financing also applies to this subsidy scheme.
- (b) Sub-grant for the establishment of e-commerce. The subsidy (the detailed amount will be stated in the FM manual) will be provided to the farmer cooperatives, family farms and large farmers if the standards set up by the PPMO are met and verified by the CPMOs.
- (c) Sub-grant for the establishment of VFIH. A three-party agreement might be required to be signed among CPMO, Nongxintong Science and Technology Company (Nongxintong) and the beneficiary. The hub will be co-financed by Nongxintong and the beneficiary (supported by the subsidy). After the hub is established and verified by CPMO, the subsidy (the detailed amount will be stated in the FM manual) will be paid to Nongxintong based on the beneficiary's authorization.
- (d) Risk-sharing transfers. The IBRD loan will not be on-lent to farmers directly. It will instead be disbursed into separate accounts only used to provide Guarantee on the borrowing from local commercial banks by the farmers. The procedures are as follows:
  - (i) The county finance bureau will sign an agreement with the participating commercial banks with the assistance of the PPMO. The contents of the agreement will include but not limited to: a) the responsibility of each party; b) the selection

criteria for potentially eligible beneficiary; c) the eligible activity to be financed; d) the borrowing terms and conditions to the farmers; e) the agreed compensation procedures; and f) dispute resolution mechanism, etc.

- (ii) Each year the CPMOs prepare an implementation plan including the total loan amount to be lent to the farmers and a list of potential borrowers. Once the plan is approved by the PPMO, a withdrawal application will be submitted to request disbursement.
- (iii) Seven Project counties/districts will open seven separated accounts (to be identified by Risk-sharing manual) managed by the County Finance Bureau and the disbursed fund will be deposited in a bank account with the name of CPMO opened in the cooperating commercial bank as a separate account to receive the Bank's advance. The funds can be only used to compensate the loss incurred in line with the signed agreement. The banks should submit the compensation request to relevant CPMOs when such loss incurred. Once approved, the compensation will be transferred from this separate accounts to the commercial banks.
- (iv) From the second year, the requested plan funds will deduct the amount disbursed in the previous year but not lent to farmers. In the last withdrawal application, the requested amount should be adjusted to ensure the total disbursed amount equals to the amount that was lent to farmers.
- (v) During the last year of Project implementation, an assessment focusing on three aspects will be carried out by the Banks' team to determine whether the undisbursed advance remaining in the escrow accounts will be returned to the Bank or Jiangxi will continue using the fund for the same purpose, and the three aspects are 1) whether Jiangxi has adequate fiduciary oversight on utilization of the Project Fund; 2) whether Jiangxi has a well-established model to manage this Project Fund; and 3) whether the development objective of this activity has been achieved especially related to sustainability. A separate reporting is required for the escrow account during Project implementation and the format will be presented in the Disbursement and Financial Information Letter.

- (e) The CPMOs will hire some individual consultants to provide various consulting services to the beneficiaries including conducting the above-mentioned activities.

16. **Funding Procedures for Training Activities.** Regarding Project training activities, payment for trainings implemented by the CPMOs will be based on actual expenditures and use Statement of Expenditures (SOEs) to request reimbursement. Training activities under the PPMO's responsibility will be conducted by the third parties and will follow the procedures below:

- (a) If the selected third party is subsidiary of the DOA, the PPMO will sign an implementing agreement with the entity. Once the training is complete and verified by the PPMO, the funds will be paid to the training entity. The payment will be based on either the unit cost determined or actual expenditure.

(b) For selected other third parties, the guidance note recommended by the Bank should be strictly followed. The payment will be based on either the unit cost determined or actual expenditure.

17. The detailed procedures as well as the corresponding subsidy amount will be presented in the PIM which provides guidance to the CPMOs so that related Project activities can be carried out properly.

***Disbursements***

18. The borrower has decided that disbursements will be documented via the transaction-based disbursement method. The primary Bank disbursement method will be advances to the DA. The DOF will open a USD designated account and be responsible for converting the US dollar to Chinese Yuan if the payment request currency is RMB. Withdrawal Applications (WAs) will be prepared by the DOF to request Bank disbursements and to document the use of Bank financing. WAs will include supporting documents identified in the Disbursement and Financial Information Letter issued by the Bank. Direct payment and reimbursement from the loan account may also be used, provided the withdrawal application value is above the minimum application amount. The IBRD loan would be disbursed against eligible expenditures (taxes inclusive) as in the table below.

**Table A3.1: Eligible Expenditures**

Disbursement Categories	IBRD Loan	
	Allocated Amount (in US\$)	Percentage of Expenditures to be financed (inclusive of taxes)
(1) Works under Component 2	75,980,000	85%
(2) Goods, non-consulting services, consultants' services, Sub-grants, Training and Incremental Operating Costs under the Project	27,110,000	100%
(3) Risk-sharing Transfers under Sub-component 1.2	32,960,000	100% of amount disbursed
(4) Front-end Fee	375,000	Amount payable pursuant to Section 2.03 of the Loan Agreement in accordance with Section 2.07 (b) of the General Conditions
(5) Interest and Commitment Charge on the Loan accrued on or before the last Payment Date immediately preceding the Closing Date	13,575,000	Amount payable pursuant to Sections 2.05 and 2.04 of this Agreement, respectively, in accordance with Section 2.07 (c) of the General Conditions
(6) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 4.05 (c) of the General Conditions
Total	150,000,000	

19. The proposed Project is expected to be completed by the closing date. The proposed Project will have a Disbursement Deadline Date (final date on which the Bank will accept withdrawal applications from the borrower or documentation on the use of loan proceeds already advanced by the Bank) of four months after the closing date. This “Grace Period” is granted in order to permit the orderly Project completion and closure of the loan account via the submission of withdrawal applications and supporting documents for expenditures incurred on or before the closing date. Expenditures incurred between the closing date and the disbursement deadline date are not eligible for disbursement, except as otherwise agreed with the Bank.

20. For Risk-sharing Transfers under Category (3), until and unless the Bank is satisfied, and has notified the Borrower of its acceptance, that the Project Implementation Entity has adopted and incorporated in the Project Implementation Manual (PIM), the Risk-sharing Manual, in form and substance acceptable to the Bank.

### ***Procurement***

21. **Procurement Institutional Arrangement.** The Project implementation agency comprises a PPMO and eight CPMOs. The procurement of all contracts funded by the Bank will be organized and carried out by the PPMO except for small value contracts to be procured via simple procurement methods such as shopping or individual consultant selection methods which are to be procured by the CPMOs. All procurement activities will be carried out with the support and assistance of a professional procurement agent with extensive procurement knowledge and experience of Bank funded projects. The contract management responsibilities for works, goods and services contracts within each county level sub-project will be undertaken by the CPMOs after contract signing, The PPMO is also responsible for overall coordination and communication with the Bank. The procurement activities undertaken by the PPMO with participation of the CPMOs and support of a professional procurement agent includes preparing the procurement plan and its updates, the bidding documents, requests for proposals, organizing the bidding/selection process, procurement and contract monitoring, and obtaining the required Bank approvals.

22. **Procurement Risk Assessment and Mitigation Measures.** The PPMO has good procurement experience with previous Bank funded projects. It is well staffed with procurement personnel having previous experience in implementing projects funded by IFIs. However, most of the procurement staff at the CPMOs lack procurement knowledge and experience with IFI projects, but have prior experience or knowledge with the local procurement procedures under the domestic laws and regulations. The key risks concerning procurement for implementation of the proposed Project are: (a) procurement delays and non-compliance with Bank procurement guidelines either due to unfamiliarity with specific Bank procurement policies and procedures or a tendency to comply with local procedures when local regulations conflict with Bank procurement guidelines where the procurement is conducted at the domestic government bidding transaction centers; and (b) weak capacity of the procurement staff in procurement cycle management and contract management.

23. To mitigate these risks, the following actions have been or will be carried out during Project preparation and implementation: (a) employment of a procurement agent and Project

management staff with experience in procurement and contract management for Bank-financed projects to support and guide the procurement work of the PPMO and the CPMOs; (b) provision of training to the procurement staff on the Bank's procurement policies, methods, and procedures, as well as the use of standard bidding/proposal documents and evaluation principles; (c) preparation of a procurement manual to provide guidance to Project implementers (the draft manual has been completed and reviewed by the Bank); (d) early procurement support missions by the Bank's procurement specialist, where necessary; (e) annual field procurement supervision missions to review procurement actions where needed, (f) close coordination between the client and the Bank team; and (g) the procurement staff of the PPMO and the CPMOs regularly attend Bank procurement training sessions organized by the local universities or supported by the Bank.

24. The bulk of the IBRD loan will be used for the procurement of works, goods, consulting and non-consulting services so most of the contracts will be procured via National Competitive Bidding (NCB) and Selection based on Consultant's Qualifications (CQS). The PPMO has sufficient capability to carry out the procurement of the proposed Project with the professional support of a procurement agent. The overall procurement risk for the proposed Project is assessed as Moderate.

25. **Procurement Policies and Guidelines.** Procurement for the proposed Project will be carried out in accordance with the World Bank's "*Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*" dated January 2011 (revised July 2014), and "*Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers*" dated January 2011 (revised July 2014), and the provisions stipulated in the legal agreements.

26. **Procurement of Goods and Works.** Procurement will be done by using the Bank's Standard Bidding Document for all International Competitive Bidding (ICB) contracts and National Model Bidding Documents agreed with or satisfactory to the Bank for all NCBs. Further details are provided in the Procurement Plan.

27. **Selection of Consultants.** The IBRD loan will finance consulting services contracts to assist the PPMO and its subsidiaries in capacity building during Project implementation. The Bank's Standard Request for Proposal shall be used for all consulting assignments with firms. Short lists of consultants (firms) for services estimated to cost less than US\$ 500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

28. **Procurement Plan.** A Project procurement plan for the first 18 months of Project implementation has been reviewed by the Bank and finalized during Project appraisal. It is also available in the Project's database, on the Bank's external website and at Jiangxi PPMO's office. The procurement plan will be updated in agreement with the Bank annually or as required to reflect actual Project implementation needs and improvement in institutional capacity.

29. **Procurement Methods and Bank Prior Reviews.** The thresholds for procurement methods and Bank prior review as indicated in Table A3.2 below will be followed for Project

procurement implementation. Specific prior review requirements will be indicated in the Project procurement plan.

30. In addition to the prior review supervision carried out from the Bank offices, Bank procurement supervision missions will visit the field to carry out procurement supervision or post-review of procurement activities at least once every 12 months. The post review sampling ratio would be one out of 10 contracts.

31. **Advance Contracting and Retroactive Financing.** Retroactive financing of up to an aggregate amount not to exceed \$10,000,000 of the IBRD loan will be allowed for eligible expenditures incurred on or after January 12, 2017 and prior to the Signature Date of the Loan Agreement. Payments will be made only for contracts procured in accordance with applicable Bank procurement procedures

**Table A3.2: Thresholds for Procurement Methods and Prior Review**

Expenditure Category	Contract Value Threshold (US\$)	Procurement Method	Prior Review Threshold (US\$)
1. Civil works	≥40,000,000	ICB	All contracts ≥USD 15 million
	<40,000,000	NCB	
	<500,000	Shopping	
2. Goods	≥10,000,000	ICB	All contracts ≥USD 4 million
	<10,000,000	NCB	
	<500,000	Shopping Direct Contracting	
3. Consultant services	≥300,000	QCBS/QBS/LCS/FBS	All contracts ≥USD 2 million
	<300,000	CQS	
		Individual Consultant	≥USD 400,000

**Notes:** ICB: International Competitive Bidding      CQS: Selection Based on the Consultants' Qualifications  
 NCB: National Competitive Bidding      LCS: Least Cost Selection  
 DC: Direct Contracting      IC: Individual Consultant selection procedure  
 QCBS: Quality- and Cost-Based Selection      FBS: Fixed Budget Selection  
 QBS: Quality-Based Selection      IA: Implementing Agency

## **Environmental and Social (including safeguards)**

### ***Environmental***

32. This is a Category B Project. Applicable environmental safeguard policies for the Project include: Environmental Assessment (OP4.01) and Pest Management (OP4.09).

33. **Environmental Assessment (OP4.01).** The principal negative environmental impacts are mainly associated with Component 2 which finances the rehabilitation and expansion of existing markets and establishing new markets and logistic distribution centers. The Project will support eight markets and logistical distribution centers in Jiangxi Province. The markets/distribution centers will include trading buildings, processing workshops (e.g. produce classification and packaging), produce storage facilities, and service buildings etc. One market/distribution center would have an average area of about 50,000m<sup>2</sup>. All the markets/distribution centers are located in peri-urban areas next to major roads which have been heavily influenced by human activities.

The Project will cause general construction nuisance (e.g. disposal of spoil, nuisance of dust, noise, wastewater, and disturbance to traffic etc.) during the construction phase. During operation, the markets/distribution centers will have adverse impacts including disposal of waste and wastewater generated at the markets/distribution centers, increased traffic, and fire safety issues etc. None of these impacts is expected to be significant. Adverse impact would be site specific, and limited in nature.

34. **Environmental Management Plan.** An EMP has been prepared for the Project in accordance with Environmental Assessment Policy OP4.01. Mitigation measures consist of (a) Environmental Code of Practices to address general construction related impacts; and (b) specific mitigation measures during design, construction and operation phase, including: (i) provision of treatment facilities for wastewater, and waste generated from the markets/distribution centers; (ii) provision of adequate traffic management facilities and safety measures; (iii) treatment and disposal of wastewater and waste collected from the markets/distribution centers; and (iv) maintenance of safety facilities and emergency plan for accidents. Measures for the construction phase will be entered into bidding documents and civil works contracts. Detail of the monitoring plan (e.g. monitoring for wastewater, noise), institutional arrangement (e.g. PPMO, county PMO) and capacity building activities (e.g. safeguards training) are specified in the EMP.

35. **Pest Management (OP4.09).** The proposed Project would not support any production activity other than the cost of obtaining the certification for green and organic produce (i.e. RMB15,000 for green certification, and RMB20,000 for organic certification). The certification would lead to reduction of pesticide and fertilizer use in the Project area by helping farmers to better manage the impacts of their agricultural activities. As such OP4.09 is triggered. The Project will not include any procurement of pesticides or pesticide application equipment; nor introduce any new pest management practices, or expand/alter existing pest management practices; nor lead to substantially increased pesticide use and subsequent environmental and health risks. The construction and operation of the proposed warehouses will not lead to increase usage of pesticides to treat post-harvest pest and diseases. Given the absence of significant pest management issues under the Project, a stand-alone PMP is not required. EMP includes training for cooperatives to improve agricultural produce quality which would help reduce pesticide use.

36. **Environmental Management Framework.** The Project may include some small investments (such as post-harvest handling through provisions of investments for farmer cooperatives to collect, sort, store, package, label farm produces, and for farm produce processing) which are not known during Project preparation. As such, an EMF has been prepared. The EMF sets out the guidelines and procedures to address the environmental impacts of the proposed activities. The EMF includes, among others: (a) safeguards policies and guidelines and procedures to address environmental issues caused by physical activities financed by the Project, each of the proposed investments will be screened to identify/define its potential social and environmental impacts; safeguards policies triggered; EA category; safeguards instruments to be prepared; and consultation and disclosure requirements; and (b) institutional arrangements, and the requirements for capacity building activities and budget.

37. **Public Consultations and Disclosure.** In accordance with OP4.01, public consultations have been conducted during the safeguards documents preparation process, including meetings

with Project affected people and local governmental agencies (e.g. Environmental Protection Bureau). The consultations on the draft safeguards documents were undertaken from 2014 to April 2016. Feedback and concerns from the consultation have been addressed in the Project design and in the safeguards documents. The environmental safeguards documents were locally disclosed at the governmental website on November 21, 2016 and disclosed on the InfoShop on December 1, 2106. The updated EA safeguards document was re-disclosed locally on January 10, 2017 and on the InfoShop on July 14, 2017.

### ***Social***

38. A social assessment (SA) has been done for all Project localities. The social assessment was done by PMOs through hiring a professional consulting team with public consultation in all Project counties. The SA findings have confirmed that there is no presence of ethnic minorities meeting the definition of the World Bank Indigenous Peoples term and the Bank OP 4.10 is therefore not triggered. All Project civil works will be built on existing public land. Nevertheless, the SA also indicates that future possible land acquisition might arise if the currently identified locations or scale of Project civil work changes, some land may be needed for Project temporary use which might only be clear during actual construction. Based on the SA, to address social risks and impacts, two main social documents have been prepared in draft. They are social assessment report and a resettlement policy framework.

39. The social assessment was conducted with intensive consultations with Project stakeholders, including surveys with 757 local residents, interviews and consultative meetings with relevant government agencies and major players in the farm produce market/distribution center in Project areas. The SA was based on assessment of Project impacts, expectations, and needs and roles of various stakeholders. The proposed Project will have significant positive social impacts on the local community and farmers in Project areas after the Project investments help to improve farm produce distribution systems, facilities and supporting farmer cooperatives. Local farmers will be able to benefit from the Project trading infrastructure and facilities, capacity building, and more jobs and income generation opportunities. The proposed Project is expected to have limited negative social impacts during Project construction in terms of noise, dust and temporary restrictions to access roads affecting local people near construction sites. Project villages will be exposed to safety risks due to the increased traffic of the construction fleet and influx of construction workers. During Project operation, negative impacts may come from changes to traditional trading, pricing and business modalities, owing to influx of business brokers and influx of external pricing, valuing and new business models. Appropriate Project design will take these impacts into consideration and mitigation measures will be taken to avoid or minimize negative impacts and promote positive ones.

40. The social instruments – a Resettlement Policy Framework (RPF) has set out the principles, rules, guidelines and procedures to assess the social risks and impacts as per the World Bank safeguards policies and national laws/regulations. The PMOs are required to report and monitor potential social risks, such as issues emerging from future involuntary resettlement as well as other social aspects regarding Project affected people and communities during Project implementation. As necessary, actions will be taken to address social risks and impacts. In terms of implementation, the PPMO, established under the Jiangxi DOA, will take overall responsibility for the implementation of the social instruments. This PPMO has good experience

in implementing World Bank supported projects in the past. Each Project CPMO, with dedicated staff, will be responsible for daily management and implementation of these instruments with the support of the Project township government and village committees. The PPMO will hire an experienced professional social consulting team to provide on-going technical support in providing regular and timely advice on, and monitoring and evaluation of, the implementation of social safeguards instruments.

41. In accordance with the Bank's information disclosure policy, on November 24, 2016, the SA and RPF were disclosed in the Project areas and on websites of the local government agencies, and made accessible to the public by the PMOs. These social safeguards instruments were also disclosed by the InfoShop on December 1, 2016 and replaced with an updated version on the InfoShop on September 20, 2017.

42. **Gender Aspects.** The proposed Project will take a gender sensitive approach to activities such as capacity building for farmers, support to farmer cooperatives and other such Project interventions. As part of the M&E system, the proposed Project will measure the beneficiaries (male and female) by gender disaggregated data. Social and gender equality has also been considered through participation of men and women during consultations of Project sample sites during project preparation. Such approach to gender equality will also be applied to compensation of affected men and women related to the Project temporary and permanent land acquisition and resettlement if there is any arise during Project implementation. Specific gender responsive measures will be continually taken during project implementation, and also monitored, evaluated and documented as part of the Project monitoring and evaluation.

43. **Citizen Engagement.** This is a key aspect considered in the Project social assessment: Public consultations were done during project preparation, including field investigations with relevant government agencies, group consultative meetings with Project communities and people, and questionnaire surveys across selected villages in Project counties. Such public consultation will continue to draw on local people's engagement and feedback in line with the Project objectives. Consultations will be continued with local residents (both men and of women) on the needs for awareness and skill training associated with the Project-led changes. Farmer cooperatives will be promoted in farm products trading and marketing to engage farmers intensively. Public consultations will be further held for the selection of locations for farming facilities and other relevant project interventions. A grievance redress mechanism will be established for affected people in the proposed Project as shown in the RPF and this document. Information on potential social impacts, community development, and planned mitigation measures will be shared with the public. Citizen engagement will also be reflected in the Project Results Framework, through the following indicator: percentage of residents in Project areas reporting that they are consulted about the Project.

## **Monitoring and Evaluation**

44. The Results Framework describes the PDO-level outcome indicators and the component-specific intermediate indicators, including core sector indicators, and respective baselines and targets (Annex 1). M&E arrangements and responsibilities are described in detail in the PIM. Project M&E will be the responsibility of the PPMO and CPMOs. On-going Project progress monitoring shall be carried out by the PPMO and CPMOs and all reporting requirements for

physical progress monitoring, contract-based procurement management, and financial management reporting are to be satisfied by the PPMO and the CPMOs. A designated M&E staff will be appointed at the PPMO and in each CPMO to be responsible for compiling M&E relevant information in a timely manner for consolidation into the semi-annual and annual Project progress reports. A web-based accounting software named “User-friendly” will be used to record and present Project activities, prepare and consolidate Project financial statements, track and document Project financial progress, and prepare unaudited semi-annual Project financial reports as part of the semi-annual Progress Report.

45. The PPMO will engage qualified institution(s) to carry out independent Project baseline survey at Project start-up, impact assessment, environmental and social safeguards compliance assessment at mid-term and at the end of the proposed Project. The purpose of these assessments would be to carry out a systematic quantitative analysis of Project implementation and assess progress towards achievement of the PDO based on the key performance indicators. Detailed terms of reference will be prepared by the PPMO and reviewed by the Bank during implementation prior to commencement of the specific M&E assignments. Project funding for the M&E assignments has been budgeted.

## **Annex 4: Implementation Support Plan China: Jiangxi Farm Produce Distribution System**

### **Strategy and Approach for Implementation Support**

1. The objective of the implementation support plan is to ensure: (a) the objectives of the proposed Project are satisfactorily achieved; (b) implementation of all Project activities follows agreed procedures and complies with all fiduciary and safeguards requirements; and (c) identified risks are adequately mitigated in a timely manner. While most of the Project risks are either low or moderate, the overall Project risk is rated as substantial due to the implementation agency capacity and the need to take a systematic approach to improve the whole distribution system. Hence, the focus of the Bank's implementation support will be on implementation capacity building.

2. **Implementing Agencies Capacity Building.** Most CPMOs have no experience in implementing Bank-financed projects, including in fiduciary (procurement, FM) and safeguards policies. Risks posed by this lack of experience have been and will further be mitigated through staffing the CPMOs with sufficient number of competent staff, providing them with targeted training on Bank policies, procedures, Project management and related technical skills during Project preparation and early stages of implementation. During Project implementation, staff capacity will be enhanced by competent implementation support consultants and specialized firms for detailed design, Project management, construction supervision, and monitoring and evaluation.

3. Specifically, risks arising from lack of experience in Bank procurement and financial management procedures will be mitigated through hiring of a procurement agent with procurement experience in projects financed by the Bank or other multilateral financing institutions to assist with the procurement process. The PPMO has project management experience in projects financed by the Bank or other multilateral financing institutions and will provide Project management and technical support to the CPMOs. This will include contract supervision, financial management and procurement related issues; attendance of workshops on procurement, FM and contract management under Bank financed projects by the PMO staff; provision of procurement training by the Bank procurement specialist throughout Project implementation; preparation and use of the procurement management manual and FM manual to provide guidance on procurement and FM. In terms of addressing lack of prior experience in managing safeguard aspects in Bank-financed projects, the EMP defines clear institutional arrangements setting out the environmental management responsibilities, supervision and reporting duties at CPMO level. Additional training has been and will be provided by the Bank team.

4. The tables below summarize the implementation support needed during the different stages of the proposed Project, and the respective resources.

<b>Time</b>	<b>Focus</b>	<b>Skills Needed</b>	<b>Resource Estimate</b>
First 12 months	Procurement supervision and training	Procurement specialist	4 SWs
	FM supervision and training	FM specialist	2 SWs
	Social safeguards/Resettlement supervision	Social development specialist	2 SWs
	Environmental management and supervision	Environmental specialist	3 SWs
	Technical supervision and support	Distribution system specialist and agri-business specialist	16 SWs
	Project management	TTL	10 SWs
13-63 months	Procurement review, supervision and training	Procurement specialist	4 SWs
	FM supervision and training	FM specialist	2 SWs
	Social safeguards/Resettlement supervision	Social development specialist	2 SWs
	Environmental management and supervision	Environmental specialist	3 SWs
	Technical supervision and support	Distribution system specialist	8 SWs
	Project management	TTL	8 SWs

***Skills Mix Required***

<b>Skills Needed</b>	<b>Number of Staff Weeks each Year</b>	<b>Number of Trips</b>	<b>Comments</b>
TTL	8 SWs	2	Washington based
Distribution system specialist	8 SWs	2	Consultant
Agri-business specialist	8 SWs	2	Consultant
Procurement specialist	4 SWs	2	Country office based
FM specialist	2 SWs	2	Country office based
Social development specialist	2 SWs	2	Country office based
Environment safeguard specialist	3 SWs	2	Country office based

## **Annex 5: Economic and Financial Analysis**

### **China: Jiangxi Farm Produce Distribution System**

#### **A. Introduction**

1. Chinese produce markets are rapidly changing which is pushing structural change throughout the agricultural sector. The Chinese government has endeavored to develop modern, more effective farm produce distribution systems to improve agriculture competitiveness, and meet key objectives related to consumer welfare, rural development, and farm incomes. Jiangxi, well located geographically close to the major urban markets of Shanghai, Guangzhou and Hong Kong, SAR, China has been a net exporter of major farm produces to other provinces of China since 1949. However, various bottlenecks in the distribution system limited Jiangxi's ability to (a) improve its farm produce distribution system within its boundary and (b) compete in the high value urban markets of the adjacent regions. The proposed Project is one of Jiangxi government's strategies taken to mitigate these constraints which aims to improve entire distribution systems of farm produces in Jiangxi province from post harvesting handling to markets/distribution centers and beyond through implementation of four Project components.

2. To assess the Project's viability, both economic analysis and financial analysis were carried out. The analysis took a cost-benefit analysis approach, in "with and without project" scenarios, and followed the main assumptions as detailed in the following paragraphs which were set based on experience of other similar markets/distribution centers in China. The analysis was based on the data provided by the PPMO during missions and through communications.

#### **B. Main Assumptions**

3. **Prices.** As a common practice in China, the prevailing market prices, net of taxes, are used as a sufficiently accurate representation of the economic value. The actual farm-gate prices are used for all traded farm produces under the Project. The exchange rate distortion is not applied because the construction materials and equipment are mostly produced domestically while farm produces are mainly sold locally or within the country. All prices used in the analysis are in mid-2016 constant prices.

4. **Labor.** A constant labor-year cost of RMB56,400 (salary and mandatory government welfare levies) for managerial and technical positions and skilled labor while RMB42,300 for other labor was used in estimating operating cost of the Project supported markets/distribution centers in financial analysis. This labor cost was also used as a proxy for the economic opportunity cost of labor in economic analysis.

5. **Project Costs.** The total Project financing required was estimated at US\$198.28 million (equivalent to RMB1,376.09 million converted at an average exchange rate of RMB6.94/US\$1) which includes total Project cost and financial charges during Project implementation i.e. interest during implementation, commitment charges and front-end fees. See Table A5.1 for a summary. All capital investments and replacement investments for equipment and vehicles of the markets/distribution centers were included in economic and financial analysis.

**Table A5.1: Project Cost Summary by Component** <sup>a/</sup>

Project Component	US\$ Million	RMB Million
<b>1. Strengthening Production Logistics</b>	38.46	266.90
<b>2. Improving Distribution Logistics</b>	140.25	973.35
<b>3. Support Services for the Whole Distribution System</b>	0.45	3.09
<b>4. Project Management, Monitoring and Evaluation</b>	5.18	35.94
<b>Total Project Costs</b>	<b>184.33</b>	<b>1,279.28</b>
Financial Charges during Implementation	13.95	96.81
<b>Total Costs to be Financed</b>	<b>198.28</b>	<b>1,376.09</b>

a/ Totals may not tally due to rounding.

6. **Land.** Land needed for construction of Project supported markets/distribution centers has been acquired by each participating county government and land costs were included in the total Project costs. Land costs were based on actual land acquiring price paid by individual participating county governments which, varying between RMB633,000 and RMB14,250,000 per ha, was determined by key factors including geographic location, scarcity, and acquiring timing of the lands.

7. **Project Implementation Phasing.** It is assumed that implementation phasing for the five-year implementation period is at 20 percent, 38 percent, 38 percent, 3 percent and 1 percent for Component 1: Strengthening Production Logistics and at 37 percent, 43 percent, 10 percent, 7 percent and 3 percent for Component 2: Improving Distribution Logistics

8. **Operating Capacity.** Actual operating capacity by year would vary among markets/distribution centers depending on various factors e.g. (a) type of markets/distribution centers (rehabilitated or new); (b) completion of markets/distribution centers construction; (c) type of key farm produces for trading; and (d) specific business strategy and marketing promotion implemented. Based on experience from similar markets/distribution centers in Jiangxi and elsewhere in China, operating capacity for majority of the markets/distribution centers under the Project is assumed to reach 70 percent, 85 percent, 95 percent, and 100 percent respectively of the designed operating capacity in Project years 3, 4, 5 and 6. As Yushan is to rehabilitate its existing market system which is expected to take a more accelerated pace in reaching operating capacity at 80 percent, 90 percent, 100 percent and 100 percent respectively.

9. **Operating Costs.** Essential operating costs were used in both economic and financial analysis which included (a) raw materials: (packing material, processing and warehouse consumables) 5 percent of processing and warehouse storage income; (b) utility expenses: 5 percent of the total service value; (c) labor cost; (d) maintenance expenses: 30 percent of the annual depreciation amount; (e) sales expenses: 10 percent of the total service value for most markets/distribution centers and 5 percent for Yushan; and (f) overhead expenses: 1 percent of the total service value.

10. **Taxes.** Applicable taxes and levies are used for financial analysis which include business tax (5 percent of turnover tax), urban and rural maintenance fee (5 percent of turnover tax), education fee supplement (5 percent of turnover tax), income tax (25 percent of income), and property tax (12 percent of rental revenue from trading booths and warehouses).

11. **Others.** Other assumptions included (a) opportunity cost of capital: 8 percent; (b) calculation period: 25 years; (c) depreciation: 20 years for building, workshop, warehouse; and 10 years for equipment and vehicles.

### **C. Economic Analysis**

12. To assess the Project's economic viability, an economic analysis has been conducted for each Project county and for the proposed Project as a whole. The economic benefits and costs were identified and quantified to the extent possible. An improved farm produce distribution system is expected to generate significant economic benefits. As many of the expected Project benefits are not easily quantifiable, the economic analysis thus focused on the quantifiable key benefits which included: (a) reduced loss from improved sluggish sales; (b) improved quality of the registered brand-names; (c) increased value of processing; and (d) increased storage capacity leading to extended marketing period for positive seasonal price variation. Other economic benefits which are important but difficult to quantify in a classical cost-benefit analysis included positive impact on health as a result of improved food safety; positive impact on poverty alleviation derived from increased income for participating poor farmer households; positive impacts on farmers' ideological and behavior changes in production and distribution of farm produces; catalytic effect on economic development around the Project supported markets/distribution centers; and strengthened institutional capacity of Project management entities and relevant government agencies. As such, the economic analysis included neither benefits from nor costs of support services and Project management activities. The Project's economic costs were capital investments costs and operating costs.

13. **Net Present Value and Economic Rate of Return.** The proposed Project yielded a robust overall ERR of 22.6 percent with a Net Present Value of RMB1,106.4 million. The ERR for individual counties vary between 13.2 percent and 41.3 percent indicating the Project's strong economic viability. The results of the economic analysis are summarized in Table 5.2 and detailed cash flow calculations are available on file.

14. **Economic Sensitivity Analysis.** A sensitivity analysis was conducted and two key parameters in three scenarios are tested: (a) revenue reduced by 10 percent; (b) operating cost increased by 10 percent; and (c) both effects simultaneously applied. In all three sensitivity scenarios, the economic viability would not be compromised. The first scenario would reduce the Project ERR to 19.1 percent while the second scenario would reduce the Project ERR slightly to 21.6 percent. Even under the third scenario, the overall Project ERR would still be at a very robust 18.0 percent. The test showed that the economic viability was considered relatively insensitive to different scenarios and the impact of such scenarios on the economic viability was limited to the Project as a whole. For the individual Project counties, their respective ERR under the most challenging scenario would remain between 8.6 percent and 36.0 percent. It should be noted that the economic analysis took a conservative approach and excluded a number of important but difficult to quantify economic benefits. This implied that the actual economic returns for each Project county and the Project as a whole could be very likely much higher than what has been calculated. The results of the sensitivity analysis are summarized in Table A5.2 below.

**Table A5.2: Summary of Economic Analysis and Sensitivity Scenarios** <sup>b/</sup>

Project County	Base Scenario		Revenue Reduced by 10%		Operating Cost Increased by 10%		Both Effects Simultaneously Applied	
	NPV	ERR	NPV	ERR	NPV	ERR	NPV	ERR
Jing'an	70.3	17.0	43.7	13.8	60.1	15.8	33.5	12.5
Pengze	64.6	14.9	38.2	12.2	55.7	14.0	29.3	11.3
Huichang	55.6	16.4	33.5	13.2	47.0	15.3	25.6	12.0
Taihe	228.4	34.1	179.7	28.6	213.8	32.5	165.2	27.0
Jiujiang EDD	55.2	13.2	21.1	10.1	40.3	11.8	6.3	8.6
Anyuan	62.2	14.1	30.4	11.1	49.3	12.9	17.5	9.8
Yushan	279.2	41.3	237.0	36.6	274.0	40.8	231.8	36.0
Longnan	291.1	31.6	235.5	27.5	278.0	30.7	222.4	26.5
<b>Project</b>	<b>1,106.4</b>	<b>22.6</b>	<b>819.1</b>	<b>19.1</b>	<b>1,018.9</b>	<b>21.6</b>	<b>731.6</b>	<b>18.0</b>

b/ Economic NPV in RMB million and ERR in %, OCC 8%

15. **Fiscal Impact.** The Project investment is not expected to impose significant fiscal impact on participating counties as (a) they have been selected based on their strong fiscal positions in providing counterpart funds and servicing the IBRD loan, and (b) required counterpart funds in cash accounted for a moderate proportion of their overall annual project expenditure budget (for 2015) between 0.92 percent (Yushan, Huichang) and 2.68 percent (Pengze) which accounted for a much lower proportion of their overall annual fiscal expenditure budget (for 2015) between 0.36 percent (Huichang) and 1.08 percent (Jiujiang EDD). See Table A5.3 for details. Huichang, the only national poverty county under the Project, has also committed to providing required counterpart funding in full amount and on a timely basis and assume its full responsibility for repayment of the IBRD loan. Its required counterpart funds in cash accounted for the lowest percentage of its annual project expenditure budget and annual fiscal expenditure budget among all participating counties. Overall, 75.7 percent of the total Project financing requirement (including capitalized financial charges during Project implementation) will be met by the IBRD loan proceeds and in addition, over 59 percent of the counterpart fund will be provided in form of land already acquired by the participating county governments.

**Table A5.3: Fiscal Impact 2013-2015 (RMB million)**

Project County	2013			2014			2015			This Project		
	Fiscal Expenditure	Project Expenditure	% 2/1	Fiscal Expenditure	Project Expenditure	% 5/4	Fiscal Expenditure	Project Expenditure	% 8/7	Counterpart Fund Required	% 10/7	% 10/8
	1	2	3	4	5	6	7	8	9	10	11	12
Jing'an	1,151.47	510.00	44.3	1,384.62	620.00	44.8	1,568.47	580.00	37.0	13.32	0.85	2.30
Pengze	1,985.43	564.02	28.4	2,194.72	322.87	14.7	2,642.13	722.14	27.3	19.32	0.73	2.68
Huichang	2,081.15	859.70	41.3	2,280.33	914.60	40.1	2,827.62	1,095.70	38.7	10.12	0.36	0.92
Taihe	2,325.51	1,025.78	44.1	2,533.74	1,134.10	44.8	3,192.35	1,392.18	43.6	19.45	0.61	1.40
Jiujiang EDD	1,472.09	102.84	7.0	1,723.57	489.70	28.4	1,818.89	1,050.57	57.8	19.59	1.08	1.86
Anyuan	3,451.06	1,354.65	39.3	3,559.20	1,452.36	40.8	4,649.04	1,704.78	36.7	17.43	0.37	1.02
Yushan	2,475.96	1,023.00	41.1	2,847.36	1,263.00	44.4	3,079.88	1,321.00	42.9	12.17	0.40	0.92
Longnan	1,796.36	626.67	34.9	2,330.02	614.35	26.4	2,708.58	785.84	29.0	18.31	0.68	2.33

#### **D. Financial Analysis**

16. As financial benefits arising in Components 1, 3 and 4 are not quantified, the financial analysis calculations did not include the investments related to these Components. Therefore, financial analysis was conducted for Component 2: Improve Distribution Logistics only to assess the financial viability of the Project-supported markets/distribution centers. The Project would generate multiple financial benefits at the market/distribution center level. However, the Project analysis followed a conservative approach and considered limited direct revenue sources only: (a) rental of trading booths except Pengze; (b) preliminary processing of agricultural produces except Pengze and Huichang; (c) entrance fee from traders except Pengze; (d) temporary storage service; (e) logistics transportation services; and (f) cotton trading services for Pengze. The financial revenue sources are quite diversified for all Project supported markets/distribution centers except Pengze which relies its revenues on services for cotton storage and cotton trading.

17. **Net Present Value and Financial Rate of Return.** As the Project supported markets/distribution centers would be constructed with a focus on public goods benefits, they are not expected to yield robust financial returns. The proposed Project yielded a reasonable aggregated FRR of 12.5 percent with a Net Present Value of RMB453.7 million for all markets/distribution centers as a whole. The FRR for individual markets/distribution centers vary between 9.8 percent and 18.9 percent. As one of business promotion strategies, rental of trading booths is exempt for the first year in operation and charged half for the second and third years for all markets/distribution centers. The results of the financial analysis are summarized in Table 5.3 and detailed cash flow calculations are available on file.

18. **Financial Sensitivity Analysis.** To test the Project's financial sensitivity to key parameters, a sensitivity analysis was conducted and two key parameters in three scenarios are tested: (a) operating capacity reduced by 10 percent; (b) labor cost increased by 10 percent; and (c) both effects simultaneously applied. In all three sensitivity scenarios, all markets/distribution centers would remain financially viable. Project FRR was dropped to 11.2 percent under the first scenario while Project FRR was reduced slightly to 12.3 percent under the second scenario. The overall Project FRR under the third scenario would still be at a reasonable 9.7 percent. The test suggested that the Project's financial viability as a whole was relatively insensitive to the key parameters. For the individual Project supported markets/distribution centers, their respective FRR under the third scenario i.e. both effects of operating capacity reduced by 10 percent and labor cost increased by 10 percent simultaneously occurred would remain acceptable between 8.2 percent and 18.4 percent with a positive NPV. These FRRs echoed, to a large extent, the public goods benefit focus of these markets/distribution centers. However to prepare for the worst and maintain competitive, those markets/distribution centers with a marginal FRR should consider very careful but effective actions in operation. It is also worth noted that the financial analysis took a conservative approach and excluded some potentially important but difficult to quantify financial benefits such as revenues from e-commerce operations. The results of the financial sensitivity analysis are summarized in Table A5.4 below.

**Table A5.4: Summary of Financial Analysis and Sensitivity Scenarios** <sup>c/</sup>

Project Market/ Distribution Center	Base Scenario		Operating Capacity Reduced by 10%		Labor Cost Increased by 10%		Both Effects Simultaneously Applied	
	NPV	FRR	NPV	FRR	NPV	FRR	NPV	FRR
Jing'an	26.7	10.3	14.2	9.2	23.2	10.0	10.7	8.9
Pengze	37.9	11.8	7.9	8.8	35.4	11.5	5.3	8.6
Huichang	25.1	11.7	14.8	10.2	21.7	11.2	11.3	9.7
Taihe	12.5	18.9	121.0	18.6	121.9	18.7	118.0	18.4
Jiujiang EDD	42.4	9.8	8.4	8.4	39.5	9.7	5.5	8.2
Anyuan	85.1	13.5	64.3	12.2	82.5	13.3	61.7	12.0
Yushan	28.3	12.7	20.3	11.4	26.3	12.4	18.3	11.1
Longnan	83.3	13.9	62.4	12.5	79.9	13.7	59.0	12.3
<b>Project</b>	<b>453.7</b>	<b>12.5</b>	<b>313.3</b>	<b>11.2</b>	<b>430.2</b>	<b>12.3</b>	<b>139.7</b>	<b>9.7</b>

c/ Financial NPV in RMB million and FRR in %, OCC 8%

CHINA  
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*Jiangxi Province*



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- PROJECT COUNTIES (XIAN)
- COUNTY/DISTRICT BOUNDARIES
- PREFECTURE BOUNDARIES
- PROVINCE BOUNDARIES
- COUNTY (XIAN) CAPITALS
- PREFECTURE CAPITALS
- PROVINCE CAPITAL

