

Ex-Ante Evaluation (for Japanese ODA Loan)**1. Name of the project**

Country: The Socialist Republic of Viet Nam

Project: Hoa Lac Science and Technology City Development Project (II)

Loan Agreement: June 6, 2017

Loan Amount: 12,865 million yen

Borrower: The Government of the Socialist Republic of Viet Nam

2. Background and Necessity of the Project**(1) Current State and Issues of the Science and Technology Sector and High-Technology Industry in Viet Nam**

Since the introduction of the Doi Moi policy in 1986, Viet Nam has aggressively transformed its economy to a market-oriented system integrated into the international economy, which brought about steady development to the country. The Ten-Year Socio-Economic Development Strategy for 2011-2020 (adopted in January 2011) has set a goal to become a modern industrialized country by 2020, raising some indicators including the share of high-technological products in GDP in 2020 to 45%.

The Government of Viet Nam has taken active measures to promote science and technology advancement, such as raising the budget relating to science and technology cities. The indicators regarding the scientific technology announced by international organizations and so forth, however, show significant disparities with other advanced ASEAN members. In coming years, it is vital, in addition to strengthening financial and human resources, to establish academia-industry-government collaboration in order to promote advanced and practical technological development. In this sense, it is essential to create science and technology hubs.

(2) Development Policies for the Scientific Technology and High Tech Industry in Viet Nam and the Priority of the Project

The Ten-Year Science and Technology Development Strategy for 2011-2020 (adopted in March 2011) emphasizes the need to address key issues such as human resource development that can support the science and technology sector, related infrastructure reinforcement, and the promotion of construction of high-tech parks. Moreover, the Prime Minister's Decision on Approving the High Technology Development Program by 2020 (adopted in December 2010) aims to establish and support more than 500 high-tech companies as well as build more than 40 high-tech enterprise support centers and more than 20 high-tech human resource development centers. Currently, high-tech industry hubs are being developed in Ho Chi Minh City for the southern region and in Danang City for the central region. While they are likely to serve as industrial parks, Hoa Lac Hi-Tech Park (HHTP), which is being constructed in the northern region, is expected to be Viet Nam's first science and technology hub housing higher education institutions that can contribute to

academia-industry collaboration as well as facilities that can promote national research and development programs and human resource development for technology innovation and competitiveness reinforcement.

In this context, the Project is considered one of the highest priority projects at the diplomatic level between Japan and Viet Nam since it is designed to develop basic infrastructure to promote research and development as well as education and training in the science and technology hub in Hoa Lac District, Hanoi City.

(3) Japan and JICA's Policy and Operations in the Science and Technology Sector and High Tech Industry

The Country Assistance Policy for the Socialist Republic of Viet Nam (December 2012) identifies "Promotion of Economic Growth and Strengthening International Competitiveness" as one of the priority areas and suggests that "towards sustainable development through strengthening the international competitiveness, Japan supports Viet Nam to improve the market economy system, reform finance and develop the industry and human resources." Moreover the Rolling Plan points out as follows: "foreign direct investment to manufacturing industry that is led by Japanese related companies grows steadily. However, in many cases investors are not satisfied with the business environment. The number of workers and their accommodations are deficient, public services including the customs are not well established, infrastructure at industrial zones and surrounding areas needs improvement, and many more issues exist." Moreover, JICA's Country Analysis Paper for the Socialist Republic of Viet Nam (March 2014) identifies the "development of economic infrastructure that is still in high demand" as a new challenge for Viet Nam to achieve sustainable development. Thus, the Project is in line with the policy and analysis of the Government of Japan and JICA.

Based on the request from the Government of Viet Nam, JICA conducted a master plan study and a feasibility study in 1996 and a revised feasibility study in 2008. Based on the results of these studies, JICA provided loan assistance for engineering services (L/A signed in March 2010). Moreover, JICA disbursed a loan of 15,218 million yen in the first phase of this Project in FY2001.

(4) Other Donors' Activity

Swedish International Cooperation Agency (SIDA), Korea International Cooperation Agency (KOICA), and other development partners have provided technical support for science and technology advancement and private sector development. The French Government and the Asian Development Bank have funded the construction of Hanoi Science and Technology University in HHTP. The Japan External Trade Organization (JETRO) and the Overseas Human Resources and Industry Development Association (HIDA) have supported the capacity building of the Hoa Lac Hi-tech Park Management Board (HHTP-MB), which will serve as an implementing agency for this Project, as part of investment promotion support.

(5) Necessity of the Project

The Project is in line with the assistance policy and analysis of the Government of Japan and JICA as well as the development issues and policies of the Government of Viet Nam, which aims to promote science and technology advancement and high-tech industry development. This Project is also expected to contribute to the Sustainable Development Goal 9. Therefore, it is highly necessary to implement the Project.

3. Project Description

(1) Project Objective

The Project aims at contributing to the formation of the first core city for science and technology in the country, the promotion of economic growth and the strengthening of international competitiveness, through expanding the participation of research and educational organizations as well as attracting more private investment, which is to be underpinned by the construction of basic infrastructure of Hoa Lac High Tech Park located in the Hoa Lac District in Hanoi City.

(2) Project Site/Target Area

Hoa Lac District, Hanoi City

(3) Project Components

- 1) Basic infrastructure construction work (road consolidation, water and sewerage, electricity, telecommunication facilities, etc)
- 2) Consulting services: Construction management, etc

(4) Project Cost

50,097 million yen (Loan Amount for (I) and (II): 28,083 million yen)

(5) Project Implementation Schedule

March 2012 to March 2019 (85 months in total). The date of handing the facilities over is considered to be the Project completion.

(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 (HHTTP-MB)
- 3) Operation and Maintenance System: (Power facility) Hanoi Power Company (EVN Hanoi), (telecommunication facility) Vietnam Posts and Telecommunications Group, (Water supply system) Hanoi Water Limited Company, (Road and sewage treatment facility) Hoa Lac Hi-tech Park Development One-Member Limited Liability Company

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

1) Environmental and Social Considerations

(i)Category: A

(ii)Reason for Categorization: The Project is considered to have characteristics with possible adverse impacts on the environment (large-scale land reclamation and large-scale involuntary resettlement) mentioned in “Japan Bank of International Cooperation Guideline for the Confirmation of Environmental and Social Consideration”, issued in April 2002.

- (iii) Environmental Permit: Environmental Impact Assessment (EIA) Report on the Project was approved by the Ministry of Natural Resources and Environment in January 2010.
 - (iv) Anti-Pollution Measures: With regard to noise and air pollution after handover, it is planned to develop greenbelts along roads and plant plants and trees within the Park. In addition, as for soil, water, and other contaminations, the HHTP-MB and the Department of Natural Resources and Environment of Hanoi City are expected to take relevant measures in collaboration with other relevant departments to mitigate those impacts if such cases are found during the process of environmental management.
 - (v) Natural Environment: The target area of the Project is not located in a sensitive area or its neighborhood such as national parks, and undesirable impacts on the natural environment are estimated to be minimal..
 - (vi) Social Environment: The Project is to acquire approximately 476 hectare of land, and 561 households are expected to be resettled. These processes are being carried out in accordance with the domestic procedures of Viet Nam and the Resettlement Action Plan (RAP). Currently, 129 hectare of land has yet to be acquired, and 265 households have not been resettled. Among them, the process of acquiring 21.5 hectare of land and resettling 65 households for the infrastructure development of this Project will be completed by January 2017.
 - (vii) Other/Monitoring: The HHTP-MB will be responsible for monitoring environmental issues, such as the air quality and noise level, and social issues, such as the land acquisition process, during the construction and after handover.
- 2) Promotion of Poverty Reduction: No information to be specifically mentioned.
 - 3) Promotion of Social Development (e.g. gender perspective, measure for infectious diseases including HIV/AIDS, participatory development, consideration for the person with disability, etc): The implementing agency has adopted a decision to give special consideration to women working in the industrial park. To put this decision into practice, the HHTP-MB has required the contractor to build restrooms and locker rooms separately for men and women so that female employees will find HHTP a good place to work. Moreover, the HHTP-MB has made an agreement with a service provider to take HIV/AIDS prevention measures for the construction workers (the agreement was entered into in August 2016).
- (8) Collaboration with Other Donors: Hanoi Science and Technology University, with a student body of 5,000, is to be established within HHTP, for the purpose of providing opportunities for research activities on scientific technology that is practical for the industrial sector as well as technology innovation development. ADB has committed to support the construction work, while the Government of France is to support the human resource development. The university is expected to not only serve as a high-level academic/research hub but also act as a role model for other universities in Viet Nam by

establishing collaborative relationships with the private sector. The collaboration between the university and the companies operating in the target area of this Project can produce a synergy effect.

- (9) Other Important Issues: The Project is expected to provide opportunities to Japanese corporations participating in the High Tech Industrial Park and Research Development District in the Park. Currently, three Japanese companies have started operating in HHTP.

4. Targeted Outcomes

(1) Quantitative Effects

Operation and Effect Indicators

Indicators	Baseline (Actual value in 2010)	Target (2021) [two years after project completion]
Number of laboratories (room)	20	180
Number of researchers (person)	250	5,000
Number of educational/research organizations (organization)	3	9
Number of trainees/students (person)	3,300	15,000
Number of workers (person)	4,839	25,000
Number of engineers (person)	2,824	10,000
Number of participating corporations (corporation)	36	150
Sales amount of participating corporations (1 Billion Dong)	1,673	11,000

(2) Qualitative Effects

Strengthening of international competitiveness through the development of the science and technology city and the promotion of private investment; and the facilitation of economic growth in Hanoi City

(3) Internal Rate of Return

Based on the conditions indicated below, the economic internal rate of return (EIRR) of the project is estimated 14.5%. The financial internal rate of return (FIRR) is not calculated as the project does not aim at allocating costs from the return.

【EIRR】

Cost: Project cost (excluding tax), land reclamation cost within the Project target area, operation/maintenance costs for basic infrastructure

Benefit: Employment generation and enhanced income of workers in the Project target area

Project life: 30 years

5. External Factors and Risk Control

No information to be specifically mentioned.

6. Lessons Learned from Past Projects

(1) Evaluation results from similar projects:

The ex-post evaluation of the Industrial Estates Development Project in the Democratic Socialist Republic of Sri Lanka (L/A signed in FY 1994) pointed out that an executing agency was not authorized as to land acquisition and so forth, which caused a delay in occupancy procedures, and that the scope of the project included the construction of sewerage facilities but not the installation of sewerage pipes, which caused a delay in the self-financing development and resulted in a low operation rate of the constructed sewerage treatment facilities.

(2) Lessons Learned to the Project

The HHTP-MB, the executing agency of the Project, has been fully authorized as to land acquisition by the Prime Minister Decision No.98/2009/QD-TTg (as of July 29, 2009). Some companies have already moved in HHTP. Moreover, the Project is assumed to include the construction of drainage and sewerage pipes, in addition to sewerage treatment facilities, in its scope. It is highly possible to achieve a high utilization rate if the investment in HHTP increases and the participation rate of research organizations and high-tech corporations rises.

7. Plans for Future Evaluation

(1) Indicators for Future Evaluation

- 1) Number of laboratories (room)
- 2) Number of researchers (person)
- 3) Number of educational/research organizations (organization)
- 4) Number of trainees/students (person)
- 5) Number of workers (person)
- 6) Number of engineers (person)
- 7) Number of participating corporations (corporation)
- 8) Sales amount of the participating corporations (1 Billion Dong)
- 9) Economic Internal Rate of Return (EIRR) (%)

(2) Timing

Two years after the Project completion.