

NORTH NGHE AN IRRIGATION SYSTEM UPGRADING PROJECT IN THE SOCIALIST REPUBLIC OF VIETNAM



Period: August 2014 - August 2020

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Background

Agriculture in Vietnam is one of the most important sectors as it shares 20% of the GDP, even under the current rapid growth of industrial sector. Irrigation systems have been deteriorated due to their outdated facilities, and therefore agriculture sector has faced serious challenges including decrease of cropping area and little progress of crop production. Many irrigation systems have been damaged and destroyed by natural disasters such as flooding and typhoons. In recent years, there has been increasingly frequent natural calamity induced by climate change.



To solve this situation, the Government of Vietnam has planned to rebuild outdated and damaged irrigation facilities for the increase of irrigation area by 1.7 million ha nationwide; Capacity strengthening for operation and management of the irrigation systems at levels in order to use water resources efficiency, saving the cost of operation and maintenance.



Among the irrigation systems seriously deteriorated, the North Nghe An irrigation system built in 1936 located in Central Vietnam, which is a region vulnerable to natural disasters, has been in the worst condition, so it needs to be rehabilitated or reconstructed as soon as possible. In view of this situation, MARD requested the Government of Japan for the loan assistance for the North Nghe An Irrigation System Upgrading Project, and then the Loan Agreement was signed on March 22, 2013.



Project Objectives

The overall objective of the Project is “To increase agricultural production by upgrading and strengthening the capacity of the operation and maintenance of the North Nghe An irrigation system, thereby contributing to poverty reduction and livelihood improvement”. The specific objectives are summarized as follows:

- 1) *To strengthen irrigation facilities for the total irrigation area of 27,666 ha.*
- 2) *To increase irrigation efficiency and save water for domestic, industrial and aquaculture use.*
- 3) *To reduce water management cost and maintenance cost.*
- 4) *To contribute to the industrialization and modernization of agriculture.*
- 5) *To enhance the capacity of technical staff and farmers in management of the irrigation system.*
- 6) *To expand and consolidate the international cooperation with other countries.*



Dien Than sluice



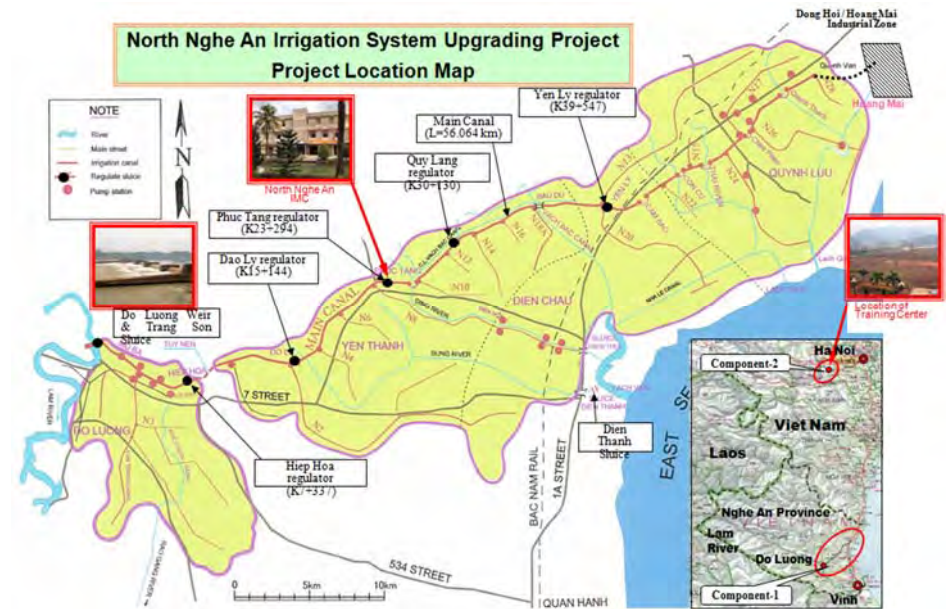
Main canal

Project Outline

The North Nghe An irrigation system (NNAIS) as Component-1 of the Project is located in Nghe An Province in the north central region of Vietnam, approximately 250 km south of Hanoi. Irrigation system takes water at Do Luong Weir from Ca River with the flow of 44 m³/sec, conveys through 56 km main canal and distributes to the irrigation area of 27,665 ha with paddy rice, with the population and farm households of 719,191 and 125,438 respectively.

Supply water for industry and fishery sectors and domestic and livestock use in four districts of Do Luong, Yen Thanh, Dien Chau and Quynh Luu and one town of Hoang Mai. Since around 2001, industry, commerce, transportation and other infrastructure have increased, accordingly urbanization is progressing.

On the other hand, Component-2 of the Project, the project area for the training facilities to strengthen irrigation management capacity is located in Thach That District in Hanoi City, approximately 35 km west of Hanoi. The land area for the training facilities has already been obtained.



The Project is composed of two (2) major components as:

Component -1: Rehabilitating and Upgrading of the North Nghe An Irrigation System

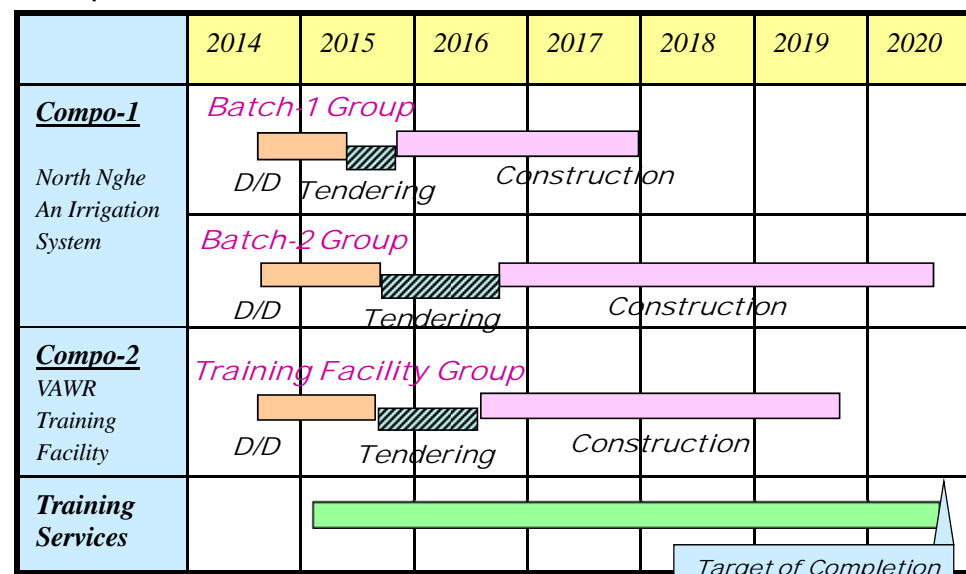
Component -2: Strengthening Irrigation Management Capacity and Training Facilities of Vietnam Academy of Water Resources

Summary of Project Components

Components	Work Description
1. Component-1: Rehabilitating and Upgrading of the North Nghe An Irrigation System	
1) Do Luong Headworks	Upgrading Do Luong weir including construction of Trang Son Intake as the new water head
2) Main canal	Reinforcing 29 km and raising bank for 17 km out of 56 km main canal, repairing 5 regulators, offtake gates, pumping stations, etc.
3) Level-I canals	Reinforcing 164 km out of 222 km of the canals in total and construction new canals to industrial zones.
4) Level-II canals	Reinforcing 159 km out of 1200 km of the canals in total and repairing 20 pumping stations
5) Level-III canals	Reinforcing 51 km of the canals and repairing 6 pumping stations
6) Drainage system	Reconstructing Dien Thanh Sluice and dredging 29 km of drainage canals
7) SCADA system	Installation of SCADA equipment at the main canal
2. Component-2: Strengthening Irrigation Management Capacity and Training Facilities of Vietnam Academy of Water Resources	
1) Training facilities	Constructing building for indoor laboratories, lecture halls, offices, dormitories and outdoor facilities
2) Training equipment	Procuring training equipment for irrigation modernization, hydraulic engineering, SCADA device, etc.

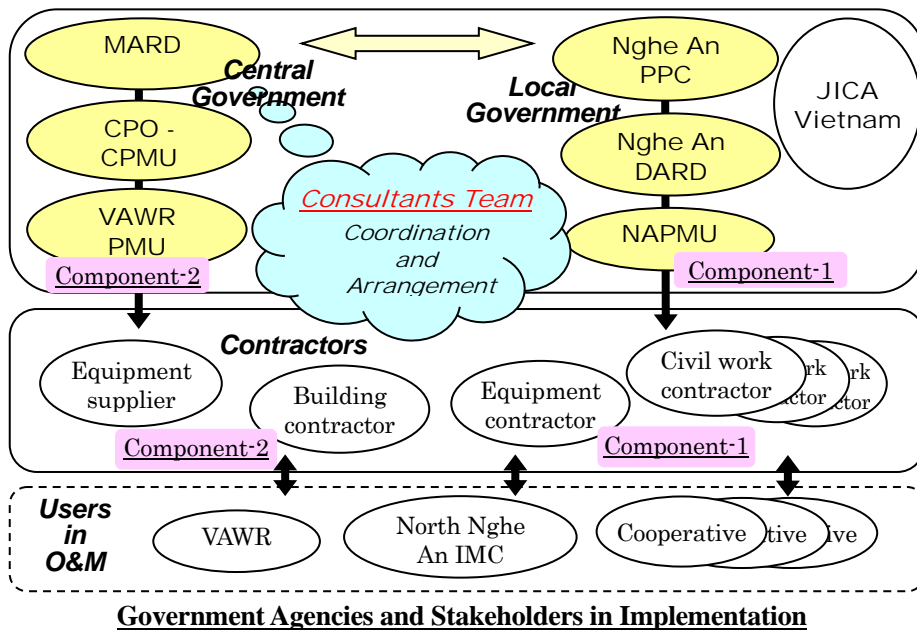


Implementation Schedule



Implementation Organization

Large number of agencies and parties are involved; they are JICA as donor agency of the Government of Japan, MARD as project executing agency of the Government of Vietnam, CPO as project owner / coordinating agency, Nghe An PPC / Nghe An DARD as the owner of Component-1, VAWR as the owner of Component-2, VAWR PMU and NA PMU as project management unit of each component, civil work contractors, building contractors and equipment suppliers, North Nghe An IMC / IMEs for the O&M of the North Nghe An irrigation system and farmer beneficiaries under cooperatives as water users.



VAWR training facilities

NORTH NGHE AN IRRIGATION SYSTEM UPGRADING PROJECT

Detailed Design and Project Implementation Supervision Consultancy



Joint Venture of Sanyu Consultants Inc. (SCI)

And



Hydraulic Engineering Consultants Corporation II (HEC II)

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