

Country Name	Project for Building Disaster Resilient Societies in Vietnam (Phase 2)
Socialist Republic of Viet Nam	

I. Project Outline

Background	<p>The Central Region of Viet Nam was vulnerable to water-related disasters due to heavy rainfall caused by tropical low pressure and mountainous geography. From 2009 to 2012, JICA assisted in the project titled “Project for Building Disaster Resilient Societies in the Central Region” in Provinces of Thua Thien Hue, Quang Nam and Quang Ngai (hereinafter referred to as “the Phase I Project”). One of the major achievements of the Phase I Project was formulation of an integrated flood management plan (IFMP) which was approved in Thua Thien Hue Province. Under the concept of Integrated Flood Management (IFM)², further assistance for flood risk reduction in Thua Thien Hue Province and three new target provinces in the Central Region was requested by the Government of Viet Nam.</p>												
Objectives of the Project	<p>The project aimed to strengthen the capacity for IFM planning and implementation; through i) strengthening the institutional arrangements at the central level, and ii) conducting various measures and capacity development for IFM in the four target provinces (Nghe An, Ha Tinh, Quang Binh, and Thua Thien Hue), thereby strengthening resilience of societies against water-related disasters.</p> <ol style="list-style-type: none"> Overall Goal: Resilience of society against water-related natural disasters is strengthened under the integrated flood management (IFM) system. Project Purpose: Capacity for IFM planning and implementation is strengthened at the central level and in target provinces. 												
Activities of the Project	<ol style="list-style-type: none"> Project Site: Hanoi City; Provinces of Nghe An, Ha Tinh, Quang Binh, Thua Thien Hue Main Activities: <ol style="list-style-type: none"> [At the Central Level] To strengthen institutional arrangements for IFM; [In Thua Thien Hue Province] To implement the IFMP formulated in the Phase I Project; [In Quang Binh Province] To formulate an IFMP through conducting flood disaster impact analysis, etc.; [In Nghe An and Ha Tinh Provinces] To conduct training on flood risk analysis, etc.; [In Ha Tinh and Quang Binh Provinces] To implement small-scale river bank protection works; [In Nghe An, Ha Tinh, Quang Binh Provinces] To develop manuals for embankment inspection and dam operation, etc; and [In the four provinces] To implement community-based disaster risk management (CBDRM). Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Vietnamese Side</td> </tr> <tr> <td>1) Experts: 17 persons</td> <td>1) Staff Allocated: 56 persons</td> </tr> <tr> <td>2) Trainees Received: 36 persons</td> <td>2) Office space in Hanoi and the four provinces</td> </tr> <tr> <td>3) Equipment: Survey equipment, digital elevation maps, etc.</td> <td>3) Operation Costs</td> </tr> <tr> <td>4) Operation Costs</td> <td></td> </tr> </table> 			Japanese Side	Vietnamese Side	1) Experts: 17 persons	1) Staff Allocated: 56 persons	2) Trainees Received: 36 persons	2) Office space in Hanoi and the four provinces	3) Equipment: Survey equipment, digital elevation maps, etc.	3) Operation Costs	4) Operation Costs	
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Project Period	August 2013 – August 2016	Project Cost	(ex-ante) 407 million yen, (actual) 515 million yen										
Implementing Agency	Directorate of Water Resources (DWR)* under the Ministry of Agriculture and Rural Development (MARD) * Since August 2017, Vietnam Disaster Management Authority (VNDMA) under MARD is in charge.												
Cooperation Agency in Japan	Earth System Science Co., Ltd.; IDEA Consultants, Inc.												

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to Coronavirus Disease (COVID)-19 pandemic, the evaluation judgment was made by analyzing information acquired, through sending/collecting questionnaires and telephone interviews with officials concerned. Neither face-to-face interviews nor site visits were conducted.

1 Relevance

<Consistency with the Development Policy of Viet Nam at the Time of Ex-Ante Evaluation>

The project was consistent with “National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020”, published in 2007, which aimed to mobilize all resources to effectively implement disaster prevention, response and mitigation up to 2020.

<Consistency with the Development Needs of Viet Nam at the Time of Ex-Ante Evaluation>

The project was consistent with development needs of Viet Nam for strengthening disaster-related measures, especially in the Central Region.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project aligned with “Country Assistance Program for Viet Nam (2012)”, supporting to “address threats such as disasters and

¹ This technical assistance project is under the account of a Japanese ODA Loan Project, “Support Program to Respond to Climate Change”, and aimed to enhance its development effects (Disaster Risk Reduction among others).

² Integrated Flood Management is a process promoting an integrated - rather than fragmented - approach to flood management. An integrated flood management plan should address the following six key elements: i) Manage the water cycle as a whole; ii) Integrate land and water management; iii) Manage risk and uncertainty; iv) Adopt a best mix of strategies; v) Ensure a participatory approach; and vi) Adopt integrated hazard management approaches. <Source> World Meteorological Organization (2009) “Integrated Flood Management Concept Paper”

climate change” under a priority area, i.e. “Responses to Fragility”.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The project achieved its Project Purpose at the time of project completion. Upon reviewing the legal system for IFM, “Law on Natural Disaster Prevention and Control” and “Law on Hydrometeorology” were enacted in 2013 and 2015 respectively (Indicator 1). The promptness of sharing real-time river information data between the Ministry of Natural Resources and Environment (MONRE) and MARD was increased (Indicator 3). In both Thua Thien Hue and Quang Binh Provinces, the relevant authorities initiated to secure funding for implementation of the IFMPs formulated under the Phase I Project and this project (Indicator 4).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been continued till the time of ex-post evaluation. In both the central and provincial levels, most of activities introduced by the project have been continued. Under the project, training and related activities on hydro-meteorological management and institutional arrangements in flood risk management were conducted through introducing experiences in Japan. After the project, MARD and MONRE have made a lot of efforts and progress in data sharing and collaboration, such as creation of the Vietnam Disaster Monitoring System in 2018, which allowed VNDMA/MARD to automatically integrate real-time data into one tool for monitoring. Thanks to these efforts, the promptness of real-time sharing of hydro-meteorological data between MARD and MONRE was further increased after project completion, which enabled MARD to make more timely decisions for disaster preparation and response³. Such improvement has been assured through training on flood risk analysis conducted in MONRE, MARD and localities after the project.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. It is remarkable that the above mentioned “Law on Natural Disaster Prevention and Control” was amended on June 17th 2020, which stipulated that Integrated Flood Management Plans (IFMPs) should be focused in both central- and provincial-level natural disaster prevention and control plans (Indicator 1). In each of Thua Thien Hue and Quang Binh Provinces, the IFMP is being implemented through various programs/projects for both non-structural and structural measures. Funding was secured from different sources (central budget, provincial budget, ODA and contributions⁴, etc.) (Indicator 2).

<Other Impacts at the time of Ex-post Evaluation>

Under the project, an IFMP was not formulated for Nghe An or Ha Tinh provinces, but flood risk analysis, embankment inspection/protection and CBDRM have been continued. It has improved the capacity of disaster prevention and mitigation of the Departments of Agriculture and Rural Development (DARDs) in these two provinces. Furthermore, a notable impact is that the concept of IFM was succeeded by a project assisted by the World Bank, namely “Emergency Natural Disaster Reconstruction Project (2017-)”, under which, IFMPs were formulated for three river basins in other provinces, by utilizing the know-how and the manual developed by this project. On the other hand, no negative impact has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) Capacity for IFM (Integrated Flood Management) planning and implementation is strengthened at the central level and in target provinces.	1. Central government initiates to review legal systems necessary for IFM (especially regarding river basin management).	Status of the Achievement: achieved (continued) (Project Completion) Upon reviewing the legal system for IFM, “Law on Natural Disaster Prevention and Control” and “Law on Hydrometeorology” were enacted in 2013 and 2015 respectively. (Ex-post Evaluation) Refer to the Overall Goal Indicator 1.
	2. Joint Action Plan developed under Output 1* is implemented. * Output 1: Institutional arrangements for IFM is strengthened at the central level.	Status of the Achievement: not applicable (Project Completion) The Joint Action Plan was considered not necessary any more, because each government agency’s roles were specified in the above-mentioned laws.
	3. Promptness of real-time river information data sharing between MONRE and MARD is increased.	Status of the Achievement: achieved (continued) (Project Completion) Promptness of real-time river information data sharing between MONRE and MARD was increased in both the central and provincial levels, though it was expected to be further improved both quantitatively and qualitatively. (Ex-post Evaluation) MARD can obtain data on water level and rainfall every six hours from MONRE through a software. Besides, the Vietnam Disaster Monitoring System, applied in 2018, allows MARD to automatically integrate real-time data into one tool to monitor and make decisions for disaster preparation and response.

³ A Grant Aid Project by JICA, “Project for Emergency Reservoir Operation and Effective Flood Management Using Water related Disaster Management Information System (2017-)”, is expected to contribute to further improvement.

⁴ It is notable that a private company funded automatic hydrology/meteorology observation stations in Quang Binh Province.

	<p>4. Authorities of target provinces* initiate to find measures to secure funding for IFM implementation.</p> <p>* “Target provinces” here mean only Thua Thien Hue and Quang Binh Provinces where IFMPs were formulated.</p>	<p>Status of the Achievement: achieved (continued) (Project Completion) In both Thua Thien Hue and Quang Binh Provinces, the relevant authorities reviewed the IFMPs, and initiated to secure funding for implementation.</p> <p>(Ex-post Evaluation) Refer to the Overall Goal Indicator 2.</p>																																				
<p>(Overall Goal) Resilience of society against water-related natural disasters is strengthened under the IFM system.</p>	<p>1. Central government initiates to develop legal systems necessary for introduction of IFM (especially regarding river basin management).</p>	<p>(Ex-post Evaluation) achieved On June 17th 2020, “Law on Natural Disaster Prevention and Control” was amended and supplemented, which incorporated IFMPs at both the national and provincial levels (Article 15, Clause 4 and 6).</p>																																				
	<p>2. Financial arrangements are secured for IFMP implementation. (Thua Thien Hue and Quang Binh Provinces)</p>	<p>(Ex-post Evaluation) achieved</p> <p style="text-align: center;">Implementation of the IFMP in Thua Thien Hue Province (2017-2020)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Programs/Projects</th> <th style="width: 30%;">Fund Sources</th> </tr> </thead> <tbody> <tr> <td>Non-structural (9 programs/projects)</td> <td rowspan="4">Central and Provincial budget (including Local Disaster Prevention and Control Fund) Funding from various organizations/ programs</td> </tr> <tr> <td>Examples:</td> </tr> <tr> <td>- Enhancing flood and storm warning capacity</td> </tr> <tr> <td>- Public awareness raising</td> </tr> <tr> <td>- Protecting forests</td> <td rowspan="4">-</td> </tr> <tr> <td>- Compiling guidelines on housing construction and land use</td> </tr> <tr> <td>Structural (8 programs/projects)</td> </tr> <tr> <td>Examples:</td> </tr> <tr> <td>- Upgrading an embankment, culverts, and pump stations</td> <td rowspan="4">-</td> </tr> <tr> <td>- Dredging and protecting erosion of coasts and river banks</td> </tr> <tr> <td>- Amending the layout for residential areas</td> </tr> <tr> <td>- Constructing rescue centers in inundation-prone areas</td> </tr> </tbody> </table> <p style="text-align: center;">Implementation of the IFMP in Quang Binh Province (2017-2020)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Programs/Projects</th> <th style="width: 30%;">Fund Sources</th> </tr> </thead> <tbody> <tr> <td>Non-structural (12 programs/projects)</td> <td rowspan="4">Central and Provincial budget ODA (the World Bank, Green Climate Fund, etc.)</td> </tr> <tr> <td>Examples:</td> </tr> <tr> <td>- Preparing flood hazard maps for two river basins</td> </tr> <tr> <td>- Establishing hydrology/meteorology database</td> </tr> <tr> <td>- Establishing hydrology/meteorology observation stations</td> <td rowspan="4">-</td> </tr> <tr> <td>- Training on CBDRM</td> </tr> <tr> <td>- Training on search and rescue forces</td> </tr> <tr> <td>Structural (7 programs/projects)</td> </tr> <tr> <td>Examples:</td> <td rowspan="4">Funding from various organizations/ programs</td> </tr> <tr> <td>- Repairing/constructing embankments and reservoirs</td> </tr> <tr> <td>- Upgrading a local road for securing transport during flood</td> </tr> <tr> <td>- Building storm shelters for boats/ships</td> </tr> <tr> <td>- Improving flood drainage</td> <td rowspan="4">-</td> </tr> </tbody> </table>	Programs/Projects	Fund Sources	Non-structural (9 programs/projects)	Central and Provincial budget (including Local Disaster Prevention and Control Fund) Funding from various organizations/ programs	Examples:	- Enhancing flood and storm warning capacity	- Public awareness raising	- Protecting forests	-	- Compiling guidelines on housing construction and land use	Structural (8 programs/projects)	Examples:	- Upgrading an embankment, culverts, and pump stations	-	- Dredging and protecting erosion of coasts and river banks	- Amending the layout for residential areas	- Constructing rescue centers in inundation-prone areas	Programs/Projects	Fund Sources	Non-structural (12 programs/projects)	Central and Provincial budget ODA (the World Bank, Green Climate Fund, etc.)	Examples:	- Preparing flood hazard maps for two river basins	- Establishing hydrology/meteorology database	- Establishing hydrology/meteorology observation stations	-	- Training on CBDRM	- Training on search and rescue forces	Structural (7 programs/projects)	Examples:	Funding from various organizations/ programs	- Repairing/constructing embankments and reservoirs	- Upgrading a local road for securing transport during flood	- Building storm shelters for boats/ships	- Improving flood drainage	-
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Source: Terminal Evaluation Report, Final Report, questionnaires and interviews with MARD, MONRE, and DARDs in the four provinces.

3 Efficiency

While the project period was within the plan, the project cost exceeded the plan (ratio against the plan: 100% and 127%, respectively). The increase in the project cost is partly attributed to: (i) an increase in target basins for flood risk analysis in Ha Tinh Province; and (ii) additional survey work for formulating the IFMP in Quang Binh Province. Other outputs were produced as originally planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

“National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020” and “Natural Disaster Prevention and Control Plan (2019-2020)” are still effective till 2020, while the new strategy and plan are under preparation. Aside from them, “Community Awareness Raising and Community-Based Disaster Risk Management (CBDRM) Program (2009-2020)” under Decision No.1002/QD-TTg has mainstreamed community disaster management in Viet Nam. Also, the proposal for extending CBDRM program period until 2030 has been submitted to Prime Minister.

<Institutional/Organizational Aspect>

At the central level, in August 2017, the Vietnam Disaster Management Authority (VNDMA) was established under the Ministry of Agriculture and Rural Development (MARD)⁵, which has promoted leadership in disaster risk management. In the VNDMA, 185 staff are

⁵ During the project, the Directorate of Water Resources (the former DWR) under MARD was in charge of disaster management, but the DWR was separated into (i) the VNDMA and (ii) the current DWR. The latter is currently in charge of utilization and management of water resources such as irrigation.

allocated, which is considered as sufficient because the Authority has been able to continue activities introduced by the project. At the provincial level, the Departments of Agriculture and Rural Development (DARDs) in the target four provinces secure the staff who are full-time in charge of disaster risk management, including promoting activities introduced by the project. Therefore, the number of staff in the responsible organizations is evaluated as sufficient.

<Technical Aspect>

The four DARDs in the target provinces sustain their skills through annual training as well as daily work, based on the know-how and deliverables (flood risk maps and technical manuals for embankment inspection, etc.) introduced by the project. Also, cooperation with other donors is further enhancing the skills of both MARD and DARDs. For example, the IFMP Formulation Manual prepared by the project was utilized as a reference for formulating IFMPs for other river basins with assistance of the World Bank.

<Financial Aspect>

Both at the central and provincial levels, the necessary funds are secured to implement the activities introduced by the project. Funding sources are diverse: central and provincial government budget, ODA and NGOs. Aside from them, the Local Disaster Prevention and Control Fund was established through Decree 94/2014/ND-CP, which came into effect in 2014 and required private companies and individuals to contribute to the Fund. According to the four provinces under the project, the Fund is now being used mostly for construction/repair of small-scale structural works and community raising awareness for Disaster Risk Reduction.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional/organizational, technical, financial aspects. Therefore, the sustainability of project effects is high.

5 Summary of the Evaluation

The project achieved the Project Purpose (i.e. Capacity for IFM (Integrated Flood Management) planning and implementation is strengthened at the central level and in target provinces). The project effects have continued, and the Overall Goal (i.e. Resilience of society against water-related natural disasters is strengthened under the IFM system) has been achieved. It is remarkable that the concept of IFM has been incorporated into the amended “Law on Natural Disaster Prevention and Control”, and succeeded by another donor and expanded to other provinces after project completion. Regarding the Sustainability, no major problem has been observed in terms of the policy, institutional/organizational, technical, financial aspects. As for the Efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- “Law on Natural Disaster Prevention and Control”, amended on June 17th 2020, stipulates that the Integrated Flood Management Plans (IFMPs) should be focused in both central- and provincial-level natural disaster prevention and control plans. However, related legal documents to guide the formulation of IFMPs in details have not yet been issued. It is recommended that, based on the experience of formulating/implementing IFMPs with JICA and the World Bank, the Vietnam Disaster Management Authority (VNDMA) under MARD prepare related legal documents to guide how to formulate an IFMP as well as how to integrate a river-basin IFMP into a province’s overall disaster management plan.

Lessons Learned for JICA:

- Under this project, various activities were implemented in four provinces in Viet Nam, and the ex-post evaluation has confirmed that those activities have been sustained until now. The former Directorate of Water Resources (DWR) and the current VNDMA have been taking good leadership in coordinating of the four provinces: i) to participate in project implementation, and ii) to promote general disaster risk management after project completion. In case of implementing project activities in many provinces in Viet Nam, overall leadership and coordination by an implementing agency at the central level is vital for success.



Small-scale River Bank Protection Work in Ha Tinh Province



CBDRM Activity (an evacuation drill) in Thua Thien Hue Province