

# Report for the Mid-term Review for the Viet Nam – New Zealand Dam Safety Project: Phase 2

Stantec New Zealand

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# Abbreviations

<b>ABBREVIATION</b>	<b>FULL NAME</b>
ADD	Activity Design Document
ALG	Activity Leadership Group
AMA	Activity Monitoring Assessment
ASEAN	Association of South East Asian Nations
DAC	OECD – Development Assistance Committee
DARD	Department of Agriculture and Rural Development, Ha Tinh, Nghe An provinces
DOIT	Department of Industry and Trade, Ha Tinh, Nghe Ah provinces
DONRE	Department of Natural Resources and Environment, Ha Tinh, Nghe An provinces
DRAPT	Dam Rehabilitation and Prioritization Tool
DSM	Dam Safety Methodology
DSP	Viet Nam – New Zealand Dam Safety Project, Phase 2
INGO	International Non-Governmental Organisation
GoVN	Government of Viet Nam
LTO	Long Term Outcome
MARD	Ministry of Agriculture and Rural Development, Viet Nam
M&E	Monitoring and Evaluation
MFAT	Ministry of Foreign Affairs and Trade, New Zealand
MOIT	Ministry of Industry and Trade, Viet Nam
MONRE	Ministry of Natural Resources and Environment, Viet Nam
MTO	Medium Term Outcome
MTR	Mid-Term Review
NGO	Non-Government Organisation
NZ	New Zealand
OECD	Organisation for Economic Cooperation and Development
PAD	Project Appraisal Document
SAG	Stakeholder Advisory Group
SOW	Statement of Work



<b>ABBREVIATION</b>	<b>FULL NAME</b>
STO	Short Term Outcome
TLU	Thuy Loi University, Ha Noi, Viet Nam
VN	Viet Nam
VNDMA	Viet Nam Disaster Management Authority



# 1

## Abstract

The Viet Nam-New Zealand Dam Safety Project (DSP) aims to reduce the risk and impacts of dam failures and flooding in Viet Nam. The DSP is currently in its second phase (2016–2021), following a 'Dam Safety Methodology' pilot initiative implemented from 2012–2015 (Phase 1) across the Ca River Basin, Viet Nam using a whole-of-river basin approach. The New Zealand Ministry of Foreign Affairs and Trade (MFAT) has committed NZ\$5.79m to the DSP Phase 2.

The purpose of this Review is to inform MFAT, its partners and other relevant stakeholders about the Project's progress and performance towards attaining the expected outputs and outcomes. It also aims to draw lessons and recommendations that would be useful for the implementation of any third phase of the Project.

The Review found that the implementation of the DSP Phase 2 is making steady progress on achievement and delivery of most outputs and short-term outcomes specified in the Results Management Framework (RMF). Success factors have included development of a technically sound Dam Risk Assessment and Prioritisation Tool (DRAPT); well designed and implemented dam safety training courses; conduct of appropriate case studies in the Ca River Basin; strong team collaboration between NZ and Viet Nam partners; introduction of new tools, skills, knowledge and awareness on dam safety to dam operators and stakeholders involved with small and medium dam management and safety in Viet Nam; and completion of flood maps that demonstrate consequence analyses of dam break scenarios.

Areas for improvement to be addressed include strengthening the project governance structure; using the RMF and its component tables systematically for project management; consolidating the impact of the DSP; strengthening the DSP's sustainability and the Government of Viet Nam's commitment alongside MARD to more widely test and apply DRAPT; development of user-friendly tools for dam safety assessment by non-technical users; adding a climate change scenario analysis module to DRAPT; developing a clear strategy for any Phase 3 in consultation with Viet Nam stakeholders; and developing a clear continuity strategy for the DSP given the critical importance of having Government of Viet Nam's (GovN) commitment along MARD to direct DSP tools for sustainability.



# 2

## Executive Summary

### BACKGROUND

The Viet Nam-New Zealand Dam Safety Project (DSP) aims to reduce the risk and impacts of dam failures and flooding in Viet Nam. The DSP Phase 2 is currently in its second phase (2016–2021), following a 'Dam Safety Methodology' pilot initiative implemented from 2012–2015. A Dam Rapid Assessment and Prioritisation Tool (DRAPT) was developed as the dam safety management tool. The DRAPT rapidly evaluates the risk of an existing dam and provides information for informed decisions to be made regarding the costs and benefits of options to reduce the risk. Phase 2 expands the dam safety methodology (DSM) tool's application (developed in Phase 1) across the Ca River Basin, Viet Nam in a whole-of-river basin approach. The New Zealand Ministry of Foreign Affairs and Trade (MFAT) committed NZ\$5.79m to the DSP Phase 2 and has commissioned this mid-term Review of the Project.

The purpose of the Review is to inform MFAT, its partners and other relevant stakeholders about the Project's progress and performance towards attaining the expected outputs and outcomes. It also aims to draw lessons and recommendations that would be useful for the implementation of any third phase of the Project. The Review has two objectives:

- Identify any improvements that can be made to management and implementation of the DSP to achieve its outputs and outcomes;
- Identify any lessons learned or good practices that can be used to inform the design of a third phase, including identifying any success stories.

The scope of the Review covers the time period from 2016–2019 and its geographic focus is Viet Nam. The key stakeholders for the Review are MFAT; partner country governments (national, provincial); development partners, including implementing partners (Damwatch Projects Ltd., GNS Science International Ltd., Thuy Loi University); relevant dam owners and managers, and target communities. The scope of the Review excludes the technical aspects of dam safety and the dam safety methodology.

The Review was evidence-based using a mixed method information collection approach. Information was sourced from (1) documents relating to DSP Phase 2 obtained from MFAT and Damwatch; (2) interviews with stakeholders in New Zealand before and after the site visit; (3) site visits to Ha Noi and the Ca River Basin in Viet Nam to discuss the Activity with MFAT, Vietnamese stakeholders, and observe application of the dam safety methodology (DSM); and (4) discussion and feedback from a presentation with MFAT in Wellington.

### KEY FINDINGS AND CONCLUSIONS

#### Relevance of Results Management Framework

The Results Management Framework (RMF) remains relevant to a number of global disaster risk management (DRM) frameworks, Vietnamese national development objectives and New





Zealand's international development strategic objectives, including NZ's partnership with ASEAN in building disaster resilient nations.

The structure of the RMF is very complex, containing 9 outputs. The current RMF overemphasizes the outputs rather than the outcomes the project is trying to achieve. Many outputs overlap and could be combined to make the RMF less complex and easier to follow and report on.

### **Achievement of Planned Outputs and Outcomes**

DSP Phase 2 is making sound progress towards achievement of outputs and short-term outcomes specified in the RMF. It has achieved good technical outcomes to date and a well-developed dam safety training programme is being implemented.

To increase impact, the remainder of Phase 2 would best focus on training and dissemination of the tools (i.e., incorporation in the TLU curriculum, involvement of MOIT, commitment of MARD to direct the use of the DRAPT, communication at commune level including DRAPT for preliminary assessment and reporting by non-technical people).

There is variable progress towards achievement of the five medium-term outcomes. Activities contributing to the long-term outcome (Roll out to other river basins) has not started.

### **Measurement of Progress and Impacts**

Stronger focus on use of the RMF would help management and measurement of achievement of the DSP. Clearer definition in the wording of some outcomes is required so that their progress can be more accurately assessed (see Sections 4 and 5). Unclear and poorly defined outcomes make interpretation of progress towards achieving them difficult to assess. Stronger focus in measurement methods and regular progress reporting of the RMT indicators against baselines and targets would help management and direction of the DSP. Apparent absence of systematic methods for collection of RMT monitoring data makes assessment of progress for some outputs/ outcomes difficult to compare. Absence of quantifiable and measurable baseline values and targets for some indicators also makes assessment of progress difficult.

### **Strengthening of Impacts and Sustainability**

MARD has frequently acknowledged DRAPT as a useful dam safety management tool, but it has not directed its staff or DARD to adopt DRAPT as its preferred DSM tool. DRAPT is not being used in the MARD-implemented World Bank Dam Rehabilitation and Safety Improvement Project (2015). Increasing impact and sustainability of the DSP will need greater commitment from MARD to adopting the DRAPT tools developed, directing DARD to apply them, and fostering trainers and champions within VN agencies.

For this reason, an exit or close out strategy for MFAT support after completion of the DSP Phase 2 is required, or commitment by the Viet Nam Government alongside MARD to further test and use the DRAPT.

### **Training**

A well-developed dam safety course training programme is being implemented. It is envisaged that, in further development of the course structure and programme, it will set out the steps to select the trainees, the current skill sets the trainee have, and provide training



programme details or modules The DSP cannot deliver DRAPT and dam safety training to all those in the Ca River Basin who might benefit from it because of the large numbers involved. The approach of targeting selected groups (national-level, provincial, national TLU curriculum) and use on selected sites in the Ca River Basin is appropriate given the resources available. Extending the training programme to a wider audience can only be done through the Viet Nam government systems in the medium and longer-terms.

### **Governance**

Governance structures have not functioned as required and there has been no clear separation of setting project direction from the stakeholder viewpoint and actual project implementation. Informal meetings of the Project team, including through the leadership of the Activity Leadership Group (ALG) have dominated the general governance framework. The Stakeholder Advisory Group (SAG) whose role was to independently guide the direction of the project has not met. The frequency of ALG meetings has been insufficient (one per year) and; the number of participants too many and inconsistent to make timely operational project management decisions.

### **Commune-level Systems**

The commune-level dam safety assessment officials play an important role in the field observation and pre-check of dam safety especially for smaller dams managed at the community-level. Many of these local officials have limited literacy, computer skills, and access to the internet. They cannot apply the DRAPT tool in its current form, and require simple, clear DRAPT-based assessment guidelines they can apply swiftly as first responders to dam safety issues. There is a need and demand for appropriate systems and participation at commune level for this purpose.

### **Climate Change**

Projected climate change considerations (e.g., increased frequency and scale of high intensity storms) do not appear to be included in the DRAPT analysis, flood mapping and consequence analysis. This needs to be rectified given the potential implications for increased dam safety risk under most projected climate change scenarios for the Ca River Basin.

### **Success Stories**

The partnership and co-operation within the DSP Project Team has been a successful output of the Project. This has potential benefits longer term, even after the end of the Project.

The technical performance has been strong because the technical basis of the project design and execution is well founded and resourced. The work done through the Project has resulted in valuable technical tools in the DRAPT and the flood mapsthat are well regarded and perceived as valuable tools by Viet Nam stakeholders. It provides a good foundation for future dam safety practice in Viet Nam.

The particularly New Zealand contribution of specialist expertise and practices developed in New Zealand through this project is recognised and highly appreciated by the Viet Nam agencies involved.

## **RECOMMENDATIONS AND NEXT STEPS**



The recommendations and next steps are summarised below. The full recommendations are given in Section 7 of the main text.

1. **Maintain a formal and effective governance structure that has suitable representation, is well resourced and active. Next Steps:** The Stakeholder Advisory Group should be reinstated and its role strengthened to guide the direction of the DSP for the remainder of Phase 2 and give appropriate direction of the DSP. The frequency of SAG and ALG meetings should be increased.
2. **Use the Results Management Framework and its components systematically. Next Steps:** Ensure use and systematic regular reporting of quantifiable and measurable indicators within the Results Management Table (RMT). A review of the RMT even at this late stage of Phase 2 may help guide the work. The RMF and its component tables will need to be rewritten for any Phase 3 focussing on Phase 3's specific outcomes and outputs.
3. **Consolidate the impact of the DSP. Next Steps:** To increase impact, the remainder of Phase 2 would best focus on dissemination of the tools for medium term outcomes (i.e., incorporation in the TLU curriculum, involvement of MOIT, commitment of MARD to direct the use of the DRAPT, communication at commune level including DRAPT for preliminary assessment and reporting by non-technical people).
4. **Add a climate change analysis module to DRAPT. Next Steps:** A climate change analysis module should be added to DRAPT so that estimation of changes in important weather parameters can be assessed in terms of their impact on dam safety.
5. **Develop user-friendly tools for dam safety assessment by non-technical users. Next Steps:** Develop simple guidelines for dam safety assessment and actions based on DRAPT for use by commune and other non-technical users.
6. **Actively participate in the framework of implementation for dam safety management. Next Steps:** DSP, Phase 2 and any Phase 3 should continue to be actively involved in communication and engagement with other donors participating in the framework for sharing of knowledge, methods and upgrading their tools for application in Viet Nam.
7. **Develop a clear strategy for any Phase 3 in consultation with VN stakeholders. Next Steps:** Prepare a clear strategy for a Phase 3 in collaboration with key Vietnamese stakeholders (e.g., MARD, MOIT) well in advance of the scheduled conclusion of Phase 2. This should be accompanied by a revised RMF and any commitments/agreements required.
8. **Develop a clear continuity strategy for the DSP. Next Steps:** If the DSP is to end after Phase 2, an Exit or Close Out Strategy should be prepared for its conclusion in March 2021. If the DSP is to continue to a Phase 3, a Continuity Strategy should be an integral part of Phase 3 planning and project design.
9. **Obtain formal commitment from the Viet Nam government and MARD to apply and test DRAPT as their preferred dam rehabilitation and prioritization tool**



**more widely in Viet Nam. Next Steps:** To achieve wider impact and sustainability of DRAPT If there is no formal commitment by Viet Nam to further apply DRAPT, NZ has to consider the appropriate focus and justification for investing in any Phase 3. MFAT should request a formal written commitment from the Viet Nam government alongside MARD that it will apply and further test DRAPT more widely across Viet Nam before committing to any NZ Phase 3 funding support.



# 3

## Background

### THE ACTIVITY

The Viet Nam-New Zealand Dam Safety Project: Phase 2 (DSP) is currently in its second phase (2016–2021), following a 'Dam Safety Methodology' pilot initiative implemented from 2012-2015<sup>1</sup>.

The Dam Safety Methodology (DSM) provides a methodology to reduce the risk and impact of dam failures based on a whole-of-river basin approach, and addresses dam and downstream community safety in the Vietnamese context. The DSM also provides an evidence-based methodology for making improvements to existing dams and investment decisions.

Phase 2 expands the DSM tool's application (developed in Phase 1) across the Ca River basin in a whole-of-river basin approach. The Ca River is over 1,000 km in length, has 978 dams that vary in types and size, and runs through both Nghe An and Ha Tinh Provinces.

Phase 2 of the DSP addresses the goal of reducing the risk and impacts (economic and human losses) of dam failures and flooding in Viet Nam. The project includes nine key outputs that focus broadly on defining existing assets to prioritise dams that need upgrades; defining, mapping and modelling existing hazards, risks and consequences in the Ca River basin; documenting and updating operational guidelines for widespread use; and capacity building for key stakeholders.

Key stakeholders in the Ca River basin targeted by the Activity are dam owners and operators; officials responsible for disaster management, evacuation planning and land use planning (including local NGOs and INGOs who support that work); downstream/impacted communities and Thuy Loi water resources University (TLU) representatives, as part of the Ministry of Agriculture and Rural Development (MARD), who will be Viet Nam's next generation of water resource teachers and managers.

### REVIEW PURPOSE AND DESIGN

#### Purpose

This mid-term Review of the Viet Nam – New Zealand Dam Safety Project: Phase 2 (DSP) was commissioned by the New Zealand Ministry of Foreign Affairs and Trade (MFAT).

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<sup>1</sup> Phase 1 resulted in the development of a dam safety methodology, which helps dam owners and operators identify and quantify natural hazards and their potential impacts on dams and the risks downstream to people, infrastructure, the economy and the environment.



The purpose of the Review is to inform MFAT, its partners and other relevant stakeholders about the Project's progress and performance towards the expected outputs and outcomes. The findings of the Review will be used by MFAT and its partners to:

- identify improvements that can be made to managing, implementing and achieving results;
- identify any lessons learned or good practices that can be used to inform the design of a third phase, including identifying any success stories.

To achieve this purpose the Review addressed two objectives:

**Objective 1:** - To identify any improvements, if any, that can be made to management and implementation of the DSP to achieve its outputs and outcomes.

**Objective 2:** To identify any lessons learned or good practices that can be used to inform the design of a third phase, including identifying any success stories from the DSP.

Further detail on the objectives, criteria and questions to be addressed are given in the Information Collection sub-section below.

### Scope

The scope of the Review includes the following:

- The time period that the Review covers is 2016-2019;
- Its geographic focus is Viet Nam;
- The key stakeholders for the Review are:
  - respective country Programme and Activity managers within MFAT and other relevant MFAT staff;
  - Head of Mission and development staff at the New Zealand Embassy in Ha Noi, Viet Nam;
  - partner country governments (Ministers and/or officials);
  - development partners, including implementing partners (Damwatch Projects Ltd.; GNS Science International Ltd.; Thuy Loi University);
  - relevant dam owners and managers; and
  - target communities.

Focus on the technical aspects of dam safety and the dam safety methodology are out of scope.

The results of the Review will be reported and disseminated to MFAT, relevant partner government institutions in Viet Nam (e.g., MARD, MOIT) and other key stakeholders.

### Design

The Review was evidence-based taking a mixed method information collection approach. This included a short documentation review (Appendix Two), key stakeholder interviews in New Zealand and Viet Nam (face to face and/or telecon) (Appendix One), field inspection of DSM application in the Ca River basin in Viet Nam, and discussion and feedback from the MFAT presentation/ workshop.

The documentation review/analysis and New Zealand-based interviews were conducted both before and after the field work in Viet Nam that occurred from 2 to 8 December 2019.. This enabled any information gaps to be identified early so that they could be filled during the field



work in Viet Nam, where possible. Other documents were identified as the review proceeded. Interviews were held with several NZ-based stakeholders after the field visit because they were not available prior to the field visit.

Interviews were conducted with key stakeholders in Viet Nam, relevant present and former MFAT staff involved in the DSP Phase 2, and the MFAT Embassy in Ha Noi. Interviews were also conducted with the implementing partners (Damwatch Projects Ltd.; GNS Science International Ltd.; Thuy Loi University).

Interviews were aimed at collecting the information required to answer the questions (see Review Plan attached as Appendix Three) ) for addressing the specific review objectives. Interviews were structured or semi-structured (depending on the interviewees). Direct observation in the field was also used especially when looking at dams and their safety risks.

The Review was constrained by the availability of key stakeholders, particularly in Viet Nam, but this did not impact significantly on the information gathering and analysis. The availability of the key stakeholders in Viet Nam was determined in conjunction with the NZ Embassy Ha Noi when planning the interview programme for the field mission. If key stakeholders were not available during the field mission, suitable alternative persons were identified with the NZ Embassy. Consideration was given to telephone communication with them after the field mission.

Persons to be interviewed were recommended by MFAT in Ha Noi and Wellington. These people were selected based on their involvement with the DSP Phase 2. Any information or comments made by interviewees are not specifically attributed to them. Participants were asked whether they consented to their names being included in an appendix of the report. No names are used in the body of the report.

The Activity Results Framework<sup>2</sup> (programme logic, logic model) formed the basis of the Review.

The main steps of work comprised:

- Preparation of draft Review Plan.
- MFAT review and finalisation of the Review Plan with MFAT.
- Desktop review of available documents (Appendix Two of this Review Plan) provided by MFAT at assignment commencement, and other relevant documents identified as the assignment proceeded were also reviewed.
- Conduct of interviews with stakeholders based outside Viet Nam by telephone.
- In-country meetings with stakeholders in Ha Noi and the Ca River basin, Viet Nam.
- Field visit to Ca River basin to observe application of the DSM, meeting with dam owners/managers, and affected communities.
- Collation and analysis of field notes, analysis of findings of document reviews and interview/meeting notes with stakeholders. Identification of main findings, addressing

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<sup>2</sup> Damwatch. 2015. Activity Design Document (ADD): Viet Nam – New Zealand Dam Safety Project:2. 140 p.



of MFAT TOR objectives, criteria and questions, formulation of recommendations in response to MFAT TOR objectives.

- Completion of the draft Review Report including review findings, abstract, and high-level executive summary. Submission of the draft Review Report to MFAT for review and comment.
- Delivery of a presentation/workshop in Wellington to relevant MFAT stakeholders to present key findings and conclusions.
- Updating the draft Review Report to incorporate any MFAT feedback and comments from the presentation/workshops into the Final Review Report. A fact sheet was prepared summarising the Review's key findings, short- and medium-term recommendations and lessons learnt.
- Submission of the Final Review Report and fact sheet to MFAT.

Cross cutting issues and environmental and social impacts were an integral part of the Review. These issues and impacts were addressed under the relevant DAC criteria (relevance, effectiveness, efficiency, impact and sustainability)<sup>3</sup>.

### **Information Collection**

Information was collected in four main ways:

- Documents relating to the DSP Phase 2 obtained from MFAT and Damwatch
- Interviews with stakeholders in New Zealand before and after the site visit
- Site visits to Ha Noi and the Ca River basin to discuss the Activity with MFAT, Vietnamese stakeholders and observe application of the DSM
- Discussion and feedback from a presentation with MFAT in Wellington.

The document list is given in Appendix Two and includes Activity Design Document, Activity Monitoring Assessment, progress reports, and MFAT Strategic Intentions 2019-2023.

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<sup>3</sup> DAC. 2010. DAC Criteria for Evaluating Development Assistance.  
[www.oecd.org/dac/evaluation](http://www.oecd.org/dac/evaluation). 2 p





# 4

## Overarching Findings

The findings for the Review have been grouped below under the key questions for Objective 1 (To identify any improvements, if any, that can be made to management and implementation of the DSP to achieve its outputs and outcomes) of the Review Terms of Reference.

The findings for Objective 2 (Identification of lessons learned or good practices to inform the design of a third phase) are included in Section 6 Lessons Learned.

The major themes coming from the interviews with stakeholders, with additional reference to the Development Assistance Committee (DAC) Criteria for Evaluating Development Assistance (OECD DAC 1991) are included.

### MANAGEMENT AND IMPLEMENTATION

#### Relevance of Results Management Framework

The Results Management Framework (RMF) remains relevant to a number of global frameworks, Vietnamese national development objectives and New Zealand international development strategic objectives. Relevant global agreements that NZ is a signatory to include the Hyogo Framework for Action (2005), and Sendai Framework for Disaster Risk Reduction (2015-2030). The RMF meets the Hyogo Framework for Action through *inter alia* cooperation and partnership, transfer of knowledge, technology and expertise to enhance the building of capacity at a local level, sharing of research findings, lessons learnt and best practices.

The RMF is relevant to the Sendai Framework for Disaster Risk Reduction with its focus on understanding disaster risk, governance and management of disaster risk, resilience and the investment required to reduce disaster risk and the recovery, rehabilitation and reconstruction post disaster.

The RMF remains relevant to Viet Nam's Sustainable Development Strategy for 2011-2020, especially goal 11 – climate change response and prevention of natural disasters. It is particularly relevant to Viet Nam's Law on Water Resources (2012) and Decree 72 on Dam Safety Management (2013).

The RMF is also relevant to the ASEAN Roadmap for Building Disaster Resilient Nations and New Zealand's aid partnership with ASEAN (2015). Disaster Risk Management (DRM) was one of the four flagship focus areas for the New Zealand Aid Programme in ASEAN at the time of ADD preparation (2015). The DSP (Phase 2) is well aligned with the New Zealand Aid Programme's Strategic Plan 2015-2019 and its investment priorities for Resilience and Humanitarian Response; with focus on strengthening resilience, disaster risk reduction disaster response, and climate change adaptation.



The DSP is well aligned to New Zealand's International Cooperation for Effective Sustainable Development (ICESD) and its direction and focus for Official Development Assistance (ODA); on working in partnership and cooperation, working with South East Asian transitioning countries to access policy and technical expertise, drawing upon and engaging New Zealand's people, public sector and other institutions, resources and expertise.

The DSP remains relevant to NZ's Strategic Intentions 2019-2023, particularly the strategic goal to Embed New Zealand as an active and integral partner in building Asia-Pacific architecture in support of regional stability and economic integration. The DSP is also relevant to goal 5 - Environment and Climate Change – Promote sustainable international solutions to global environment and natural resource challenges that impact on New Zealand.

The tools generated by the RMF outputs and projected outcomes from the RMF are among the latest developments in dam safety as acknowledged by the Project Appraisal Document (PAD) of the World Bank-supported Viet Nam Dam Rehabilitation and Safety Improvement Project (DRASIP) (2015). The PAD states that it has drawn on the experience of the NZ supported Dam and Downstream Community Safety Initiative (Phase 1) in its design. The PAD also states that DRASIP was designed to align with the New Zealand Dam Safety Project Phase 2 (DSP). Despite acknowledging the usefulness of the NZ DSP (Phase 2) tools for dam safety assessment (i.e. the Dam Rehabilitation and Prioritization Tool (DRAPT)), due to familiarity of DRASIP, MARD has used its existing tools for dam safety assessment and rehabilitation prioritization in implementing DRASIP. The World Bank included the DSP in a framework of dam safety programmes supported by the Asian Development Bank (ADB), JICA, the Bank and other development partners for improved partnerships to support the government of Viet Nam.

### **Adequacy of the Results Management Frameworks**

The RMF in the ADD is broadly adequate, but improvements could be made in many areas.

The structure of the RMF is very complex, containing nine outputs. Descriptions of the outputs are very wordy. The current RMF overemphasises the outputs rather than the outcomes the project is trying to achieve. Many outputs overlap and could be combined to make the RMF less complex and easier to follow and report on. To clarify, as an example of an alternative approach, the outputs could alternatively be simplified and focussed to encompass assessment of dams and prioritisation of upgrades and monitoring; flood inundation maps and tools; training and capacity building. In addition, in some cases (e.g. short term outcome 1, output 8) the distinction between outcomes and outputs is not clearly made.

The Outputs and Inputs Table in the ADD is adequate although some input figures are missing (e.g., Output 9 TLU days and estimates of cost for many in-kind inputs); similarly for the Results Measurement Table (RMT) (e.g., target for Short-term outcome 2 - % of stakeholders familiar with dam safety management practices).

Due to the short time remaining for Phase 2 (scheduled to end in March 2021) rewriting the RMF for this period would be counterproductive. The outputs and outcomes remain relevant but will need to be revised and written more succinctly to fit the focus and objectives of any Phase 3.



Further comment on the Results Measurement Table (RMT) are made in following section “Measurement of Progress and Impacts”.

### **Achievement of Planned Outputs and Outcomes**

#### **Outputs**

The DSP Phase 2 has made steady progress on achievement and delivery of most outputs specified in the RMF (based on the most recent, at the timing of this Review, Progress Report 6 to 30 June 2019). A short summary of progress is:

<b>Output</b>	<b>Relative Progress</b> <ul style="list-style-type: none"> <li>Fully Achieved</li> <li>Partially Achieved/Ongoing</li> <li>Not Yet Achieved</li> </ul>	<b>Output Progress</b>
1. Rehabilitation Prioritization tool developed and validated (DRAPT)	Partially Achieved/Ongoing	Yes, only for earth dams. DRAPT user manual published in Vietnamese. Developed and validated with field data; Ha Noi launch workshop in August 2017; user training in provinces May and November 2018; dam break training August 2019. Training activities are reported in the monitoring but really relate to Output 8.
2. Final list of dams reconciled with MARD list and prioritized for upgrade for Ca River Basin	Fully Achieved	Yes. 142 dams inspected as identified by MARD; initial 94 presented to World Bank Dec 2017; updated to 142 in May 2019; “results informally shared with provinces”.
3. Flood, seismic and landslide risks quantified and documented cumulatively for Ca River Basin	Partially Achieved/Ongoing	Flood maps done for 142 inspected dams; Ca River basin flood modelling nearly complete; Seismic assessment ongoing but no reported activities after 2017; landslide hazard screening in provinces; landslide assessment selected sites and case studies commenced at 2 dams.
4. Areas for monitoring and remediation identified and prioritised cumulatively for all high hazard dams in Ca River Basin	Partially Achieved/Ongoing	Failure mode analysis in DRAPT process; failure mode training for Ngan Truoi; Da Bac assessment workshop; Ngan Truoi case study underway.
5. Online flood inundation maps	Partially Achieved/Ongoing	Ca River model calibrated; draft Ha Tinh maps presented; draft Nghe An



and tools to predict, track and quantify risks and losses from floods developed and documented		maps finished (as reported to review team); consequence assessment at pilot Ngan Truoi in progress.
6. Actions checklist for improvement in Dam Safety, DRM interfaces and infrastructure development and documented	Partially Achieved/Ongoing	Information collected by Da Bac, Ngan Truoi workshops; Ngan Truoi consequence assessment. Ongoing.
7. Dam Safety Methodology Guidelines updated	Not Yet Achieved	Not achieved yet: no updates done to Phase 1 Guidelines.
8. Increased capability of stakeholders in Ca Basin in Dam Safety Management	Partially Achieved/Ongoing	Dam Safety training course framework prepared (May 2018); 11 various training courses on wide range of relevant topics and discussions for beneficiaries at various levels, stakeholder advisory groups; various engagements and meetings; 2018 NZ study tour; DRAPT manual in English and Vietnamese. DARD – Nghe An using DRAPT and manual, but need a 'user friendly guide' at commune level.
9. DSM methodology integrated into TLU curriculum	Not Yet Achieved	Not achieved yet: progress reported is on development of the DRAPT and participation (learning) by TLU staff. Plan to be developed.

### **Short -term outcomes**

**Short term outcome 1 (STO1): Refined prioritised list of dams for remediation.** STO1 could be interpreted as an output. The dam prioritisation list has been refined and provided through TLU, but it is not clear if these refinements have been or are being taken up by MARD/DARD or dam management companies to implement.

**STO2: Increased stakeholder understanding of dam safety risks and disaster prevention practices.** This is being achieved to some extent through training courses/workshops, field missions, and the NZ study tour. Changes to the dam safety management practices of dam managers have been reported by participants. However, the indicators of success are very poorly defined in the Results Measurement Table. There is no mention of who the stakeholders are, no definition of "understanding", no set target for numbers of beneficiaries, and no reporting of progress against target in Progress Report 6.



Feedback from commune level stakeholders on the field mission indicates that there is a need for a simplified guide for the DRAPT tool to aid understanding. This outcome needs to be better defined.

### **Medium term outcomes**

There is variable progress towards achievement of the five medium-term outcomes (MTO).

**MTO1: Greatest risk and impact dams in Ca River Basin targeted for rehabilitation through WB8 and GoVN.** There has been considerable effort made by DSP Phase 2 to align with the activities of the World Bank and MARD in implementation of WB8, but with mixed success. MARD has chosen to apply its own dam safety tools in implementing WB8 rather than DRAPT, and this was reflected in the PAD. While the greatest risk and impact dams in the Ca River Basin may well be targeted for rehabilitation by WB8, this may not necessarily be the result of the DRAPT analysis. There is no strong evidence to suggest DRAPT has influenced the World Bank and GoVN decisions about which dams to remediate.

**MTO2: High hazard dam operators in Ca River Basin effectively monitoring and managing risk.** Progress is being made towards achievement of this outcome. Training has been provided and monitoring/risk management is occurring with some dams (Ngan Truoi, Da Bac). There is limited quantitative data or analysis on which dam owners are managing risk. Progress with the hydro sector (MOIT) is slow due to limited engagement, and difficulty of obtaining data from some MARD dam operators.

**MTO3: Improved communication with downstream communities on water releases.** There has been limited work done on this to date. It is awaiting rollout of flood maps and consequence outputs to engage with communities, planned for 2020.

**MTO4: Relevant VN agencies undertaking more effective land use planning in Ca River Basin.** There has been limited work done on this to date and is waiting for flood map rollout and consequence analysis outputs to engage with VN agencies. Scheduled for 2020.

**MTO5: Next generation of water officials, and dam operators skilled in DSM.** This has not been achieved yet. The Plan for Dam Safety Methodology inclusion in TLU curricula is still to be prepared.

### **Long-term outcome**

The RMF's long term outcome – Roll out of DSM to other river basins - has not started. The Project has been told to focus on the Ca River Basin by MFAT to ensure the utility of the tools, training and application, as well as the Government of Viet Nam's commitment alongside MARD, before wider roll out.

### **Measurement of Progress and Impacts**

#### **Collection of Monitoring Data**

There is an adequate monitoring and evaluation (M&E) work plan in the Results Measurement Table, but no systematic method for collection of monitoring data (e.g. questionnaires) or evaluating the data. The collection of monitoring data is largely based on discussions with local engineers and stakeholders. Many of the data sources specified in the RMT for measurement of the outputs/outcomes are vague with general reference to an organisation (e.g., Ministry of Agriculture and Rural Development (MARD), World Bank 8 Project (WB8),



Project Management Unit (PMU), Ministry of Natural Resources and Environment (MONRE), Ministry of Industry and Trade (MOIT)) rather than clear specification of the actual data source.

### ***Quantifiable Baselines and Measurable Indicators***

General progress results are reported in the six-monthly progress reports. These are often difficult to relate to the RMT because the RMT indicators and targets are not always used to compare actual progress versus target for each output/outcome. Some outputs do not have clear quantifiable baselines and measurable indicators (e.g., Output 8 existing dam safety courses; STO1 – Increased stakeholder understanding of dam risks and disaster prevention practices – no target number of beneficiaries, difficult to measure indicator). It is also unclear if some of the measurement methods are practical (e.g. for MTO3, access to reports from communes on communication problems).

There is a good separate summary of Dam Safety course structures for Output 8 (May 2018) with good description of technical content. In the ADD there is no clear number for how many dam safety courses are currently conducted by TLU, and how many are needed by the DSP. The 11 courses listed for Output 8 have been developed in response to the need as the project has progressed. There is no reporting on how many people have received training under Output 8 although there is good description of the target audience and content of each course. The lack of data on trainee numbers and how many trainees are actively applying the training they have received in their daily work roles limits the assessment of the DSP impact on capacity building.

### ***Strengthening of Impacts and Sustainability***

#### ***Impact versus Scale of Investment***

The scale of the sector in Vietnam is large – 63 provinces and over 7,000 dams. DSP has worked in only 2 provinces and on 142 dams (although this has been in one of the main catchment systems with dams and the 142 dams were priorities of MARD). Having impact nationally may be difficult with the scale of the DSP investment.

#### ***Uptake***

MARD has frequently acknowledged DRAPT as a useful dam safety management tool, but it has not directed its staff or DARD to adopt DRAPT as its preferred DSM tool. The DSP has resulted in changes in dam management practice for participants in the dam assessments and training, but DRAPT is not being used in the MARD-implemented World Bank Dam Rehabilitation and Safety Improvement Project (2015). Without a formal directive from MARD to adopt DRAPT as its preferred DSM tool, there is a strong risk that use of DRAPT in Viet Nam may not be continued in the long term. This would limit the sustainability and long-term use of DRAPT in a potential country wide 'roll out' as a useful dam safety management tool. This has implications for investing in a third phase of the DSP.

### ***Expertise in Managing International Development Projects***

Damwatch/GNS team has limited previous experience in the management of complex development projects of the scale of the DSP. Individual team members have worked previously in developing countries in their discipline, including on development projects targeting outcomes beyond technical performance. Damwatch/GNS/TLU project team members have very strong cross-cultural skills, reflected in the relationships built within the project team and with the Viet Nam people who have engaged with them. But it is not



apparent that the project team includes the needed expertise in all aspects of the governance and management of the DSP, and for facilitating engagement with the complex government and social structures in Viet Nam. As an example, problems were encountered with the intended process for delivery of flood inundation maps, where the need for prior consultation and review with communities had not been recognised by the project team until raised in a stakeholder interview as part of this Mid Term Review.

It appears that management of the DSP has relied on the strong relationships and cooperation within the Damwatch/ GNS/TLU project team but they have not developed the systems well that they need for greatest involvement and uptake by Viet Nam agencies (e.g. incorporation of Stakeholder Advisory Group, definition and targeting of beneficiaries, clear theory of change). The NZ Embassy (Ha Noi) has been significantly involved in coordination and liaison with the relevant Vietnamese agencies (MARD, MOIT) to counter the limited international development management experience in the project team.

Team partners have commented that they had greater expectations on the capacity of other partners to lead social engagement. There was also comment that a greater presence in Viet Nam was needed from the international partners to facilitate engagement with Viet Nam stakeholders. The project team has advised that it intends to add an international social scientist to assist in this, but it is not apparent that this will provide the experience nor local context needed in working in Viet Nam in conjunction with government and communities.

### ***Strengthening Local Training Capability***

MARD staff who have been trained are able to use DRAPT but are not confident to train others. It is the role of TLU in the project to disseminate information and coordinate training. Higher technical knowledge may be needed to be a trainer, which would rely on TLU. TLU would need to seek additional funding to do this. There is no known funding stream at present.

### ***Training and Website***

There has been a lot of training at management level, but not at commune level. There is a project website, but access is restricted from those without internet connections or people who do not have computer access.

### ***Seismic Assessment***

There is work being done on seismic assessment. The benefit in doing this may be minimal with little capability for VN agencies to take up this consideration in the future. There is limited base data, and limited expertise in seismic assessment in Vietnam – it is a much lower risk than flood risks. GNS should review whether the seismic assessment activity continues or whether it is more pertinent to focus seismic assessments in other areas of benefit to the DSP.

### ***Relationship with the World Bank WB8 Project***

The World Bank PAD (2015) refers to the DSP Phase 2 as a future stage of Phase 1, and that the Bank project is “being implemented in cooperation with the parallel initiative” of the NZ government. The partner relationship with the NZ government is “complementarity”.

The World Bank prioritisation procedure has no reference to DSP data or a NZ role. The PAD refers to collaboration between donor partners and to the WB project helping “formalize a



framework for implementation which could then easily be scaled up in a coordinated manner amongst development partners". The ADD for the DSP goes much further in making strong claims on cooperation, stating the DSP assessments will be used by WB, and referring to "separate but closely coordinated training and capacity building activities". It also states that the WB will increase impact by WB funds implementing the improvements identified by the DSP. That does not appear to be at all based on the actual WB project design.

### **Exit Strategy**

There is no exit or close out strategy defined in the ADD for DSP Phase 2. Such a strategy is essential at this point in the project.

### **Alignment with MFAT's Strategic Intentions and ASEAN 4-Year Plan Objectives**

The RMF was designed in 2015 and is well aligned with the ASEAN 4-Year Plan Objectives (see items under Relevance of the RMF above), especially the resilience objective. The current MFAT Strategic Intentions were only developed in 2019, 3 years after project design. Alignment is through 'Delivering the New Zealand Aid Programme' and through its International Relationships strategic goal 'build and leverage targeted international relationship to achieve our goals', which it does by 'supporting connections between New Zealand individuals/organisations and international counterparts.' With 1 year to run (to 2021) on the DSP, there is no strong rationale to change the RMF for Phase 2 at this late stage.

### **Changes to Improve Stakeholder Collaboration Models**

Several changes to aspects of the RMF and implementation activities could be made to improve stakeholder collaboration models.

A number of parties refer to a need to engage at commune level and develop simplified, less technical DSM guidelines for use at that level. Use of alternative dissemination methods have also been proposed, including mass media methods.

The relationship with WB dam safety projects is limited and not as envisaged in the ADD.

There has been limited involvement of MOIT. There is now an opening for this to change after meetings during the Review. Greater emphasis and involvement of the Stakeholder Advisory Group may have helped bring MOIT in. However, there is a close relationship between TLU and MARD that does not exist with MOIT.

There needs to be clear commitment by MARD and instruction to DARDs to adopt and use DRAPT as preferred Dam Safety assessment tool for it to be effectively taken up and used after the end of the DSP.

### **Opportunities for Gender and Youth**

Gender representation on the Project team has been moderately balanced with the current Project Team having a mix of female and male Project team members contributing to the overall project team dynamics.

Youth engagement has been absent at a stakeholder level with no firm evidence that this specific interaction took place. Integration of the DSM into the TLU curriculum has not taken place as yet. At that time the development of the training programme should provide for gender considerations among target groups.





## DAC CRITERIA SUMMARY

A summary of the DAC criteria for evaluating development assistance of the DSP Phase 2 is:

**Relevance** – highly relevant, well aligned with GoVN priorities in disaster prevention and control and water resource management, and NZ Aid Programme’s ASEAN disaster risk management pillar in 2015.

The integration of dam safety assessment and disaster risk management within the Ca River Basin as a single integrated process contributes to a high level of DSP relevance, meeting both needs and priorities of stakeholders, donors and agencies involved in the DSP.

**Efficiency** – adequate – AMA expenditure tracking data indicates adequate, Damwatch international project management experience needs strengthening and reporting needs to follow the RMT more clearly.

**Effectiveness** – adequate. – the DSP delivered an assessment tool that is ‘fit for purpose’ i.e. a trial within a whole river basin for community and dam safety outcomes. This is noted in the medium-term outcomes above, albeit with areas for progress across the five medium-term outcomes.

**Impact** – adequate to date, as set out above in the short-term and medium-term outcomes, but is intended to be the major focus in the remainder of Phase 2, especially through training.

**Sustainability** – Adequate through an extensive training programme, but will depend on MARD commitment and TLU participation, as set out above under MTO4 and MTO5. The long-term outcome is pivotal ensure the utility of the tools, training and application, as well as the Government of Viet Nam’s commitment alongside MARD

**Exit or Close out Strategy** – none.



# 5

## Review Conclusions

### KEY CONCLUSIONS

The conclusions about the Activity are structured to address the review's purpose and two objectives as well as address the key questions.

#### Achievement of Outputs and Outcomes

DSP Phase 2 is making sound progress towards achievement of outputs and short-term outcomes. To increase impact, the remainder of Phase 2 would best focus on dissemination of the tools for medium term outcomes (i.e., incorporation in the TLU curriculum, involvement of MOIT, commitment of MARD to direct the use of the DRAPT, communication at commune level including DRAPT for preliminary assessment and reporting by non-technical people). These aspects could be further developed in any Phase 3.

#### Technical Outcomes

The DSP Phase 2 has achieved good technical outcomes to date. The DRAPT tool is based on technically-sound dam safety assessment and rehabilitation procedures integrated together into a useable tool for technical specialists in Viet Nam. Technical experts are able to apply the tool to prioritize rehabilitation of earth dams in Viet Nam with results which are consistent with other tools used by MARD. Local experts are able to apply the tool but do not yet have enough expertise or confidence in its use to train other potential users.

#### Training

A well-developed dam safety course training programme is being implemented. Training objectives, theory of change, beneficiaries (national-level, provincial-level, TLU), target audience, course content, and complexity of dam type are all clearly stated. There has been an extensive amount of training (workshops, courses, study tours, field training) conducted to date with further training scheduled in the remaining DSP Phase 2 period. The training is well regarded by participants, but has had limited spread so far. The training focus has been mainly on irrigation companies and MARD/DARD to date which has been beneficial for small and medium dam operators given the assets they own and/or operate.

#### Targeting Training Beneficiaries

The DSP cannot deliver DRAPT and dam safety training to all those in the Ca River Basin who might benefit from it because of the large numbers involved. The approach of targeting selected groups (national-level, provincial, national TLU curriculum) and use on selected sites in the Ca River Basin is appropriate given the resources available. Despite the relevance of this approach, the number and spread of the trainee beneficiaries is limited. Extending the training programme to a wider audience can only be done through the Viet Nam government systems in the medium- and longer-terms. A strategy for finding, funding and training trainers in the use of DRAPT is required by MARD and TLU.



### **Commune-level Systems**

The commune-level dam safety assessment officials play an important role in the field observation and pre-checks of dam safety especially for smaller dams managed at the community-level. Many of these local officials have limited literacy, computer skills, and access to the internet. They cannot apply the DRAPT tool in its current form, and require simple, clear DRAPT-based assessment guidelines they can apply swiftly as first responders to dam safety issues. There is a need and demand for appropriate systems and participation at commune level for this purpose.

### **Governance**

Governance structures have not functioned as required. The informal meetings of the Project Team have dominated the general governance framework and have been effective for the overall management of the project even though they have not been within the agreed activity governance and management arrangements.

The Stakeholders' Advisory Group (SAG) whose role was to independently guide the direction of the project has not met. The SAG's role was taken over by the Activity Leadership Group (ALG) comprised of those implementing the project. There has been no clear separation of setting project direction from the stakeholder viewpoint and actual project implementation. This means the lines of governance and management have not been followed as agreed to under the ADD. The ALG has met annually (three times) with up to 30 participants. This frequency of meetings is inadequate; the number of participants too many, resulting in less effective decision-making and inconsistent operational project management decisions made in a timely manner.

Formalisation of the Stakeholder Advisory Group would still be beneficial to the project at this stage in encouraging longer term adoption of the DSM and direction of any Phase 3. Liaison with the World Bank pursuing potential complementary actions could still be pursued by the SAG, such as following physical dam rehabilitation with specific DSM training. This group should be reinstated.

### **Results Management Framework**

The overall content of the RMF in the ADD is complex, but generally adequate. Stronger focus on use of the RMF would help management and measurement of achievement of the DSP. Clearer definition in the wording of some outcomes is required so that their progress can be more accurately assessed. Unclear and poorly defined outcomes make interpretation of progress towards achieving them difficult to assess. Stronger focus in measurement methods and regular progress reporting of the RMT indicators against baselines and targets would help management and direction of the DSP. Apparent absence of systematic methods for collection of RMT monitoring data makes assessment of progress for some outputs/outcomes difficult to compare. Absence of quantifiable and measurable baseline values and targets for some indicators also makes assessment of progress difficult.

The RMF and its component tables will need to be rewritten for any Phase 3 focussing on Phase 3's specific outcomes and outputs. A simpler RMF with fewer (combined) outputs is required for any future stages.



### **Impact and Sustainability**

Increasing impact and sustainability of the DSP will need greater commitment from MARD to adopting the DRAPT tools developed, directing DARD to apply them, and fostering trainers and champions within VN agencies. A formal uptake commitment by MARD is advisable before any NZ funding is committed to support any Phase 3. MOIT now needs to be brought into the DSP as it is responsible for the safety of large dams if application of the DRAPT is to increase its impact and be sustainable. An exit or close out strategy for MFAT support for the DSP is required.

### **Future Funding**

The apparent lack of future funding streams in Viet Nam may limit sustainability of the DRAPT. There does not appear to be government resources to support its future application and the training needs required. While the tool is well regarded technically, there is no commitment by other donors (such as the World Bank) to support the DRAPT's application or rollout across Viet Nam. For this reason, an exit or close out strategy for MFAT support after completion of the DSP Phase 2 is required, or formal commitment by the Viet Nam Government alongside MARD to adopt and use the DRAPT prior to commitment to any Phase 3.

### **Climate Change, Gender and Youth**

Projected climate change considerations (e.g., increased frequency and scale of high intensity storms) do not appear to be included in the DRAPT analysis, flood mapping and consequence analysis. Historic climate data only are used. This needs to be rectified given the potential implications for increased dam safety risk under most projected climate change scenarios for the Ca River Basin.

There are opportunities to train both young women and men at all levels in the national/provincial/district/commune hierarchy for dam safety assessment. This includes dam safety practitioners, local officials, and commune-level operatives. The type and levels of training required will vary among the roles and levels of education of trainees.

### **Success Stories**

The DSP Phase 2 is demonstrating several success stories and good practices during the course of its implementation. These include:

- The Dam Risk Assessment and Prioritisation Tool (DRAPT) is well regarded by officials and MARD and DARD. It is considered a good technical tool by dam safety practitioners in Viet Nam. Simplification of DRAPT to accommodate the needs for commune-level users and inclusion of climate change scenario analysis has been suggested by Vietnamese stakeholders.
- Dam safety training courses (including observation by people from other provinces) have been well designed with defined target audiences, and have had appropriate technical content for these audiences.
- Conduct of case studies in Nghe An and Ha Tinh have given the opportunity for dam managers to work with the project team and learn about application of the tools for managing the safety of dams they are responsible for.
- The Damwatch/GNS/TLU team cooperation has been excellent, reflecting the need for a strong tight technical team to deliver what is a strongly technical project.
- The DSP has brought tools, skills, knowledge, and awareness on dam safety that has not always been present in Viet Nam.



- Completion of flood maps for selected Ha Tinh and Nghe An dams have been greatly appreciated by MARD and VNDMA because they can now demonstrate flood risk and consequence analysis of dam break scenarios to dam manager/owners and local communities.



# 6

## Lessons Learned

### LESSONS LEARNED AND GOOD PRACTICES

#### Design of Phase 3

Phase 3 concepts are in a very early stage and the Review team has not sighted the draft proposals for any Phase 3. A range of concepts for a Phase 3 were discussed by the Review team with various stakeholders in Viet Nam and NZ. These concepts included (1) roll out of DRAPT to other provinces; (2) application to 5 larger dams in the Ca River Basin where there are large populations at risk; (3) more training and education in use of the DRAPT and dam safety tools by TLU (which is the MARD/project entity responsible for training) for various levels of stakeholders, and for dam owners/managers especially; and (4) inclusion of climate change impacts and seismic assessments.

The most frequent request for Phase 3 content from the Vietnamese stakeholders was more training at all the various beneficiary levels. There are various views on whether to focus on 'depth' (i.e., focus on the Ca River Basin, continue to develop training modules there where needs are known, and complete dam safety assessment on a number of large dams) or 'breadth' (i.e., rollout of DRAPT to other provinces).

Given that there are modifications requested to make DRAPT more user-friendly for non-technical Vietnamese stakeholders (e.g., commune-level users), the need for a train-the-trainers approach and to include climate change scenarios in DRAPT, there is benefit in continuing to work in a river basin where the constraints are already well known and the DSP has established relationships rather than starting new in other provinces. There is also the case for getting MARD to commit to the use and testing of DRAPT in a wider context to test its applicability to wider areas of Viet Nam. NZ does not have the resources to do this itself, and so is reliant on Viet Nam agencies to commit to doing so with NZ in a technical support role. Other donors are also active in other provinces and it is important to complement rather than duplicate their efforts.

If the project proceeds to a Phase 3, the RMF would need to be redesigned to fit the focus of Phase 3. It is important that any expectations on third parties, whether VN government agencies or others, are covered by documented agreements before commencement.

#### Factors Affecting Sustainability

A key factor affecting the sustainability of the DSP is the ability of Viet Nam agencies to self-train in the DSM tools. This relies on the continuing role and funding for TLU. The funding stream for future spread (by training and implementation) within Viet Nam agencies is not secure. It may rely on being low cost, and able to be implemented as part of normal dam management activities and resources. These requirements need to be considered in the remaining work in Phase 2, and in any future Phase 3 or dam safety activities.



## **Governance**

A key lesson is to establish and maintain formal governance structures, management and reporting. The Stakeholders' Advisory Group (Governance) has not been actively implemented. Reliance has been placed on the Activity Leadership Group (Management) but the provinces (DARD) have not practically been able to attend those ALG meetings., and participation by Viet Nam stakeholders has been inconsistent. The role of the SAG needs to be strengthened to assist in securing the buy-in of stakeholders and give appropriate direction of the DSP, especially if there is a Phase 3. Formal reporting of meeting minutes, actions and progress has not been strong across the SAG and the ALG.. The frequency of SAG and ALG meetings has not occurred regularly enough to gauge project progress in a timely manner.

## **Targeted Beneficiaries**

There are a range of targeted beneficiaries from DSP Phase 2 including government ministries (MARD, MOIT) and departments/officials (DARD, VNDMA) at various levels (national, provincial, district, communes), dam safety practitioners, VN land use planning agencies, dam managers/operators, and downstream communities. Other stakeholders also include other donors (e.g., World Bank) working in the dam safety area, and the New Zealand government.

These various stakeholders have different knowledge and training needs for use of the DSM tools. What is suitable for one group may not be appropriate another group. For example, the DRAPT tool may be appropriate for dam safety practitioners to assess dam safety risk at a high technical level, but no use for commune-level first responders if they observe signs of dam leakage. These observers need simple guidelines for understanding, for example, what a leak means, what do they do and who do they contact. They do not need to be trained in the full DRAPT technical analysis.

An important lesson learned from this is that knowledge transfer and training should be carefully targeted at the specific needs of the beneficiary group. How and what is delivered must also consider each beneficiary group's role, resources, and capability.

## **Climate Change**

Climate change effects are not included in the DRAPT, with a reliance instead on historic climate data indicating climate change effects. The absence of climate change scenario analysis in DRAPT has been recognized by Vietnamese stakeholders as needing to be rectified given the potential implications for increased dam safety risk under most projected climate change scenarios for the Ca River Basin.

## **Success Stories**

The partnership and co-operation within the DSP Project Team has been a successful output of the project. The informal meetings and dialogue have resulted in good levels of interaction particularly with Damwatch, GNS and TLU. This has potential benefits longer term, even after the end of the Project.

The technical performance has been strong because the technical basis of the project design and execution is well founded and resourced. The work done through the project has resulted in valuable technical tools in the DRAPT and the flood maps currently being completed and provided to Viet Nam. These are well regarded and perceived as valuable tools by Viet Nam stakeholders. It provides a good foundation for future dam safety practice in Viet Nam.



The project has brought specialist expertise and practices developed in New Zealand to assist in a key area of need in Viet Nam. As a result, the particular New Zealand contribution through this project is recognised and highly appreciated by the Viet Nam agencies involved.





## 7

## Recommendations

The recommendations are classified under three headings:

- Activity Management – to improve Phase 2 performance
- Phase 2 Implementation – to improve Phase 2 performance
- Future Planning – to inform the design of Phase 3 and implement the recommendations

There is no clear priority ranking for the recommendations. The recommendations are linked to one another and all contribute to improved performance of Phase 2 DSP and/or future Phase 3 activities.

### ACTIVITY MANAGEMENT

#### Governance and Management

**1. Maintain a formal and effective governance structure that has suitable representation, is well resourced and active.** Good governance of development projects requires establishment and maintenance of well-structured appropriate formal governance structures for setting project direction, managing project implementation and reporting. Setting of clear project direction to address stakeholder needs must be separated from the detail of day-to-day project implementation of tasks. Different groups within the governance structure must have clearly defined roles and responsibilities which they fully understand and agree with. They must be decision-making bodies that are workable in size and meet regularly enough to make timely operational project decisions. **Next Steps:** The Stakeholder Advisory Group (SAG) needs to be reinstated to further guide the direction of the DSP for the remainder of Phase 2. The role of the SAG needs to be strengthened to assist in securing the buy-in of stakeholders and give appropriate direction of the DSP, especially if there is a Phase 3. The frequency of SAG and ALG meetings (from nil and once per year) should be increased to enable the making of timely project management decisions. The ALG meetings should be for operational project management decision-making rather than an annual plenary meeting of project participants.

A clear governance structure is required if there is to be a Phase 3. An agreed Terms of Reference clearly defining roles and responsibilities of all groups within the structure should be prepared.

#### Results Management Framework

**2. Use the Results Management Framework and its components systematically.** Effective measurement of progress and impacts requires that the Results Management Framework and its component tables are used systematically. **Next Steps:** Ensure use and systematic regular reporting of quantifiable and measurable indicators within the Results Management Table (RMT). Actual progress towards the targets specified for each indicator in the RMT should be routinely reported on in each six-monthly progress report for the



remainder of Phase 2. Consistent and replicable methods for collecting monitoring data should be used (and specified in the RMT). Outputs/outcomes that do not have defined target values (e.g., Short-term outcome 2 “Increased stakeholder understanding of dam safety risks and disaster prevention practices”) in the ADD should have clearly specified targets. A review of the RMT even at this late stage of Phase 2 may help guide the work. This will enable project management and the governance group to guide work activities and gauge progress across the lifecycle of the DSP and make operational decisions based on evaluation of the monitoring data.

The RMF and its component tables will need to be rewritten for any Phase 3 focussing on Phase 3’s specific outcomes and outputs. A simpler RMF with fewer (combined) outputs is required for any future stages. Indicators for all outputs and outcomes should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound).

## PHASE 2 IMPLEMENTATION

### Dissemination and Training Focus for Remainder of Phase 2

**3. Consolidate the impact of the DSP.** DSP Phase 2 is making sound progress towards achievement of outputs and short-term outcomes. This impact needs to be consolidated over the remainder of Phase 2. **Next Steps:** To increase impact, the remainder of Phase 2 would best focus on dissemination of the tools for medium term outcomes (i.e., incorporation in the TLU curriculum, involvement of MOIT, commitment of MARD to direct the use of the DRAPT, communication at commune level including DRAPT for preliminary assessment and reporting by non-technical people). Knowledge transfer and training needs should be carefully targeted at the specific needs of the beneficiary group. How and what is delivered must also consider each beneficiary group’s role, resources, and capability.

These aspects could be further developed in any Phase 3. This will require good engagement and communication with stakeholders at all levels in Viet Nam. It is recommended that the Project Team engage an in-country person skilled in facilitation, stakeholder engagement and communication.

### Incorporation of Climate Change Scenario Analysis in DRAPT

**4. Add a climate change analysis module to DRAPT.** Climate analysis in DRAPT is based on use of historical climate and weather data. The Review team understands it does not have a climate change scenario analysis module. Climate change scenarios are yet well developed for many parts of Viet Nam, other than general predictions. **Next Steps:** A climate change analysis module should be added to DRAPT so that estimation of changes in important weather parameters can be assessed in terms of their impact on dam safety.

### Development of Relevant Tools for Commune and Non-technical Users

**5. Develop user-friendly tools for dam safety assessment by non-technical users.** DRAPT is a technical tool for dam safety practitioners, officials and dam owner/managers, but of little use for commune-level first responders if they observe signs of dam leakage. These observers need simple guidelines for inspection practices and, for example, understanding what a leak means, what do they do and who do they contact. They do not need to be trained in the full DRAPT technical analysis. **Next Steps:** Develop simple guidelines for dam safety assessment and actions based on DRAPT for use by commune and other non-technical



users. Communication methods should be adopted to suit the various target groups, and could include established public broadcasting methods.

## FUTURE PLANNING

### Alignment with Other Donor Programs

**6. Actively participate in the framework of implementation for dam safety management.** Heavy anticipation and expectation by DSP Phase 2 on collaboration with the World Bank 8 project has not eventuated. There are many donors in the dam safety management sector in Viet Nam. Reliance on up take of DRAPT by any one donor is problematic as they have their own systems, including MARD and MOIT. **Next Steps:** DSP, Phase 2 and any Phase 3 should continue to be actively involved in communication and engagement with other donors participating in the framework for sharing of knowledge, methods and upgrading their tools for application in Viet Nam. This will enable the DSP to continue to be part of the dam safety conversations in Viet Nam.

### Strategy for any Phase 3

**7. Develop a clear strategy for any Phase 3 in consultation with VN Stakeholders.**

There are pros and cons for continuing to work in the Ca River Basin and application of the DRAPT to wider areas of Viet Nam (see Lessons Learned). A clear strategy is needed with strong Vietnamese stakeholder consultation and direction. **Next Steps:** Prepare a clear strategy for a Phase 3 in collaboration with key Vietnamese stakeholders (e.g., MARD, MOIT) well in advance of the scheduled conclusion of Phase 2. This should be accompanied by a revised RMF and any commitments/agreements required by various parties for implementation and funding of any Phase 3.

### Continuity Plan

**8. Develop a clear Continuity Plan for the DSP.** All projects should have a well-prepared, clear and agreed strategy for when the donor funding ends. This should include implementation arrangements, funding and other resources needed, roles and responsibilities of key partner agencies (e.g., MARD, TLU) if project activities are to be continued. **Next Steps:** There are two scenarios for DSP, Phase 2: termination at the end of DSP, Phase 2; or continuation to a Phase 3, which has not yet been clearly defined or advised to the Review team. If the DSP is to end after Phase 2, an Exit or Close Out Strategy should be prepared for its conclusion in March 2021. If DSP is to continue to a Phase 3, a Continuity Strategy should be an integral part of Phase 3 planning and project design.

### Impact and Sustainability

**9. Obtain formal commitment from the Viet Nam Government alongside MARD to apply and test DRAPT as their preferred dam rehabilitation and prioritization tool more widely in Viet Nam.**

The delivery of the DSP across two provinces has experienced some success. DRAPT has not been tested in other provinces. **Next Steps:** To achieve wider impact and sustainability of DRAPT it needs to demonstrate wider application across Viet Nam beyond the Ca River Basin. NZ does not have the resources to test that. It can only be done by the Viet Nam government agencies responsible for dam safety. This has implications for any Phase 3. If there is no formal commitment by Viet Nam to further apply DRAPT, NZ has to consider the appropriate focus and justification for investing in any Phase 3. MFAT should request a formal written commitment from the Viet Nam Government alongside



MARD that it will apply and further test DRAPT more widely across Viet Nam before committing to any NZ Phase 3 funding support.



# Appendices

## APPENDIX ONE: REVIEW STAKEHOLDERS

The following stakeholders were interviewed:

STAKEHOLDER	POSITION/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
Viet Nam Government			VN Oversight
MARD			VN Stakeholder
s9(2)(a)	s9(2)(a) Dept Dam Safety, Directorate of Water Resources	Meeting	Project oversight, MARD involvement in implementation
s9(2)(a)	s9(2)(a) Dept Science, Technology and International Cooperation, Directorate of Water Resources	Meeting	Project oversight, MARD involvement in implementation
s9(2)(a)	s9(2)(a) VN Disaster Management Authority	Meeting	Disaster risk management DRM in response to dam failure
s9(2)(a)	s9(2)(a) Dept for Natural Disaster Response and Recovery, VN Disaster Management Authority	Meeting	Disaster response and recovery
s9(2)(a)	s9(2)(a) Environmental Division, Dept Science, Technology and Environment	Meeting	Climate change impacts on dam safety
s9(2)(a)	Official, Environmental Division, Dept Science, Technology and Environment	Meeting	Climate change impacts on dam safety
MOIT			VN Stakeholder
s9(2)(a)	s9(2)(a) Industrial Safety Techniques and Environmental Agency	Meeting	DOIT cooperation with DSP, responsible for large dams, hydropower
VNCOLD			VN Stakeholder
s9(2)(a)	s9(2)(a)	Meeting	Chair, project oversight, safety of large dams in VN, policy recommendations
Thuy Loi University			VN Implementing Partner
s9(2)(a)	s9(2)(a)	Meeting	DSP Technical Advisory and



STAKEHOLDER	POSITION/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
	s9(2)(a)		Peer Review Group
s9(2)(a)	s9(2)(a) Division of Geotechnical Engineering	Meeting	Geotechnical engineering. Geological Industries, Faculty of Hydraulic Structure
s9(2)(a)	s9(2)(a) (Faculty of Hydrology and Water Resources)	Meeting	Hydrology and water resources
s9(2)(a)	s9(2)(a) Hydraulic Structures Division (Faculty of Civil Engineering)	Meeting, field visit	Hydraulic structures
s9(2)(a)	s9(2)(a) Head of International Cooperation Department	Meeting, field visit	TLU cooperation with international implementing partners
s9(2)(a)	Project Assistant	Meeting	
World Bank W8 Staff			WB Stakeholder
s9(2)(a)	s9(2)(a)	Meeting	WB collaboration with DSP
Ha Tinh, Nghe An Provinces			VN Stakeholders
- Ha Tinh	Local government/dam manager		Locally responsible for small and medium dam safety
s9(2)(a)	s9(2)(a)	Meeting	North Ha Tinh Irrigation Company. Manages Da Bac dam.
s9(2)(a)	District People's Committee, s9(2)(a) Ha Tinh	Meeting	Dam safety at Ha Tinh provincial level
s9(2)(a)	Staff	Meeting	Dam safety at Ha Tinh provincial level
s9(2)(a)	s9(2)(a)	Meeting	DARD
s9(2)(a)	s9(2)(a) Sub-Department of Irrigation	Meeting	DARD
s9(2)(a)	Official, Sub-Department of Irrigation	Meeting	DARD
- Nghe An	Local government		Locally responsible for small and medium dam safety
s9(2)(a)	s9(2)(a) Sub-Department of Irrigation	Meeting	DARD
s9(2)(a)	s9(2)(a) Construction Management Division	Meeting	DARD

STAKEHOLDER	POSITION/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
s9(2)(a)	s9(2)(a) Construction Management Division	Meeting	DARD
s9(2)(a)	Official	Meeting	DARD
s9(2)(a)	Official, Sub-Department of Irrigation	Meeting	DARD
s9(2)(a)	Official, Sub-Department of Irrigation	Meeting	DARD
PMU4			Managers of Ngan Truoi construction
s9(2)(a)	s9(2)(a) Planning Division, PMU4	Meeting	Planning and management of Ngan Truoi construction
s9(2)(a)	s9(2)(a) Planning Division, PMU4	Meeting	Planning and management of Ngan Truoi construction
s9(2)(a)	Official, Planning Division, PMU4	Meeting	Planning and management of Ngan Truoi construction
s9(2)(a)	Official, Planning Division, PMU4	Meeting	Planning and management of Ngan Truoi construction
Damwatch			NZ implementing Partner
Peter Amos	Dam Safety Specialist, Managing Director	Telecon	Project oversight
Tony Harker	Investigation and Instrumentation, Executive Manager	Telecon, meeting, field visit	Day-to-day management of project
GNS			NZ Implementing Partner
Kelvin Berryman	Manager, Natural Hazards Research	Meeting	Project oversight
NZ High Embassy/MFAT			Provision of funding, governance, monitoring of implementation, member of Advisory Group
Jonathan Lee	Development Officer, Global Development and Scholarships (GDS)	Telecon	DSP governance and implementation
Wendy Matthews	Ambassador NZ Embassy, Ha Noi	Meetings	Oversight of all MFAT projects in Viet Nam
Nicole Topfer	Administration Manager / Consul, NZ Embassy Ha Noi	Meetings	Management of DSP for NZ Embassy, Ha Noi
Pham Thi Ngan Hoa	Development Programme Manager	Telecon, meetings, field visit	Coordinator of DSP Review Mission programme
Kathryn Beckett	Former First Secretary, NZ Embassy Ha Noi	Telecon	Coordinated initial development of DSP



STAKEHOLDER	POSITION/STAKE	MEETING/TELECON	INVOLVEMENT/PARTICIPATION
Tom Wilson	Former Development Manager, NZ Embassy, Ha Noi	Telecon	Oversight of DSP for NZ Embassy, Ha Noi





## APPENDIX TWO: REFERENCES AND SOURCE DOCUMENTS

### Viet Nam Dam Safety Phase II Documents Consulted

List of documents consulted by the Review team included the following:

- Activity Design Document 2015: Viet Nam – New Zealand Dam Safety Project: Phase 2.
- Activity Leadership Group Meeting Minutes 24 April 2017. MARD 3 p.
- Activity Leadership Group Meeting Minutes 20 July 2018. MARD 4 p.
- Activity Leadership Group Meeting Minutes 20 August 2019. DARD Ha Tinh and Nghe An. 6 p.
- Activity Monitoring Assessment 2017, MFAT
- Activity Monitoring Assessment 2018, MFAT
- Activity Monitoring Assessment 2019, MFAT
- ASEAN 4-Year Plan objectives
- Evaluation Plan and report templates
- Evaluation Policy for the New Zealand Aid Programme
- Google Earth Images of Ca River Basin and Da Bac dam. 2015. 3 p.
- MFAT Strategic Intentions 2019-2023
- New Zealand Aid Programme Strategic Plan 2015-19. 21 p.
- Progress Report No. 1 First 6-month Progress Report. For period to January 2017, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- Progress Report No. 2 Second 6-month Progress Report. For period February 2017 to 30 June 2017, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- Progress Report No. 3, First Annual Progress Report. For period 1 January 2017 to 31 December 2017, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- Progress Report No. 4, Third Progress Report. For period 1 January 2018 to 30 June 2018, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- Progress Report No. 5, Second Annual Progress Report. For period 1 January 2018 to 31 December 2018, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- Progress Report No. 6 Issue 2, Fourth Progress Report. For period 1 January 2019 to 30 June 2019, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU
- VN-NZ Dam Safety Project. 2017. DRAPT Results Comparison Letter. Damwatch. 4 p.
- VN-NZ Dam Safety Project. 2018. Dam Rapid Assessment and Prioritisation Tool (DRAPT) User Guide. March 2018. Damwatch/GNS/TLU/VNCOLD. 70 p.
- VN-NZ Dam Safety Project. 2018. Dam Safety Course Structures for Viet Nam, as at May 2018. Version 6. Damwatch. 4 p.
- Viet Nam – New Zealand Dam Safety Project. May 2019. Dam Rapid Assessment and Prioritisation Tool (DRAPT): Results for Ha Tinh Province. 111 p.
- Viet Nam – New Zealand Dam Safety Project. May 2019. Dam Rapid Assessment and Prioritisation Tool (DRAPT): Results for Nghe An Province. 75 p.
- World Bank. 2015. Vietnam Dam Rehabilitation and Safety Improvement Project. Project Appraisal Document. 90 p.
- Year 1 Work Plan, VN – NZ Dam Safety Project: Phase 2, Damwatch/GNS/TLU

### Other Information and Document Sources

Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. [www.unisdr.org/wcdr](http://www.unisdr.org/wcdr). International Strategy for Disaster Reduction. 22 p.



MARD – Directorate of Water Resources (brochure)

The Sendai Framework for Disaster Risk Reduction 2015-2030. United Nations Office for Disaster Risk Reduction.

The Action Plan in Response to Climate Change in Agriculture and Rural Development in the period of 2016 – 2020 and Vision to 2050.

The Law on Water Resources – No. 15/2012/L-CTN of July 2 2012

The Law on Hydraulic Work – No. 08/2017/QH14, on 19/6/2017, effective on 01/7/2018

USAID / VN University / US Department of the Interior [Written in Vietnamese, white book]

Viet Nam Sustainable Development Strategy for 2011-2020.

<http://www.chinhphu.vn/portal/page/portal/English/strategies/strategiesdetails?categoryId=30&articleId=10050825>

VN-NZ Dam Safety News Report. 2015. <https://www.nbr.co.nz/article/new-zealand-provides-dam-safety-expertise-vietnam-b-202278>

VN-NZ Dam Safety Project website. <http://damsafetyvnz.tlu.edu.vn/>



### **APPENDIX THREE: REVIEW PLAN**

