



## 1. Project Data

**Project ID**

P118783

**Project Name**

VN-Managing Natural Hazards Project

**Country**

Vietnam

**Practice Area(Lead)**

Urban, Resilience and Land

**L/C/TF Number(s)**

IDA-51390

**Closing Date (Original)**

31-Mar-2019

**Total Project Cost (USD)**

124,939,352.46

**Bank Approval Date**

26-Jul-2012

**Closing Date (Actual)**

30-Sep-2019

**IBRD/IDA (USD)**
**Grants (USD)**

Original Commitment

150,000,000.00

0.00

Revised Commitment

150,000,000.00

0.00

Actual

127,073,332.38

0.00

**Prepared by**

Katharina Ferl

**Reviewed by**

John R. Eriksson

**ICR Review Coordinator**

Christopher David Nelson

**Group**

IEGSD (Unit 4)

## 2. Project Objectives and Components

### a. Objectives

According to the Project Appraisal Document (PAD) (p. vi) and the Financing Agreement of September 13, 2012 (p. 5) the objective of the project was “to increase the resilience of the people and economic assets to natural hazards in selected river basins of the project provinces within the overall framework of Vietnam’s National Disaster Prevention, Response and Mitigation Strategy Towards 2020”.



**b. Were the project objectives/key associated outcome targets revised during implementation?**

No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

The project included five components:

**Component 1: Strengthening Disaster Risk Management (DRM) institutions, information systems and planning (appraisal estimate US\$5.50 million, actual US\$4.77 million):** This component included three sub-components.

a) Strengthening DRM institutions including: i) facilitation of inter-ministerial coordination, policy dialogue and knowledge-sharing mechanisms; ii) establishment of provincial disaster management centers in project provinces where such centers are needed; and iii) provision of technical assistance for government agencies at different levels.

b) Improvement of DRM information systems including: i) harmonizing and integrating existing DRM databases and information systems; ii) development of an inventory of existing medium and small scale reservoirs in project provinces, their safety standards, safety guidelines, and operational procedures; iii) development of software for the management of reservoirs to be used at national and provincial levels; and iv) provision of technical assistance on the use of the databases and software and the implementation of safety guidelines.

c) Support for the integration of DRM in river basin planning including: i) provision of support for data collection and assessment of exposure, risks and vulnerability at the basin scale; ii) provision of support for identification of vulnerable areas, and possible structural and non-structural measures to mitigate natural hazard risks; and iii) provision of capacity building on the use of hydrological models and geographic information systems to DRM staff at provincial level.

**Component 2: Strengthening weather forecasting and early warning systems (appraisal estimate US\$30.0 million, actual US\$24.69 million):** This component included three sub-components:

a) Technical Assistance for development and implementation of an integrated national hydromet (an integrated approach to weather, water and climate issues) forecasting and early warning systems and end-to-end applications including: i) the preparation of hydromet implementation plan at the national level and for central region; ii) the design of a nation-wide communication system; and iii) strengthening end-to-end communication system through provision of support for the training on interpretation of early warning products for relevant staff and communities, improvement of products and services and communication between hydromet services and users, application of forecast interpretation tools, and development of user-tailored products in areas such as agriculture, tourism, energy, transport and water resource management.

b) Strengthening hydromet observation and monitoring networks, computer hardware and information and communication technology infrastructure including: i) installation of automated hydromet observing networks and communication systems; and ii) relevant capacity building activities.



c) Monitoring and Evaluation. Establishment and implementation of a monitoring and evaluation system for component 2 of the project.

**Component 3: Community-Based Disaster Risk Management (CBDRM) (appraisal estimate US\$19.50 million, actual US\$16.16 million):** This component was to finance the implementation of the government's national CBDRM strategy in approximately 100 communes through:

a) Commune institutional strengthening through i) improving commune-level flood and storm risks management procedures; ii) capacity building for commune-based institution leaders; iii) the development of inter-communal support platforms; iv) development of community resilient planning; and v) enhancement of private sector commune partnerships.

b) CBDRM Investments for: i) non-structural measures such as evacuation drills, public awareness raising, communication and early warning systems, relevant equipment, and participatory workshops; and ii) structural measures, including small-scale multi-purpose shelters and evacuation roads, and the preparation of plans and designs for the management, operation and maintenance of each structural unit.

**Component 4: Priority disaster risk mitigation investments (appraisal estimate US\$117.0 million, actual US\$98.75 million):**

This component was to finance the identification, prioritization, and implementation of major DRM investments (sub-projects) within the four selected river basins to mitigate risks posed by natural hazards. These structural measures were to respond to agreed prioritization criteria. Six project provinces covering four major river basins were each to receive US\$8-12 million for eligible investments, while the other four provinces were to receive US\$4-6 million each. According to the ICR (p. 26) the Ministry of Agriculture and Rural Development (MARD) suggested to focus on nine river basins and ten provinces. A phased approach including this number of provinces and river basins was eventually agreed on. Investments were to be implemented in two phases and include rehabilitation of selected dams and reservoirs to improve their safety, rescue roads and bridges, riverbank protection, and safe harbors at river mouths for fishing boats.

**Component 5: Project Management, Monitoring and Evaluation (appraisal estimate US\$8.0 million, actual US\$3.6 million.** The ICR did not state why the actual costs of this component were substantially lower than the appraisal estimate): This component was to finance:

a) Project Management: providing support for the Project Steering Committee (PSC), the Central Project Management Office (CPMO), the Project Management Office (PMO), the Provincial Project Management Units (PPMUs) and other implementing agencies for effective project management, implementation, and supervision.

b) Monitoring and Evaluation: providing support for the establishment and implementation of an effective monitoring and evaluation system.

**e. Comments on Project Cost, Financing, Borrower Contribution, and Dates**

**Project Cost:** The project was estimated to cost US\$167.6 million. The actual cost was US\$150.01 million.



**Financing:** The project was to be financed by a US\$150.0 million IDA loan of which US\$127.07 million disbursed.

**Borrower contributions:** The Borrower was to contribute US\$17.6 million. Actual contribution was US\$22.94 million.

**Dates:** The project was restructured twice:

- On May 28, 2016 the project was restructured to remove the project's results framework from the Financing Agreement and place said indicators in the relevant project manual. This amendment was part of the one-time amendment for 13 projects in order to assist the facilitation of timely and successful implementation activities and results of all 13 projects.
- On March 27, 2019 the project was restructured to extend the credit closing date by six months from March 31, 2019 to September 30, 2019 to facilitate the implementation of the remaining project activities and enhance achievement of the objective.

### 3. Relevance of Objectives

#### Rationale

According to the PAD (p. 1) Vietnam is one of the countries most exposed to natural hazards, given its geography, topography, economic structure, and population distribution. Vietnam is vulnerable to droughts, landslides and seawater intrusion with floods and typhoons being the dominant hazards. At the time of appraisal, almost 60 percent of Vietnam's total land area and over 70 percent of its population were at risk to these natural hazards. The potential for losses from natural hazards were particularly high in Vietnam's Central Region (the targeted area of the proposed project). Approximately 65 percent of all recorded storms and an even higher proportion of storm-related damage and loss of life occurred in this region. The Central Region experienced higher than average poverty rates and the recurrent extreme weather events posed a constraint for economic growth.

In 2007, the government approved a National Strategy for Natural Disaster Prevention, Response and Mitigation towards 2020 (NSNDPRM) and in 2009 the government approved the strategy's Implementation Plan. These documents emphasized a shift from ex-post disaster relief and response to ex-ante risk reduction through preparedness and resilience.

The project's objective was in line with the government's Socio-Economic Development Plan (SEDP) (2016-2020) which emphasizes the importance of climate adaptation and DRM. Also, the project's objective was aligned with the Bank's most recent Country Partnership Framework (FY18- FY22) and its focus area 3 "ensure environmental sustainability and resilience". The project also supported the CPS's objective 10, which aims to increase climate resilience and strengthen disaster risk management and objective 11, which aims to strengthen natural resources management and improve water security.

#### Rating



High

#### 4. Achievement of Objectives (Efficacy)

##### **OBJECTIVE 1**

###### **Objective**

To increase the resilience of the people and economic assets to natural hazards in selected river basins of the project provinces within the overall framework of Vietnam's National Disaster Prevention, Response and Mitigation Strategy Towards 2020:

###### **Rationale**

Rather than dividing the PDO into sub-objectives, the ICR assessed the project outcomes through four outcome areas that define the concept of resilience. The ICRR will also apply this concept.

The project's theory of change envisioned that project outputs such as the upgrading of weather/hydrological stations, developing and installing national hydromet forecasting and early warning systems, trainings staff on observation systems, forecasting/early warning systems, preparing Operations & Maintenance (O&M) plans, developing four Standard Operating Procedures (SOPs) as well as enhancing systems were to result in the enhancement of hydromet services and Early Warning Systems (EWS) which was to ultimately contribute to the achievement of the PDO.

Also, the project's theory of change envisioned that project outputs such as training of government technical staff and commune members in CBDRM, preparing communal flood and storm risk management plans annually, holding joint evacuation exercises among clustered communities, as well as upgrading and newly constructing small structures were to result in the enhancement of preparedness at the community level which was to ultimately contribute to the achievement of the PDO.

Furthermore, the project's theory of change envisioned that project outputs such as upgrading/rehabilitating project infrastructure such as dykes, weirs, roads, and bridges as well as upgrading reservoirs with higher safety levels was to result in the enhancement of resilience of communities through natural hazard mitigation which was to ultimately contribute to the achievement of the PDO.

Finally, the project's theory of change envisioned that project outputs such as updating DRM laws, strategies, guidelines as well as databases, training staff in database management, and satellite maps usage as well as preparing DRM integrated river basins plans were to result in the strengthening of the enabling environment for DRM which was to ultimately contribute to the achievement of the PDO.

The PAD did not make any assumptions but the ICR (p. 8) assumed the following: i) implementing agencies were to strengthen capacity to manage complex operations involving structural and non-structural activities; ii) hydromet systems were to be installed and used by the national hydromet agency; iii) communities were to participate in DRM planning and response exercises; iv) flood control infrastructures were to be adequate for most storms and to be maintained; and v) successes from project were to be maintained, replicated, and scaled up.



## **Outputs:**

### 1. Enhancing hydromet services and early warning systems:

- 150 additional hydromet stations were installed and connected to the national system, surpassing the target of 73 additional hydromet stations.
- An Integrated National Early Warning System and Operations Plan for Hydromet Sector was prepared and endorsed, surpassing the target of the plan being prepared.

### 2. Enhanced preparedness at the community level:

- 100 Communes had emergency preparedness plans in place, achieving the target of 100 communes.
- The project conducted trainings for commune-based institution leaders to strengthen their ability to mobilize people according to the motto “four on the spot” for disaster prevention in localities in line with the NSNDPRM. According to the ICR (p. 16) “four on the spot” means that each household or locality should prepare all essential items to prevent or respond to natural disasters, which may occur at the locality at any time. The prepared items should meet the emergency relief demands of the household or its locality, and ensure that they are ready to provide support to other households or localities before external entities are asked to provide support.
- 100 disaster prone communes participated in evacuation drills, achieving the target of 100 communes.
- The project prepared several trainings (see Enabling Environment Area below for number of trainees and target):
- 213 training classes on strengthening Community-based Disaster Risk Management (CBDRM) capacity for DRM staff at the provincial, district, and commune levels.
  - 719 trainings on disaster management and response skill, first aid, and house protection for task forces and people in villages and communes.
  - 20 classes on M&E community disaster prevention.
  - 79 training classes for teachers and 756 communication sessions for teachers and students.
- 100 commune-level Socio-Economic Development Plans (SEDP) were revised to integrate DRM and were also approved, surpassing the target of 90 plans. SEDPs are an essential development tool for budgeting and implementing priority actions within the communes.
- The project supported 129 small-scale disaster mitigation works such as disaster evacuation centers, flood evacuation roads, pools for children to learn swimming etc.

### 3. Enhanced resilience of communities through natural hazard mitigation infrastructure:

- The project rehabilitated 84.9 kilometers of evacuation roads, surpassing the target of 25 kilometers.
- 42.4 kilometers of dyke and river embankment improvements were made. This output did not have a target.
- 19 dams were strengthened/rehabilitated, surpassing the target of nine dams.
- 29 kilometers of rural road were rehabilitated, achieving the target of 29 kilometers.
- Four storm shelters for fishing boats were completed. This output did not have a target.
- Seven reservoirs were upgraded and restored which were at the risk of falling apart. This output did not have a target.



#### 4. Strengthened enabling environment for DRM:

- Three DRM-related databases were improved including: i) database on dam safety; ii) database, management software, and DRM maps for all ten project provinces; and iii) dyke management in the central region, achieving the target of three databases being established and maintained.
- Technical assistance was provided to 10 provinces to strengthen the capacity of dam operators for reservoir safety, develop technical standards, guidelines, handbooks, budgetary mechanisms, and strengthen the process of technical inspections for dam safety.
- 642 government staff at the national and provincial levels was trained, surpassing the target of 410 staff. The aim of the training was to improve the knowledge on DRM to build capacity and raise awareness of stakeholders, central and local agencies, and local communities.

#### **Outcomes:**

##### 1. Enhancing hydromet services and early warning systems:

- All 100 communes were covered by storm and flood early warning services and with increased awareness about emergency response, achieving the target of 100 communes.

##### 2. Enhanced preparedness at the community level:

According to the ICR (p. 15) communes increased their response capacity by improving the quality of forecasts and provide impact-based forecasting. This allowed communes to better anticipate the effects of natural hazards and actions that should be taken to be prepared. Also, preparedness was improved through all communes being covered by storm and flood early warning services as stated above.

Furthermore, the ICR stated that in September 2017, when Typhoon Doksuri struck Vietnam, in project-supported communes in Quang Binh province, people actively prepared for the arrival of the Typhoon. For example, communes used the project's flood risk maps to identify evacuation routes to higher elevation areas, rescue equipment to evacuate vulnerable people to storm shelters, and actively protected their houses. This had a positive impact on reducing the risk.

##### 3. Enhanced resilience of communities through natural hazard mitigation infrastructure:

- 551,902 people were protected by enhanced priority infrastructure built by the project, achieving the target of 550,000 people. According to the Bank team (June 1, 2020) construction was delayed due to bad weather resulting in its completion during the last implementation phase.
- 62,061 hectares of land protected by enhanced flood protection measures, surpassing the target of 50,000 people. These works included strengthening of river and reservoir embankments, improvements to critical dyke infrastructure and pumping stations, construction of emergency evacuation roads, which reduced the risk of floods and enhanced the resilience of people with life-saving evacuation infrastructure.

#### 4. Strengthened enabling environment for DRM:





10 provincial river basin plans were prepared or updated with DRM factors and approved by the PPC, achieving the target of 10 plans.

**Rating**  
Substantial

## OVERALL EFFICACY

### Rationale

The project achieved significant results under all four resilience areas. However, according to the ICR (p. 22) some of the project outcomes were only achieved in the last phase of implementation. Therefore, the project's overall efficacy is rated Substantial.

### Overall Efficacy Rating

Substantial

## 5. Efficiency

### Economic efficiency:

The PAD (p. 9) conducted an Economic analysis for six sub-projects of Component 4 and considered Economic benefits of Components 2 and 3. The main economic benefits were reduced likelihood of flood events and associated damages through infrastructure investment, capacity building, and early warning. Net incomes per crop/activity were estimated to be higher by 17 to 75 percent in the 'with' project scenario due to reduced production losses. Household models showed that the project increased family incomes by 8 to 25 percent. In addition, the models also confirmed significant project benefits for poor households.

Applying a discount rate of 10 percent, the overall economic rate of return (ERR) was estimated at 15.8 percent, and the net present value (NPV) at VND 648 billion (US\$32.4 million). The ERR for the individual sub-projects varied between 11.8 and 24.6 percent, all showing positive NPVs.

The ICR (p. 21) conducted an ex post Economic analysis for component 3 and 4 sub-projects and the development of the forecasting and early warning system strengthening under component 2 (99.8 percent of the actual total project cost). The analysis also used a discount rate of 10 percent and calculated an ERR of 18.8 percent and a financial internal rate of return (FIRR) of 29.9 percent with an anticipated NPV of VND 1,362 billion (US\$ 58,584,121 million).





According to the ICR (p. 21) the calculations at project appraisal were lower since it included a smaller amount of project activities and information on costs was limited. However, both analyses indicate that the project was a worthwhile investment.

### **Operational efficiency:**

According to the ICR (p. 22) the project experienced implementation delays due to: i) limitations of Bank IDA allocations and access to counterpart funds; ii) delays in the implementation of component 2 and in streamlining the Ministry of Natural Resources and Environment (MONRE) approval process; and iii) lack of technical capacity at provincial and commune levels due to high staff turnover. This resulted in the need to extend the project duration by six months.

However, taking everything together, the project's efficiency is rated Substantial

### **Efficiency Rating**

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## **6. Outcome**

Given the project's alignment to the relevant strategies and its designated response to a specific and required development challenge, relevance of the objective is High. Efficacy and Efficiency are Substantial, resulting in an overall outcome rating of Satisfactory.

### **a. Outcome Rating**

Satisfactory

## **7. Risk to Development Outcome**

The risks can be grouped in the following categories:



**Financial:** The project's investments will require adequate funding for operation and maintenance (O&M) activities. According to the ICR (p. 32) small-scale structures, which were implemented under component 3, will be maintained and funded at the government's community level and supported by volunteers benefiting from DRM measures. The Department of Agriculture and Rural Development (DARD) will train commune committees in the maintenance of DRM structures. Infrastructure, which was rehabilitated or upgraded under component 4, will be maintained by respective entities through their annual maintenance budget. Also, the ICR (p. 31) states that MONRE is committed to making the necessary budget allocations for the modernized hydromet and forecasting system as part of its Vietnam Meteorological and Hydrological Administration (VNMHA) annual business plan.

**Technical:** Additional qualified staff to manage and operate the monitoring network and systems will be required and training of staff at the Vietnam Meteorological and Hydrological Administration as well as at the provincial, district, and commune government level will be necessary to keep up with the technical requirements for the modernization of hydromet systems. According to the ICR (p. 32) MONRE will need to finalize the remaining SOPs, which were identified during project implementation, to ensure a functioning operation of the modernized system.

**Political and Administrative:** The project-built capacity and provided institutional strengthening at the national, provincial, and commune level through training, and development of SOPs for the operation of the hydromet system. Also, the project supported commune resilience and resilient infrastructure. The project contributed to the establishment of new planning and assessment processes. However, these will require to be integrated into normal government planning processes and routines to ensure their sustainability.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The project was built on lessons learned from the implementation of the Bank-supported Natural Disaster Risk Management Project (NDRMP). According to the ICR (p. 26) these lessons included: i) DRM decisions should be made based on perceived risk reduction, benefits and through a strategic combination of structural (or physical) or non-structural (or non-physical) solutions in the context of a larger river basin scale and integrated management approach; ii) strong institutional reform and leadership of the coordination agency is essential for project success, sustainability and clear institutional arrangements and responsibilities should be determined before project start; iv) appropriate operations & maintenance funds at local levels need to be allocated; and iv) comprehensive M&E frameworks should be developed and implemented before project start.

According to the ICR (p. 30) the NDRMP project had conducted several feasibility studies for priority infrastructure sub-projects, allowing for a solid implementation start.

During project preparation the Bank identified relevant risks. These included weak capacity at the implementing agency and high level of complexity and ambitiousness of introducing a river basin approach and developing river basins plans across eight river basins and ten provinces.



According to the PAD (p. 9) the Bank mitigation measures were to include: a) training on procurement and safeguards; b) engagement of independent technical auditors for construction quality; c) engagement of

independent monitoring consultants for safeguard measures; and d) preparation and implementation of a project specific Governance and Transparency Action Plan (GTAP). However, the risk of limited capacity for implementing a river basin approach was underestimated. Since there was no functioning river basin authority in Vietnam, extensive coordination with provincial authorities within each selected river basin was challenging. Also, the risk of availability of counterpart financing was not identified resulting in delays in the completion of construction works, payment of compensation, and resettlement for relocating households.

According to the ICR (p. 25) the project's complexity resulted in challenges in areas such as procurement, supervision, and institutional coordination ranging from national to communal level and across the Ministry of Agriculture and Rural Development (MARD) and MONRE. Furthermore, the river basin approach to DRM planning was innovative and had not been implemented before. Finally, while the Bank had planned to include three to five highest priority provinces, MARD suggested including ten provinces. Therefore, developing river basin plans for eight river basins and ten provinces was ambitious.

Finally, the project's Results Framework had shortcomings in regards to the selection of PDO indicators and their ability to measure progress towards the achievement of the PDO (see section 9a for more details).

### **Quality-at-Entry Rating**

Satisfactory

#### **b. Quality of supervision**

According to the ICR (p. 31) the Bank team proactively identified implementation bottlenecks such as delays in procurement and allocation in counterpart funding. When the implementation of component 2 experienced challenges due to the significant delay in hiring the System Integrator (SI) team, the Bank team increased technical assistance and support a close cooperation between the PMO and the System Integrator team. Also, the Bank team supported the project's financial management and procurement. The ICR (p. 31) stated that Implementation Status and Results Reports and Aide-Memoires were consistent and candid. Furthermore, the ICR stated that even though the project had a high turnover of Task Team Leaders (a total of six) it did not negatively affect project implementation.

However, the Bank team did not revise the project's Results Framework despite its shortcomings (see section 9 for more details).

### **Quality of Supervision Rating**

Satisfactory



## **Overall Bank Performance Rating**

Satisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

The project's objective was clearly specified and the theory of change and how key activities and outputs were to lead to the intended outcomes was reflected in the Results Framework. The selected indicators were sufficiently specific, measurable and relevant. However, the M&E design had several shortcomings. First, PDO indicator 1 ("number of provincial river basin plans prepared or updated with DRM factors and approved by the PPC") and PDO indicator 2 ("hectares of land protected by enhanced flood protection") tried to measure similar outputs focusing on improving resilience. Second, PDO indicator 3 ("number of people protected by enhanced priority infrastructure built by the project") tried to measure outputs implemented under two different components (components 2 and 3). Third, the selected indicators mainly focused on outputs rather than outcomes. And fourth, the project's activities under component 2, related to the improvement in the quality of storm and flood forecasts, was not adequately reflected in the project's PDO indicators.

The Central Project Management Office (CPMO) and the Project Management Office (PMO) were to be responsible for monitoring and evaluation of implementation progress and the project components for which they were to be responsible. According to the PAD (p. 8) an independent baseline survey, a mid-term review timed to assess results from phase I sub-project investments, and an independent final evaluation were to be conducted covering both phase I and II investments.

### **b. M&E Implementation**

According to the ICR (p. 27) an M&E consultant was hired by the Ministry of Agriculture and Rural Development (MARD) to coordinate and consolidate reporting from MARD, provincial PPMUs and PMO. Furthermore, standardized reporting frameworks were developed to support the monitoring of indicators as well as progress towards achieving the PDO.

The ICR (p. 28) stated that the quality of the M&E reporting conducted by the CPMO was inconsistent due to weak data collection of PDO indicators and lack of capacity in data collection, verification, and validation at PPMUs. In order to address these shortcomings, MARD and the Provincial People's Committees (PPCs) hired more staff and built technical capacities at central and provincial levels. As a result, M&E activities improved throughout project implementation.

According to the Bank team (June 1, 2020) baseline data was collected by an M&E consultant and updated on an ongoing basis. The M&E consultant conducted an independent survey twice, at the mid-term review and closing stage. Survey results of the independent safeguard monitoring were also used for project M&E.



The ICR (p. 28) stated that the project experienced challenges to measure activities under component 3. Even though activities were implemented, the indicator showed zero progress since it was dependent on the progress of one consultancy, which was delayed.

According to the Bank team (June 1, 2020) the project enabled significant learning in terms of developing and using an enhanced M&E system. Also, the project supported the move from manual to web based M&E, which may have a positive impact on the M&E processes' and functions' sustainability.

### **c. M&E Utilization**

According to the ICR (p. 28) M&E data was used for tracking results against monitoring indicators, identify implementation bottlenecks and inform-decision making. However, the ICR did not provide any concrete examples. The CPMO, PMO, and PPMUs thoroughly monitored indicators and outputs. However, some provincial agencies did not always provide data on a regular basis.

### **M&E Quality Rating**

Modest

## **10. Other Issues**

### **a. Safeguards**

The project was classified as category B and triggered the Bank's safeguard policies OP/BP 4.01 (Environmental Assessment), OP/BP 4.11 (Physical Cultural Resources), OP/BP 4.37 (Safety of Dams), OP/BP 4.12 (Involuntary Resettlement), OP/BP 4.10 (Indigenous People) and OP/BP 7.50 (International waterways).

The project prepared an Environmental and Social Management Framework (ESMF), a Dam Safety Framework (DSF), a Resettlement Policy Framework and an Ethnic Minority Development Framework. Also, an Environmental Codes of Practice (ECOP) was developed and applied to construction of sub-projects under components 2 and 3. ESMPs were prepared for construction of sub-projects under component 4. Also, a sub-project under component 4 resulted in the relocation of a burial ground, which was addressed through a Resettlement Action Plan (RAP). For sub-projects involving dam rehabilitation, for large dams a Dam Safety Report (DSR) and for small dams a Dam Safety Inspection Report (DSIR) were prepared. Both types of reports were reviewed by a panel of experts, which was appointed by the government.

According to the ICR (p. 29) the ESMPs and ECOP provided mitigation measures for the triggered OP/BP 4.11 (Physical and Cultural Resources).

The project provided full compensation and assistance to all 3,193 households who were affected by land acquisition. The ICR (p. 30) stated that the Provincial Project Management Unit (PPMU) and Resettlement Committees followed the resettlement procedures as defined in the Resettlement Policy Framework. The project experienced two cases where compensation payments were delayed, which was resolved.



The Bank team stated (June 1, 2020) that the project also complied with OP/BP 7.50 (International waterways) and that the project's safeguard ratings were satisfactory throughout implementation.

## **b. Fiduciary Compliance**

### **Financial Management:**

According to the ICR (p. 30) the project complied with the Bank's financial management policies and procedures. The CPMO and PPMUs provided the interim financial reports, which were of acceptable quality in a timely manner. However, throughout implementation, the project experienced delays in regards to internal financial audit reports as well as late and insufficient budget allocations to the provinces by the Bank and the government. This negatively impacted payments to resettlement stakeholders, contractors, and suppliers and resulted in project implementation delays.

### **Procurement:**

The project experienced procurement delays during the initial phase of project implementation due to lack of capacity, inefficient approval processes, and procurement planning issues. The Bank addressed this by providing training in procurement, financial management, and contract management. These measures resulted in the improvement of the project's procurement performance and the ICR (p. 30) stated that 298 out of 300 procurement packages were closed. Also, the project did not declare any mis-procurement.

## **c. Unintended impacts (Positive or Negative)**

NA

## **d. Other**

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## **11. Ratings**

<b>Ratings</b>	<b>ICR</b>	<b>IEG</b>	<b>Reason for Disagreements/Comment</b>
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	



## 12. Lessons

The ICR (p. 32-33) provided several lessons learned, of which the following are selected for their relevance for similar future operations:

- **Long-term engagement for building resilience facilitates learning.** This project was part of a multi-phased programmatic approach and built on activities initiated under the previous project, the NDRMP. Successful activities were scaled up under this project, allowing for learning and innovation.
- **Introducing new approaches such as an integrated river basin approach can be challenging and complex but will have long-term impacts.** This project introduced eight river basins plans which were supported by MARD and the Vietnam Disaster Management Authority (VNDMA), resulting in this approach being continued to be supported by two new World Bank projects (the “Emergency Reconstruction Project” and the “Dam Safety and Rehabilitation Project”).
- **Bringing a System Integrator on board at an early stage is critical for hydromet projects.** In this project, the System Integrator was based in the country and was available for technical support and system integration, allowing for the identification of technical, administrative, and capacity bottlenecks and providing the opportunity to address them in a timely manner.
- **Increasing resilience through a three-pronged approach which includes investments in infrastructure, CBDRM, and early warning systems are complex and challenging. However, such an approach is innovative and effective and has the potential to be scaled up.** This project’s design strengthened resilience through improving weather forecasting and early warning systems, which complemented community-based disaster preparedness and small-scale infrastructure activities with investments in large high-priority infrastructure activities.

## 13. Assessment Recommended?

No

## 14. Comments on Quality of ICR

The ICR provided a detailed overview of project preparation and implementation. The ICR was sufficiently candid, internally consistent, complied with the guidelines and included an adequate Economic Analysis. Furthermore, the evidence provided appeared to be reliable and of adequate quality, but the ICR could have benefited from more results orientation by providing additional outcome driven data. Taking everything together, the ICR quality is rated Substantial.





**a. Quality of ICR Rating**

Substantial