

Quang Ngai Natural Disaster Mitigation Project

Independent Completion Report

Final Draft

9 January 2008

TABLE OF CONTENTS

Abbreviations	III
Basic project data	IV
Acknowledgements and disclaimer.....	V
Executive summary.....	VI
1. BACKGROUND AND METHOD OF REVIEW	1
2. OVERALL FINDINGS	2
2.1 Relevance	2
2.2 Effectiveness	3
2.3 Efficiency	4
2.4 Impact and sustainability	5
3. OVERALL QUALITY	8
3.1 Ratings	8
3.2 Lessons learned	9
4. CONCLUSION AND RECOMMENDATIONS	10
ANNEX 1: ITINERARY AND LIST OF PEOPLE CONSULTED.....	14
ANNEX 2: AIDE MEMOIRE	16
ANNEX 3: ACR APPRAISAL NOTE	20

Abbreviations

AusAID	Australian Agency for International Development
AUD	Australian dollar
CMMND	Centre for the Management and Mitigation of Natural Disasters
DARD	Department of Agriculture and Rural Development
DOET	Department of Education and Training
DPI	Department of Planning and Investment
GOA	Government of Australia
HMS	Hydro-meteorological Service
ICR	Independent Completion Report
IFRMP	Integrated Flood Risk Management Plan
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development
NGO	Non-government Organisation
PMB	Project Management Board
QNNDMP	Quang Ngai Natural Disaster Mitigation Project
VND	Vietnamese dong

Basic project data

Country: Vietnam
Activity Name: Quang Ngai Natural Disaster Mitigation Project
Program: Bilateral
Location of Activity: Quang Ngai province
Counterpart Agency: Department of Agriculture & Rural Development
Managing Contractor: Kellogg, Brown & Root Pty Ltd

Key Dates:

Commencement	5 February 2003
Commencement of extension	5 November 2005
AMC team demobilised	30 June 2007
ACR draft	23 July 2007
Expected date for full completion	30 June 2008

Approved Cost of Activity as per Subsidiary Arrangement

Government of Australia	AUD \$ 13,555,000
Government of Vietnam	AUD \$ 2,904,360

Acknowledgements and disclaimer

The ICR team would like to thank all those consulted for giving their valuable time, advice and information. Special thanks is also extended to AusAID staff in Hanoi who managed the logistical arrangements that allowed the mission to proceed smoothly. Mr Nguyen Tu Nhi provided invaluable assistance as interpreter for the mission.

This report only reflects the views of the Independent Completion Report review team. It does not necessarily reflect the views of the Government of Australia, the Government of Vietnam or any of the agencies or people consulted during the mission.

Executive summary

The Quang Ngai Natural Disaster Mitigation Project (QNNDMP) began in February 2003 in response to serious natural disasters in central Vietnam in the preceding four years. The project focused on two river basins, then after a review in mid 2005 extended its coverage to all four major river basins in the province. Project activities ended on 30 June 2007 except for infrastructure works at Tinh Hoa harbour which will continue until the end of June 2008.

The in country mission of the Independent Completion Report (ICR) review team took place from 13 to 20 November 2007. As the managing contractor team had been demobilised in mid 2007, there was no opportunity to discuss project activities with them. In Quang Ngai, field visits to a small number of project sites was possible despite floods, but limited time in Hanoi meant there was no opportunity to interview other donors in the sector. The purpose of the ICR review was to assess the relevance, effectiveness, efficiency, impact and sustainability of the QNNDMP.

Overall findings

Relevance – given the seriousness of natural disasters in central Vietnam, the likely future impact of climate change and the strong negative impact of disasters on household poverty, the project was relevant. It brought some improvements to community awareness and demonstrated some appropriate infrastructure. However, needs among highly vulnerable groups in the uplands and urban Quang Ngai were not covered.

Effectiveness – a number of activities were very effective, especially those targetting fishing communities. Schools based activities were also good but could have been better focused. Infrastructure was well built and effective but management problems with the construction of the harbour in Tinh Hoa has meant substantial delays. Effectiveness could have been improved with adoption of an integrated flood management plan and stronger attention to institutional arrangements for disaster mitigation, especially the role of the Centre for the Management and Mitigation of Natural Disasters (CMMND), established with project support.

Efficiency – flood plain modelling has provided a benefit to development planning that will have long term economic benefits and could be extended further, especially at commune level. Targetting community groups more specifically could have generated greater efficiencies. Monitoring and evaluation data focused on inputs and the absence of any cost-benefit analyses meant the project was unable to gauge the efficiency of many activities.

Impact and sustainability – there were a number of notable achievements in improving safety for fishing communities, food and livelihood security for vulnerable coastal communities, awareness in schools and communities, planning for disaster management, and flood warnings. Sustainability of many community and schools based activities has been poor, but prospects for the sustainability of fishing safety and infrastructure works are good. Hydraulic modelling needs further support to ensure sustainability, and this has to be linked to stronger support for more streamlined and robust institutional arrangements. The

project needed a better exit strategy that emphasised sustainability in terms of the limited human and financial resources in Quang Ngai.

Overall quality

Ratings – the ratings for the 5 key issues of interest to AusAID – achievement of objectives, measurement of results, effectiveness, appropriateness and technical quality – were good, in the range of 3 to 5 on a scale of 6. The overall quality rating is 4.

Lessons learned

1. Institutional arrangements – it is important to conduct a detailed institutional analysis for planning to integrate activities with maximum efficiency and get strong commitment from local government. The project's attempt at a more streamlined system for disaster mitigation using the CMMND did not fully achieve its objective as a result of insufficient attention to institutional arrangements.
2. Clarity of vision – the purpose and nature of proposed changes must be explicit and comprehensible to local partners. Some agencies remain unclear about the role of the CMMND or the scope of its authority.
3. Developing potential –hydraulic modelling is being used to assess planning proposals from both public and private sector agencies. However, their potential to be used for more immediate flood preparations and warnings has not been fully realised.
4. Realistic timing and management for infrastructure works – time delays are a common problem with infrastructure construction contracting and works in Vietnam for a number of well understood reasons. Problems need to be addressed quickly and effectively, and quality control mechanisms need to be in place at each stage of design, tendering and construction.
5. Sustainability – a project exit strategy has to be realistic in terms of future availability of human and financial resources. The strategy has to be developed in close cooperation with local partners.

Recommendations

Future support – any future support should be designed in a way that complements existing NGO and proposed World Bank support in the sector.

Strategic and action plans – AusAID should support the preparation of the provincial disaster mitigation strategy and action plan, incorporating and improving the existing IFRMP.

Infrastructure works – the managing contractor should support completion of the works at Tinh Hoa by the newly proposed completion date (June 2008) and consider additional support to quickly resolve any new issues that arise.

Infrastructure works – support for any large scale future works in the province should be based on clear lessons drawn from the experience with Tinh Hoa harbour.

Flood maps – the modelling skills of CMMND staff should be further developed with a view to embedding the skills needed to prepare commune level flood maps and detailed maps for Quang Ngai town.

Flood warning and forecasting – support should be given for preparation of a flood warning and forecasting master plan to clearly define areas in need, appropriate methods and technology for each type of flooding, capacity building requirements, roles and responsibilities, priorities, funding arrangements and arrangements for integration with community and agency emergency response plans.

Flood warning and forecasting – support should be considered for developing a regional flood warning and forecasting centre to cover all central region provinces with appropriate modelling capacity and staffing. Alternatively, support could be given to developing modelling skills in the HMS to assist with incorporation of rainfall data into modelling as part of improving flood warnings.

Summary Table	
Initiative title: Quang Ngai Natural Disaster Mitigation Project AidWorks ID:	
Location: Quang Ngai province, Vietnam	Sector: Natural disaster mitigation
Date commenced: 5 February 2003	Main Country Strategy Objective contributed to: Reducing vulnerability
Date completed: Expected 30 June 2008	Form of aid: Bilateral
Initiative cost to Australia: \$13,555,000	Final initiative quality rating: 4
Total initiative cost: \$16,459,360	Economic rate of return or similar, if available: No data available
Delivery organisation: Kellogg, Brown & Root Pty Ltd	ICR authors and their organisations: Andrew Cornish (none), David Mitchell (GHD Pty Ltd)
Counterpart organisation: Department of Agriculture & Rural Development, Quang Ngai province	Contact AusAID employee: Ms Doan Thu Nga, Hanoi

1. BACKGROUND AND METHOD OF REVIEW

The Quang Ngai Natural Disaster Mitigation Project (QNNDMP) began in February 2003 in response to the devastating impact of storms and floods in the preceding few years. The project initially focused on coastal areas of the Tra Khuc and Tra Bong river basins in the centre and north of the province, then in mid-2005 was extended to cover the Ve and Cau River basins in the south. This covered all four major river basins in Quang Ngai. Project implementation ended on 30 June 2007, however some support continues for the construction of a safe harbour (due for completion in June 2008) and the updating of flood modelling software. Under a Cooperation Agreement, the Government of Australia continues to fund a small disaster mitigation project in Quang Ngai implemented in ten communes by the non-government organisation (NGO) World Vision. This supports community based activities for disaster preparedness and income generation.

The in country mission of the Independent Completion Report (ICR) review team took place from 13 to 20 November 2007. Travel to Quang Ngai province was delayed by one day due to flooding. The overall time on site was briefer than usual for preparation of an ICR, and since the managing contractor team had been demobilised in mid-2007, there was no opportunity to discuss project activities with them. In Quang Ngai, field visits to a small number of project sites was possible despite the floods, but due to limited time in Hanoi there was no opportunity to interview other donors in the sector. As well as visits to key agencies and field sites in Quang Ngai (see Annex 1), the ICR review team had access to a large number of project documents, especially those pertaining to the latter part of the project. However, the team did not have access to all documents, and given that the managing contractor team was no longer on site, was unable to peruse project files or databases. The findings in this report thus need to be read with those limitations in mind.

While there were some disadvantages in doing the ICR mission several months after the managing contractor team had left, there was also a benefit in being able to make some assessment of the sustainability of activities once project funding had ceased. The overall evaluations of project impact in the Activity Completion Report and in the available Technical Advisory Group reports were positive, but the ICR review team found some issues relating to the sustainability of activities that have lessened that impact.

The purpose of the ICR review was to assess the relevance, effectiveness, efficiency, impact and sustainability of the QNNDMP by appraising the draft Activity Completion Report, and to make recommendations for improving the long term outcomes of the project. A debriefing was given in Quang Ngai province to key stakeholder agencies on 19 November 2007, and this is reflected in the draft Aide Memoire (Annex 2). The findings in this report are set out in the format given in the ICR review team's terms of reference, so differ somewhat from the standard ICR format. Annex 3 provides an appraisal of the Activity Completion Report with recommendations for improvement.

2. OVERALL FINDINGS

2.1 Relevance

Natural disasters, particularly tropical storms, river flooding and sea surges, severely affect the central coast of Vietnam on an annual basis. These are likely to become more severe with climate change. The loss of life, infrastructure and livelihoods is often substantial, especially in the coastal plains where the majority of the population resides. Economic and human losses from natural disasters can push households into poverty and reverse earlier gains to an extent that is difficult to overcome. Preparing for, and mitigating, the impact of natural disasters is thus an important element in addressing poverty in this region. Quang Ngai is one of the central provinces most affected by natural disasters and was chosen as the site for the QNNDMP. Selection of this province and the activities undertaken were, and remain, highly relevant to the safety and economic well being of communities in the province.

The project targetted poor rural and fishing communities affected by frequent floods and cyclones, complex flooding patterns, high flood water velocities and deep flooding. The target areas contain a large number of residents and fishing boats, and rely on a road network that is easily disrupted by small floods. The vulnerability of residents and assets were high due to a lack of understanding of the hazards (especially of more severe floods), limited safety equipment and inadequate planning and preparedness for disasters. The project also sought to improve food security and the economic livelihoods of residents in the coastal plains by constructing dykes to protect agricultural land from saline water flooding during storms.

By providing immediate and direct improvements to protect human lives, households, livestock, and agricultural and fishing assets, and by raising awareness of the dangers of natural disasters and providing improved means for disaster preparedness and mitigation, the project was highly relevant in its targetting and implementation.

However, there were some locations not supported by the project that remain highly vulnerable. In Quang Ngai provincial town, flooding can have a significant economic impact and can impair the operations of government agencies and mass communications. The town is important for supplying goods and services to rural residents, so mitigating the impact of natural disasters in the town is important for maintaining these functions.

While the populations of upland districts in the province are relatively small, they are often far poorer than those living on the coastal plains. Most ethnic minority groups reside in upland areas. These areas are prone to flash floods, landslides and destruction of infrastructure during severe storms, and communities often become isolated. Loss of life and injuries from accidents are common. There is a higher likelihood here that the impact of disasters will push a greater number of households into more severe poverty because of the low levels of resources at the outset. Greater awareness and preparedness is important in these locations and needs to be considered in any overall strategy for the province.

The inclusion of demonstration infrastructure in a project such as this is relevant to the degree that it attracts the interest of stakeholders and provides practical demonstrations of

new and alternative technologies and demonstrates sustainability. The types of infrastructure in this project were relevant to the degree that they protected household assets and the means of livelihood from devastation during storms and floods.

2.2 Effectiveness

A number of project activities were effective and brought significant benefits to target communities and agencies. Fishing communities benefited from the provision of ICOM radios onshore and radios for boats at sea. These are still being used and help to reduce the risks associated with working at sea, not only during severe storms but also when accidents occur. Other activities at community level were effective in raising awareness, but there was little follow on from this to develop localised disaster response plans and community level activities have ceased since project funding ended. Activities in schools were also effective in raising awareness amongst both pupils and teachers, but because the topic was only included in extra-curricular teaching for Pioneer classes, activities only reached a minority of pupils, reducing effectiveness.

The demonstration infrastructure, especially dykes and revetments, was generally well constructed and remains in use. It has been effective in protecting communities from floods and salt water intrusion. However, construction of Tinh Hoa safe harbour has suffered from long delays in tendering, contractor selection and contractor management. When complete it will be an effective demonstration of a safe harbour, but it may not be effective in attracting future funding unless the quality of current project management skills is demonstrably improved.

The effectiveness of the project has been substantially increased by the preparation of an Integrated Flood Risk Management Plan using the flood modelling maps developed with project support. The adoption of comprehensive flood plain development plan is a significant and progressive step for Quang Ngai and will allow the province to assess proposed infrastructure development plans for both the private and public sectors.

The effectiveness of the project's support to institutional strengthening for disaster preparedness and mitigation could have been improved with a more detailed analysis of the various agencies involved and their roles with a view to developing a provincial level strategy. Some of the unwillingness to do this was due to anticipation of a national level strategy (approved by the government during the ICR review team's field visit to Quang Ngai) but project support for establishment of the Centre for the Management and Mitigation of Natural Disasters (CMMND) should have provided an opportunity to move this forward far more than was done. As a result, the vision for the CMMND and the integrating logic of the institutional linkages between the CMMND and other agencies remains unclear. An overarching strategy and action plan approved by the Provincial People's Committee would have avoided duplication of effort and achieved a clearer, more efficient structure. While the CMMND does have a written mission statement, there is no Provincial People's Committee authorisation of this role, nor are all the elements of the mission statement funded under the provincial budget.

The fact that a national strategy has now been approved by the central government does open up the possibility of further support to the province to finalise its own strategy and

action plan, and a clearer delineation of institutional arrangements, responsibilities and budget allocations would be an essential part of this.

2.3 Efficiency

The floodplain models based on the SOBEK software have produced a substantial asset that can be used for a range of purposes including assessing the impact of infrastructure works, designing and optimising hydraulic structures, and describing flood hazards. This assessment and design capability should achieve long term financial benefits not only by avoiding the aggravation of hazards to rural and urban communities but also by optimising the cost and effectiveness of future dykes, road formations and hydraulic structures. Such models are used mostly in floodplains with higher development density and asset value, where the cost of survey and model development can be justified in terms of accuracy and consistency. The availability of low cost survey appears to have been the key to adoption in this project.

Other measures such as interpretation of satellite or aerial imagery are possible at much less cost and can be sufficient for awareness raising and broad scale planning and control, but may be impractical in the timeframe of a project and more subject to security controls that limit the availability of images. In this project, the models were used to prepare preliminary flood risk maps for coastal flood plain communities at greater accuracy than would be achieved by other methods. The managing contractor claims that the models and associated maps acted as a catalyst for bringing together project outcomes and bringing a common understanding of issues, and certainly this type of benefit has been observed with modelling in Australia.

The models and modelling/GIS capability create the potential for more detailed mapping of flood risks when combined with land use and vulnerability information. In addition, there is potential to assist with flood warning, but at present that capacity would require substantially more skills and capacity building than has been carried out to date.

While community level activities helped to raise awareness and knowledge, resources might have been more efficiently used if recipients were targeted more closely according to the specific topic. For example, community leaders and mass organisations might be targeted for planning, rescue and recovery activities whereas individual households might be targeted for hazard identification. Mass organisations and NGOs were used to deliver services under the project, but there was no cost-benefit analysis of whether it might have been more effective for AusAID to have contracted them directly.

The schools program was high profile, aided by competitions and revised teaching materials, but the materials and activities were never incorporated into the main curriculum, only into the extra curricular classes of Pioneer pupils, who form a small minority of pupils. Pioneer teachers were trained, but given the importance of teachers in managing responses to disasters, training might have had greater cost effectiveness if delivered to form teachers also.

Overall gauging the efficiency of the project was difficult due to the heavy emphasis on input indicators in the monitoring and evaluation (M&E) system. While this is partly due to the style of M&E in vogue at project commencement, the system could have been revised on extension of the project in 2005 to provide more data on the changes brought about by project and their broader impact.

While it is correct, as noted in the Activity Completion Report, that cost-benefit analyses for disaster management projects is very difficult due to the variable nature of disasters and the difficulty of assigning a monetary value to saving a human life, some attempts could have been made to compare the costs of different delivery mechanisms, especially at community level. In future, risk analyses could be used to address such complexities. The project could have measured whether it had extended warning times and reduced response times for disasters. Specific studies could also have been commissioned to look at changes in the resilience of poor households after disasters – were they more capable of restoring livelihoods and less likely to be driven back into severe poverty? Even allowing for problems of causation with such data, it would have helped to give a stronger justification for the money spent. Cost-benefit analyses should have been possible for the infrastructure projects since these were aimed primarily at economic benefits and the results informed decision making on project priorities and the economic viability of development proposals.

2.4 Impact and sustainability

While the QNNDMP had some noteworthy achievements, reviewing outcomes several months after project funding had ceased found a number of issues with sustainability of some activities. Notable achievements were:

- Improved safety for vulnerable communes in coastal areas due to increased awareness, preparedness and knowledge about disaster impacts.
- Significantly reduced risk for fishing crews working at sea due to the provision and use of information kits, ICOM radio sets on shore and smaller 6-band and 12-band radios for boats at sea.
- Improved safety and protection from damage for a fishing fleet of approximately 350 boats at Tinh Hoa harbour. Even though the construction is not yet completed, boats are already mooring (albeit illegally) in the harbour and finding protection from storms.
- Improved food security and economic outcomes for some communities which benefited from the construction of new dykes and revetments.
- Increased awareness among teachers and pupils of the impacts of disasters and the need to be prepared in emergencies. Schools have disaster management plans and some teachers are able to manage the evacuation of pupils when necessary.
- A new and very effective modelling capacity to evaluate proposed infrastructure and development works in the four major river basins and the likely impact they would have on flooding and the degree to which they are likely to be affected by flooding.
- An improved flood warning system with a greater volume of data being supplied to the province's Flood and Storm Control Committee during emergencies and some evidence of analysis of that data by CMMND.

While some good work has been done at community level, the sustainability of this and the capacity to develop such work in future is in serious doubt. Apart from the small project funded by AusAID in two districts using an international NGO, no community level activities have been continued since the project funding ended and the Provincial People's Committee has not allocated any budget for these. The skills and knowledge in mass organisations and local NGOs is still there, but is adding no value to disaster preparedness and mitigation in the province. While the CMMND employs a full time Community Liaison Officer, her only task is to monitor what other agencies are doing in communities. The

Community Advisory Committee set up under the project is no longer functioning due to a lack of funds, and the Provincial People's Committee has not authorised it to coordinate community level work.

Fishing communities have a good supply of safety kits and other equipment and there is evidence that some people are buying equipment themselves because of its importance. The ICOM radio station visited had a functioning set, but it was already quite rusted and the external aerial appeared vulnerable to storms. ICOM radios have to be sent to the provincial town for any repairs, which means communities are left without radio contact for at least a day and possibly much longer during floods. A changeover service could have been considered for some critical equipment, and a long term plan mapped out for equipment maintenance and replacement.

The constructed works were durable and designed for minimum maintenance, which is consistent with the limited availability of funds for maintenance work. The pre-cast paving slab approach used on the sides of the salinity dykes was adapted from fresh water systems and needs to be monitored for durability under saltwater conditions, especially for corrosion of the reinforcement covered by in-situ concrete.

The province appears willing to trial and accept newer technologies supported by the project including the use of vetiver grass and softer graded stone beaching. The value of these demonstrations will only be confirmed when these technologies are applied elsewhere using local funds.

Several of the construction projects demonstrated how to reduce environmental impacts. Safe disposal of acid sulphate soils dredged from Tinh Hoa harbour was achieved. Revetments constructed from graded stone beaching and vetiver grass are not only effective but have a beneficial impact on the aquatic environment compared to the more traditional hard surface concrete pavements. This was not achieved with the salinity dykes due to the need to provide protection against erosion during overtopping. It is understood that the salinity dykes were sited so as to avoid impacts on significant stands of mangroves and nipa palms.

School based activities have not been continued since project support ended, though knowledge and awareness among the current cohort of teachers and pupils remains. The project was not able to get disaster awareness into the main school curriculum, only included as an item in extra-curricular activities for Pioneer classes, a small minority of pupils. This is a common problem with project initiatives in Vietnam and the project should have considered alternative ways of addressing the issue to increase impact and sustainability. The school disaster management plan inspected during the ICR review visit was too general to be a practical tool for preparedness and response. Consideration should have been given to more practical checklists and flow charts, with permanent signs in the schools and clear assembly points and evacuation procedures, e.g. using colour coded zones and indicators. Some approach could have been made to the Ministry of Education & Training at central level in order to raise the issue of including disaster preparedness in the main school curriculum, especially for the central region provinces, as the provincial Department of Education and Training (DOET) has no authority to vary the core curriculum.

The hydraulic modelling capacity installed at the CMMND will have clear long term benefits for infrastructure and development planning in the province, and the Provincial People's Committee has already authorised use of CMMND's flood maps when assessing planning proposals. This needs to be supported by a recurrent survey budget to collect the necessary information to feed into the model. CMMND does not have the authority to update the modelling software and was waiting on a visit from an international adviser to do this. It was not clear if this was an issue of licensing or some other issue, but this needs to be resolved if the software is to remain useful and up to date.

Sustainability of the modelling will only be achieved by further support to develop local capacity in a number of modelling and GIS areas. The current models are established for 3 design events and have been used primarily for the evaluation of works proposals. This task appears to be within the existing capacity of the CMMND with assistance from the Institute of Water Planning in Hanoi. However, a number of other beneficial tasks such as the development of commune level models and maps, analysis of historical floods, provision of design advice and the inclusion of all development proposals in maps can only be achieved with further support by way of skills training, additional resources and increased budgets for surveys and equipment.

CMMND has no facilities for real time analysis and interpretation of hydrological data from the Hydro-meteorological Service (HMS) and this limits the ability of the model to assist with immediate flood warnings.

The CMMND is located in the Department of Agriculture and Rural Development (DARD). However, major planning functions for the province lie with the Department of Planning and Investment (DPI), while rainfall and weather data is collected by the HMS (under the Department of Natural Resources and Environment), which is the primary source for storm and flood warnings. Mass media, especially local television and radio stations, are crucial means for warnings to reach communities – and indeed many government agencies at local level. DOET is responsible for activities in schools and a number of mass organisations, local NGOs and Commune People's Committees are responsible for community level activities. Flood and Storm Control Committees operate from national to commune levels and at provincial level are chaired by a vice chair of the Provincial People's Committee and bring together about two dozen departments and organisations. The project envisaged that the CMMND would play a central coordinating role for the work of all these agencies and act as a knowledge centre for all disaster preparedness, management and mitigation work. Currently it has neither the resources nor the authority to carry out such a role. Its primary role is as a centre for hydraulic modelling for planning assessments, but this role needs to be more closely linked to DPI. Development of the modelling capacity to allow it to be used for real time warnings would probably be more appropriately situated in HMS.

There was a clear need for the project to analyse existing institutional arrangements more thoroughly and propose streamlined arrangements in order to increase project impact and sustainability. The project should also have sought agreement from the Provincial People's Committee for the legal and budgetary bases of any proposed arrangements.

The project prepared an exit strategy, but this had a short term vision. There was a need for the project to give more consideration to longer term sustainability given the existing and

likely limited resources – human and financial – in Quang Ngai province over the medium term. The project’s sustainability strategy needed to link to an overarching provincial strategy and action plan for disaster preparedness and mitigation, so the project needed to give stronger support to the preparation of such a plan. Some progress was made along these lines, but more detail was needed on institutional and financial arrangements. Capacity building in communities, the CMMND and other agencies has provided some useful skills and knowledge, but the project needed to set out a vision for future refresher training and development of further skills. Commune level flood maps would provide a significant benefit to communities and local agencies, but the skills basis to prepare these has not been developed and there is no strategy for achieving this.

3. OVERALL QUALITY

3.1 Ratings

1. ***To what degree did the initiative achieve its objectives, and how well did they contribute to higher level objectives in the program strategy?*** There were numerous positive benefits achieved by the project and these have contributed to better disaster preparedness, management and mitigation in vulnerable communities in Quang Ngai province. Rating: 5
2. ***How robust was the system to measure ongoing achievement of objectives and results?*** The M&E system was too heavily focused on inputs rather than results, and the project missed an opportunity to revise this approach when an extension to the project’s duration was approved in 2005. Rating: 4.
3. ***How effectively was the initiative managed? To what degree did it provide good value for money?*** Generally material and staff resources were managed well and activities were mostly achieved according to schedule. Major delays were experienced in the management of the harbour construction in Tinh Hoa. No cost-benefit analyses were attempted. While this is justifiable in terms of the project overall, some specific studies on modes of delivery, impacts on response times and impact on poverty could have been conducted and provided a richer picture of the project’s value for money. Rating: 4.
4. ***How appropriate is the sustainability of the initiatives outcomes?*** The later than usual timing of the ICR review visit meant that a clearer picture of sustainability was apparent than if the visit had taken place during the first or second quarter of 2007. It is clear that some activities have not been sustained, and that others are at risk because of insufficient funding or institutional authority. Much more attention needed to be given to a project sustainability strategy. Rating: 3.
5. ***Was the initiative of the highest technical quality, based on sound analysis and learning?*** The technical quality of all activities appeared to be very good. More analysis could have been done of institutional arrangements, and in the case of DOET, of institutional mandate. Rating: 5.
6. ***Taking those five factors into account, what was the overall quality of the initiative?*** The project had some clear strengths and achievements, but needed to give more attention to institutional and financial sustainability. Some further support is needed if project initiatives are to be sustainable in the longer term. Rating: 4.

3.2 Lessons learned

Institutional arrangements – it is important when proposing new institutional arrangements that a detailed and thorough institutional analysis is carried out so that the planning and integration of activities can be done with maximum efficiency and strong commitments from local government. The project attempted a more streamlined system for disaster management and mitigation, using the CMMND as the pivotal institution, but the Centre has not lived up to that role and its mandate from the provincial government remains limited. The institutional analysis undertaken by the project was largely descriptive and did not include legal and financial dimensions, essential when proposing institutional change. A stronger statement of the integrating logic of the project components might have helped to set a model framework for discussions with provincial authorities on ways to integrate and streamline disaster preparations and responses.

Clarity of vision – it is also important when proposing institutional change that all partners understand the purpose and nature of the change. Some agencies remain unclear about the role of the CMMND or the scope of its authority and the Provincial People's Committee needs to be more explicit about this. The brochure issued by the CMMND outlining its role bears little relation to the way it is conceived either in DARD or other local government agencies. Gaining a common understanding and local government support based on that understanding is vital to successful change.

Developing potential – the hydraulic maps developed with project support have become a useful (and well used) tool for assessing planning proposals from both public and private sector agencies. However, their potential to be used for more immediate flood preparations and warnings has not been fully realised. Maps need to be developed on a finer scale for use at commune level and there is a need to have more historical data included for the maps to be effective. The capacity to include rainfall data from HMS would allow use of the model for flood warnings. In short, while a very useful tool has been provided, the full potential of that tool remains unrealised, and it would require further support for that to occur. The project should have either included such support in its activities or included plans for such support in its exit and sustainability strategy.

Realistic timing and management for infrastructure works – time delays are a common problem with infrastructure construction contracting and works in Vietnam. The main reasons for this are the complex approval procedures that normally involve several agencies, the aversion of contractors to working on small packages or in remote locations, and the tendency of many smaller local contractors to use funds from a new contract to fund completion of works under a previous contract, so that works often begin but then staff and equipment disappear until the previous works are completed. While the small works on dykes and revetments under the project were well managed and caused few problems, the major works involved in construction of the harbour at Tinh Hoa led to contracting, tendering, selection and approval issues and resulted in significant delays. The expected completion date of June 2008 is almost 3 years late. It is important that projects and local partners set realistic timeframes for construction works that allow for delays in approvals and problems in contracting. Failure to do so gives the impression of poor planning skills. At the same time, problems need to be addressed quickly and effectively. In this case it appears that insufficient investigation of the viability of the contracting company was undertaken at the tendering stage. Quality control mechanisms need to be in place to

ensure that problems, and their nature, are being correctly identified so that appropriate management measures can be taken.

Sustainability – in a sense every project is its own exit strategy and the project should aim for partners to take over the management and implementation of activities in the longer term. A sustainability strategy has to be realistic in terms of human and financial resources. While it is possible for projects to use their extra resources and staff to demonstrate new technologies, methods and institutional arrangements, it is usually highly unlikely that the same level of resourcing and staff will be available to local partners in the short to medium term. A project's sustainability strategy therefore has to be developed in cooperation with local partners and to take account of the resources likely to be available to those partners after project support ends. This will often mean a reduced scope or longer timeframe for activities, but this is acceptable if there are practical steps forward.

4. CONCLUSION AND RECOMMENDATIONS

Future support

The QNNDMP has supported some valuable achievements and demonstrated some useful initiatives for disaster preparation and mitigation. However, there is a need for some continued support if progress under the project is to be sustained and useful skills and knowledge embedded in local staff and institutions. The approval of the national disaster management strategy and the requirement that all provinces now move to finalising their own strategies and action plans offers a good opportunity to build on and consolidate the project's impact. That said, the World Bank is also supporting a disaster mitigation project in Vietnam, and will support some activities in Quang Ngai province, probably from 2008. AusAID continues to support the small disaster mitigation project implemented by World Vision in the province. It is therefore important that any future support complements and strengthens support under those two activities.

Recommendation: *any future support should be designed in a way that complements existing NGO and proposed World Bank support in the sector.*

Although the details of the national strategy are not yet available, a clear and well structured provincial disaster mitigation strategy and action plan will not only help Quang Ngai province to rationalise the institutional arrangements involved and set some clear goals for the future, but will also provide a clear framework for any future support from donors and the central government. The Integrated Flood Risk Management Plan (IFRMP) should be included in the strategy, as it represents a significant milestone and was approved by the Provincial People's Committee during the project. There is potential to improve the IFRMP with respect to a number of areas including institutional arrangements, responsibilities for implementation and decision making.

Strategic and action plans

Future improvements to the IFRMP could be considered as follows:

- As a means of putting some constraints on the development of low lying land, and to reduce the impact of catastrophic events, the flood risk standards could include provision to evaluate residual hazard and total risk where the design event is exceeded.

- Project evaluation using a risk assessment approach could be a requirement. This would provide an adjunct to the minimum standards approach included in the IFRMP and a rational basis for evaluation of non-structural measures. A risk assessment approach should lead to more robust solutions, and provide better integration of economic, environmental and social outcomes.
- A flood warning master plan appears to be necessary to identify the potential for improved warning accuracy and timeliness, the benefits to be gained in terms of improved safety and reduced losses, and the associated institutional and funding requirements. This should include warnings for both flash flood locations in the upper catchments and locations in the lower floodplains and coastal areas.
- The criteria to define 'flood fringe' appear to be missing and need to be added.
- The proposed duties of CMMND to 'review flood forecasts' and 'improve flood prediction information' need to be clarified having regard for viable institutional arrangements.

Recommendation: AusAID should support the preparation of the provincial disaster mitigation strategy and action plan, incorporating and improving the existing IFRMP.

Infrastructure works

Completion of the remaining works at Tinh Hoa harbour should be given urgent attention by the province, both to serve the fishing communities affected but also to demonstrate that there is sound management capacity in the provincial and local governments. This latter point is particularly important if donors or the central government are to have confidence in further investment in the province. The Provincial People's Committee has noted the need for a harbour in My A in the south of the province, and possibly dredging of the river mouth for a further safe harbour in Cua Dai. The project supported the design of the former but did not support construction. The latter apparently involves some complex technical issues. Without assessing the merits of these proposals, any future support needs to take into account the speed and effectiveness of works completion at Tinh Hoa before committing any funds.

Recommendation: the managing contractor should support completion of the works at Tinh Hoa by the newly proposed completion date (June 2008) and consider additional support to quickly resolve any new issues that arise.

Recommendation: support for any large scale future works in the province should be based on clear lessons drawn from the experience with Tinh Hoa harbour.

Flood maps

Development of flood plain hydraulic modelling was a significant achievement of the project and is being used effectively for the assessment of planning proposals. However, the modelling has greater potential that could benefit the province even further, and consideration should be given to realising this potential. In particular there is a need to upgrade the current skills of the modelling staff in the CMMND and to consider development of such skills in the HMS also. Clearer linkage of the modelling to the work of DPI in land use planning should be part of a review of institutional arrangements.

Local flood maps for communes or groups of communes would show the flood hazard for a number of floods ranging in size from the first alert level up to the largest flood of interest (1% AEP flood) and would be of significant benefit. The maps could be used to identify hazards along evacuation and rescue routes, show the location of safe havens, identify the areas at greatest risk to prioritise evacuation and rescue efforts and to evaluate designs of local flood mitigation or other works. There is a need to refine the assessment of flood hazard at a more local level than is available from the current flood plain models. This would require more topographic and feature surveys and the preparation of flood risk maps showing hazards relative to commune buildings, roads and other points of reference. Additional modelling would be desirable but not essential.

The skills to develop these local level flood maps is not yet available in Quang Ngai, and further training and mentoring support would be needed. However, the long term benefits to be gained would justify the time and expenditure involved. Consideration should also be given to the preparation of detailed flood risk maps for the Quang Ngai urban area where a significant population resides and where a large amount of valuable property is at risk.

Recommendation: *the modelling skills of CMMND staff should be further developed with a view to embedding the skills needed to prepare commune level flood maps and detailed maps for Quang Ngai town.*

Flood Warning and Forecasting

While the project has succeeded in raising awareness and preparedness, further impact could be achieved by increasing the length of warning times and the accuracy of warnings using a more robust monitoring and forecasting system. The incremental value of reliable and earlier flood warnings depends on the nature of the risk and the response options and it will be necessary to consider capacity in communities and response agencies to develop and implement response plans and improved evacuation. In the higher value residential and industrial areas, reduction in damage may be the main target of response plans whereas in the coastal villages, human and livestock safety would be of higher priority.

Human safety in areas subject to flash floods in the steeper catchments of the upper reaches of the river basins would be greatly improved by the provision of storm rainfall monitoring systems as rainfall can be quite localised. This would not require significant technical skills for modelling and warning preparation. Flood warning and forecasting using rainfall run-off modelling for the larger river basins in Quang Ngai would, however, require skills development and a centralised well funded agency for flood monitoring, forecasting and warning preparation.

Recommendation: *support should be given for preparation of a flood warning and forecasting master plan to clearly define areas in need, appropriate methods and technology for each type of flooding, capacity building requirements, roles and responsibilities, priorities, funding arrangements and arrangements for integration with community and agency emergency response plans.*

Recommendation: *support should be considered for developing a regional flood warning and forecasting centre to cover all central region provinces with appropriate modelling capacity and staffing. Alternatively, support could be given to developing modelling skills in*

the HMS to assist with incorporation of rainfall data into modelling as part of improving flood warnings.

ANNEX 1: Itinerary and list of people consulted

Date and location	People consulted
<i>Tuesday 13 November 2007</i>	
AusAID, Hanoi	Mr Simon Cramp, 1 st Secretary Ms Doan Thu Nga, Activity Manager
<i>Wednesday 14 November 2007</i>	
PMB, DARD, Quang Ngai	Mr Ngo Huan, Deputy Director, DARD Mr Nguyen Mau Van, Director, PMB Mr Nguyen Van Thai, Project Coordinator Mr Vo Cuu, Project Manager
<i>Thursday 15 November 2007</i>	
Department of Education & Training, Quang Ngai	Mr Tran Huu Thap, Deputy Director Mr Chau Van Can, Head of Primary Education Ms Le Kim Anh, Division of Early Childhood Education
Binh Duong Primary School, Binh Son district, Quang Ngai	Mr Tien, District Education & Training Office Ms Huynh Thi Hao Hanh, Head Teacher Mr Phong, Pioneer Teacher
Provincial Women's Union, Quang Ngai	Ms Nguyen Anh Tuyet, Chair Ms Phan Thi Thu Trang, Vice Chair Ms Suong, Chief of Office
Hydro-meteorological Service, Quang Ngai	Ms Vo Thi Kieu, Deputy Director
<i>Friday 16 November 2007</i>	
Fisheries Extension Centre, Quang Ngai	Mr Bui Huu Chinh, Director Mr Yen, Engineer Mr Bach, Engineer Ms Van, Accountant
World Vision, Quang Ngai	Ms Fannie Fronda, Program Coordinator Mr Ngo Van Tin, Project Officer
Department of Fisheries, Quang Ngai	Mr Hoang, Deputy Director Mr Vinh, PMB representative Mr Bui Huu Chinh, Director FEC
<i>Saturday 17 November 2007</i>	
Centre for Mitigation & Management of Natural Disasters, Quang Ngai	Mr Phan Van On, Director Mr Bui Duc Thai, Modeller
Red Cross provincial office, Quang Ngai	Ms Le Thi Anh Thu, Deputy Director Mr Tran Ngoc Anh, CPV Officer Ms Huong, Disaster Management Officer
Safe harbour at Tinh Hoa and riverbank protection on Tra Khuc river	Site visit, accompanied by Mr Vo Cuu from PMB
<i>Sunday 18 November 2007</i>	
Anti-salinity dyke, Binh Chanh commune	Site visit
ICOM radio station, Binh Chanh commune, Binh Son district, Quang Ngai	Mr Bui Van Luong, Station Head Mr Manh, Radio Operator
<i>Monday 19 November 2007</i>	
Provincial People's Committee, Quang Ngai	Mr Truong Ngoc Nhi, Vice Chair Ms Nguyen Thi Hoa, Deputy Director, DPI Mr Ngo Huan, Deputy Director, DARD

	Mr Nguyen Mau Van, Director, PMB Mr Nguyen Van Thai, Project Coordinator Mr The, Agriculture & Rural Development Committee Mr Tu, Director, Department of Fisheries Mr Nguyen Van Tap, Head, Foreign Affairs Office
<i>Tuesday 20 November 2007</i>	
Natural Disaster Mitigation Partnership office, MARD, Hanoi	Mr Nguyen Si Nuoi, National Director Mr Nguyen Thanh Phuong, National Coordinator Ms Ngan, Project Officer

ANNEX 2: Aide Memoire

DRAFT AIDE MEMOIRE

Quang Ngai Natural Disaster Mitigation Project
20 November 2007

1. Disclaimer and acknowledgement

The findings in this Aide Memoire are those of the Independent Completion Report (ICR) team only. They do not necessarily reflect the views of the Government of Australia (GOA), the Government of Vietnam or other partners in this project.

The ICR team members would like to thank all staff in AusAID, the Ministry Agriculture & Rural Development, the Department of Agriculture & Rural Development in Quang Ngai province and all other agencies consulted for their kind and valuable assistance in providing information, analysis and logistical support.

2. Background

Following the severe rains and flooding in 1998-99 in central Vietnam, a number of donors proposed support for disaster mitigation. The GOA supported a design mission in 2001 which identified the need to support Quang Ngai province. The Quang Ngai Natural Disaster Mitigation Project began in February 2003, targetting the most vulnerable communities in the flood plains of the Tra Khuc and Tra Bong rivers. In mid-2005 the project was extended to cover the Ve and Tra Cau river flood plains in the south of the province. Project implementation ended on 30 June 2007, except for outstanding support to the construction of the Tinh Hoa safe harbour and to updating of modelling capacity at the Centre for Management and Mitigation of Natural Disasters (CMMND). Those activities are still under way.

3. Nature and purpose of the review

A draft Activity Completion Report was prepared by the managing contractor in July 2007. Subsequently, AusAID requested preparation of an ICR and a team was mobilised in November 2007.

The purpose of the ICR review is to assess the relevance, effectiveness, efficiency, impact and sustainability of the Quang Ngai Natural Disaster Mitigation Project by appraising the draft Activity Completion Report and making recommendations to improve the long term outcomes of the project.

4. Principal findings

Relevance

Natural disasters, particularly due to storms and floods, remain a significant problem for Quang Ngai province and other parts of central Vietnam. The severity of this problem is likely to increase with global climate change. Disasters affect large proportions of the population as the most concentrated settlements are in coastal areas. They also have a major impact on poverty and household livelihoods. Mitigating the impacts of disasters in Quang Ngai thus remains an important and relevant activity.

While project activities targetted major population centres in its activities, there is also a need to consider land management in upper catchment areas and the impacts of disasters on less densely populated but often more vulnerable communities in upland areas of the province.

Efficiency

Activities involving communities were conducted by mass organisations and NGOs, a more efficient method than relying on government extension services. However, it is not clear that a managing contractor was necessary for this. While work in schools was important, more specific targetting of teachers and more practical disaster management plans would have been more cost effective.

The project's monitoring and evaluation (M&E) system does not provide sufficient data for a cost-benefit analysis of the project. While such analyses are difficult with disaster management activities, some attempt could have been made by costing alternative modes of delivery.

While support for modelling under the project has produced immediate and potential long term benefits for land use planning, it does not appear to be cost effective for more immediate disaster preparation and mitigation.

Effectiveness

The project has had some positive impacts by demonstrating effective infrastructure to mitigate disaster impacts, by raising awareness in communities and by providing a very good risk management system for fishing communities. However, effectiveness has been limited by the absence of a clear overarching disaster mitigation and management strategy and a clear and practical action plan to implement it. This would have allowed clearer and more efficient coordination between local agencies, but would also have provided a model for development of a national strategy.

Management of the safe harbour construction work at Tinh Hoa has encountered significant problems and delays since 2005, and the completion date has been extended to mid-2008. Contractor selection and resolution of problems by the project and local government appears to have been ineffective, and it is important that management skills in this area are improved if international donors are to have confidence in the future funding of infrastructure works in Quang Ngai.

Lessons

1. It is important to undertake an institutional analysis of agencies involved in disaster warnings, mitigation and management so that an efficient and logical system can be developed to link them and to delineate roles and responsibilities. An overarching strategy and action plan would help to achieve this.
2. The components of a support project should show a similar integration and logical set of linkages so that activities under each component reinforce each other. In particular, activities at community level managed by different organisations need to be integrated into an overall plan.
3. Development of the CMMND needed to have a greater clarity of vision and to be located within a wider strategy and action plan.

4. Infrastructure contracting needs to operate on realistic timeframes and to have stronger quality control in tendering and contractor selection.
5. The project's exit strategy needs to have a much stronger practical focus on what is sustainable given the likely financial and human resources available to provincial and local government agencies.

Impact

Generally the impact of the project has been positive and it has targetted key vulnerable communities in coastal areas and relevant agencies at provincial level. Support to fishing communities has resulted in significant benefits in terms of improved safety at sea.

Activities in schools have raised awareness but the impact has been limited because disaster awareness is limited to extra-curricular classes which involve a small minority of pupils.

Infrastructure works have demonstrated effective ways to mitigate damage through the construction of dykes and a safe harbour, but long term impact will depend on local government funding for more such works. The dykes have provided communication and transport benefits to communities as well as protecting crops and livestock. Bank protection work has been effective, but has had an impact on smaller numbers of households.

Support for flood modelling in the CMMND has had a positive impact on land use planning and has the potential to be a very important tool in the long term now it is incorporated into local government planning. The modelling has helped to raise awareness but has had less impact on disaster preparation and no impact on immediate flood warning.

Sustainability

Visiting the project several months after financial support ceased has given some insight into sustainability. It is clear that a number of activities, especially those at community level, are not being sustained due to insufficient funds. The project needed to have a clearer strategy for sustainability linked to future available resources from provincial and local governments. Preparation of an overall provincial action plan would have helped with this.

There are already concerns about the ability to repair equipment at the Hydro-meteorological Service, the timing and cost of repairs to ICOM radio sets in fishing communities, the ability of agencies to update disaster awareness and preparation training, and the updating of modelling skills and software in CMMND.

While the demonstration infrastructure has been beneficial for the communities where it is located, it is not clear how the technology and skills will be applied and funded elsewhere.

5. Recommendations

- Any future support to Quang Ngai province and other areas of central Vietnam should ensure complementarity of effort with the activities of the World Bank disaster mitigation project.
- Support should be considered for development of a provincial disaster mitigation strategy and associated action plan in order to provide a framework for future donor support in line with the national Disaster Mitigation Strategy finalised in November 2007.

- The project and provincial partners should work as a matter of urgency to resolve problems with the construction of Tinh Hoa safe harbour in order to demonstrate to donors that the provincial government in Quang Ngai has the capacity to manage and resolve problems effectively.
- The modelling capacity of the CMMND should be strengthened to increase its role in, and impact on, land use planning, and to allow progress towards the development of commune level flood maps.
- Support should be considered for the development of a separate flood warning master plan with clearly defined roles of the various agencies involved. The plan should cover flood plains of both coastal and upland areas.

6. Method

Within a framework determined by AusAID, the ICR team reviewed a range of project documents and held discussions with counterparts, government agencies, mass organisations and one NGO in Quang Ngai province, as well as with MARD in Hanoi. Some brief visits to supported communities were conducted. The ICR mission took place several months later than is usual for such a review. This meant that no meetings were possible with the managing contractor, but on the other hand it allowed some greater insight into the sustainability of activities once project funding had ceased.

The duration of the first mission in country was from Tuesday 13 November to Tuesday 20 November 2007.

7. ICR team members

Members of the ICR review team were Andrew Cornish (Team Leader) and David Mitchell (Water Engineer). The team was accompanied by Ms Doan Thu Nga (Activity Manager) from AusAID Hanoi, and interpretation was provided by Mr Nguyen Tu Nhi.

ANNEX 3: ACR Appraisal Note

Quang Ngai Natural Disaster Mitigation Project, Vietnam

Draft ACR Appraisal Note

30 November 2007

Introduction

The purpose of this Appraisal Note is to provide constructive comments on the draft ACR in order to improve the quality and accuracy of the final document.

Overall the ACR is clear and conforms to the required structure. Appropriate annexes are included. Three general weaknesses are:

- i. the absence of a detailed description of how the ACR was prepared, especially describing how the various stakeholders contributed to its preparation and the ratings assigned;
- ii. the absence of quantitative data and more specific qualitative data to support many of the assertions made and the ratings assigned; and
- iii. the absence of a list of all project reports and publications.

The detailed comments below follow the numbered sections of the ACR.

Basic Activity Data (pp. ix ff.)

- This section should be more summary and presented in tabular form. Much of the detail should be in the body of the report.
- There are two tables listed as 'Table 1'.
- In Table 3, the assertion that a school safety program has been introduced into the curriculum was contradicted by Department of Education & Training staff. The program was only contained in the extra-curricular Pioneer classes.
- In Table 3, existing and projected benefits need to be clearly distinguished. For example, under Component 1 the project did not achieve early warnings.
- The final paragraph in this section needs to be more explicit about the ACR preparation. It appears that local partners were not fully involved in preparation, only commenting on the ACR after the fact.

Executive Summary (pp. xv – xvii)

- This will need to be revised in light of any changes made to the body of the report.
- The claim in the second paragraph of halving loss of life needs to be substantiated.

1.2 Context and Rationale

- Table 1.1 needs to note the source(s) for the data presented and also note that the figures presented are VND.

2.1 Management and Contracting Arrangements

- The basis for rating states that 'contractual arrangements' allowed delivery of more than was anticipated in the design, but two paragraphs earlier the reason given is the appreciation of the AUD. This needs clarification.

- It should be noted that the Department of Fisheries has been amalgamated into DARD.

2.2 Activity Objectives

- Tables 2.2 and 2.3 refer to 'outcomes' but there are none in the logframe, only outputs. The term 'exceeded expectations' is used but the meaning is unclear, especially given that the logframe sets no quantitative targets.
- Table 2.3 notes additional construction was made possible by the appreciation of the AUD and the management of design projects within budget. This is not the same as the works themselves being under budget, which is conflated here.
- Discussion of relevance needs to refer to impact of natural disasters in Quang Ngai, not just support for the project. Discussion of appropriateness needs to refer to alternative modes of support considered at the design stage and assess if the best option was chosen. Reference to activity logic should discuss how well the project components were integrated to reinforce each other.
- The reasons for rating refers again to significantly exceeded targets but how was this assessed in light of no quantitative targets? Some specific examples need to be given.

2.3 Activity Achievements

- The reason for the expansion of activities is given as flexibility in funding, but earlier sections suggest it was the appreciation of the AUD. This needs to be clarified.
- The basis for the rating says that problems with harbour construction were out of the managing contractor's control, but surely this reflects a problem with tendering and contractor selection, areas where the project was supposedly providing advice and capacity building. The ICR team did not attempt to assess the current state of the contractual problems, but the new completion date of 30 June 2008 appears optimistic given current progress. There should be some detail here of what the managing contractor will be doing to assist completion on time.
- This section should note problems with site drainage across the concrete apron at the safe harbour and the need for this to be addressed.

2.4 Aggregate Benefit Indicators

- The claim in Table 2.4 of technology transfer to provincial personnel was contradicted by CMMND staff who said the modeller is unable to modify the model and the second staff member has insufficient skills to run the model. The second paragraph under 'benefit description' does not describe technology transfer.
- In Table 2.4 the benefit description for 'Training of community leaders and mass organisations' should note that the ability to carry out tasks as described is reliant on appropriate funding. Since project cessation they do not have that ability.
- Table 2.4 – the school safety program did not reach all pupils in grades 4 and 5, only Pioneer classes. The figure of 60,000 needs to be adjusted accordingly.
- Figures in Table 2.4 would have far greater meaning if put in the context of overall data for the districts and province to give a sense of the proportion of vulnerable communes, pupils and so on which benefited.
- In the section 'Benefit by beneficiary type', the second sentence referring to gender status does not logically follow from the opening sentence.

2.5 Development Impact

- Generally this section would benefit from more quantification of impact.

- The first section on the 'integrated approach' needs to explain the logic of integration in the project, especially between the four components. This cannot be assumed. The claim of the project being a model for use in other provinces needs to be substantiated.
- The link between the section on national institutions and the project is not clear. How has QNNDMP influenced the Natural Disaster Mitigation Partnership?
- The section on institutional development of provincial agencies should include discussion of changes in institutional arrangements and links.
- The section on flood modelling refers to increased community awareness, but agencies in Quang Ngai contradicted this saying local level maps were needed to achieve this.
- The section on the role of the CMMND makes claims for the Centre's role that are not supported by the authority and budget given to the Centre by the Provincial People's Committee. The ICR team did not detect any sign that Centre will act as a control point during an event. This might be true if the CCMND was an instrument of the Provincial Flood and Storm Control Committee but it appears to stop short of that. To date, CMMND only supports flood plain planning and is not fully staffed. Capacity to improve flood awareness is limited due to a lack of localised maps for real floods.
- The section on increased skills levels assumes mass organisations will continue the activities but does not explain the basis of this assumption. Cessation of project funding means that only a small number of activities have been continued since mid 2007.
- In the section on unintended benefits, the claim that dyke crest roadways also provide important transport and communication links is not applicable to the site visited by the ICR team in Binh Chanh commune. Is it likely that the growing of crops on the revetments will compromise the integrity of the underlying filter fabric?
- The basis for rating claims the project has been recognised as a model for adoption elsewhere, but this needs to be substantiated.

2.6 Poverty Alleviation

- The opening paragraphs make strong claims of impact on poverty reduction, but the basis of rating acknowledges the paucity of data. The section thus appears illogical. The data on fatalities is largely tangential for this issue and reference should be made to poverty data in the target communes over time (readily available from the Department of Labour, Invalids & Social Affairs and from the Commune People's Committees).

2.7 Cross-Sectoral Impact

2.7.2 Gender

- While the capacity of women to deal with disasters has shown improvements, the claim for changes in the role of women in rescue operations was contradicted by the provincial Women's Union which said that women prepared meals for the all male rescue teams.
- The third paragraph is repetitive of the discussion in the poverty section and could therefore be abbreviated.
- This section should discuss changes in the roles of women and men as a result of the project, especially in relation to management and decision making. It should also refer to changes in the consideration of gender in local agency planning and management.

2.8 Cost-Benefit Analysis

- This section does not discuss cost-benefit analysis, but rather repeats assertions of 'exceeded expectations' without clarifying what that means or assigning a cause. The paragraph immediately following the dot points is illogical and needs to be revised.
- The bases of the calculations in the paragraph running over pp. 2-15 to 2-16 need to be explicit.
- It is true that there are difficulties with cost-benefit analyses of disaster mitigation activities. However, the project could have conducted some cost-benefit analyses of the salinity dykes, of different delivery options for activities or different construction methods or contracting arrangements. It could also have undertaken case studies of households assessing changes in their capacity to return to full production after a disaster. Such data would have given a richer picture of the efficacy of the project's strategy.
- More appropriate assessment where benefits are hard to evaluate would have been a risk analysis approach as referred to elsewhere.

2.9 Value for Money

- The assertion here that the activity has 'exceeded expectations' in terms of return on expenditure yet again fails to separate project delivery from the impact of AUD appreciation.
- The meaning of 'expectations' needs to be quantified.

2.10 Monitoring of Activity

- This section is descriptive rather than analytical. There needs to be discussion of the appropriateness of indicators, especially given that so many assertions in earlier sections are unsupported by quantitative data. There should also be discussion here of the transfer of monitoring as a management tool to partner agencies (especially the PMB) and what evidence there is of this.

2.11 Technical Assistance, Training and Capacity Building

- This section describes activities but the data needs to be cross checked with data in Table 2.4.
- There needs to be more discussion of the project's capacity building strategy and how sustainable the training and technical assistance are likely to be given local resources.
- There is no reference here to training in hydraulic modelling, an important activity.

2.12 Procurement

- Reference needs to be made here on compliance with Australian Commonwealth Procurement Guidelines.
- The reference to 'cost norms' needs to specify how those were set. Were the standard Ministry of Construction lists used?

2.14 Partner Government

- This section needs more discussion of the timeliness of approving plans and budgets by the Provincial People's Committee, and timeliness and skills in resolving problems.

2.15 Implementing Agencies

- There should be some assessment of the utility of a PMB.
- The problems with timeliness and contracting appear inconsistent with the final rating.

2.16 AusAID

- A statement about regularity of involvement in the PCC should be included.

2.17 Delivery Organisation

- Reference should be made to the timeliness of meeting milestones and submitting reports. Also regularity of participation in the PCC.

2.18 Involvement of Beneficiaries

- There should be some assessment of how well beneficiaries were involved in setting project direction and targets, and in evaluating outcomes. This is important for understanding whether benefits were 'satisfactory' for them.

2.19 Sustainability

- The narrative is illogical: the CMMND cannot be a successful model for sustainability if it still requires donor support and funds.
- There needs to be discussion of the extent to which the initiatives demonstrated by the project are feasible in the medium and long term given provincial funds and resources.

2.20 Technical Sustainability

- This section is too descriptive and needs to assess the capacity of local agencies to reproduce demonstrated technologies, with specific examples where available. The problems with modelling technologies need to be clarified.
- Whilst the technologies are appropriate for Vietnam, it is questionable that 2D flood plain modelling is sustainable at the provincial level.
- Need to clarify which technologies are 'entirely appropriate' given the statement in the fourth paragraph.
- The rating doesn't appear to be justified given the problems noted.

2.21 Institutional Sustainability

- This section is far too brief. There needs to be an overview of the key institutional changes brought about by the project, showing new roles and responsibilities, and describing how these will be sustained. The narrative needs to refer to any Provincial People's Committee approvals and funding of new institutional arrangements.

2.22 Exit Strategy

- An exit strategy needs to involve an assessment of local capacity to accept handover and continue activities. That is not apparent here nor in Appendix F.
- It is not clear what 'likely success' in the second sentence is referring to.

3.1 Conclusions and Recommendations

- The assertions of the project model being promoted by others need to be substantiated.
- The list of weaknesses should include the paucity of quantitative data to substantiate many claims of success.

3.2 Lessons Learned

- It is very important that the ACR summarise key lessons. While it is admirable that a substantial lessons learned document is being prepared, the apparent inability to distil the key lessons is a concern.
- The list of technical innovations is irrelevant to this section. They are not lessons from the activity.