



Report and Recommendation of the President to the Board of Directors

Project Number: 49323-001
November 2016

Loan

Jiangsu Lihua Animal Husbandry Stock Company Inclusive and Sustainable Livestock Farming Project (People's Republic of China)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 5 October 2016)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.14959
\$1.00	=	CNY6.685

ABBREVIATIONS

ADB	–	Asian Development Bank
PRC	–	People's Republic of China
TA	–	technical assistance

NOTE

In this report, "\$" refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 49323-001	
Project Name	Inclusive and Sustainable Livestock Farming Project	Department /Division	PSOD/OPSD
Country	China, People's Republic of		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Livestock		62.50
		Total	62.50
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Eco-efficiency		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Partnerships (PAR)	Commercial cofinancing	Some gender elements (SGE)	✓
Private sector development (PSD)	Private Sector Promotion of private sector investment		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Rural	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG2, SDG6, SDG8, SDG10		
6. Nonsovereign Operation Risk Rating			
Obligor Name		Obligor Risk Rating	Facility Risk Rating
Jiangsu Lihua Animal Husbandry Stock Company		NSO6	NSO7
7. Safeguard Categorization	Environment: B	Involuntary Resettlement: B	Indigenous Peoples: C
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		62.50	
Nonsovereign Local Currency Loan: Ordinary capital resources		62.50	
B-Loans		32.50	
Local Commercial Banks		32.50	
Official Cofinancing^a		0.00	
None		0.00	
Others^b		88.00	
Total		183.00	

^a Concessional financing from external sources.^b Derived by deducting ADB financing, B Loans and Official Cofinancing from Project Total Cost.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to \$95,000,000 equivalent in yuan, comprising (i) an A loan of up to \$62,500,000 equivalent in yuan; and (ii) a complementary loan of up to \$32,500,000 equivalent in yuan to the Jiangsu Lihua Animal Husbandry Stock Company (Lihua) for the Inclusive and Sustainable Livestock Farming Project in the People's Republic of China (PRC).¹

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. **Unfinished modernization of agriculture.** Agriculture has developed rapidly and contributed substantially to the PRC's overall economic development. However, the transition to modern agriculture has not kept pace with urbanization and industrialization in the country. In 2014, the per capita income of urban households was 2.75 times that of rural households.² Given its fundamental contribution to food security and improved rural livelihoods, the Government of the PRC continues to prioritize highly the modernization of agriculture, particularly by encouraging stronger participation of private companies.

3. **Increasing demand for animal proteins.** The PRC is the world's largest consumer of meat, with annual spending reaching \$300 billion. Of all animal protein consumed in the PRC, pork represents 50% and chicken 19%. Increasing demand for meat is driven by the rising middle class and changing diets associated with urbanization. The per capita consumption of chicken in the PRC (10 kilograms in 2015) is still only one third of that in Taipei, China, while the per capita consumption of pork (44 kilograms in 2015) is 35% less than in Hong Kong, China. This indicates that the market will continue to grow significantly.

4. **Animal disease and food safety issues.** The growth of the livestock and meat industry has been associated with serious animal disease and food safety issues, as demonstrated by the repeated avian influenza outbreaks,³ the Huangpu River dead pig incident,⁴ and various fast food poultry meat scandals⁵ during 2004–2015. The government has made significant progress in animal disease prevention and food safety management, but ultimate responsibility for implementing these measures remains with farmers and food producers.

5. **Environmental concerns.** If not properly managed, the development of the livestock industry could harm the environment. Livestock farms produce waste with a high concentration of pollutants that is often discharged without proper treatment, polluting land and waterways and causing significant greenhouse gas emissions. Although the government promotes policies mandating waste treatment, most farms still lack proper waste treatment facilities.⁶

¹ The design and monitoring framework is in Appendix 1.

² Asian Development Bank (ADB). 2016. *Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020*. Manila.

³ In 2004, 2006, and 2013.

⁴ In March 2013, 16,000 dead pigs were found in the Huangpu River, which supplies Shanghai with drinking water.

⁵ For example in December 2012, KFC was criticized for excessive antibiotic use by its poultry suppliers in the PRC.

⁶ ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Henan Sustainable Livestock Farming and Product Safety Demonstration Project*. Manila.

6. **Livestock farming consolidation.** To meet the growing demand for quality meat, the government is supporting the development of modern and standardized livestock farms.⁷ Livestock production in the PRC remains highly fragmented. Large pig farms (those that produce more than 500 pigs per year) represent only 35% of production; in contrast, in the United States large farms represent 84% of production.⁸ The involvement of medium- to large-scale private companies is necessary to facilitate the required investments and introduce best practices in livestock farming in terms of animal disease prevention, food safety, and animal waste management. In addition, private companies are able to work in partnership with smallholder farmers and help reduce the rural–urban income gap (another government objective), while retaining control of the critical steps of the production process to ensure the quality and safety of the final products.

7. **Borrower’s selection.** Lihua is the second largest yellow chicken⁹ company in the PRC. It is also involved in pig and goose farming. The project team identified Lihua as suitable for Asian Development Bank (ADB) support because of its (i) uniquely inclusive contract farming model, which offers smallholder farmers quality inputs, financial and technical assistance (TA), and guaranteed income; (ii) strong track record in poultry farming (since 1997) and pig farming (since 2011); and (iii) highly experienced management team led by Chairman Cheng Lili. Lihua is committed to adopting international best practices, including ADB’s safeguard requirements, and to setting a benchmark for the livestock industry in the PRC.¹⁰

2. Project Design

8. The project will promote a livestock farming business model that includes smallholder farmers in a sustainable production process. ADB will support Lihua’s \$183 million investment plan during 2017–2019, including (i) breeder farm expansion, (ii) contract farming expansion, (iii) environmental capital expenditure, and (iv) animal health and food safety capital expenditure.

9. **Breeder farm expansion.** Lihua’s breeder farms are dedicated to the in-house production of chicks and piglets, which are then provided to contract farmers for rearing into commercial chickens and pigs. Chicks are produced by breeder or parent chickens. The parent chickens for the new breeder farms will be provided by the company’s existing grandparent chicken farm in Jiangsu (Lihua has developed its own varieties of yellow chickens). Piglets are produced by breeder sows and boars, which will be procured externally for the new breeder farms from reputable international pig breeding stock companies such as the Pig Improvement Company.

10. **Contract farming expansion.** The project will help Lihua develop new contract farming arrangements with 1,000 chicken farmers and 100 pig farmers (1,100 additional farm households). Lihua has already been working with 4,400 chicken farmers and 100 pig farmers. Lihua provides contract farmers with (i) quality inputs (chicks, piglets, feed, and veterinary products); and (ii) real-time TA (provided by 160 extension services agents employed by Lihua and trained in veterinary science), especially relating to disease control and prevention to ensure the quality and safety of the final products. While chicken farmers have to invest in their own farms (supported by grants and subsidized loans provided by Lihua), pig contract farmers

⁷ Central Committee of the Communist Party of China and Government of the PRC. 2015. *Resolutions on Accelerating Agricultural Modernization by Enhancing Revolution and Innovation*. Beijing.

⁸ Guangdong Wen’s Foodstuffs Group Company. 2013. *Prospectus of the First Medium Term Note 2013*. Beijing.

⁹ Yellow-feather or yellow chicken is a breed of chicken traditionally raised for meat in the PRC, distinct from the more common white-feather or white chicken (broiler).

¹⁰ The term “livestock” is used to refer to all domesticated animals raised on farms, including poultry.

are provided space within the company's pig farm clusters (each cluster includes both a breeder farm and farm space for around 50 contract farmers). Finally, to address farmers' vulnerability to natural hazards and animal disease outbreaks, Lihua sets aside funds to create an insurance pool that can cover up to 95% of the cost of dead animals.

11. Lihua's unique contract farming model provides an attractive and stable source of income for participating farmers. Lihua aims to set the annual farmer's income at a minimum of 50% more than the average urban worker's salary in the region.¹¹ This means that Lihua guarantees an annual income of at least CNY100,000 per household, or around CNY24,400 per capita, 26% more than the PRC's median per capita income of CNY19,281 in 2015.¹² However, since Lihua targets households in rural low-income segments, households typically more than double their income after joining Lihua's contract farming scheme. Previous occupations include farming, factory work, construction work, and transportation services. According to ADB's due diligence, by leaving their previous occupations and partnering with Lihua, farmers obtain several benefits, including (i) a stable income, (ii) reduced and more flexible working hours, and (iii) the ability to live closer to their hometown to look after children and aging parents.¹³

12. **Environmental capital expenditure.** To mitigate the risk of soil and water pollution associated with large-scale livestock farms, the project will include investments in animal waste collection, storage, and treatment. Chicken manure will be collected by conveyor belts under the chicken houses and pig manure will be collected by scraping solid floors, without using water for washing. The manure will be sold to third party farmers living around Lihua's corporate farms for use as organic fertilizer. Wastewater generated by pigs requires specific treatment in on-site wastewater treatment stations. The treated wastewater will be used to irrigate nearby farms. The proposed capital expenditure will help Lihua comply with ADB's Safeguard Policy Statement (2009) requirements.

13. **Animal health and food safety capital expenditure.** High-quality feed is a key element contributing to animal health and food safety. High-quality livestock feed improves animal health, reduces the risk of disease and use of medicine (especially antibiotics), and increases the quality of the finished products. The company will build its own feed processing plants on the same sites as the company's chicken and pig breeding farms. As part of the project, the company will make other investments to ensure animal health and food safety (e.g., veterinary equipment, testing facilities, temperature and humidity control systems, and information systems).

3. The Borrower

14. Lihua is headquartered in Changzhou, Jiangsu. The company's existing poultry farms are located in the provinces of Anhui, Guangdong, Henan, Jiangsu, Shandong, and Zhejiang. The company's pig farms are located in Jiangsu. As of 2015, Lihua's annual production was around 193 million yellow chickens and 192,500 pigs. Lihua was founded in 1997 by Cheng Lili, an animal health graduate and young entrepreneur at the time. In 1999, Lihua successfully developed a new yellow chicken breed named "Snow Mountain", and its yellow chicken farming business started to grow quickly. In 2000, the company adopted the contract farming business

¹¹ Lihua is able to achieve this by helping farmers invest in productive assets (chicken farms, chicks, and piglets) and by boosting farmers' productivity through high quality inputs and the TA provided.

¹² National Bureau of Statistics of China. 2016. *China's Economy Realized a Moderate but Stable and Sound Growth in 2015*. Beijing.

¹³ S. Hu and Y. Chen. 2016. *Welfare Analysis of Participating Farmers in the Inclusive and Sustainable Livestock Farming Project Funded by the ADB—Scoping Mission Report*. Beijing.

model to accelerate its expansion. In 2011, Lihua began farming pigs as a diversification strategy. In less than 20 years, Lihua has become one of the largest livestock companies in the PRC, with 3,000 employees as of 2015.

15. As of 2015, 91.4% of Lihua's revenue came from its chicken business, while 7.4% came from the pig business and 1.2% from the goose business. Lihua plans to ramp up its pig business to further diversify its product base. At the same time, Lihua will continue to invest in poultry to safeguard its position in the market. In 2015, Lihua captured 5.2% of the PRC yellow-chicken market and 0.1% of the pig market. However, competitive pressure is limited since the chicken and pig sectors are both highly fragmented.

16. Lihua is a privately held company. Cheng Lili owns a 26.0% direct shareholding in the company, but controls 59.7% of the company's shares through his majority ownership in local private equity funds, which hold 33.7% of the company's shares.

B. Development Impacts, Outcome, and Outputs

17. **Impacts.** The project will set a benchmark in terms of smallholder farmer inclusion, environmental sustainability, animal health, and food safety practices for the livestock industry in the PRC. The project is fully consistent with the strategic orientations for agricultural modernization and rural development provided by the Central Committee of the Communist Party of China and the State Council in its Document No. 1 in January 2016,¹⁴ particularly its calls to (i) coordinate agricultural industry chains and farmer interests more closely, (ii) strengthen the governance of major agricultural environment problems, and (iii) implement a food safety strategy.

18. **Outcome.** The outcome will be a demonstrated inclusive and sustainable livestock farming business model. The number of contract farmers will increase from 4,500 in 2015 to at least 5,600 in 2020. New contract farming households will increase their annual income from CNY50,000–CNY70,000 on average (before joining Lihua's program) to CNY100,000–CNY140,000.¹⁵ The project will also support job creation and preservation in rural areas. Lihua's workforce is expected to increase from 3,000 (39% women) in 2015 to more than 4,500 (41% women) in 2020.¹⁶ Several of Lihua's existing and new farms are located in rural areas of some of the PRC's poorer provinces such as Anhui (25th out of 31 provinces in terms of gross domestic product per capita), and Henan (22/31). Indicators as to waste treatment, animal health, and food safety are included in the design and monitoring framework in Appendix 1.

19. **Outputs.** The outputs will be (i) constructed breeder farms, (ii) expanded contract farming, (iii) environmental capital expenditure, and (iv) animal health and food safety capital expenditure.¹⁷

¹⁴ Central Committee of the Communist Party of China and the State Council. 2016. *Opinions on Implementing New Development Concepts to Boost Agricultural Modernization and Comprehensively Build a Moderately Prosperous Society*. Beijing.

¹⁵ Consultants were hired under Regional Technical Assistance 8809: Measuring the Development Effectiveness of Private Sector Operations (48909-001) to conduct an impact analysis to assess how the project will enhance the welfare of contract farmers. Income and asset holding of new contract farmers before and after the project, and other potential project benefits, will be analyzed.

¹⁶ The targeted increase in the proportion of women reflects Lihua's plans to hire and retain more women workers.

¹⁷ Output indicators are in the design and monitoring framework in Appendix 1.

C. Alignment with ADB Strategy and Operations

20. **Consistency with ADB strategy and country strategy.** The project is aligned with ADB's Midterm Review of Strategy 2020, which emphasizes the need to contribute to food security and agricultural productivity, promote food safety and quality standards, and support inclusive businesses such as agribusinesses that connect farmers to food markets.¹⁸ The project is also consistent with ADB's country partnership strategy, 2016–2020 for the PRC. To support rural development for inclusive economic growth, ADB will help the PRC develop suitable methods to (i) modernize agriculture, (ii) promote circular agriculture, and (iii) improve food safety. Through its private operations, ADB will support agribusiness projects that enhance productivity, the inclusion of smallholder farmers in value chains, and food safety (footnote 2).

21. **Consistency with sector strategy and relevant ADB operations.** The project fully aligns with ADB's Operational Plan for Agriculture and Natural Resources, which stresses that ADB's private agribusiness investments "have the potential to benefit millions of smallholder farmers directly and contribute to public goods, such as food security, food safety, and reduced soil and water pollution".¹⁹ The project builds on lessons from ADB's long history in the PRC's livestock sector, particularly the need to achieve development impact through private agro-enterprises with sufficient scale and direct linkages with farmers.²⁰ The project will complement a PRC sovereign project approved in 2015, which will provide similar assistance to livestock companies in Henan (footnote 6).

D. Project Cost and Financing Plan

[Redacted]

E. Implementation Arrangements

22. Table 3 summarizes the implementation arrangements.

Table 3: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	Lihua is subject to the general laws regulating private enterprises in the People's Republic of China as they relate to large-scale livestock farming. In particular, Lihua is subject to (i) the Animal Husbandry Law (2005); (ii) the Environmental Protection Law (2015); (iii) the Animal Epidemic Prevention Law (2007, amended in 2015); and (iv) the Food Safety Law (2009, amended in 2015).
Management	Lihua is led by a management team with long experience in the livestock industry. Cheng Lili, Lihua's chairperson, is an animal nutrition graduate with more than 30 years of experience in the livestock industry. His management skills are a key factor driving Lihua's success.
Implementation period	It takes around 12 months to construct a feed mill, up to 24 months to set up a breeder chicken farm or pig farm cluster, and up 36 months to set up a breeder pig farm.
Construction arrangements	Equipment and civil works will be procured in line with ADB's Procurement Guidelines (2015, as amended from time to time) as they apply to private projects. ADB's technical consultant has reviewed the project costs (based on a sample of feasibility studies provided by the company), and found them to be in line with market standards.
Operations arrangements	Lihua provides the chicks and piglets born on its breeding farms to contract farmers for rearing. The company provides contract farmers with financial and technical assistance, and buys back

¹⁸ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

¹⁹ ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific, 2015–2020*. Manila (p. 15).

²⁰ ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the People's Republic of China for the Henan Sustainable Agriculture and Productivity Improvement Project*. Manila.

Aspects	Arrangements
	the mature chickens and pigs at a price that guarantees the farmers a minimum profit (para. 10). Each of Lihua's operating regional subsidiaries has a sales department covering a sales area within a 200-kilometer radius from their office. Chickens are sold to three types of customers: wet markets (the traditional sales channel), slaughterhouses, and frozen meat companies. Pigs are sold to traders (the traditional sales channel) or directly to pork-processing companies.
Performance monitoring	Lihua will report on key performance indicators, including financial, safeguard, gender, and development indicators (i.e., output and outcome targets), on at least an annual basis.

ADB = Asian Development Bank, Lihua = Jiangsu Lihua Animal Husbandry Stock Company.

Sources: Lihua; ADB.

F. Projected Financial and Economic Performance

[Redacted]

G. Unique Features

23. The project is ADB's first inclusive business nonsovereign assistance to an agribusiness company in the PRC.²¹ Lihua's unique contract farming model will provide thousands of smallholder livestock farmers with a decent and stable income and serves as a model for the livestock industry.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

24. ADB proposes to provide a loan facility of up to \$95.0 million equivalent in yuan to Lihua, consisting of an A loan of up to \$62.5 million equivalent in yuan and a complementary loan of up to \$32.5 million equivalent in yuan. ADB will fund the A loan from its ordinary capital resources, and the complementary loan will be funded by commercial banks, with ADB acting as the lender of record. Lihua will use the loan proceeds to finance those of its subsidiaries that will be implementing different components of the project. The terms and conditions for the A loan have been agreed upon with Lihua.

B. Value Added by ADB Assistance

25. ADB assistance will add value on two fronts:
- (i) **Demonstration effect.** ADB will help Lihua set a benchmark in terms of small holder farmer inclusion and sustainability in the PRC's livestock industry. ADB will enhance Lihua's standards through (a) the application of international safeguard standards, and (b) the welfare impact analysis that will be conducted during project implementation. ADB will increase the visibility of Lihua's business model, enabling other large- and medium-scale companies to learn from it.
 - (ii) **Long-term finance mobilization.** So far, the company has financed its expansion through equity and short-term loans. However, the investments included in the project have payback periods of 5–10 years. ADB will provide Lihua with the required long-term financing and, through the complementary loan, encourage commercial banks to provide such long-term financing as well.

²¹ The project is an inclusive business assistance because (i) it provides income opportunities to low-income people (the per capita income of contract farmers before working with Lihua is CNY10,000–CNY17,000 (lower than the PRC's median per capita income of CNY19,281 in 2015); (ii) it will, on average, more than double their income; and (iii) it includes innovative features (e.g., extension services and insurance), increasing farmers' resilience.

C. Risks

[Redacted]

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

26. In compliance with ADB's Safeguard Policy Statement (2009), the project is classified as category B for environment and involuntary resettlement, and category C for indigenous peoples. Since the proposed ADB assistance is a corporate loan that will finance general business expansion and is not earmarked for financing specific subprojects, the requirements for general corporate finance projects will apply. The project's potential environmental and social impacts have been identified, and effective measures to avoid, minimize, mitigate, and compensate for adverse impacts are incorporated in the safeguard reports and plans.²² The livestock farms will be sited in coordination with the local government to ensure that they conform to local land use plans and avoid legally protected areas. Potential risks and impacts during construction are mostly site-specific and short-term, and can be effectively managed by good engineering construction and housekeeping practices implemented through a construction environmental management plan. During operation, the new animal waste treatment facilities will mitigate concerns as to solid waste, including animal manure and wastewater treatment and disposal, which have the potential to pollute soil, and surface and groundwater. Since the farms will be located away from inhabited areas, nuisance, noise, and odor impacts will be mitigated. The audit noted that the livestock farms visited fully comply with applicable regulations from the Animal Epidemic Prevention Law of the PRC.²³

27. Lihua will either lease unused or abandoned lands on a willing lessor–willing lessee basis, or procure state-owned land from the local government. In case of unavoidable displacement, such as relocation related to a sanitation buffer zone set by local regulations, Lihua will discuss and coordinate measures with the government to address any identified gaps. Any of Lihua's investment transactions entailing significant involuntary resettlement impacts will be excluded from ADB financing. As the farms are expected to be developed in non-ethnic minority-concentrated provinces, impacts on indigenous peoples are unlikely.

28. Lihua engaged a qualified and experienced external expert to conduct a corporate audit of the company's existing environmental and social policy, procedures, and operations. The audit recommended corrective action to ensure that procedures and operations are adequate and comply with ADB's Safeguard Policy Statement and other social requirements. Lihua will adopt an environmental and social management system satisfactory to ADB before the first ADB disbursement. Lihua will also enhance its institutional capacity, establish environment and social units at both corporate and farm levels, and train staff on the environmental and social management system.

29. Lihua and its contractors will comply with national labor laws and, pursuant to ADB's Social Protection Strategy (2001), will take measures to comply with the internationally recognized core labor standards.²⁴ Lihua will report regularly to ADB on (i) its and its

²² Farms visited during the audit prepared the necessary safeguard reports and plans (environmental impact assessment registration forms), and approvals were obtained prior to operations.

²³ Farms visited during the audit have obtained Certificates for Meeting Animal Epidemic Prevention Conditions demonstrating compliance with the Animal Epidemic Prevention Law.

²⁴ ADB. 2003. *Social Protection*. Manila (adopted in 2001).

contractors' compliance with such laws, and (ii) the measures taken. The project is categorized as having some gender elements. Lihua will increase the percentage of its female staff from 39% in 2015 to 41% in 2020, and will prioritize women applicants in the areas of finance, human resources, and laboratory work. Information disclosure and consultations with affected people will be conducted in accordance with ADB requirements.

B. Anticorruption Policy

30. Lihua was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

31. The proposed loan is within the medium-term, country, industry, group, and single-project exposure limits for nonsovereign investments.

D. Assurances

32. Consistent with the Agreement Establishing the Asian Development Bank (the Charter),²⁵ ADB will proceed with the proposed assistance upon establishing that the government has no objection to the proposed assistance to Lihua. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the ADB Board of Directors.

V. RECOMMENDATION

33. I am satisfied that the proposed loan facility would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to \$95,000,000 equivalent in yuan, comprising (i) an A loan of up to \$62,500,000 equivalent in yuan from ADB's ordinary capital resources; and (ii) a complementary loan of up to \$32,500,000 equivalent in yuan to the Jiangsu Lihua Animal Husbandry Stock Company for the Inclusive and Sustainable Livestock Farming Project in the People's Republic of China, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

17 November 2016

²⁵ ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

DESIGN AND MONITORING FRAMEWORK

<p>Impacts the Project is Aligned with</p> <p>Combination of agricultural industry chains and farmer interests improved (Opinions on Implementing New Development Concepts to Boost Agricultural Modernization and Comprehensively Build a Moderately Prosperous Society)^a</p> <p>Governance of major agricultural environment problems strengthened (Opinions on Implementing New Development Concepts to Boost Agricultural Modernization and Comprehensively Build a Moderately Prosperous Society)^a</p> <p>Food safety strategy implemented (Opinions on Implementing New Development Concepts to Boost Agricultural Modernization and Comprehensively Build a Moderately Prosperous Society)^a</p>
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Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>Outcome</p> <p>Inclusive and sustainable livestock farming business model demonstrated</p>	<p>By 2020:</p> <p>a. Number of workers employed by the company increases to 4,500, including 41% women (2015 baseline: 3,000, including 39% women)</p> <p>b. Number of chicken contract farmer households increases to 5,400 (2015 baseline: 4,400)</p> <p>c. Number of pig contract farmer households increases to 200 (2015 baseline: 100)</p> <p>d. Average income of new contract farmer households increases to CNY100,000–CNY150,000 (2015 baseline: CNY40,000–CNY70,000)</p> <p>e. Quantity of organic fertilizer produced increases to 200,000 tons per year (2015 baseline: 120,000 tons per year)</p> <p>f. Volume of wastewater treated increases to 1,500,000 tons per year (2015 baseline: 400,000 tons per year)</p>	<p>a–f. Lihua’s annual monitoring report to ADB</p>	<p>Slower demand or increased competition drives down prices.</p> <p>Outbreaks of animal diseases decrease volumes and prices.</p> <p>Contract farmers do not meet the company’s production standards.</p> <p>Some key managers leave the company.</p>
<p>Outputs</p> <p>1. Breeder farms constructed</p> <p>2. Contract farming expanded</p> <p>3. Environmental capital expenditure made</p>	<p>By 2019:</p> <p>[Redacted]</p> <p>2a. Balance of loans and grants to chicken contract farmers reaches CNY150 million (2015 baseline: CNY50 million)</p> <p>2b. Number of pig contract farms built by Lihua within pig farm clusters reaches 200 (2015 baseline: 100)</p> <p>3a. Total manure storage capacity increases to 4,400 m³ (2015 baseline: 2,300 m³)</p> <p>3b. Total wastewater treatment capacity</p>	<p>1–4. Lihua’s annual monitoring report to ADB</p>	<p>The land leasing process delays the start of construction.</p> <p>Changes in local government policies slow the construction process.</p> <p>Difficulties in hiring new staff to manage farms occur due to a lack of labor with specific skills.</p>

4. Animal health and food safety capital expenditure made	<p>increases to 4,100 tons per day (2015 baseline: 1,100 tons per day)</p> <p>4a. Number of testing facilities for feed, vaccines and medicines, and animal diseases increased to 14 (2015 baseline: 10)</p> <p>4b. Number of extension services agents trained in veterinary science increased to 200 (2015 baseline: 160)</p>		
<p>Key Activities with Milestones</p> <p>Output 1: Breeder farms constructed</p> <p>1.1 Signing achieved (31 March 2017)</p> <p>1.2 First disbursement made (30 June 2017)</p> <p>Output 2: Contract farming expanded</p> <p>2.1 Signing achieved (31 March 2017)</p> <p>2.2 First disbursement made (30 June 2017)</p> <p>Output 3: Environmental capital expenditure made</p> <p>3.1 Signing achieved (31 March 2017)</p> <p>3.2 First disbursement made (30 June 2017)</p> <p>Output 4: Animal health and food safety capital expenditure made</p> <p>4.1 Signing achieved (31 March 2017)</p> <p>4.2 First disbursement made (30 June 2017)</p>			
<p>Inputs</p> <p>Debt</p> <p>Asian Development Bank (A loan): \$62.5 million</p> <p>Commercial banks (complementary loans): \$32.5 million</p> <p>Commercial banks (parallel loans): \$30.0 million</p> <p>Equity</p> <p>Internally generated cash and initial public offering proceeds: \$58.0 million</p>			
<p>Assumptions for Partner Financing</p> <p>Not applicable</p>			

ADB = Asian Development Bank, Lihua = Jiangsu Lihua Animal Husbandry Stock Company, m³ = cubic meter.

^a Central Committee of the Communist Party of China and the State Council. 2016. *Opinions on Implementing New Development Concepts to Boost Agricultural Modernization and Comprehensively Build a Moderately Prosperous Society*. Beijing.

^b Rejection rate is defined as the difference between the number of animals raised by the contract farmers and the number of animals sold divided by the number of animals raised (the difference between animal raised and animals sold being animals rejected due to disease, excessive levels of antibiotics, forbidden substances, or low product quality). As such, the rejection rate is a good indicator of animal health and food quality.

Source: ADB.