



Report and Recommendation of the President to the Board of Directors

Project Number: 47335-001
November 2014

Proposed Loan
Le Gaga Holdings Limited
Greenhouse Agricultural Development 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 2014)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.16
\$1.00	=	CNY6.14

ABBREVIATIONS

ADB	–	Asian Development Bank
ha	–	hectare
ESMS	–	environmental and social management system
Le Gaga	–	Le Gaga Holdings Limited
NASDAQ	–	NASDAQ Global Select Market
NSO	–	nonsovereign operation
PRC	–	People's Republic of China

NOTES

- (i) The fiscal year (FY) of Le Gaga Holdings Limited ends on 30 June. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2014 ends on 30 June 2014.
- (ii) In this report, "\$" refers to US dollars.

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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to \$140 million to Le Gaga Holdings Limited (Le Gaga), comprising (i) a direct loan of up to \$80 million and (ii) a B-loan of up to \$60 million equivalent in US dollars and/or euros to be funded by participating commercial banks, for the Greenhouse Agricultural Development Project in the People's Republic of China (PRC).¹

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. In a recent study, the Asian Development Bank (ADB) reconfirmed that food security is essential for poverty reduction. The study highlighted the adverse impact of rising food prices on poverty, and the attendant negative effects of food price volatility on population and health.² ADB's support in agriculture will help create and expand economic opportunities and promote broader access to these opportunities to support inclusive economic growth and reduce vulnerability and inequality.³

3. Responding to the decision to expand operations in agricultural businesses, ADB identified Le Gaga, a greenhouse vegetable producer in the PRC, as having a proven business model and proprietary technology to (i) increase the productivity of agriculture, (ii) promote food safety and quality standards, and (iii) improve the resilience of agriculture to the impacts of disasters and climate change, all of which are ADB aims according to its Midterm Review of Strategy 2020.³

4. The project is consistent with a key goal of the PRC's Twelfth Five-Year Plan (2011–2015), i.e., to boost the agriculture sector and farmers' benefits.⁴ The plan calls for (i) speeding up the development of modern agriculture, (ii) increasing farmers' income, (iii) improving the living and production conditions in rural areas, and (iv) improving rural development mechanisms and institutions. The project is selected for its satisfactory fit with ADB's strategic, country, and sector approaches to poverty reduction. The project represents the first private sector opportunity for ADB to provide direct assistance to the farming industry in the PRC.

2. Project Design

5. The project will support Le Gaga in establishing and expanding a series of modern greenhouse operations in Guangdong and Fujian provinces, which have optimal weather and adequate infrastructure for vegetable production, particularly for providing (mainly in winter) off-season vegetables to the entire PRC and some neighboring countries. All the greenhouses are built on leased farmland and operated by PRC companies owned and controlled 100% by Le Gaga.

6. Le Gaga maximizes its greenhouse operations by (i) customizing them to mitigate local weather risk and disease pressure; (ii) building structures that are more efficiently laid out, taller, and connected to create a uniform growing environment; (iii) adopting temperature and airflow control, and (iv) using advanced drip irrigation systems. Le Gaga is also accelerating the

¹ The design and monitoring framework is in Appendix 1.

² ADB. 2013. *Food Security in Asia and Pacific*. Manila.

³ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

⁴ State Council of the PRC. 2011. *12th Five-Year Plan for National Economic and Social Development of the PRC*. Beijing.

conversion to soilless greenhouse production, which has been proved to further increase productivity, enhance efficiency, and improve quality.

7. The project is designed to be a least-cost solution to financing agricultural development, which on a stand-alone site-specific basis could involve relatively high transaction costs. ADB and Le Gaga aim to expand the operations under a portfolio approach (financing multiple sub-projects with common natures under one facility) to reduce transaction costs and diversify the risk of adverse natural conditions. The portfolio approach, which is broader in reach, will enable ADB's assistance to increase efficiency in geographic coverage and impact dissemination.

3. The Borrower and Sponsor

8. The project sponsor and borrower, Le Gaga Holdings Limited, is a holding company incorporated in Cayman Islands. Its subsidiaries operate as greenhouse vegetable producers in the PRC. Since its initial public offering in October 2010, Le Gaga has been publicly listed on the NASDAQ Global Select Market (NASDAQ).

9. Le Gaga specializes in modern greenhouse farming (as opposed to traditional open-field farming) with multi-arched, steel-framed structures that have retractable walls and head windows and use only natural sunlight and natural ventilation to create a favorable microclimate conducive to off-season vegetable production. To cultivate the farms, Le Gaga hires farmers, mostly women, and both local and migrant workers. Le Gaga grows mainly solanaceous vegetables during off-seasons, which command higher selling prices, but complements its product mix with leafy and cruciferous vegetables.⁵

10. Le Gaga's competitive edge lies in its unique greenhouse-based production process. Since its inception in 2004, it has developed a comprehensive database in planning each stage from seed selection to crop production to harvesting, including information on weather patterns and historical vegetable price movements in various regions. Through research, experimentation, and experience, Le Gaga's farming technology has evolved to (i) customizing its greenhouse structure and layout; and (ii) using a soilless production system that promotes resource conservation and efficiency and improves product yield and quality.

11. The vegetables of Le Gaga are sold mainly to wholesalers in the PRC for distribution across the country, including urban cities with increasingly high demand for quality produce. Some of the wholesalers export the produce to neighboring countries such as Japan and the Republic of Korea. By selling primarily to these market segments, Le Gaga is able to focus on its core business of growing high-quality off-season vegetables. Le Gaga is able to capitalize on its greenhouse technology, market positioning, and superior quality, which allows it to take full advantage of seasonal pricing differences and avoid selling into a highly commoditized market.

B. Development Impacts, Outcome, and Output

1. Impacts

12. The development impact of the project will be the increased availability of quality, fresh, and nutritious food all year around, which helps increase the awareness about and satisfy the demand for high-quality and safe food products in the PRC. The project is essential in

⁵ Solanaceous vegetables include tomatoes, eggplants, peppers, pumpkins, and cucumbers. Leafy vegetables include bok choy, shanghai greens, and choy sum. Cruciferous vegetables include broccoli, Chinese cabbage, and lettuce.

developing an efficient and sustainable venue for the upstream agricultural value chain, which helps the country realize the economic, social, and ecological benefits of sector modernization and seek the full potential of agriculture for inclusive and sustainable growth.

13. Agricultural development in the PRC is still in transition to modernization, and food security, food safety, and efficient supply of primary products are yet to be fully achieved. The rapid growth of the national economy, an accelerated level of urbanization, and continued improvement of people's living standards mean that awareness of health, nutrition, and food safety issues as well as demand for quality vegetables are also steadily rising. Greenhouse farming is acknowledged as an effective solution to these issues. As a critical source of quality supply, which stably supplements traditional farming, it can better serve the national and neighboring markets by helping alleviate the demand–supply gap and price volatility of key nutritious produce all year around.

14. The project is expected to serve as a catalyst for private sector development and participation, which is still limited to upstream productivity enhancement in the agriculture sector. As outlined in Le Gaga's growth plan, increased agricultural involvement of the private sector will lead to the expansion of related industries such as food processing and distribution. The project's forward and backward links between agriculture and non-agriculture industries will catalyze broader economic transition by stimulating growth in the secondary and tertiary sectors, which are the primary domain of the private sector. Growth outside agriculture also helps stimulate the agriculture sector, particularly through the reverse-link effects of urbanization on demand for high-value agricultural products, which is the project's focus.

15. Increasing scarcity of water and arable land and weather volatility threaten the PRC's efforts to meet its objectives for food security and safety, rural livelihoods, and natural resource management. The project's modern agricultural production helps the country achieve these objectives because it supports high yields of quality produce, resource conservation, and environmental protection at the same time.

16. Vegetable farming still is a fragmented industry, and modern greenhouse know-how is not widely available to most producers in the PRC. Le Gaga achieves the highest greenhouse coverage ratio in the industry and is leading its peers through its effective combination of intensive research and development, comprehensive market intelligence, advanced horticultural technologies, cost control, and marketing and distribution networks to build its brand. Le Gaga's expanded greenhouse operations will strongly demonstrate a proven approach, which Le Gaga will keep upgrading.

2. Outcome

17. The project's expected outcome is demonstrated viability and productivity gains in greenhouse farming. By accelerating agriculture modernization through industrialized production management, the project will contribute to the transformation to and growth of competitive and dynamic greenhouse farming that achieves higher productivity and integration of industry and markets, increases farm and nonfarm employment, and improves rural livelihoods of farmers and vulnerable groups, including women and the aged. On-farm employment is critically important to the rural farmers as well as the landless and vulnerable people, who are usually poor and unskilled. Greenhouse farming is labor-intensive in nature and the increasing agricultural yield realized by the project will boost the demand for labor and increase employment and wages.

18. The project's impact comes not only in direct forms, but also from its off-farm activities. In addition to expanded demand for manufactured products such as greenhouse materials, fertilizers, and packaging goods, rising agricultural labor incomes will be spent on off-farm products and services like household goods and rural and urban services, including education, health care, and financial and domestic services. Many of these demands can be efficiently captured by local small and medium-sized enterprises.

3. Output

19. The output of the project is the successful completion of Le Gaga's expansion of modern greenhouse facilities in Guangdong and Fujian provinces. Direct benefits brought by the expansion include the procurement of local goods and services for construction.

C. Alignment with ADB Strategy and Operations

1. Consistency with Midterm Review of Strategy 2020

20. The project is consistent with ADB's Midterm Review of Strategy 2020, which strongly emphasizes food security and agricultural productivity, and committed about \$2 billion in new funding annually to remove country-specific and regional constraints to food security and reduce the vulnerability of poor populations to food price increases (footnote 3). The project fully meets the strategic objective for poverty reduction by promoting inclusive economic growth through increased productivity. The project also aligns with the objective of promoting private sector development and private sector operations, and the focus on inclusive growth.

2. Consistency with Country Strategy

21. ADB's PRC country partnership strategy, 2011–2015 identifies agriculture and natural resources as one of four priority sectors of ADB support for inclusive and environmentally sustainable development.⁶ Private sector development remains a key driver of change. The Twelfth Five-Year Plan (2011–2015) of the PRC shares this development agenda and places national priority on agricultural and rural development with specific emphasis on agricultural modernization and improvement of farmers' living standards, along with resource conservation, environmental protection, and social inclusion elements. The project is fully aligned with these national priorities by promoting industrial management of agriculture with advanced horticultural techniques and increasing productivity and income opportunities for rural farmers.

3. Consistency with Sector Strategy

22. ADB's operational plan for sustainable food security supports its intervention in agriculture and rural development, particularly the aim to boost primary production, strengthen links along food and agricultural value chains, ensure food security for the poor and vulnerable, and increase their participation in economic activities.⁷ The plan suggests expanded partnership with the private sector to attract more direct investments in productivity enhancement. The project fully meets the sector strategy by seeking to upgrade inclusive food and agricultural value chains, which enhance agricultural productivity, broaden the rural economy with expanded income channels, promote sector integration and efficiency, and improve food security for the urban and rural poor.

⁶ ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

⁷ ADB. 2009. *Operational Plan for Sustainable Food Security in Asia and the Pacific*. Manila.

D. Project Cost and Financing Plan

23. Le Gaga intends to fund the capital expenditure over the FY2015–FY2017 mainly through borrowing and internal cash flow.

E. Implementation Arrangements

24. Table 1 summarizes the implementation arrangements.

Table 1: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	Pro-farming policies and measures of the People's Republic of China are defined in the Twelfth Five-Year Plan and the National Modern Agriculture Development Plan (2011–2015), which made agriculture, rural areas, and farmers the nation's top priority.
Management	The management team of Le Gaga Holdings Limited (Le Gaga) is composed of experienced individuals with many years of work history and solid background in the agriculture sector.
Construction arrangements	For its farming expansion, Le Gaga will hire local construction workers to build its steel-framed greenhouses. Materials such as plastic film, cement, steel, and tubing are all sourced locally and will be procured in a transparent manner.
Operational arrangements	Each farm is led by a management team with extensive experience in agricultural production and in managing modern farms. Local and migrant workers are hired for planting, sowing, and harvesting. Le Gaga has long-standing relationships with its suppliers. ^a
Sales	Le Gaga sells its produce primarily to various wholesalers in the PRC. These wholesalers typically pick up vegetables at the farms to distribute them to retailers and traders.
Performance monitoring	Le Gaga will report on its operations and financial performance, including key indicators and relevant ratios, to measure its performance, including information relating to development effectiveness and environmental and social issues.

^a Le Gaga will follow applicable provisions of ADB's Procurement Guidelines (2013, as amended from time to time) for procurement of goods and services from ADB member countries.

Source: Asian Development Bank.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

25. ADB's proposed assistance to Le Gaga comprises (i) a direct loan of up to \$80 million, and (ii) a B-loan of up to \$60 million equivalent in US dollars and/or euros. ADB will fund the direct loan from its ordinary capital resources; the B-loan will be funded by participating commercial banks.

B. Value Added by ADB Assistance

26. ADB's assistance is justified by its development impacts and demonstration effects. It will support the government's development plan and ADB's operation strategies.

- (i) The long-term debt financing to private-sector agriculture projects almost does not exist in the PRC.⁸ The project will have a significant demonstration effect as it features a strong model for minimizing the transaction costs for agricultural financing, which is disproportionately high due to perceived risks among potential lenders without sufficient sector experience.
- (ii) The project will directly provide thousands of jobs to poor, unskilled farmers, most of whom are women and/or aged people from poor rural areas.

⁸ The lending to agriculture sector is not a main focus of commercial banks in the PRC while the support from policy banks is limited. Most of the loans in the sector are for short-term working capital purpose.

- (iii) The project will tremendously increase productivity on Le Gaga's farms; help conserve arable land, water, and energy; improve product quality; protect the environment; and increase employment opportunities for women.
- (iv) The prospect of the project's financial success is promising under the proposed transaction structure.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

27. The project is classified as category B for environment because the potential adverse environmental impacts of the group's subprojects are site-specific and reversible based on the nature of the project. The initial environmental examination will include an environmental management plan to manage possible environmental impacts during construction and operation. The ESMS will also include a screening checklist to avoid environmentally sensitive areas and potential significant adverse impacts.

28. The project is classified as category C for both involuntary resettlement and indigenous peoples. The project is not expected to entail any involuntary resettlement. Land acquisition is based on the willing lessor-willing lessee principle and involves only existing farmland. Construction and operation of greenhouse facilities will be mainly on existing farmland in the coastal provinces, and therefore the project will not have any adverse impact on ethnic minorities.

29. The social corrective action plan for the ESMS includes the design and implementation of (i) Safeguard Policy Statement screening and categorization procedures; (ii) involuntary resettlement and indigenous peoples policy principles and procedures, including those for land leasing arrangement, to make sure that subprojects using ADB funds are screened in accordance with ADB's Safeguard Policy Statement; and (iii) an effective grievance mechanism with proper documentation. Le Gaga will recruit capable staff and/or consultants to ensure that the ESMS is duly implemented.

30. **Other social dimensions.** The project is categorized as some gender elements. Le Gaga upholds gender equality, and provides equal benefits and training opportunities for both men and women employees. Jobs to be created by farms will be offered to the local labor force regardless of gender, and priority will be given to the female labor force where interest is high in agricultural production. Le Gaga will comply with ADB's Social Protection Strategy and shall take measures to comply with the national labor laws and relevant internationally recognized core labor standards.⁹

B. Anticorruption Policy

31. Le Gaga was advised of ADB's policy of implementing best international practice in 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

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

⁹ ADB. 2003. *Social Protection Strategy*. Manila (adopted in 2001).

D. Assurances

33. Consistent with the Agreement Establishing the Asian Development Bank, the Government's no objection to the proposed assistance to Le Gaga will be obtained.¹⁰ 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

34. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the direct loan of up to \$80,000,000 from ADB's ordinary capital resources; and
- (ii) the B-loan of up to \$60,000,000 equivalent in US dollars and/or euros to be funded by participating commercial banks,

to Le Gaga Holdings Limited for the Greenhouse Agricultural Development 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

11 November 2014

¹⁰ ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p>Impacts Availability of quality, fresh, and nutritious food all year around increased in the PRC</p> <p>Private sector development through increased private sector participation in the agriculture sector</p>	<p>Increase in vegetable production in Guangdong and Fujian provinces</p> <p>Increase in land area for vegetable production in Guangdong and Fujian provinces</p>	<p>Government reports and statistics</p> <p>Public data researches</p>	<p>Assumptions Sound macroeconomic management by the national and local governments</p> <p>Political stability, and stable and consistent regulatory policies and frameworks applicable to the agriculture sector</p> <p>Interest from private sector investors and/or lenders for medium-term to long-term investment in agriculture-related sectors in the PRC</p>
<p>Outcome Demonstrated viability and productivity gains in greenhouse farming</p>	<p>Increase in Le Gaga's production volume</p> <p>Increase in Le Gaga's sales</p> <p>Increase in the number of agricultural workers employed by Le Gaga, around 80% of them women</p> <p>Increase in the number of local staff employed by Le Gaga, and share of women improved from 30% to around 40%</p>	<p>Le Gaga's reporting to ADB</p>	<p>Assumption Le Gaga operates according to its business plan</p> <p>Risks Unfavorable natural conditions for greenhouse farming</p> <p>High price volatility of agriculture products</p> <p>Higher competition in greenhouse farming</p>
<p>Output Expansion of Le Gaga's modern greenhouse facilities in Guangdong and Fujian provinces</p>	<p>Expansion of Le Gaga's greenhouse farm</p> <p>Procurement of local goods and services during construction of greenhouses from</p>	<p>Le Gaga's reporting to ADB</p>	<p>Assumption Due administrative and contractual performance of the regulators and contractors</p> <p>Risk Delay and cost overrun</p>

	FY2015 to FY2017	
Activities with Milestone		Inputs
1.1	Loan agreement signed by Q1 2015	ADB: \$80 million direct loan
1.2	Construction work in progress as scheduled	Participating commercial banks: \$30 million–
1.3	Expanded production starting in Q3–Q4 2015	\$60 million B loan

ADB = Asian Development Bank, PRC = People's Republic of China, Q = quarter.
Source: Asian Development Bank.