Case Study of the Philippines National Red Cross Community Based Disaster Risk Management Programming Part I: Qualitative Impact Assessment



Cynthia Burton and Courtenay Cabot Venton

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ACRONYMS/GLOSSARY OF TERMS

Acronyms

AusAID	Australian Agency for International Development
BDAT	Barangay Disaster Action Teams
BHW	Barangay Health Workers
BHWA	Barangay Health and Welfare Assistants
CBA	Cost Benefit Analysis
CBR	Cost Benefit Ratio
CBDP II	Community Based Disaster Management Project, Phase II
CBDRM	Community-Based Disaster Risk Management
DANIDA	Danish International Development Agency
DanRC	Danish Red Cross
DIPECHO	Disaster Preparedness Program of European Commission's
	Humanitarian Aid Department
EWS	Early Warning System
FGD	Focus Group Discussion
(H)VCA	(Hazard) Vulnerability and Capacity Assessment
ICDPP	Integrated Community Disaster Planning (or Preparedness) Program
IEC	Information, Education and Communication
International	International Federation of Red Cross and Red Crescent Societies
Federation	
LGU	Local Government Unit
M&E	Monitoring and Evaluation
PNRC	Philippines National Red Cross
SpanRC	Spanish Red Cross

Glossary of Terms

Barangay	Community
Purok	Neighbourhood
Re-echo	The training of community members by teams of BDATs or BHWs who have been trained as trainers by the PNRC
Sitio	Hamlet
Tanod	Volunteer (auxiliary) police officer

PART I: EXECUTIVE SUMMARY

The International Federation of Red Cross and Red Crescent Societies (International Federation), in partnership with the Philippines National Red Cross (PNRC), undertook a case study of the impact and cost effectiveness of three PNRC community-based disaster risk management (CBDRM) programmes carried out in partnership with three different national societies (the Danish, German and Spanish Red Cross societies) and three different donors (DANIDA, DIPECHO and the German Ministry of Foreign Affairs). A draft cost-benefit analysis (CBA) methodology was piloted as a key feature of the assessment process.

While each programme differed from the others in various ways, all directly or indirectly shared a common objective: to reduce the vulnerability of communities to, and strengthen their capacity to cope with, disaster impacts. All three included activities to: create and train local disaster preparedness and response teams (called Barangay Disaster Action Teams or BDATs); conduct a Hazard, Vulnerability and Capacity Assessment (HVCA); prepare local hazard maps; and produce a Barangay Disaster Action Plan (BDAP). Small-scale physical mitigation works also were carried out, including the provision of health and water and sanitation facilities through the Danish-supported programme. The Danish- and German-supported programmes also trained and equipped Barangay Health Workers (BHWs) to provide basic health services and the German-supported program extended disaster preparedness and first aid training into schools.

Impact Assessment Outcomes

The PNRC and its partners developed some of the world's early models for CBDRM, using integrated, multi-sectoral and multi-hazard approaches to programming. This innovative and experimental work was undertaken at a time when disaster management legislation in the Philippines, and the role of the PNRC, were defined largely in terms of response. As such, these pioneering programmes had the difficult task of creating an enabling environment for disaster risk reduction, ie of building up support at all levels of government, within communities, and within the PNRC itself. They also did not have the benefit of being able to draw from the experiences of prior CBDRM programmes to guide design and implementation decisions.

Within this context, the achievements of the PNRC's CBDRM programmes were considerable. This case study is one of the first long-term impact assessments conducted of CBDRM programming in the Philippines. Much of the learning about what works, and what does not work, was gained through trial and error and the findings will provide invaluable information to guide present and future generations of CBDRM.

Overall, the PNRC and its partners have made a valuable contribution to reducing the vulnerability and increasing the coping capacity of beneficiary communities over the past 15 years. In most communities, disaster preparedness training has led to greater awareness of the risks and improved ways of organizing responses to hazards, mainly typhoons, floods and storm surge. The small-scale mitigation projects have made a substantial and tangible contribution to increasing community resilience to flooding and health hazards. This includes: economic benefits, such as farm crops saved from damage or the ability to get crops to market; health benefits such as access to safe water and improved hygiene; and social benefits, such as the safe access of children to their schools and pregnant women to health services, a greater feeling of safety (particularly among parents in relation to their children), and the increased socio-political status of some BDAT members. Most barangays continue to provide funds and labour to look after their facilities, a clear indication that they value them.

The PNRC has built up strong institutional relationships with Local Government Units (LGUs) and, in some cases, the LGUs continue to incorporate CBDRM into their municipal plans and budgets. Beneficiary satisfaction levels were generally good, though less so in communities whose mitigation projects suffered from maintenance problems or where only 'one-off' disaster preparedness training had been provided. Additionally, the PNRC has achieved a commendable level of integration of health and disaster management programming, an approach which could be further developed and act as a model for other national societies.

However, the sustainability of these benefits is at risk, due to a lack of follow up support by the PNRC and longer-term operation and maintenance issues, predominantly at the LGU level (despite the LGUs having signed Memorandums of Understanding with the PNRC to provide these ongoing inputs). In many barangays, the physical mitigation works are deteriorating and Barangay Councils alone cannot cover the maintenance and repair costs, although this also raises a question as to the length of time that a small-scale physical mitigation structure should be expected to last and the related level of immediate and ongoing investment that is appropriate and cost-effective to meet such a minimum threshold. Furthermore, the BDATs have become inactive and the Barangay Disaster Action Plans are not being updated and incorporated into municipal development plans/budgets; and the volunteers and some communities have not developed their disaster preparedness and health skills enough to retain them.

In certain communities, these outcomes reflect changes in the political leadership over time – particularly after a period of 10 or more years – and consequent changes in their priorities. In a small number of cases, the sustainability risks may reflect a situation of actual decreased risk over the past five-ten years since the programmes were implemented. The importance of achieving equity and 'do no harm' principles in the selection of communities to receive assistance (especially in conflict-affected areas of Surigao del Norte), meant that a few barangays were included in the CBDRM programme even though the disaster risk was lower and, hence, longer-term commitment to activities could be expected to be lower.

The HVCA and related community development processes have become shortened and diluted over time, losing some of their strengths in adapting general disaster preparedness guidance to the specific community context and building local ownership of the CBDRM programming. Much of the disaster preparedness capacity-building being carried out is not building sufficiently from pre-existing community coping skills and making only a limited and tenuous contribution to improving the protection of homes and livelihoods; more emphasis also could be given to strengthening existing local early warning systems. The social and gender analysis capacities of the PNRC staff need further development too, as some inequity in the distribution of programme benefits has occurred.

The provision of 'one-off' training programs is not enough to build sustainable capacity in disaster management, either within communities or within the BDATs. At least three-five years is needed to fully inculcate skills and knowledge and change attitudes and practices towards risk. Follow-up coaching, mentoring and refresher training is required, as are concrete activities and budgets to implement the Barangay Disaster Action Plans. BDATs also could undertake community awareness-raising activities to reinforce learning. Educational materials may benefit from periodic review to determine if they are contributing to the desired risk behaviour change among the targeted audiences or if they need updating and adjustment, particularly given an evolving communications environment (eg mobile phones, Facebook) and the different linguistic and cultural contexts within the Philippines.

CBDRM appears to be only tenuously institutionalised and resourced as a core part of the PNRC's business. If the PNRC is to develop a sustainable institutional capacity in CBDRM, then it will need to consider developing a more strategic approach in coordination with its partners. This includes a realistic assessment of its capacity to engage long enough and

deeply enough with barangays to cement the skills attained through BDAT training and other related initiatives; expanding programming to new locations on the basis of capacity; and continuing to develop its skills and resource base to effectively manage this work.

Despite these challenges, the PNRC and its partners have laid a strong foundation in the communities where it has provided CBDRM assistance. In most cases, it would not take substantial new investments to protect or regain the benefits of the assistance already provided.

Recommendations for Future CBDRM programming

- Build on or renew existing good relationships with local governments to: 1) assist communities to attract ongoing operation and maintenance contributions for their physical mitigation structures; 2) build support for the regular updating and inclusion of Barangay Disaster Action Plans in municipal development plans and budgets; and 3) encourage a more pro-active role for Municipal/Provincial Disaster Coordination Councils in CBDRM and climate change adaptation, in line with current strategies of the PNRC.
- 2. Develop longer-term CBDRM strategies and funding plans, in consultation with donors, to combine short-term funding from various sources and to ensure programme and funding continuity for a sufficient period to build sustainable CBDRM capacity.
- 3. Undertake an assessment of the financial and human resource capacity of the PNRC's provincial chapters to renew/extend assistance to barangays covered by previous CBDRM programming, and to extend activities into new barangays, with particular attention to the ongoing support needs of the volunteers and their communities.
- 4. Strengthen the organizational development components of CBDRM programming to continue to build the PNRC's institutional capacity, especially at the chapter level.
- 5. Review and update the content and approach to HVCA and community development to ensure it is achieving community information, mobilization and ownership needs; this includes strengthening the analysis of pre-existing community coping mechanisms and introducing social and gender analysis training for HVCA trainers.
- 6. Review the use of current information, education and communication materials, and update to ensure that they remain appropriate for the audiences to be reached.
- 7. Further develop PNRC's CBDRM participatory monitoring and evaluation, beneficiary accountability and knowledge-sharing systems, procedures and capacity.
- 8. Continue to build linkages between health and disaster risk reduction programming.
- Encourage coordination and collaboration with other organisations involved in CBDRM in the Philippines to highlight the specific contribution, and retain the leadership role, of the PNRC. This should focus on building relationships with players that have the potential to add value to PNRC initiatives and strategic thinking.

OBJECTIVES OF THE STUDY

The International Federation of Red Cross and Red Crescent Societies (International Federation), in partnership with the Philippines National Red Cross (PNRC), undertook a case study of the impact and cost effectiveness of 15 years of PNRC community-based disaster risk management (CBDRM) programming (Annex 1:TOR). The objectives were:

- 1. To document the evolution of the Integrated Community Disaster Preparedness Programme (ICBDPP), touching on the approach to planning, implementation and followup;
- 2. To identify the key aspects and outputs of the program's evolution that have contributed towards sustainable outcomes leading to the enhanced awareness and capacity of atrisk communities; and
- 3. To undertake an impact and cost-benefit analysis of the ICBDPP program.

The case study was also intended to contribute to a Federation-wide effort to improve disaster risk reduction performance measurement and impact analysis.¹ For this purpose, a draft cost-benefit analysis (CBA) methodology was piloted as a key feature of the assessment process. The methodology was based on lessons learned from conducting a community-based CBA with the British and Nepal Red Cross Societies, as well as field testing of a tool that is currently under development by Oxfam America.

The findings of the case study are presented in two separate, complementary volumes. Part I outlines the results of the qualitative impact assessment, including analysis of the different CBDRM models used over time. Part II summarises the CBA outcomes; it also provides an assessment of, and recommendations for, the future development of Federation-wide approaches to CBA and impact assessment. The annexes to both volumes can be found in Part III.

BACKGROUND

Disaster Context

The Philippines is the second most disaster-prone country in South East Asia and among the most-disaster prone in the world. A World Bank analysis found that large percentages of the population reside in disaster-prone areas that are exposed to multiple hazards; eg 36.4% of the population is exposed to three or more hazards and 73.8% of the population are exposed to two or more hazards.²

The Philippine archipelago, comprised of more than 7,100 islands, lies within the Pacific Ring of Fire and between two major tectonic plates. The country is affected by typhoons, earthquakes, landslides, tsunamis and volcanic eruptions. Since 2000, flooding has become the most prevalent disaster occurrence in the country, while earthquakes kill the most per event and cause the highest economic loss (World Bank, 2005). Many of the islands lie at only a few meters above sea level, meaning any rise in ocean levels will have significant consequences for the country.

Poverty and inequality contribute to the vulnerability of Filipinos to natural hazards. The Philippines ranked 105 out of 182 countries on the 2009 Human Development Index, with 45 per cent of the population of 88.6 million living on less than USD 2/day and 25 percent living below the national poverty line. The Philippines also has one of the highest levels of

¹ The objective of this global initiative is "to globally map and quantify, on an on-going basis, International Federation DRR programmes and activities, including monitoring of performance, impacts and resultant increases in community safety and resilience."

income inequality in Asia, with the poorest 20 per cent of the population accounting for only five per cent of total income (AusAID website, 2007). Maternal mortality is common and many families have limited or no access to preventive health care. Civil conflict, economic downturns, and global food price rises have further contributed to poverty and inequity.

While natural hazards are part of the Philippines reality, human settlement patterns and weak environmental management (such as denuded forests) also aggravate risks. For example, high population density along the Philippines' 17 000 km coast line has increased the risk and vulnerability of people to tidal surges (some associated with seasonal typhoons). The overall trend in the Philippines is a rise in the frequency and impact of disasters.

Role of PNRC

The PNRC was founded in 1947 and has chapters in all 77 provinces of the Philippines. The PNRC provides major services in the areas of: blood, disaster management, safety, volunteerism, community health and nursing and social services. It is particularly recognized for its strengths in the provision of disaster relief and blood bank services.

The PNRC is the only non-governmental member of the Philippine National Disaster Coordinating Council. The PNRC is mandated, under Presidential Decree 1566, with responsibility for: conducting disaster leadership training courses; assisting in the training of Disaster Coordinating Councils at all levels; assisting in providing emergency relief to disaster victims; and making blood and blood products available.

Description of Programmes

The case study focuses on three separate CBDRM projects/programmes undertaken by the PNRC in partnership with three different national societies and three different bilateral donors, and spanning a period of approximately 15 years. These include:

- 1. Integrated Community Disaster Planning Programme (ICDPP), Phases I-III, 1994-2004, supported by the Danish Red Cross (DanRC) and DANIDA (referred to as 'the Danish-supported ICDPP' in the case study);³
- Community Based Disaster Preparedness Project, Phase II (CBDP II), 2003-2004, supported by the Spanish Red Cross (SpanRC) and DIPECHO;⁴
- 3. Integrated Community Disaster Preparedness Programme, 2007-09, supported by the German Red Cross (GerRC) and the German Ministry of Foreign Affairs (referred to as ' the German-supported ICDPP' in the case study). This programme has also been supported by DIPECHO, but the communities included were not covered by the assessment team. A new phase is currently under planning.

Another project of the PNRC also commenced implementation in 2005, 'Project 143,' with activities carried out in some of the same barangays as those covered by the three CBDRM programmes. Project 143 is not included in the case study, but reference will be made to it, where relevant to the analysis. The evolution of the programming is summarized in Annex 1.

While each programme differed from the others in various ways, all directly or indirectly shared the following broader common objectives:

- To strengthen the capacity of communities to cope with disaster impacts; and
- To reduce the vulnerability of communities to disaster impacts.

³ Various documents written about the programme over the years have switched between using the word 'planning' and 'preparedness' but the official title of the project used the word 'planning'.

⁴ DIPECHO = Disaster Preparedness Program of European Commission's Humanitarian Aid Department

All three programmes included activities to: create and train local disaster preparedness and response teams (called Barangay Disaster Action Teams or BDATs)⁵; conduct a hazard assessment using a Hazard Vulnerability and Capacity Assessment (HVCA) methodology; prepare local hazard maps; and produce a Barangay Disaster Action Plan. The BDATs were provided with basic equipment such as rain jackets, flashlights, and megaphones, except under the CBDP II. The Danish-supported ICDPP also included geophysical mapping activities implemented through PNRC staff and private sector companies.

The Danish- and German-supported ICDPPs trained and equipped Barangay Health Workers (BHWs)⁶ or Barangay Health and Welfare Assistants (BHWA) to support the provision of basic health services in communities, while such training was not included in the CBDP II. The German-supported ICDPP also extended disaster preparedness and first aid training to primary and secondary school teachers.

Small-scale physical mitigation works were incorporated into all of the projects, albeit in different forms: 1) hazard reduction and health-related projects in the Danish- and Germansupported ICDPPs; 2) hazard reduction projects in a small proportion of barangays supported through CBDP II when some undisbursed funds became available; and 3) rehabilitation/construction of buildings to serve as multi-purpose evacuation centres under the German-supported ICDPP.

The current Project 143 aims to increase the PNRC volunteer presence at the barangay level, particularly in more hard-to-reach locations. It is an effort to recruit and train 44 volunteers in every village comprised of one coordinator, nine first-responders to emergencies (BDATs), nine BHWAs, and 25 all-round team members who also engage in the promotion of voluntary blood donation. This volunteer presence is intended to: cope with the scale of emergency operations required to respond to the effects of climate change and to enable the PNRC to engage more in preventive health initiatives at community level.

Methodology

The CBA and impact assessment were carried out within the framework of the aid evaluation criteria established by the Development Assistance Committee of the Organisation for Economic Cooperation and Development. The DAC definition of impact is:

'positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.'

The assessment took place over September-October 2009 and included 15 barangays across eight municipalities in the three provinces of Antique (CBDP II), Palawan (Danish-supported ICDPP, Phase II and German-supported ICDPP) and Surigao del Norte (Danish-supported ICDPP, Phase II). Three other barangays, one per province, that were not programme beneficiaries also were included in order to compare the capacity of communities to mitigate and cope with the impacts of natural disasters 'with' and 'without' the assistance provided (control groups). The PNRC selected the fieldwork sites, using a combination of purposive and convenience sampling. Communities were chosen based on differing geographic locations, time when they entered the program and ease of access, given the limited time available for the mission.

⁵ 'Barangay' is the Filipino term for community

⁶ The term BHW refers to a person who has undergone training programs under any accredited government and non-government organization and who voluntarily renders primary health care services in the community after having been accredited by the Government of the Philippines (Republic Act No. 7883, 20 February 1995).

The main tools used to conduct the assessment included:

- Review of key project documents related to the programmes and those of other agencies engaged in CBDRM programming in the Philippines (Annex 3);
- Collection of secondary data from LGUs and Barangay Councils;
- Semi-structured key informant interviews with 28 (16 male/12 female) PNRC staff, local government partners and donors/partner national societies (list at Annex 4);
- A total of 44 focus group discussions (FGD) with 184 male and 283 female beneficiaries and with 82 BDAT and BHW volunteers trained through the programmes (Table 1); and
- Structured observation within each barangay, using transect walks.

The case study development process was led by two independent consultants. The field team included International Federation and PNRC staff, as well as a communications specialist; full details of the team composition can be found in Annex 5.

Municipality	Barangay	Male	Female	Mixed	BDAT/BHW	TOTAL
Antique						
Sibalom	Alangan*			13 M ; 9 F		22
	Bongsod	10	18		12 M ; 0 F	40
	Indag-an	12	9		2 M; 3 F	26
	Pis-anan	7**	12		8 M; 2 F	29
Hamtik (Control)	Mapatag	15	12			27
Palawan						
Quezon	Malatgao	14	12		6 M; 3 F	35
	Alfonso XIII	4	6		3 M; 5 F	18
	Maasin	5	12		1 M; 1 F	19
Roxas	Abaroan	15	15			30
	Tagumpay	8	8		3 M; 2 F	21
El Nido (Control)	Bucana	15	8			23
Surigao del Norte						
Burgos	Bitaug	6	30*		3 M; 7 F	46
	Poblacion 1 & 2*	24	37			61
	San Mateo	6	17		3 M; 3 F	29
San Isidro	Roxas	14	13		2 M; 4 F	33
	Santa Paz	8	37		3 M; 6 F	54
Pilar (Control)	Jaboy	8	28			36
TOTAL		171	274	13 M ; 9 F	46 M; 36 F	549

Table 1 Focus Group Discussions

* Estimate

** All *Tanod* (volunteer police)

Limitations of methodology

The limited time and financial and human resources available did not allow the use of statistical sampling methods to select the project locations for the case study; thus, a certain amount of selection bias can be assumed and the results should only be considered reliable for those communities visited. However, enough of the communities visited had undertaken comparable activities to establish common broader trends in the findings.

In communities covered by the Danish-supported ICDPP and CBDP II programmes, some beneficiaries had difficulty recalling information from 6-10 years ago. A lack of baseline programme or LGU data from this same period made triangulation more difficult; while the team undertook a baseline reconstruction, some recall bias can be expected in the findings. This also meant that insufficient quantitative data was available in many cases to carry out CBA calculations; three physical mitigation projects were ultimately selected for the CBA,

where enough information was available. It was not possible to verify certain data, or fill some data gaps, so the CBA often relies on crude estimates, derived from the best data available. Hence the findings should be viewed as indicative, rather than conclusive.

Language variations also made finding sufficient and appropriate interpretation support for all team members challenging. The limited experience of most team members in conducting evaluations required some on-the-job training and use of a range of techniques in the field to compensate for this and to verify the accuracy of the data collected.

EVOLUTION OF THE CBDRM APPROACH

CBDRM is a process of disaster risk management in which at risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities. This means that the people are at the heart of decision making and implementation. The involvement of the most vulnerable, and the support of the least vulnerable, is necessary. In CBDRM, local and national governments also are involved and supportive (ADPC, 2007).

The PNRC and its partners developed some of the early models for CBDRM, using integrated, multi-sectoral and multi-hazard or ICDPP approaches to programming. Specifically, the ICDPP was initiated in 1994 to help the PNRC move from a largely response-oriented approach to disaster management towards a more pro-active focus on enhancing the preparedness capacity of vulnerable communities and mitigating the impacts of recurring disasters, such as floods. The programme sought to lessen the damage to health, homes or livelihoods caused by natural hazard events by addressing the numerous 'small' risks faced in local communities – damages that often escaped official statistics but affected many people. This was an innovative approach to disaster management at the time.

The pilot phase (1994-97) entailed: developing and trialing approaches and materials to train BDATs and communities on the hazard risks they faced and methods available to them to prepare for and mitigate against disaster; working with communities and local governments to develop hazard maps and Barangay Disaster Action Plans; and implementing small-scale environmental rehabilitation and structural hazard mitigation projects. Income generation activities also were included. The pilot was focused on rural areas and initially carried out in Benguet province. As the project expanded during its second (1998-2000) and third (2001-2003) phases, income-generation activities were not included in newly targeted barangays, given the complexity of such programming and the lack of comparative advantage of the PNRC in this area; the ICDPP concept was also further tested in urban settings.

A significant finding of the pilot was that communities often identified health hazards, such as unsafe water supplies, as their main problem. This led to recognition of the key linkages between health and disaster management programming and the integration of health training and physical mitigation activities into subsequent phases. An impact evaluation (Luna, 2001) found **this community-focused and multi-sectoral approach was effective in reducing the vulnerability of thousands of Filipinos to both natural hazards and health risks.**

Another key finding of programme reviews and evaluations was that the success of the ICDPP depended on collaboration with local government which, in turn, helped the PNRC to advocate for stronger disaster preparedness and mitigation measures to be included in public land use planning. The time invested during the early stages of programming to build up relationships between the barangays and the LGUs – including the development of a shared analysis of the key hazards and incorporation of the solutions into local development plans and budgets – was critical to achieving the programme's outcomes. The phase III design document warned of the risks to future success and sustainability if only 'the

easier components' of the integrated model, such as BDAT/BHW training, were replicated in other places and insufficient time was invested in community development and institution building processes (PNRC/DanRC, November 2000, p 16).



The ICDPP was managed by programme staff, co-located with the PNRC at the headquarters and chapter levels, but not integrated into the PNRC organizational structure. By the start of phase III, it was realized that the staff, activities and financing of ICDPP activities needed to be absorbed into the PNRC, in order to '*transform the programme into a regular and self-sustaining element of the PNRC Disaster Management Service*.' This highlighted the importance of building national society ownership and capacity to independently manage and gradually expand ICDPP from the outset of programming.

The 2007-09 German-supported ICDPP design drew from this experience, incorporating the key elements of: building community and local government ownership of activities; undertaking multi-sectoral disaster preparedness and risk reduction activities; and supporting the PNRC's organizational development.

The 12 month CBDP II (2003-04) was more restricted than the two ICDPPs in its timeframe, budget and scope of activities. In Antique, it focused on the formation of BDATs and training of communities in disaster preparedness in 26 barangays; limited funds came free at the end of the project to undertake physical mitigation activities in three barangays (completed over six months). This narrower approach was less effective in reducing the vulnerability of communities to natural disasters, as were gaps in the ICDPP approach in some cases. The achievements and limitations of both approaches are further explored below.

IMPACT ASSESSMENT OUTCOMES

Local government partnerships

It was evident that the PNRC's provincial chapters had increased the awareness of many LGU officials and elected representatives of the importance of disaster preparedness and/or disaster mitigation activities. Several current and former officials and politicians met in the three provinces described in detail the contribution of CBDRM to community safety, most notably the physical mitigation structures. All LGUs and one provincial government had allocated significant counterpart contributions to the projects. The commitment of local resources was a requirement for proceeding with the projects and was sourced either from LGU 'development funds' (composed of 20 percent of local tax revenue) or a calamity fund (five percent of local tax

Ways to Win Support from Local Government

- Build a relationship with the chief executive officer early.
- Follow local political & social protocols.
- Ask to participate in key meetings and then take the opportunity to present the work of the National Society.
- Visit local government offices often and build up trust with them.
- Always involve counterparts in discussions and decisions; also create opportunities for informal interaction.
- Do your homework! Be clear about your objectives and arguments about the benefits of the assistance before presenting proposals.
- Make certain the communities support the approach – the commitment of barangays to provide cash and labour convinced some politicians to support their projects.
- Don't give up if they say no the first time – they may not yet be comfortable or really understand your intentions.
- Work with special interest groups inside or outside of government to influence leaders and managers; invite them to training courses
- Stress the importance of partnership and counterpart support – "We will provide this if you provide that."
- Maintain fairness and neutrality with all leaders, especially if they change midway through the programme
- Anticipate possible leadership changes; educate new leaders, emphasizing the importance of continuity in the assistance provided.
- A little competition can be good. If one municipality sees activities that are popular being implemented in a neighbouring municipality, chances are that they will ask to become involved. Source: PNRC staff experiences

revenue) that is normally activated following a disaster event. This was usually comprised of two or more of the following: provision of engineer(s) to oversight construction; payment of two-three skilled labourers; transport of materials to site; hiring of construction equipment; food for work (FFW) or cash to pay the unskilled labourers (often in combination with local barangay resources). A few LGUs continue to contribute to the ongoing operation and maintenance of physical structures.

In a number of cases, local national congressmen saw the political benefits of participating in these popular activities and contributed funds to build reinforcing structures, such as rip-raps⁷ and gabion baskets.

The PNRC also contributed to the revival of two largely non-functional Municipal Disaster Coordination Councils in the places visited. In Hamtik (Antique), the Council has evolved from one staff member with no office or budget to a modest but active disaster preparedness and The BDAT Federation mitigation program. created in Quezon municipality (Palawan), comprised of all the barangay BDATS formed through the ICDPP, is now a formally recognised member of the local Municipal Disaster Coordination Council. Quezon also now supports some of its own mitigation activities through the development budget, such as: raising roads above flood lines: running disaster management refresher courses; and organising new volunteer recruitment (Project 143) through its calamity fund.

This was a major achievement, especially at a time when the concepts of disaster preparedness and risk reduction were not widely known or accepted either inside or outside of the Philippines. Staff from the provincial chapters described the many influencing skills that they learned to build the support of the LGUs and Barangay Councils and to ensure the

allocation and release of counterpart funding, many of which they continue to apply to other areas of fund-raising today. The PNRC could potentially help other NS to develop such skills in future.

⁷ A foundation or sustaining wall of stones, concrete chunks or similar material thrown together on an embankment slope to prevent erosion.

The PNRC could also usefully extend this type of advocacy role. In the majority of municipalities visited, the Municipal Disaster Coordination Councils remain largely inactive – only mobilising in an emergency response/relief role after a disaster strikes. For example, many LGUs are unaware of the 2003 Government of the Philippines decision to permit the use of the Local Calamity Fund for disaster preparedness and other pre-disaster activities, and an estimated 50 percent of Local Calamity Funds go unused each year (World Bank-National Disaster Coordination Council, 2004).

Selection of communities

While the selection criteria for barangays and municipalities in all three CBDRM programmes has undergone fine-tuning over the past 15 years, it has remained a reasonable mixture of vulnerability targeting based on: degree of exposure to/past impacts of natural and environmental hazards; poverty levels; and geographic isolation. This has been combined with an assessment of the interest and commitment (including cash and/or in-kind) of barangays and LGUs to supporting the activities of the programme and limited or no assistance from other relief/development agencies. The approach has led to the participating PNRC provincial chapters extending their outreach to more rural, remote and hard-to-reach places (eg some smaller islands) than had been the case previously.

During the ICDPP pilot phase, barangays in Benguet Province were identified through a survey of all barangays across five pre-selected municipalities – and then one barangay in each municipality was selected for project implementation. The intention was to screen large areas and select the most vulnerable communities based on standardised data. However, this system proved to be too labour intensive, generated expectations that could not be met among communities that were not selected; and created logistical difficulties for ICDPP staff trying to cover several scattered communities. For these reasons a new procedure was identified during phase II when the programme expanded into Palawan and Surigao del Norte: the most vulnerable municipality was identified from disaster data records in the provinces, and then the ICDPP was implemented in all (or most) of the communities in that municipality. An added advantage of this change was that the programme staff needed only to establish agreements with one municipality.

In addition to increasing the efficiency of selection processes, this also represented good practice in following the 'do no harm' principles of the IFRC's Better Programming Initiative. A drawback was that some less disaster-affected/vulnerable communities received assistance. This outcome was recorded in some of the monitoring and evaluation reports for the Danish-supported ICDPP; it was reconfirmed during the mission, witha small number of barangays visited in Palawan and Surigao Del Norte reporting that they did not suffer from major disasters and their BDATs were not functional because of lack of need. However, this occurred only in a small number of cases and the costs appear to have been outweighed by the benefits of ensuring equitable approaches to the assistance, particularly in the conflict-affected context of Surigao del Norte. The CBDP II and German-supported ICDPP applied the selection criteria more selectively within the municipalities where they worked, reducing this problem.

Community mobilization and participation

The strategy used to promote local participation and ownership helped to build up community acceptance of, and input into, the CBDRM programmes. The BDATS, comprised of 9-11 members each, were selected from within their own communities, as were local BHWs or BHWAs. The BDATS – along with the Filipino programme staff who trained them - were trained in participatory community consultation methods, mainly Hazard, Vulnerability and Capacity Assessment (HVCA). In the Danish-funded ICDPP, this was further complemented by formal health surveys and participatory rapid appraisals.

The BDATs were also given training in disaster preparedness and response skills, such as: Red Cross/Red Crescent values and principles, disaster preparedness, first aid and search



A group of BDATs/BHWs share their experiences - Sta Paz, Surigao del Norte

and rescue. This took place over 7-20 days among those met, depending on the programme under which they received it. In their turn, they were expected to carry out HVCAs, develop draft hazard maps and Barangay Disaster Action Plans, and deliver training on disaster preparedness within their communities (this is called 're-echo' training in the PNRC). In most instances, the draft hazard maps and Barangay Disaster Action Plans were formulated by the BDATs during their training course. They were then presented to community members, discussed

and approved by the Barangay Council. The LGU officials/elected representatives also were invited to join the training courses, which

proved to be an effective way of building their interest and support. This highly localised and 'bottom up' approach to planning contributed to creating a level of trust and rapport between the PNRC and the communities/LGUs that has been largely maintained to this day.

The communities which participated in the Danish-supported ICDPP described the community mapping and planning process as reasonably extensive. However, those who participated in the CBDP II and German-supported ICDPP described the process as being considerably shorter and less consultative, as it was incorporated into a one-half to three day community re-echo training. According to the feedback received, some BDAT members also may have lacked the skill to effectively draw out and consolidate a range of opinions from different parts of the community.

This situation appears to reflect a gradual reduction in the time and focus given to community processes in the BDAT training and CBDRM programme designs, beyond the original Danish-supported ICDPP. The International Federation has well documented experience that it takes more than one formal training course to give people a sufficient grasp of the participatory assessment and community mobilisation techniques required to effectively implement VCAs, hazard mapping and disaster mitigation planning within their communities (eg International Federation, 2006 & 2009).

Diversity and equality

In a similar vein, some aspects of the BDAT and BHW selection process appear to have led to certain vulnerable segments of communities sometimes being left out of decision-making processes. The process for selecting the BDAT members varied across the programmes and the individual municipalities. In Palawan and Surigao del Norte, the Danish-supported ICDPP paid careful attention to promoting the inclusion of different sectors of society (eg women, youth, fishers, farmers, etc), while recognising that the barangay captain had the formal government mandate for coordinating community level disaster response. In Surigao del Norte, some of these members of the BDATs became popular and confident enough to win public office. This was reported in a 2001 ICDPP impact evaluation report (Luna, p 20) and reconfirmed during the mission. Thus, the ICDPP contributed to building the social status, confidence and political power of some BDAT members.

However, in most communities, the focus group discussion participants advised that the barangay captain and his/her counsellors automatically became the BDAT members or else they were personally selected by the captain. Likewise, the BHWs chosen to receive training were selected by the captain in nearly all cases. In some barangays, there was a high level of enthusiasm to receive BDAT training, while in others it was difficult to attract either male or female trainees, due to competing livelihoods-related demands on their time.

It was common for most members to come from the safer geographic areas of the community. In larger barangays intersected by more than one river, this meant that they often were not physically positioned in an adequate cross-section of *sitios* or *puroks* (neighbourhoods) to provide leadership during times of flooding. There was one barangay in Antique where only a single BDAT member came from one of the more poor, distant and vulnerable *sitios*; he had devised a specific disaster response system for his *sitio*, as it was cut off from the designated evacuation centres during floods. The running of courses in the Tagalog language may possibly also have been a disincentive for some to participate in areas where Tagalog is not widely spoken.

While most PNRC staff and volunteers could easily identify geographic sources of vulnerability to hazard impacts within the communities, far fewer could describe the sources and impact of socio-economic vulnerability (eg gender, age, disability, ethnicity, language, social status, income level, tenancy vs ownership of land, etc.). The PNRC staff met advised that they had not received training in social or gender analysis, a common situation for many national societies. As a result of a lack of skills to identify and address diversity and equality issues, the distribution of project benefits did not always reach all parts of some communities.

In Malatgao,Palawan), a water supply system was installed through the Danish-supported ICDPP over 1999-2000. During focus group discussions (FGDs), the participating residents of Malatgao advised that the system only covered around half of the *sitios* (hamlets) in the barangay; they expressed the strong view that it should have been extended to all residents. When asked why these *sitios* had not been included, the women's FGD said: "We were told there was not enough money to cover everyone. These sitios are farther away and harder to reach, so would be more difficult and expensive to do up. So they were left out ... this is not the right thing to do; they should be given the water system too."

In terms of gender equality, it was difficult to measure any changes brought about as a result of the programmes. The design documents for all three contained no gender-disaggregated data or reporting requirements; one actually had an erroneous statement that *'men and women are equally threatened and affected by natural disasters'* when there is strong international evidence to the contrary.

What could be established was that women constituted 30-60 percent of BDAT members and over 90 per cent of BHWs in the communities covered by the case study and felt they had adequately participated in project decision-making and activities. However, the degree and quality of this participation could not be assessed in the short time available for the fieldwork. While the Philippines is currently among the top 25 per cent of countries on UNDP's Gender Development Index (40 out of 155), it sits in the bottom half of countries on the Gender Empowerment Index (59 out of 109) and the implications of this for CBDRM programming needs to better understood.⁸

New and different ways of working are usually required to ensure that programming is socially and gender inclusive, including special measures to support marginalised groups to

⁸ The GEM measures the relative equality of economic and political opportunities between males and females.

overcome systemic barriers to their full participation in, and access to, the benefits of activities. Programme monitoring systems also need to specifically track their participation.

Coordination with other local institutions

The role of the community volunteer police (*tanods*) in disasters has developed over the period in which the CBDRM programmes have been implemented. The (predominantly male) *tanods* are mandated to assist the barangay captain and the Barangay Disaster Coordination Council with disaster response in their communities. Most beneficiaries could easily describe their roles, ie: giving warnings and assisting people to evacuate with their valuables; search and rescue (including sourcing the boats of private citizens to reach flood-affected areas); ensuring people did not panic; conducting impact and needs assessments; and/or protecting people's property during their absence. Several *tanods* had received training in search and rescue and fire response through the LGUs and/or Provincial Disaster Coordination Councils.

If not in conflict with the values and principles of the Red Cross/Red Crescent, it would seem appropriate to include some in the BDATs in order to strengthen BDAT-*tanod* relationships, especially as the *tanods* are recognised by the government system and receive incentives (eg allowances and training). Many *tanods* expressed a desire to learn some of the skills taught to BDATs.

Community capacity-building

Disaster preparedness: The disaster preparedness training has had only a limited and tenuous impact on decreasing the vulnerability and improving the safety of many of the participating communities. Most members of the majority of communities met could describe a number of methods for protecting their lives and property, and coping with disaster impacts, that they had developed over years of experience with recurrent flooding (summarised in annex 6). However, neither they nor the PNRC staff identified any activities developed through the CBDRM programming that built upon or strengthened these preparedness and coping strategies. Consequently, many of the most vulnerable and remote *sitios* in several barangays largely continued to practice the same self-protection measures that they used prior to the programmes. The three control communities, which had not received disaster preparedness training from any other organisation, described taking virtually the same measures as those who had received the support.



BDATs demonstrate their rescue and first aid skills in Tagumpay, Palawan

The content of the training considered to be the most useful by the majority of BDATs and community members was: first aid, search and rescue and hazard mapping. The main positive outcomes reported by community members were: an increased awareness of the main hazard areas and safer places in their communities; some preparing specific ideas on for evacuation (eg what items to take with them in water-proof containers); and, in four of the 15 programme barangays visited, a

better organised approach to giving flood warnings and managing evacuations. A few BDATs have used their

first aid skills to treat traffic accident victims or players at municipal sporting events. One BDAT, met in Abaroan (Palawan), had rescued families from drowning during floods in 2008.

There appear to be a number of contributing factors to this limited outcome. One is that the HVCA process may emphasize reducing vulnerabilities to a greater extent than strengthening coping capacities. Another is that the quality of the re-echo training appears to have varied considerably. According to several beneficiaries, they only received a simple classroom-style lecture. In many barangays, a one-off training course of one-half to three days duration was given to whoever was interested and available at the barangay or *sitio/purok* level. The training was usually held during the day when most men were absent, so were largely attended by women; even the numbers of female participants were low in a number of cases, as they also had to attend to their livelihoods and domestic responsibilities.

The question also arose of whether the content of the training is being taught with sufficient emphasis on how to adjust the approaches to meet different local needs and circumstances (eg in places where identifying and strengthening designated safe houses may be more appropriate and cost-effective than taking long evacuation routes to public buildings), and with sufficient attention to the strengthening of existing local early warning systems (EWS) Two barangays visited described the breakdown of their EWS when severe storm warnings came in the middle of the night (note: the Government of the Philippines has a well-established national typhoon warning system that uses signal levels of increasing risk).

"We really got caught out by Typhoon Frank [in 2008]. Rain and wind came during the day, and we were given signal 1. Things didn't look too bad though. Then suddenly it went to signal 3 during the night, and the next thing we knew, the houses near the river had flooded. Some families spent a long time trapped on their roofs before the *tanods* could find a boat and rescue them; they were very cold and hungry and scared." – *Barangay Captain, Bongsod, Antique*

The BDATS supported through both ICDPP programs received some basic equipment such as raincoats, boots, life jackets, megaphones, torches, emergency lights, ropes, first aid kits, and stretchers; those trained through the CBDP II were not given equipment. This type of equipment is important for BDATs to be able to apply the training they are given and, where provided, most had been employed. However, the provision of equipment should also be accompanied by instructions on its maintenance and with spare supplies and/or a budget to replace items like used bandages or drained batteries. In one barangay, the batteries were dead in two out of three megaphones provided only a year previously.

One consequence of these limitations to the training programmes has been a gradual loss over time of the community awareness and capacity built. The majority of communities and BDATs could not recall many details of the training content without substantial prompting. Both BDAT and community members expressed a lack of confidence in their ability to carry out skills such as first aid, without more opportunities to practice, and advised that their BDATs did not hold regular drills or simulations. It was also expressed in several places that the BDAT and re-echo practicums needed to be longer. The current GerRC/DIPECHO-supported ICDPP in Brooke's point and Tay Tay in Palawan has recognised this need, and is incorporating a stronger practical component into the training.

Another consequence was that most ICDPP/CBDM II BDATs were now largely inactive, with the exception of the barangays in Surigao del Norte who had been involved in several local relief operations alongside of chapter staff over the past ten years. In the 15 programme barangays visited, the natural attrition rate of BDATs - primarily through age, outmigration and death - averaged around three-four (20-35 percent) over a period of 5-10 years. In six of these barangays, replacements had been nominated; in three, the replacements said that they had been able to participate in subsequent PNRC refresher courses being run through Project 143 with LGU funding support.

There was also little evidence that the priorities identified in the Barangay Disaster Action Plans were followed up, beyond those supported through the programmes; the

BDATS were not regularly updating them, nor linking them to ongoing barangay and municipal planning processes in most cases. Only three focus groups out of 38 in beneficiary communities recalled carrying out other CBDRM activities, such as environmental rehabilitation, in addition to their physical mitigation structures.

The lesson from all of the CBDRM programmes is that **the provision of 'one-off' training programs is not enough to build a sustainable capacity in disaster management, either within communities or within the BDATs themselves**. Follow-up coaching, mentoring and refresher training is required, as are concrete activities and budgets to implement the Barangay Disaster Action Plans. This kind of support was requested in 13 of the 15 programme barangays visited. While face-to-face contact needs to be undertaken periodically, there may be other less resource-intensive methods of providing support that could be further explored in future ICDPP assistance. For instance, in Antique, the CBDP II coordinator persuaded the donor to include the provision of cell phone cards to BDATs in the project budget as a way to maintain regular communication during implementation.

'One of the most crucial factors that can determine the sustainability of the Integrated Community Disaster Planning Model[ICDPM] is the social dimension, particularly the willingness of the community people to commit to work voluntarily for the programme. This requires the provision of enough support to the existing BDATs. They need follow-up training and to recruit new members. Without maintenance of the BDATs, the local drive will disappear.' *Source: PNRC (2003), ICDPM Guidelines, p 70.*

At the time of the mission, there was a strong push by government authorities and the PNRC towards recruiting and training a large number of BDATs within new barangays and municipalities in the provinces visited. This did not seem to be matched by a clear human resource or financial capacity of the chapters or LGUs to provide ongoing support to these trainees, nor to implement activities that the communities might identify to mitigate their risk. For example, the Antique chapter does not have a staff disaster management coordinator. Even if the focus of the BDATs is largely on response, they will still need support.

One PNRC staff member further concluded that the ongoing roles and responsibilities of the BDATs need to be made clearer and strongly reinforced with them. BDATS also could become more involved in community awareness-raising activities to reinforce learning. Only one BDAT reported undertaking a pro-active disaster preparedness educational role, and only three had been involved in promoting PNRC blood donor or insurance programmes.

Despite the limitations of the training approach, a strong foundation has been laid. There remained a willingness and desire among communities to learn more and do more with the PNRC. This partly reflected the generally good relations built up by the PNRC with many communities and partly the lack of attention given by other external donors to many communities where the PNRC had worked. Community resilience could probably be further strengthened in these barangays with less investment in building trust and awareness.

Health: The BHW training appears to have had a more sustainable impact on contributing to improved community health. This conclusion is based on anecdotal feedback from the focus group discussions (as no baseline data was available from which to compare what aspects of the 'before-after' health situation in each barangay could be attributed to the specific programme interventions).

The BHWs were able to describe a wide range of skills that they still use in their monthly clinics with government Rural Health Unit staff or to provide first aid and emergency care within their own communities. Those most often mentioned included: first aid, immunisation, cardio-pulmonary resuscitation and emergency obstetrics. Several powerful examples were given of how BHWs used these skills, eg:

- BHWs in one remote barangay who stopped the false reporting of immunisation coverage in their area by government health workers after they started practising their skills and assisting these workers;
- A woman who delivered her own baby after going into labour alone at home;
- A woman who, after attending BHW training, saved the life of her daughter who went into cardiac arrest following a jellyfish sting while swimming; and
- A BHW who saved the life of a man who suffered a heart attack.

This may possibly be attributable to the fact that the BHWs are an established institution in the Government of the Philippines and receive barangay-funded allowances for their roles, as well as additional government-supported training opportunities (like *tanods*). Some female FGD participants pointed out that there would be many benefits for families living in harder-toreach areas of the barangays, if more health and first aid training could be extended to 'ordinary' community members.

In the case of the Danish-supported ICDPP, both BHWs and BDATs had health and disaster management modules included in their training and communities were allowed to choose structural works projects that fit into either category. This led to some very positive, and sometimes unplanned, outcomes. For example, in some communities, BDATs and BHWs in many communities have cooperated closely to support each other to meet their needs, especially where BHWs were directly recruited into BDATs – eg the transport



Mother with daughter saved through CPR & first aid skills learned in BHW training course

of sick patients to health facilities, construction of multi-purpose evacuation centres, etc. Another unintended positive impact is that both BHWs and BDATs reported a number of incidents where they delivered first aid, lifesaving care or critical emergency transport to victims of traffic accidents, a growing issue in many places located near to major roads. In Alfonso XIII (Palawan), the stakeholders realised they could achieve both physical hazard and health mitigation benefits through one combined physical infrastructure project, together with other broader community measures; they built drainage channels to prevent localised flooding and mosquito breeding.

Most of the small health facilities that were built and equipped in more remote rural areas were still well used, as observed during transect walks. Only one health centre visited was not used much; the BHWs explained that the municipal RHU was close enough that most patients went there instead, especially as fully qualified medical personnel were available at that facility (pointing to a need to carefully investigate the feasibility of proposals). One BHW noted that more equipment was needed to meet the barangay's needs (eg one children's weighing scale was insufficient) and in another the iron adult weighing scales were rusting due to the proximity of this community to the sea. The outcomes of the water and sanitation activities are discussed under the physical mitigation activities section.

School training: The German-supported ICDPP introduced disaster preparedness training of teachers who were meant to incorporate this into lesson plans and teach the students in turn. Teachers and students from two schools were met and the indicative findings were:

 Around two secondary and elementary teachers from each school attended the training; they conducted earthquake drills and gave some first aid training to students, such as bandaging cuts/wounds (3 out of 30 students in class 6 in one school said they could remember their bandaging techniques).

- The level of quality of disaster preparedness teaching depended on the skills, knowledge, confidence and interest of the individual instructor and more teachers needed to receive training. As no specific time was allotted for this subject in the curriculum, it had been integrated into science, social studies, etc (in accordance with government policy); there appeared to be no system for quality testing of the lesson plans or their delivery nor for providing feedback or refresher training for the teachers (who requested this).
- The teachers felt that **the disaster preparedness manual provided was more suited to higher grades**; grades 1-3 needed more basic information and visual material, eg videos. The teachers did not have teaching aids, such as flip charts, to help them to deliver the lessons.
- Parents were largely unfamiliar with the school component of the project.
- Some chapter staff felt that including schools in the PNRC's programming had increased the PNRC's fund-raising ability.

Greater creativity in updating information, education and communication (IEC) tools seems merited. The PNRC could draw from materials developed by Oxfam and Save the Children, such as videos and games, and give selected students more in-depth training to work with their peers. Also, some youth have mobile phones and education and early warning messaging through this medium could be useful. More work through parent-teacher associations or another suitable community structure could help to extend and reinforce the messages. BDATs also could be more involved in providing disaster preparedness education to the schools.

The limitations of IEC materials, for both children and adults, were further noticeable in terms of targeting to different language and ethnic groups, eg many beneficiaries met were not fluent in Tagalog. Overall, IEC materials need to be periodically reviewed and field-tested, ideally with the involvement of a communications or social marketing specialist.

Climate change adaptation: The German-supported ICDPP programming was also meant to '*contribute to limit the effects of climate change*.' It was too early to assess the impact of the introduction of climate change education into the school curriculum in Palawan.

More broadly, many of the communities visited reported changes to their weather patterns over the past decade, particularly in relation to the severity and frequency of floods, typhoons, strong winds and storm surge. Gradual loss of coastline was pointed out during transect walks in some coastal communities. Various PNRC staff also expressed a desire to understand the issues better and how to address them, eg;

- "It is impossible to have a safe community now the conditions are changing but at least mitigation works like seawalls can give people some protection."
- "Climate change needs to be better understood in our programs and more consideration given to how to include it."

The PNRC made a policy decision in 2008 to integrate and mainstream climate change adaptation into its CBDRM work. Thus, these issues should be addressed in the design and implementation of all ongoing and future CBDRM programmes.

Small-scale physical mitigation structures

Well in excess of 100 small-scale hazard mitigation structures were constructed; most of these were highly valued and the beneficiaries could describe a range of economic and social benefits they had brought. Some examples included:

- <u>Hanging footbridges</u>: children able to get to school safely, farmers able to transport crops to market; sick people/pregnant women being able to access medical services;
- <u>Seawalls, drainage canals and dykes</u>: houses/crops no longer washed away in storm surges or floods;
- <u>Water supply and sanitation</u>: less distance travelled to collect water, leaving time for other productive activities; less diarrhoeal disease; improved household hygiene; greater privacy for women and ease of access for older persons (individual latrines); and
- <u>Multi-purpose evacuation centre</u>: Safer place to shelter during storms/floods with better communal amenities.

The fact that **many Barangay Councils continued to contribute towards their ongoing operation and maintenance costs** - eg clearing debris, painting, cleaning, minor repairs, implementing user pay systems on water supply systems - was a good indication of the contribution these structures were making to the communities. Part II of the case study provides in-depth insights into the costs and benefits of three of these mitigation projects.

Construction issues: An important lesson learned was that **adequate lead time needs to be allowed for planning construction and seasonal factors need to be taken into consideration when setting timetables for the work**. The most extreme case of this occurred in the CBDP II, where the PNRC and its counterparts were given three months by the donor to identify, design, obtain and release counterpart funding and build three smallscale structures. Unsurprisingly, this did not turn out to be feasible and the project was extended by three months. This took construction into the rainy season, a difficult time to build safely, but the communities and LGUs tried to meet the deadlines as they wanted the facilities. Delays in the release of counterpart commitments also affected construction timetables and facilitating these contributions took up a disproportionately large amount of staff time (60-70 percent); one chapter staff member recommended that materials not be procured by programmes until the counterpart funds are in place.

Determined to Succeed

The residents of Pis-anan and Indig-an were given only three months to build their hanging footbridge. While pouring the foundation, localised floods caused by heavy rains surged over the barriers, nearly ruining the water pumping equipment and forcing them to start over.

Soon after, a typhoon brought another flood that washed away the building materials; several people jumped in the river, swimming long distances to 'rescue' whatever they could; other honest residents returned building materials that had washed up on the riverbank in the days that followed. From that day forward, a 24 hour watch was established at the construction site to warn of rising floodwaters and protect the building materials – which were washed way again.

Even on the day of the inauguration of the bridge, a ceremonial killing of a cow could not take place as planned due to heavy rain, the local residents recalled with much humour. They were very happy to receive the funds to build the bridge and this, combined with the impressive disaster preparedness/response system they created after receiving PNRC training, led to Pisanan winning multiple disaster preparedness awards from the Government of the Philippines and attracted more disaster mitigation resources to their community.

With a smile on her face, one Barangay Council member offered this suggestion for the Red Cross/Red Crescent and its partners: "*Maybe the next time you do this somewhere else, you could be a little more sensitive to the season and the community's situation.*"

Voluntary or paid labour?: The contributions of communities, whether partly free labour, food, or the allocation of resources from a small barangay budget, demonstrated that the structures were a community priority at the time they were built. In most places, community members were paid between 50-100% of the average

unskilled daily labourer rate in cash, food for work or a combination of both through the Barangay Council and/or LGU to carry out the construction. The remaining labour costs were absorbed by individuals. The ongoing operation and maintenance needs were covered in a similar manner. A small number of focus group discussion participants in Surigao del Norte also said that the food for work had helped their families during a difficult economic time. Several women benefited from being paid to cook meals for the workers, while some others contributed free food or lobbied local businesses for contributions.

The BDAT's had to contribute a great deal of free labour themselves and some complained about the lack of *bayanihan* or community spirit within their barangays. Experience has shown that **community volunteerism is unlikely to be successful without adequate incentives, given competing livelihoods priorities in lower-income communities.**

Sustainability: The longer term sustainability of some the structures built was at risk. Some of the structures were still in good condition, such as the 10-year old dyke in barangay Roxas (Surigao del Norte). Others were beginning to show signs of deterioration, eg the 10year old dyke in Sta Paz (Surigao del Norte), where a segment had collapsed in 2008 and the five-year old hanging footbridge in Pis-anan/Indig-an, which was starting to corrode in places. Another hanging footbridge in Maasin (Palawan) had become unusable and dangerous due to a lack of maintenance. The lifespan of most of these facilities was estimated by local engineers at between 10-15 years before significant repair or replacement parts would be required.

Overall, there appeared to be insufficient attention paid to forward planning, in terms of projecting longer-term operation and maintenance needs, linkages to other infrastructure or changes to the communities that could impact on the use value of the structures., eg:

- Some of the latrines built 10 years ago in Sta Paz were starting to become full and the owners did not know how to empty them. Over time, this could become a significant sanitation risk/hazard in communities.
- Drainage channels constructed in Alfonso XIII (Palawan) had only limited effectiveness as they were built below the level of the road (washing debris into them).
- While the seawall built in Poblacion I and II (Surigao del Norte) had reduced the impact of sea surge, problems with drainage channels meant that the centre of the poblacion still flooded after typhoons and heavy rainfalls.
- The multi-purpose evacuation centre in San Mateo (Surigao del Norte) was deteriorating badly and the timber structure required major repair.
- The communal standpipe water supply system installed in Malatgao (Palawan) was not designed to accommodate a subsequent upgrade to an individual household connection system and also suffered from leaks and breaks.



Multi-purpose Evacuation Centre San Mateo



Hanging Footbridge, Maasin

In all cases, the staff recruited to manage the CBDRM programmes had no prior experience of managing construction projects and no source of independent advice – beyond the construction inputs of municipal or provincial engineers – to assess the feasibility and quality of the structures being built. An independent spot check is recommended practice for construction, and could be undertaken by a commercial engineer for the PNRC if built into programme designs and budgets.

In spite of the LGUs having signed Memorandums of Understanding (MOU) with the PNRC in which they committed to supporting the ongoing operation and maintenance of the structures built in their municipal; ities, several barangays advised of difficulties getting counterpart LGU funds allocated or released, especially where there had been a change of leadership. Some community leaders suggested that the PNRC should continue to liaise with communities and assist them to advocate with government agencies for continued support (ie an MOU alone is not enough to guarantee continued government commitment).

'The challenge for the PNRC chapter is continuing ongoing contact with the political system to hold their attention...Continuing integration, education and negotiation with the LGU officials are therefore part of the sustainability efforts of the programme. The problems brought by the change in local leadership have to be addressed by continually educating the present and future leaders that the program is politically neutral and is meant to benefit the constituents of the municipality.' *Source: PNRC (2003), Integrated Community Disaster Preparedness Guidelines Guidelines, p 70.*

In some cases, the findings of the case study raise the important question of the length of time that a small-scale physical mitigation structure should be expected to last and the related level of immediate and ongoing investment that is appropriate and cost-effective to meet such a minimum threshold. For example, should a dyke or irrigation channel be built to last 10, 20 or 50 years? As the years pass, a structure will gradually deteriorate and the operation and maintenance costs will rise proportionately with its age; for how long should a community be advised to continue to undertake repair or rehabilitation work?

Multi-purpose evacuation centres: The German-supported ICDPP supported the upgrading of an existing facility to serve as a multi-purpose evacuation centre in each barangay covered. Two were visited in Roxas municipality (Palawan) – a new building added to an existing school complex in Tagumpay and an addition to a barangay hall in Alabuan. It was questionable as to whether the full value of these facilities was being realised as:

- The barangays were large, spread out and with rivers that cause flooding patterns that cut off different parts from each other. In Tagumpay, only 13 families (albeit large) out of a few hundred affected families used the centre – the rest sheltered with families or friends in buildings they considered to be safer.
- The barangay, and LGU officials emphasised that these facilities could only be used for disaster management purposes, unless special written permission was sought at the barangay or LGU level (for example, to hold additional classes in the new building at Tagumpay's school). The concept of multiple uses was not well understood or adopted.

Technical hazard mapping

All LGUs visited in the locations where the Danish-supported ICDPP carried out geophysical hazard mapping still used the maps to assist them with land use planning activities. For instance, the Quezon LGU found the maps to be helpful when planning activities for electrification, malaria control and the development of commercial areas.



The programme made a considerable investment in combining local community knowledge with scientific information to produce accurate and sophisticated geophysical hazard maps. Computers, software and training were provided to PNRC headquarters staff and field officers, as well as geographic positioning system (GPS) equipment; private sector companies were also engaged to carry out the more technically complex aspects of the mapping.

At the same time, the mapping process introduced was not sustainable, given its dependency on costly external technical support. The mapping equipment is no longer used by the PNRC and the GPS instruments apparently are now out-of-date. Moreover, most communities had difficulty understanding these maps and have not retained, used or updated copies. In communities where handdrawn versions of hazard maps were emphasised, more had been retained and the level of community understanding of hazard areas was substantially higher. The ICDPP recognised these issues during phase II and later introduced combinations of mapping processes; some chapters also built three-dimensional models to facilitate reading of geo-physical maps, with limited success.

Achieving a successful combination of local and scientific knowledge in hazard mapping is increasingly recognised as important in the face of climate change. The ICDPP experience highlights the importance of forming partnerships with appropriate government and/or academic institutions, in order to ensure sustainable technical input, and finding creative ways to bring this information to communities in a user-friendly form. The AusAID-funded READY project taps into such institutions (eg PHIVOLCS, PAGASA); in 2008, AusAID extended funding to the PNRC's 143 Project to, among other things, "ensure that READY hazard maps will be used by the target communities to develop local level disaster management plans" (Ambassador R Smith in Australian Embassy press release, undated, 2008). A challenge for the PNRC will be to promote appropriate community inputs into the process, so that both LGUs and communities can actually use them.

National society ownership and capacity building

Considerable CBDRM capacity was developed in the PNRC. At the same time, this was not sufficiently institutionalised to make the programmes sustainable.

Phase III of the Danish-supported ICDPP recognised the need to develop a sustainable capacity to undertake and manage CBDRM activities within the PNRC and focused on integrating the programme activities into the newly re-organised Disaster Management Services area at headquarters. The German-supported programme also concentrated on building up provincial chapter disaster preparedness/response capacity in Palawan, while the CBDP II did not have a capacity-building component.

The Danish-supported ICDPP devoted considerable attention to developing the skills of its staff, PNRC staff and volunteers and local governments in core CBDRM skills such as community development, HVCA, community-government relations and decentralised programme administration. The positive results of this work have been well-documented in previous reviews and evaluations: the personnel working on the CBDRM programmes successfully achieved their shorter-term objectives, in the face of considerable challenges, and the PNRC's role profile was raised with participating barangays, municipalities and local government.

At the same time, certain staff development/support needs appear to not have been well understood, or accounted for, in some of the programme designs. Most staff and their chapter counterparts had no prior experience in managing CBDRM programmes and were on a steep learning curve; this was sometimes compounded by overambitious targets. For instance, the CBDP II in Antique aimed to strengthen disaster preparedness capacity in 26 widely spread out barangays in 12 months through one full-time project coordinator supported part-time by the chapter administrator. In all cases, the staff fulfilled their output targets, an achievement that is more significant than is recognised in past reporting. But it came at a personal cost, in terms of the extraordinary amount of effort required, and at the expense of focusing on longer-term sustainability issues.

The three PNRC provincial chapters visited were able to absorb some former project personnel as staff or volunteers, thus retaining valuable corporate memory. However, CBDRM appears to have been only tenuously institutionalised and resourced as a core part of their business. The limited resources available for CBDRM contributed to the lack of follow up with many of the barangays that had been supported, and this adversely affected the longer-term impact and sustainability of the activities implemented. It also represented a lost opportunity to build on the skills, knowledge and goodwill generated to promote other PNRC initiatives. Some PNRC staff attributed this lack of continuity to the fact that the programmes were staffed and managed separately to the mainstream work of the PNRC and, hence, true understanding and ownership was not built among key managers and staff.

Overall, CBDRM programming remains heavily reliant on individual donor programmes - and whatever geographic focus is decided for these – and these do not incorporate a broader strategic organisational development focus. If the PNRC is to develop a sustainable institutional capacity in CBDRM, then it will need to consider a more strategic approach in coordination with its partners. This includes a realistic assessment of its capacity to engage long enough and deeply enough with barangays to cement the skills attained through BDAT training and other initiatives; expanding programming to new locations on the basis of capacity; and continuing to develop its skills and resource base to effectively manage this work. Past experience implies the need for at least one full-time disaster management coordinator in each chapter, especially as Project 143 is rolled out.

Building the capacity of communities and organisations in CBDRM also takes much longer than the 12-15 months timeframe allowed in some of the programmes. Past experience has shown that it takes a minimum of three years, preferably five, to fully inculcate skills and knowledge and change attitudes and practices towards risk (eg IFRC, 2009). Further staff capacity-building in CBDRM remains a need of the PNRC, particularly at the chapter level, including (but not limited to):

- Updating and building higher level skills in (H)VCA analysis, particularly among those responsible for training BDATs;
- Strategic and longer-term planning;
- Managing small scale construction activities;
- Environmental and climate change analysis;
- Social and gender analysis; and
- Monitoring and evaluation, including beneficiary accountability mechanisms.

Monitoring and evaluation

A focus on achieving shorter-term outputs has meant that, once the programme were finished, in most cases there has been little or no follow up with communities – except in a small number of cases where relief operations have been carried out or where other PNRC initiatives have commenced. In a number of cases, neither the PNRC chapter nor

headquarters staff had visited programme communities in six-eight years and were unaware of the longer-term outcomes or issues that had arisen over this time.

The need to develop CBDRM documentation, research and evaluation capacities within the PNRC was identified during the Danish-supported ICDPP. The PNRC incorporated monitoring and evaluation advice, including 26 success indicators, into its 2003 *Guidelines for Implementingthe Integrated Community Disaster Planning Model*. These are a reasonable mixture of output, outcome and impact indicators. The guidelines also encourage the use of participatory monitoring and evaluation methods.

However, this approach does not appear to have been followed, nor have most of the success indicators been incorporated into subsequent CBDRM designs. Programme performance feedback has largely relied on donor-oriented progress reports, reviews and evaluations - often been led by external specialists - against predominantly output-oriented key results and performance indicators. A notable exception to this has been the use of lessons learned workshop and chapter exchanges to encourage deeper reflection on a range of issues, and this type of approach could be further developed.

A real dilemma for the PNRC has been that the human and financial resource base (eg transport and travel costs) also must be sufficient to be able to undertake such activities. This highlights the important of developing beneficiary feedback and accountability systems, where communities/LGUs develop their own performance indicators and do a lot of the monitoring and evaluation themselves. The use of tools such as community scorecards could also be introduced. The VCA process lends itself to the development of such systems and tools.

The PNRC's CBDRM monitoring and evaluation systems and skills need to be further developed. Donor partners also need to pay greater attention to: establishing viable baseline data collection, analysis and storage systems for programmes (particularly for key baseline documents like HVCAs and maps); incorporating more outcome-oriented key results and performance indicators into the designs; and working together with the PNRC to develop capacity in this area. The PNRC's success indicators also could be updated to capture recent developments in CBDRM programming, such as the school education and climate change adaptation activities, and the collaboration with the International Federation to develop community resilience indicators in line with the *Framework for Community Safety and Resilience*.

Coordination and cohesiveness

Broader strategic CBDRM planning may need further updating to reflect a greater need for coordinated and cohesive programming than in the past. The Government of the Philippines is currently updating its disaster legislation to reflect the principles of the *Hyogo Framework for Action* and climate change-related needs and concerns. There are also a lot more organisations today working in the area of CBDRM, with major initiatives under implementation such as the USAID-funded multi-agency PROMISE project and the AusAID-funded READY project. The PNRC has taken positive steps in this direction, eg the linkages formed between the UNDP-managed READY programme and Project 143.

The PNRC also would benefit from increasing its leadership profile and promoting learning exchanges within emerging Filipino communities of practice. This could include developing creative, participatory and cost-effective ways of knowledge-sharing, such as demand-driven peer reviews and peer-to-peer consultations, as well as extending the current good practice of branch exchanges to also include community level exchanges.

LESSONS LEARNED

This case study is one of the first in the International Federation to explore the longer-term outcomes of CBDRM activities, and the findings offer valuable insights into important considerations for the design of future CBDRM initiatives. Much of the knowledge regarding what does, and does not work, most effectively was gained though trial and error.

The experience of the PNRC and its partners has confirmed that the basic model of the Danish-supported ICDPP was sound. Effective CBDRM does require an upfront investment in community development processes to build up community and government support for the initiatives, as well as to ensure that the activities undertaken are the most useful and appropriate. A combination of hazard mitigation measures – some structural, some educational and some focused on building socio-economic resilience (livelihoods, environment, health) – yields a better overall result in reducing the multiple sources of risk faced by vulnerable communities. The contrast of the results achieved in communities that only received training courses with those that received a full package of support illustrates this, as do some of the gaps identified by communities (eg protection of livelihoods-related assets, such as livestock). While carrying out disaster preparedness training programmes alone is cheaper and faster, allowing rapid expansion of coverage, the impact on reducing community vulnerability is much lower as the communities often lack the means and support to implement many of the risk reduction activities that they may identify.

At the same time, the support must be maintained for a sufficient period of time to ensure a sustainable outcome. This includes attention to ongoing costs, emerging needs and nonformal forms of education and capacity-building within communities and local government. Equally, the organizational support for, and capacity of, national societies to undertake CBDRM must be systematically built over time. The transition or exit strategy for external assistance should form a core part of strategic planning from the outset of programming. Figure 2 represents an update of the original ICDPP model to reflect this learning.

Likewise, the case study echoed broader recent experience - including that of the International Federation - that CBDRM programmes need to give as much attention to understanding and building on existing forms of community resilience as they do to vulnerability, ie shifting the focus from one of understanding community needs to one of strengthening community capacities. That being said, from a practical perspective, national societies cannot be expected to have expertise in all areas from livelihoods to health to water and sanitation to environmental management. This further emphasizes the importance of good coordination and collaboration between different CBDRM actors.

Some of the key lessons learned from the experience of the PNRC and its partners that are more broadly applicable to CBDRM programming include:

- In forming BDATS and training them to do HVCAs in their communities, the benefit of the tool should be weighed against the challenge of raising expectations in the community. Some seed money should be reserved by the PNRC or LGU for follow up activities.
- Sophisticated hazard mapping should be carried out in cooperation with the relevant government agencies and/or other appropriate academic or international partners in order to have access to the necessary expertise and resources.
- CBDRM programs need to appraise community hazard coping capacities, as well as vulnerabilities, and build on this capacity.
- National societies need formal training and technical support to undertake social and gender analysis, if they do not have prior experience in doing this.
- Investment in building local government relations pays off but the relationship needs to be maintained over time to ensure sustainable CBDRM outcomes.



- BDATs and communities require more than 'one-off' formal training programs; they also need coaching, mentoring and other forms of capacity building. Regular simulation exercises and drills are equally important for developing and improving disaster preparedness skills.
- Community capacity needs to be used regularly to maintain interest and motivation. The role of community disaster action teams should include disaster preparedness/mitigation education.
- Programs should have a minimum duration of 3-5 years in order to give sufficient time for community and organizational capacity-building.
- Organisational development of the national society needs to be built into CBDRM programming at the outset with clear transition and exit strategies and progress benchmarks towards achieving these objectives.

RECOMMENDATIONS FOR FUTURE PNRC CBDRM PROGRAMMING

- Build on or renew existing good relationships with local governments to: 1) assist communities to attract ongoing operation and maintenance contributions for their physical mitigation structures; 2) build support for the regular updating and inclusion of Barangay Disaster Action Plans in municipal development plans and budgets; and 3) encourage a more pro-active role for Municipal/Provincial Disaster Coordination Councils in CBDRM and climate change adaptation, in line with current strategies of the PNRC.
- 2. Develop longer-term CBDRM strategies and funding plans, in consultation with donors, to combine short-term funding from various sources and to ensure programme and funding continuity for a sufficient period to build sustainable CBDRM capacity.
- 3. Undertake an assessment of the financial and human resource capacity of the PNRC's provincial chapters to renew/extend assistance to barangays covered by previous CBDRM programming, and to extend activities into new barangays, with particular attention to the ongoing support needs of the volunteers and their communities.
- 4. Strengthen the organizational development components of CBDRM programming to continue to build the PNRC's institutional capacity, especially at the chapter level.
- 5. Review and update the content and approach to HVCA and community development to ensure it is achieving community information, mobilization and ownership needs; this includes strengthening the analysis of pre-existing community coping mechanisms and introducing social and gender analysis training for HVCA trainers.
- 6. Review the use of current information, education and communication materials, and update to ensure that they remain appropriate for the audiences to be reached.
- 7. Further develop PNRC's CBDRM participatory monitoring and evaluation, beneficiary accountability and knowledge-sharing systems, procedures and capacity.
- 8. Continue to build linkages between health and disaster risk reduction programming.
- Encourage coordination and collaboration with other organisations involved in CBDRM in the Philippines to highlight the specific contribution, and retain the leadership role, of the PNRC. This should focus on building relationships with players that have the potential to add value to PNRC initiatives and strategic thinking