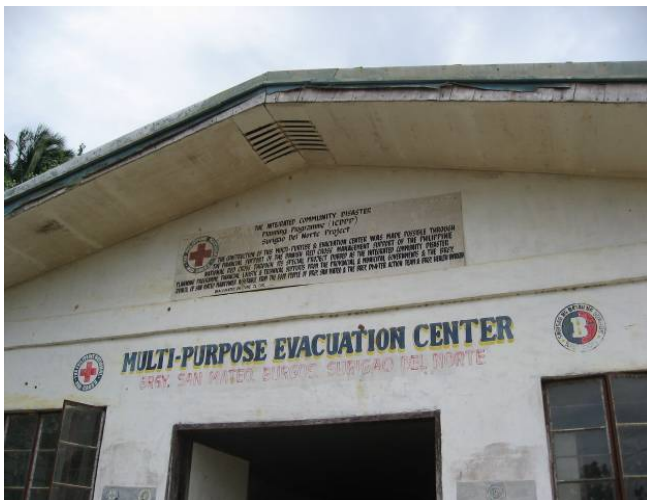


Case Study of the Philippines National Red Cross Community Based Disaster Risk Management Programming

PART III: ANNEXES



Cynthia Burton and Courtenay Cabot Venton

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ANNEXES

1	Terms of Reference	1
2	History of PNRC CBDRM Programming	5
3	References	6
4	Key Informant Interviews	8
5	Case Study Team Members	9
6	Community Flood Preparedness and Coping Mechanisms	10
7	Baseline Cost Benefit Flows	12

ANNEX 1

Terms of reference for a study of the Philippines National Red Cross Integrated Community Based Disaster Preparedness Program

Aim of the study

The objective of the study is to *firstly* document the evolution of the Philippines National Red Cross, Integrated Community Based Disaster Preparedness Program, touching on the approach to planning, implementation and follow-up; *secondly* 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 at-risk communities; and *thirdly* to undertake a impact and cost-benefit analysis (CBA) of the ICBDP program verses disaster response operations undertaken by the Philippines National Red Cross.

As a *fourth* objective, this study will contribute to a broader Federation-wide effort to improve disaster risk reduction performance measurement and impact analysis¹. This includes identification and definition of measurable and objective indicators of community safety and resilience as well as development of DRR impact assessment and CBA methodologies applicable by National Societies.

Background

The International Federation has commissioned this case study highlighting the work of the Philippines National Red Cross (PNRC) in the area of integrated community based disaster risk reduction action, to strengthen the programming within sister Red Cross and Red Crescent Societies that will lead to longer-term sustainable outputs that are cost effective in building safer and resilient communities across the Asia Pacific region and beyond.

The PNRC implemented the Integrated Community Based Disaster Preparedness (ICBDP) project with support from the Danish Red Cross between 1995 and 2001. The success of this cooperation and the development of the integrated CBDP approach has been documented in various reviews and case studies. All of which have concluded the approach to be effective in reducing the vulnerability of thousands of Filipinos to both natural hazards and health risks. In particular the success of the ICBDP program has depended on collaboration with local government. This in turn has helped the PNRC to advocate for stronger preparedness and mitigation measures to be incorporated in local public land use planning.

Following this successful cooperation the PNRC has continued to implement the ICBDP program through subsequent cooperative relationships, of which the most recent has been with the German Red Cross supported by their Government and DIPECHO. This newest relationship has highlighted a number of issues which are inherent within the ICBDP approach that lead to an increased sustainability of the program outcomes within the target villages.

Expected Outcomes

The study has four separate but related outcomes which will be address by the study team.

1. To document the evolution of the Philippines National Red Cross, Integrated Community Based Disaster Preparedness Program. In doing so the study team touch on:
 - identification and selection of at risk communities
 - the linkages to local government and its planning processes;
 - issues related to active community and gender participation;
 - identify implementation challenges and opportunities encountered;
 - outline the evolution of the ICBDP approach over a 13 year period defining the major milestones and modifications to the approach;
 - investigate post program relationships between National Societies and target communities;
 - positive and negative experiences in replicating the program to different provinces.

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.”

2. To identify the key aspects and outputs of the program's evolution that have contributed towards sustainable outcomes leading to the enhance awareness and capacity of at risk communities;
 - the linkages to external partners including government, civil society and the community itself;
 - issues related to active community and partner participation;
 - the importance of community governance including community organisation and leadership influences;
 - the relationship between PNRC and target communities;
 - identify the outcomes which have encouraged the sustainability of community awareness and increased capacity to deal with the risks they face;
 - review the action and systems followed as well as the availability of appropriate resources within communities who have been involved in the ICBDP program and have experienced a natural disaster post program completion;
 - identify behavioral change that has resulted in communities on completion of the ICBDP program.

3. To identify and define a maximum of 10 driving indicators for community safety and resilience:
 - to be based on participatory input from both communities and PNRC staff;
 - each indicator must be measurable either through directly quantifiable numbers or a scale (for instance 1-5) where each scale level is clearly defined/measurable through a standard description (such that different people assessing the same community would achieve the same results, therefore making it as objective as possible).
 - the results will be the first draft of indicators as a basis for Federation-wide discussion and agreement on a globally applicable measurement of community safety and resilience.

4. To undertake an impact analysis of the risk reduction initiatives implemented under the ICBDP program through:
 - assessment of the above-developed indicators of community safety and resilience before, during and after the ICBDP (before and during may not be realistically possible);
 - comparative impact analysis of structural verses non-structural components of program implementation;
 - comparative impact analysis reflecting the duration of program implementation verses funding levels, taking into consideration the speed necessary for concept absorption and behavioral change in at risk communities (can an optimal duration be identified?);
 - summary analysis of the contributions (financial, human, technical, in-kind, political, etc.) of participating communities, local government and external donors related to sustainability of outputs and systems developed;
 - cost-benefit analysis (CBA) of individual activities as well as the full program, covering the full duration of implementation and if appropriate future years of program impact. The following guidance should be employed:
 - o inclusion of quantifiable as well as non-quantifiable benefits and resultant guidance on how both can/should contribute to CBA and resultant decision-making processes;
 - o all analytic assumptions must be transparently documented and major assumptions must be informed through participatory processes;
 - o probabilistic disaster assumptions (frequencies of events) are primarily to be treated in a simplified manner understandable to PNRC staff and communities (if more thorough data is available, it should be incorporated in a concurrent CBA for sensitivity analysis);
 - o quantified benefits should be based on comparisons of disaster impacts under "with" and "without" ICBDP scenarios;
 - o savings in annual PNRC disaster response operations should be considered a benefit (potentially the primary benefit);
 - o unquantifiable benefits should be listed to inform the limitations of the CBA;
 - o negative ICBDP impacts should be considered and where possible quantified as negative benefits (not costs);
 - o sensitivity analysis to test the impact of assumptions (benefits, discount rate, etc.) and robustness of results should be performed, including potential disaster frequency/magnitude changes due to climate change.

Geographical location

It is proposed that the study team will visit various communities in the three province of Palawan, Surigao del Norte and Antique which participated in the program in the late 1990s and the former had replicated in other areas in 2007 to date.

Target audience

The target audiences for the case study and knowledge exchange are: the International Federation's member National Societies and Secretariat personnel (primary), the Asia and Pacific National Disaster Management Agency personnel as well as donor representatives and the broader international public (secondary).

Activities

The study team should perform the following tasks:

- Collate and review existing information on the ICBDP project, including written reports, videos, photos and other forms of multi-media documentation produced to date;
- Consult through interviews, simulation and participatory process, with a representative cross-section of the current and past Philippines National Red Cross Head Quarters and Palawan and Surigao del Norte Branch personnel (staff and volunteers) involved in the implementation of the ICBDP project local authority personnel involved in project implementation, other stakeholders and beneficiaries.

Expected deliverables

The specific output of the study will consist of a written document. In addition the study team should draw upon and incorporate other relevant multi-media forms of communication to convey the findings of the study. Creativity and imagination are encouraged to develop documentation that is as appealing and meaningful as possible for the range of audiences described above.

The document should be no more than 15,000 words, including photos with the following outline:

- o *Executive summary* provides an overview of the study touching on the processes taken and conclusions.
- o *Background* describes the situation of the country/area where the program/project is taking place and methodology used.
- o *The project* comprises all the details needed so that one can easily understand what it is about; describes why the program/project has been undertaken, its evolution, how the beneficiaries and other program partners have been selected, where the programme has been implemented.
- o *Project Outcomes* describe the planned and unplanned outcomes and impact of the project including related to describe what is going well, what are current or past problems experiences, what has been (or is being) learned by doing this program/project, the corrective actions that have been taken to date, what could/should have been done differently and what has contributed to the sustainability of community awareness and capacity.
- o *CBA* provides an overview of the resource requirements for implementing the project and the outcomes of the CBA.
- o *Lessons-learned* important lessons-learned and experiences that will contribute to the development of a standardized DRR impact assessment and CBA methodology useable by National Societies and contributing to Federation-wide measuring and reporting.
- o *Conclusions* describes the key findings of the project, how and under which circumstances should these be replicated within the Philippines and other countries across Asia Pacific., and what influence it will have on the long run on the beneficiaries and/or communities.

The first draft of the case study will be reviewed by representatives of the Philippines National Red Cross, associated Partner NS (i.e. Danish, German and British Red Cross Societies) as well ProVention and the International Federation. Feed back from these reviews will be incorporated into the case study before finalisation.

Study team

The team will comprise of 5-6 members:

- an external consultant who will lead the process and be responsible for the overall completion of the study;
- a supporting Consultant who will offer desk base assistance to the team
- 2-3 PNRC staff members to lead interactions with study communities and ensure institutional learning from exercise;
- the Senior Officer for DRR in the Federation Secretariat (from DPP department) to provide oversight and ensure learning and linkages with global DRR measuring and reporting processes

The team will require expertise in the following:

- a theoretical understanding of disaster risk reduction;
- a theoretical understanding of macro-economics and formal training on cost benefit techniques;
- practical experience in developing community resilience, community based programming, program design and implantation and community participatory processes;
- be able to identify key issues that support sustainability of DRR programming;
- capacity to undertake comparative impact analyses;
- capacity to undertake cost benefit analyses;
- knowledge of the Philippines;
- photographic or video skills.

Timeframe

The study will be undertaken during between the months of August and November 2009 and should be finalized no later than the 6 November 2009. Initial findings will be shared in early September.

ANNEX 2 HISTORY OF PNRG CBDRM PROGRAMMING

Name of Project	Duration	Funding Agency/Partner	Provinces Covered	Main Activities	Case study visits (Prov/Municipality)
ICDPP Phase I	1994-97	DanRC	Benguet	<ul style="list-style-type: none"> • BDAT formation/training • Hazard mapping • Physical mitigation works • Some income-generation/livelihoods 	N/A
ICDPP Phase II	1998-2001	DanRC	Palawan, Southern Leyte, Surigao del Norte (SDN)	<ul style="list-style-type: none"> • BDAT formation/training • Hazard mapping • Physical mitigation works, including health-related • BHW training 	Palawan - Quezon SDN – Burgos, San Isidro
CBDM Project ('DIP-ECHO I')	2000-01	DIPECHO SpanRC	Bulacan, Camarines Sur, Cataduanes, Compostela Valley, Dumaguete, Ilo Ilo, Leyte, Rizal	<ul style="list-style-type: none"> • BDAT formation/ training • Hazard mapping • 'Re-echo' training of communities by BDATs 	N/A
ICDPP Phase III	2001-03	DanRC	Palawan, Southern Leyte, SDN (consolidation+phaseout), Quezon City (new)	<ul style="list-style-type: none"> • As above • Expansion from rural to urban areas 	N/A
CBDM Project ('DIP-ECHO II')	April 2003- March 2004; extended to Sept 04	DIPECHO SpanRC	Antique, Camarines Sur, Quezon, Quirino	<ul style="list-style-type: none"> • BDAT formation/ training • Hazard mapping • 'Re-echo' training of communities by BDATs • Physical mitigation works in 3 barangays (extension) 	Antique – Hamtik, Sibalom
Project 143	2005 -	Multiple	All barangays covered by PNRG	<ul style="list-style-type: none"> • BDAT formation/training • BHW training • Generalised volunteer training 	All places visited
ICDPP	Dec 2007- Dec 2009	A. GerRC (Dec 07-Dec 09) B. German MOFA (May 08-April 09) C. DIPECHO (Oct 08-Dec 09)	A. Palawan B. Palawan – Narra & Roxas C. Palawan-Brooke's Point, Taytay	<ul style="list-style-type: none"> • BDAT/BHW training • Hazard mapping • 'Re-echo' training of communities by BDATs • Teacher training & re-echo of students 	Palawan – Roxas

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ANNEX 4 KEY INFORMANT INTERVIEWS

PNRCS (9)

Ms Ester L Buenaventura, Administrator, Antique Chapter
Mr Victor M De Leon, Project Manager - ICDPP, Palawan Chapter
Mr Rodel C Ester, Volunteer, Antique Chapter [adviser to local congressman]
Ms Catherine Larracas, Service Representative for DMS & Health, Palawan Chapter
Ms Catherine M G Martin, Manager, Disaster Management Services and Emergency Response Unit
Ms Arlyn O Mingues, Disaster Management Volunteer Instructor [Municipal Trial Const, San Jose], Antique Chapter
Mr Ulysses Sannoy, Surigao Chapter Service Representative for Disaster Management Services
Ms Arsenia Tabique, Administrator, Palawan Chapter
Ms Marilou Talingting, Administrator, Surigao del Norte Chapter

Local/Provincial Government (17)²

Mr Antonio D Bertolano, Engineer I, Antique Provincial Engineering Office
Hon Mrs Leonor Corwal, Municipal Mayor, El Nido
Mr Lynbert Dulpina, Administrator, San Isidro
Engr. Teodoro M. Galagas Jr., Municipal Engineer, Burgos
Mr Jay S Llavan, Municipal Councillor, Roxas
Mr Nelson Reynaldo Ondoyo, Municipal Disaster Coordination Council, Hamtik
Mr Gerald A. Macaldo, Municipal Planning and Development Officer, Burgos
Mr Rolando L Mozo, Municipal Counsellor & President of BDAT Federation, Quezon
Mr Pancho, President, Association of Barangay Captains, Hamtik
Hon Mrs Zulueta P Rayos, Municipal Mayor, Burgos
Ms Maria Angela V Sabaros (sp?), First Lady, Roxas
Mr Ondoy ?, Administrator, Quezon
Hon Mr Ronilo (sp) B Caputilla, Municipal Mayor, Quezon
Pastor C. Virtudazo, Municipal Civil Registrar and Municipal Disaster Coordinating Council Action Officer, Burgos
Municipal Engineer, San Isidro, SDN - male
Two teachers (secondary), Tagumpay, Roxas, Palawan - female

Donor Partners (2)

Ms Cecile Pichon, Disaster Risk Reduction Coordinator, DIPECHO South East Asia
Mr Emilio Teijeira, Program Coordinator, German Red Cross

²Names are not listed where the visit consisted only of a brief courtesy call; interviewees only included

ANNEX 5 STUDY TEAM MEMBERS

Team composition

Ms Cynthia Burton	Team leader and impact assessment specialist (all provinces)
Ms Courtenay Cabot Venton	CBA technical adviser/data analyst (Boston, USA)
Mr Daniel Kull	Senior Officer, Disaster Risk Reduction, IFRC (SDN)
Ms Karen Loreno	Disaster Management Services, PNRC (all provinces)
Ms Catherine Martin	Director, Disaster Management Services, PNRC (SDN)
Mr Erik Olsson	Communications specialist and learning documentalist (Antique and Palawan)

Observers

Mr Otto Kocsis	Head of General Industries/Services, Zurich Insurance Company (Zurich, Switzerland)
Mr Emilio Teijeira	Program Coordinator, German Red Cross (Palawan)

PNRC Interpretation Support

Ms Ester Buenaventura (Antique)
Mr Victor M De Leon, (Palawan)
Mr Rodel C Ester (Antique)
Ms Catherine Larracas (Palawan)
Ms Arlyn Mingues (Antique)
Mr Ulysses Sannoy (SDN)
Ms Arsenia Tabique (Palawan)
Ms Marilou Talingting (SDN)
ICDPrP CDO (Palawan)

Local Government Interpretation Support

Mr Rolando L Mozo (Palawan)

ANNEX 6

COMMUNITY FLOOD PREPAREDNESS AND COPING MECHANISMS

Early warning systems

- Community members use their own knowledge of weather and sea conditions to monitor conditions, eg in some barangays, as soon as the rains become heavy or certain kinds of dark clouds start gathering, the barangay officials monitor the river level and listen to the tv and radio for warnings or to the coast guard in coastal fishing areas
- Those who have tvs or radios (or whose radios have batteries), listen for warnings and share with neighbours
- Mobile phones have become another way to monitor and issue warnings in a number of communities
- Several systems in place to give warnings – the most commonly mentioned were: ringing church bells or blowing horns/whistles, making public announcements by megaphone
- *Tanods* – the local volunteer police - go around to give warnings and assist with safe evacuation of people and their personal goods

Short-term protection measures³

- Stay with friends or relatives in houses considered safer (built on stilts or has a second storey or sits on higher ground) – most do this
 - Evacuate to schools or other community buildings – some do this
 - Move animals to safe higher ground areas of barangay, including use of animal sheds in some places that are specifically constructed for this purpose
 - Put personal possessions in upper part/roof of house or move to a safer place
 - Tie down house with rope and bamboo poles to protect walls and roof from blowing off
 - Stockpile/pre-position food and emergency supplies in safe place, such as roof of house
-
- Men stay behind to protect house in many cases; if flood too strong, they make a floating device (eg bamboo raft or old tyre) to try to float out household effects to safety
 - Store emergency supplies and valuables in floatable containers (eg bamboo or plastic canisters)
 - Cut branches off trees
 - Use stones or cyclone wire to secure land and try to protect from soil loss,
 - Coastal: stop fishing, secure the fishing boats, put up sandbags to protect house from storm surge
 - Stockpile food and collect firewood or buy gas
 - Try to collect and dry harvest before storm arrives, if possible
 - Put animals on roof (but sometimes both the roof and animals get washed away)
 - Tie animals to a tree or let them loose and hope they can swim and don't get swept away
 - Pray

³ Those above the dotted line are the most commonly cited methods within barangays visited

Coping mechanisms

- Cannot protect crops from damage (majority)
- Plant more than one crop per year, so if one is lost than we can survive on others
- If crops/livestock/houses are lost:
 - go to other barangays to look for labouring jobs and replant after the water subsides
 - ask neighbours for rice or landowner for seeds
 - borrow money from neighbours or lending institutions or get 'gifts' from others
 - Sell livestock as soon as possible after flooding begins, as they will often get sick
 - Use *bayanihan* (mutual self help) system to help those affected by providing them with free labour to clean up or re-plant
 - Bake and sell snacks
 - Steal from others to survive

Longer-term protection measures

- Some farmers are planting trees on their upper slopes to prevent landslide
 - Reduced cutting of trees and mangroves to make charcoal
 - Build a 2nd floor on house or public buildings to make safe
 - Carry out a community clean up drive of drainage channels and other areas that may block water flow
 - Build a watchtower near the river so a person can monitor rising level
- One coastal community has made a bamboo barrier along shoreline which slows down, but does not stop, the soil and vegetation erosion

ANNEX 7

Table 1: Baseline Cost Benefit Flows: Hanging footbridge, Indig-an and Pis-anan

a. Year	b. Costs	c. Benefits	d. Net Benefits (c-b)	e. Discounted Costs	f. Discounted Benefits	g. Discounted Net Benefits (f-e)
0	870,000	2,542,000	1,672,000	870,000	2,542,000	1,672,000
1	3,000	2,542,000	2,539,000	2,727	2,310,909	2,308,182
2	3,000	2,542,000	2,539,000	2,479	2,100,826	2,098,347
3	3,000	2,542,000	2,539,000	2,254	1,909,842	1,907,588
4	3,000	2,542,000	2,539,000	2,049	1,736,220	1,734,171
5	3,000	2,542,000	2,539,000	1,863	1,578,382	1,576,519
6	3,000	2,542,000	2,539,000	1,693	1,434,893	1,433,199
7	3,000	2,542,000	2,539,000	1,539	1,304,448	1,302,908
8	3,000	2,542,000	2,539,000	1,400	1,185,862	1,184,462
9	3,000	2,542,000	2,539,000	1,272	1,078,056	1,076,784
10	3,000	2,542,000	2,539,000	1,157	980,051	978,894
11	3,000	2,542,000	2,539,000	1,051	890,955	889,904
12	3,000	2,542,000	2,539,000	956	809,960	809,004
13	3,000	2,542,000	2,539,000	869	736,327	735,458
14	3,000	2,542,000	2,539,000	790	669,388	668,598
TOTAL	912,000	38,130,000	37,218,000	892,100	21,268,120	20,376,019

Table 2: Baseline Cost Benefit Flows: Sea wall, Poblacion 1&2

a. Year	b. Costs	c. Benefits	d. Net Benefits (c-b)	e. Discounted Costs	f. Discounted Benefits	g. Discounted Net Benefits (f-e)
0	2,602,367	1,751,950	-850,417	2,602,367	1,751,950	-850,417
1	50,000	1,751,950	1,701,950	45,455	1,592,682	1,547,227
2	50,000	1,751,950	1,701,950	41,322	1,447,893	1,406,570
3	50,000	1,751,950	1,701,950	37,566	1,316,266	1,278,700
4	50,000	1,751,950	1,701,950	34,151	1,196,605	1,162,455
5	50,000	1,751,950	1,701,950	31,046	1,087,823	1,056,777
6	50,000	1,751,950	1,701,950	28,224	988,930	960,706
7	50,000	1,751,950	1,701,950	25,658	899,027	873,369
8	50,000	1,751,950	1,701,950	23,325	817,298	793,972
9	50,000	1,751,950	1,701,950	21,205	742,998	721,793
10	50,000	1,751,950	1,701,950	19,277	675,453	656,175
11	50,000	1,751,950	1,701,950	17,525	614,048	596,523
12	50,000	1,751,950	1,701,950	15,932	558,225	542,294
13	50,000	1,751,950	1,701,950	14,483	507,478	492,994
14	50,000	1,751,950	1,701,950	13,167	461,343	448,177
15	50,000	1,751,950	1,701,950	11,970	419,403	407,433
16	50,000	1,751,950	1,701,950	10,881	381,275	370,394
17	50,000	1,751,950	1,701,950	9,892	346,614	336,722
18	50,000	1,751,950	1,701,950	8,993	315,104	306,111
19	50,000	1,751,950	1,701,950	8,175	286,458	278,282
TOTAL	3,302,367	26,279,250	22,976,883	2,970,701	14,658,018	11,687,317

Table 3: Baseline Cost Benefit Flows: Dyke, Roxas

a. Year	b. Costs	c. Benefits	d. Net Benefits (c-b)	e. Discounted Costs	f. Discounted Benefits	g. Discounted Net Benefits (f-e)
0	495,549	43,600	-451,949	495,549	43,600	-451,949
1	7,000	43,600	36,600	6,364	39,636	33,273
2	7,000	43,600	36,600	5,785	36,033	30,248
3	7,000	43,600	36,600	5,259	32,757	27,498
4	7,000	43,600	36,600	4,781	29,779	24,998
5	7,000	43,600	36,600	4,346	27,072	22,726
6	7,000	43,600	36,600	3,951	24,611	20,660
7	7,000	43,600	36,600	3,592	22,374	18,782
8	7,000	43,600	36,600	3,266	20,340	17,074
9	7,000	43,600	36,600	2,969	18,491	15,522
10	7,000	43,600	36,600	2,699	16,810	14,111
11	7,000	43,600	36,600	2,453	15,282	12,828
12	7,000	43,600	36,600	2,230	13,892	11,662
13	7,000	43,600	36,600	2,028	12,629	10,602
14	7,000	43,600	36,600	1,843	11,481	9,638
TOTAL	593,549	654,000	60,451	547,116	364,788	-182,328