

Ex-Ante Evaluation

1. Name of the project

Country: Socialist Republic of Vietnam

Project: Hoa Lac Hi-tech Park Infrastructure Development Project (Engineering Service)

Loan Agreement: March 18, 2010

Loan Amount: 1,005 million yen

Borrower: The Government of the Socialist Republic of Vietnam

2. Background and Necessity of the Project

(1) Current State and Issues of the Science and Technology Sector and High-tech Industrial Sector in Vietnam

Vietnam has embraced a market economy and aggressively pursued integration with the international economy since the adoption of the Doi Moi (renovation) policy in 1986, and has achieved remarkable growth.¹ The Vietnamese government's Eighth Five-Year Social and Economic Development Strategy (2006-2010), issued in 2006, set a national goal of becoming a middle-income country by 2010 and an industrialized country by 2020, and positioned the development of science and technology as an important issue in achieving these goals.

The government's high hopes for science and technology are demonstrated in the sharp increase in research and development funding and the number of researchers. However, according to science and technology indicators² comparing ASEAN nations, Vietnam ranks seventh of nine countries in the overall assessment, and lags particularly far behind in eighth place in the indicator for industry-university affiliations. This delay in science and technology is manifested in the sluggish growth in the percentage of high-tech products making up exports and net sales of such products,³ and it is important that Vietnam promote economic growth and bolster international competitiveness by developing its high-tech industry by building a collaborative system between research institutions and industry, improve technology and promote industrialization, as well as provide additional funding and human resources.

Building a hub for science and technology and establishing an environment to cultivate new business through industry-university affiliations and generate technological innovation would be effective ways to accelerate the shift to high-tech industry. In addition, resolving existing problems, such as the complex administrative process and comparatively high infrastructure costs, are urgent issues for Vietnam in its efforts to develop a business environment that would attract multinational companies.

(2) Development Policies for the Science and Technology Sector and High-tech Industrial Sector in Vietnam and the Priority of the Project

Based on the current state and issues described above, the Ten-Year Strategy for Science and Technology (issued in 2003 and revised in 2006) lays out development guidelines, including an emphasis on the expansion of the high-tech industry, particularly the software field, the construction of a high-tech industrial park, the development of telecommunications infrastructure, and the application of information technology to management systems and the

¹ Gross domestic product (GDP) growth was 6.2% in 2008, and direct investment in Vietnam rose 197% year-on-year to USD 64,011.90 million (JETRO).

² R&D costs, personnel, technology and education infrastructure, technology management capacity and others are indexed and assessed comprehensively. Thailand, Indonesia, Singapore, the Philippines, Malaysia, Brunei, Laos, Cambodia and Vietnam were surveyed. There is no data on Myanmar. Source: Korea Institute of Science and Technology, 2004 (<http://aseank.kisti.re.kr/>)

³ Growth in the high-tech industry has been slow, with the main high-tech products accounting for 6% of exports in 2003 and 7% in 2006 and accounting for 9% of net sales in the industrial sector as a whole (2003-2007).

financial sector. The Education and Training Development Strategy through 2010 states that one of the goals is an emphasis on the development of human resources in science and technology for industrialization and modernization.

In July 2009 the High-tech Law went into effect, and (1) information telecommunications technology, (2) biotechnology, (3) high-tech material technology and (4) automated machinery technology were specified as the priority areas. In addition, the law stipulates the role of a high-tech park and measures designed to attract high-tech companies. There has also been progress in establishing more specific guidelines and detailed regulations.

The Hoa Lac Hi-tech Park supported by this project would include not only a high-tech industrial park, but also the construction of R&D and educational and training facilities such as the Hanoi Science and Technology University, FPT University, Vietnam Science and Technology Academy and Vietnam National Health and Epidemiology Research Center. Together with the Vietnam National University, Hanoi, built next to HHTP, this facility would be built as a major center for the country's science and technology in a high-level collaboration between industry, academia and the government. This project would build the basic infrastructure (roads, water supply, sewage, electricity, etc.) for Hoa Lac Hi-tech Park, but this project has high potential because it would help to attract research institutes and private-sector companies, develop science and technology at the national level, and thus contribute to the development of Vietnam's society and economy overall. In addition, a joint statement issued by Japan and Vietnam on the occasion of Vietnamese Prime Minister Nguyen Tan Dung's visit to Japan in 2006 mentions this project as one of the three aid requests made to the Japanese government, indicating the importance of this project at the national level.

(3) Japan and JICA's Policy and Operations in the Science and Technology Sector and High-tech Industrial Sector

Japan's Country Assistance Program (CAP) for Viet Nam (July 2009) states that "the promotion of economic growth and strengthening international competitiveness" is one of the four main pillars of Japan's aid policy, and expressed the intention to give priority to the development of a business environment and the private sector. In response to the CAP, JICA plans to address the issue of private sector development as a measure related to "Promotion of Economic Growth and International Competitiveness" and will implement the project as part of the policy. Building the basic infrastructure for the high-tech park will help to encourage investment by foreign-capital companies and local companies and contribute to stable corporate management, and is consistent with this policy. The Hoa Lac Hi-tech Park Master Plan Study and Feasibility Study (Development Study) was conducted in 1996, based on Vietnamese government's request, and followed by the Hoa Lac Hi-tech Plan Revised Feasibility Study (Follow-up study).

(4) Other Donors' Activities

Swedish International Development Cooperation Agency's Department for Resource Cooperation, Korea International Cooperation Agency and JETRO, among others, have provided technical cooperation to support science and technology and the private sector. Other than ADB's plan of constructing the Hanoi Science and Technology University in the Hoa Lac Hi-tech Park, there are no other examples of aid for infrastructure development in the science and technology sector.

(5) Necessity of the Project

This project is consistent with Japan and JICA's aid priorities, and the necessity and relevance of this project implementation is very high.

3. Project Description

(1) Project Objectives

The objective of the Project is to create a science and technology hub of the country by building basic infrastructure for high-tech research and production activities, thereby contributing to sustainable development of high-tech industry, and economic growth and international competitiveness of Vietnam.

This ODA loan targets the engineering services (E/S) for the basic design of the above project, and will promote the smooth implementation of this project.

(2) Project Site/Target Area

Hanoi City, Vietnam

(3) Project Components

1) Construction (finance to the construction phase will be decided based on E/S results)

- ① Target Area: About 1,036ha (Region targeted in master plan: About 1,586ha)
- ② Engineering work: Road construction, road expansion, drainage network, network of water-supply pipes, sewage network, seawalls, land reclamation
- ③ Sewage treatment facility
- ④ Electrical power facility: Electrical network (underground cables, etc.), transformer station
- ⑤ Telecommunications facility: Telecommunications system network (optical fiber cables, antenna tower)

2) Consulting services

This ODA loan covers the following consulting services related to 1) above.

- ① Consulting services for basic infrastructure development for HHTP (geological survey, detailed design and bidding assistance)
- ② Support to improve capacity for process of main construction work

(4) Estimated Project Cost (Loan Amount)

1,186 million yen (Loan Amount: 1,005 million yen)

(5) Schedule

March 2010 – March 2012 (total of 25 months); the project will be complete when the loan term ends (March 2012); the construction of the project will be conducted in September 2011 – September 2020.

(6) Project Implementation Structure

- 1) Borrower: The Government of the Socialist Republic of Viet Nam
- 2) Executing Agency: Hoa Lac Hi-tech Park Management Board (HHTP-MB)
- 3) Operation and Maintenance System: HHTP-MB

(7) Environmental and Social Considerations/Poverty Reduction/Social Development

1) Environmental and Social Considerations

- ① Category: B
- ② Reason for Categorization: This ODA loan is a loan for engineering services, and this project does not belong to category C in the environmental category.
- ③ Environmental Permit: The Ministry of Natural Resources and the Environment (MONRE) approved the EIA for this project in January 2010.
- ④ Anti-Pollution Measures: An environmental management plan will be prepared in accordance with Vietnam's domestic regulations in regards to countermeasures for air quality, noise and vibration during construction work in this project.
- ⑤ Natural Environment: This project's target site is not located in a region vulnerable to impact, such as a national park, nor is it located in a surrounding area, and no rare plants or animals have been confirmed.
- ⑥ Social Environment: This project will result in the relocation of 1,288 residents as a result of the acquisition of approximately 1,036ha of land, but the land will be acquired and the residents relocated in accordance with domestic procedures.
- ⑦ Other/Monitoring: The executing agency will prepare a monitoring plan for air quality, water quality, noise and vibration, and the affected residents' success in restoring their livelihoods.

2) Promotion of Poverty Reduction: None in particular

3) Promotion of Social Development: None in particular

(8) Coordination with other donors: None in particular

(9) Other Important Issues: None in particular

4. Targeted Outcomes

Performance Indicators (Operation and Effect Indicator) (*This only pertains to private-sector companies who plan to move into the high-tech industrial district or software park.)

Indicator	Baseline	Target (Expected value 2 years after project completion)
Number of research and educational institutions	To be set when main unit is provided	To be set when main unit is provided
Number of trainees and students	Same as above	Same as above
Number of workers (of which skilled workers)	Same as above	Same as above
Amount of investments attracted (mn USD)	Same as above	Same as above
Number of companies in residence* (by priority area for high-tech products)	Same as above	Same as above
Net benefits of companies in residence (100mn dong)*	Same as above	Same as above
Average income of workers*	Same as above	Same as above

(1) Internal rate of return: The internal rate of return was not calculated, given the nature of this project.

5. External Factors and Risk Control

None in particular

6. Lessons Learned from Past Projects

The ex-ante evaluation for Sri Lanka's Industrial Zone Development Project (L/A signed in fiscal 1994), a similar project conducted in the past, demonstrated that it is important to keep in mind the possibility of delays in moving-in procedures in the event that the executing agency has authority in land transactions. HHTP-MB, the executing agency for this project, was given complete authority over land transactions in the Prime Minister's Decision No. 98/2009/QD-TTg (July 29, 2009), and there is no particular need to worry because the procedures are being simplified and expedited.

7. Plan for Future Evaluations

(1) Indicators to be used (*This only pertains to private-sector companies who plan to move into the high-tech industrial district or software park.)

- 1) Number of research and educational institutions
- 2) Number of trainees and students
- 3) Number of workers (of which skilled workers)
- 4) Amount of investments attracted (mn USD)
- 5) Number of companies moving in* (by priority area for high-tech products)
- 6) Net benefits of companies in residence (100mn dong)
- 7) Average income of workers*

(2) Timing: To be set when construction of project is carried out