Creating new paths to resilience

Experiences from Indonesia and Philippines

RED CROSS/RED CROSS CLIMATE CENTRE
International Federation of Red Cross and Red Crescent Societies
The Netherlands Red Cross
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Experiences from Indonesia and Philippines

Published in the Philippines in 2014 by the Red Cross/Red Crescent Climate Centre, and the International Institute of Rural Reconstruction.

ISBN 1-930261-39-X

Correct citation: Partners for Resilience Indonesia and Philippines. 2014. Creating new paths to resilience: Experiences from Indonesia and the Philippines. Red Cross/Red Crescent Climate Centre, International Institute of Rural Reconstruction. Philippines.

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This publication is funded by the Climate and Development Knowledge Network www.cdkn.org.

Printed in the Philippines by Jarm Printing Press

Acknowledgements

This book was supported by the Climate and Development Knowledge Network (CDKN) through the Red Cross/Red Crescent Climate Centre (RCCC). The writeshop, editing come up to printing of the book was facilitated and coordinated by the International Institute of Rural Reconstruction (IIRR).

Our sincere thanks to:

- The members of the writeshop steering committee: Laudemer Mejia (ACCORD), Ida Adu (CARE International Indonesia), Emily Monville Oro and Mae-anne Llanza (IIRR), Gen de Jesus and Margot Steenbergen (NLRC), Yana Maulana and Ida Dewa Ayu Istri Ngurah (NLRC Jakarta), Resty Lou Talamayan (Philippine Red Cross), Donna Lagdameo (Red Cross/Red Crescent Climate Centre), and Eko Budi Priyanto (Wetlands International)
- The writeshop participants, consultants and other contributors (see annex list of participants)
- Yus Noor for diligently guiding, content editing and providing inputs to the papers from our Indonesian colleagues
- Retno Ika Praesty for providing the written translation of the papers from Bahasa to English and English to Bahasa
- Elle Fernandez for the Philippines overview, Ida Adu and Ida Dewa Ayu Istri Ngurah for the Indonesia overview, and Gen de Jesus and Charlotte Floors for the PfR overview
- Eric McGaw for editing the English papers
- Celso Amutan and Mc Dowell Ramintas for the layout of the book
- All our PfR partners in the Philippines and in Indonesia (see annex list of organizations)
- And the many communities, development workers, consultants, and NGO staff, whose knowledge and experiences are reflected in this book and have enriched the work in integrating DRR, CCA and EMR approaches.

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Acronyms

AI	Appreciative Inquiry
APSEMO	Albay Public Safety and Emergency Management Office
ASoG	Ateneo School of Government
ASTI	Advanced Science and Technological Institute
BDRRMC	Barangay Disaster Risk Reduction and Management Committee
BDRRMP	Barangay Disaster Risk Reduction Management Plan
BLS	Basic Life Support
CBDM	Community Based Disaster Management
CCA	Climate change adaptation
CBAT/SIBAT	Community Based Action Team better known as the SIBAT team
CPR	Cardio-Pulmonary Resuscitation
DENR	Department of Environment and Natural Resources
DOST	Department of Science and Technology
DRR	Disaster Risk Reduction
EMR	Ecosystems Management and Restoration
LGU	Local Government Unit
LPTP	Development of Rural Technology Institute
NDRRMC	National Disaster Risk Reduction and Management Council
NCR	National Capital Region
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services
PERTAMA/ICBRR-CC	Integrated Community Based Risk Reduction-Climate Change
PRA	Participatory rural appraisal
Red Cross 143	Volunteers' abbreviation for 'I Love You' (1 letter, 4 letters, 3 letters). 143 is a PRC initiative where each village is equipped with the presence of Red Cross volunteers
RA	Republic Act
SSM	Small scale mitigation
VCA	Vulnerability and capacity assessment

Preface

Partners for Resilience (PfR) received a grant from the Climate and Development Knowledge Network (CDKN) to implement a range of activities to facilitate innovative learning and policy dialogues, building upon delivery at scale in PfR. Managed by the Red Cross/Red Crescent Climate Centre, the project aims to inform and shape policies for scaling up climate-smart community resilience building, using evidence-based lessons learned from PfR experiences in Indonesia and the Philippines.

As part of the project component on global sharing of project experiences for learning, facilitating dialogues and influencing climate-smart policy across levels and regions, knowledge management products to facilitate policy dialogues will be produced. These will be developed through documentation of good practices and lessons in implementation through the writeshop process.

The International Institute of Rural Reconstruction (IIRR) provides support and guidance on the linking and learning agenda of PfR Philippines. IIRR submitted a proposal to the Red Cross/Red Crescent Climate Centre to help guide and facilitate the documentation of lessons learned and good practices from the two countries.

Objectives and outputs

The publication is linked to the set learning agenda of PfR, which has three learning objectives:

1. How can good practices be identified in integrating disaster risk reduction (DRR), climate change adaptation (CCA) and ecosystems management and restoration (EMR)?
2. How can implementation of integrated DRR/CCA/EMR approaches be facilitated at community level?
3. How can implementation of integrated DRR/CCA/EMR approaches be facilitated at local, national and international policy level?

These are further discussed in the paper in this book, PfR Experiences: What are we learning?

This publication provides input to the learning of PfR and partners in the course of implementing the integration of DRR/CCA/EMR in their projects. It will also serve as a reference in the development of policy briefs and other knowledge management products.

Method and book structure

A writeshop is an intensive, participatory writing process that aims to produce written materials by a multidisciplinary team of field practitioners, implementers, and even with the communities, under one roof.

With its linking and learning role, IIRR facilitated the writeshop in various phases. A pre-writeshop was held in Sagada, Mountain Province, Philippines, in February 2013. The proposed objectives of the publication, process, audience, content, structure, time frame, format and other considerations were discussed.

The output of the pre-writeshop was a proposed set of topics categorized as:

- Stories of outcomes/achievements (*What have we done?*)
- Stories of process/strategies (*How did we do it?*)
- Stories of sustainability (*How do we keep it?*)
- Stories of advocacy (*How do we convince others?*)

For each category, the group from the Philippines suggested topics and themes to write about. The outline and all pre-writeshop outputs were conveyed to PfR Indonesia for their consideration and further input.

Implementers who would be the writers were then identified and contacted by the respective PfR organizations. They developed their first draft which the authors brought along and presented during the actual writeshop held in Bali, Indonesia on June 3-9, 2013. Seventeen participants came from the Philippines, including representatives from Philippine Red Cross (PRC), Corporate Network for Disaster Response (CNDR), Assistance and Cooperation for Community Resilience and Development (ACCORD), Agri-Aqua Development Coalition-Mindanao (AADC), Netherlands Red Cross (NLRC) and Red Cross/Red Crescent Climate Centre (RCCC). Twelve participants came from Indonesia, including NLRC Indonesia, Indonesian Red Cross Society/Palang Merah Indonesia (PMI), CARE Indonesia, Wetlands International Indonesia Programme, and Pikul–CARE.

Presentations, peer review, critiquing, and revisions enriched the stories and good practices. We had simultaneous verbal translations during plenary along with written translations of stories from Bahasa to English and vice versa.

A steering committee/editorial board was formed comprising of representatives from PfR partners in both countries. The committee's role was to provide guidance on the process and content and to support the facilitating team. During the writeshop, the steering committee reviewed the suggested structure, taking into consideration the balance and content of the stories on hand.

The experiences emanating from the stories describe how they relate to PfR's three strategic components:

1. Strengthening community resilience
2. Empowering civil society
3. Policy dialogue

Thus, the stories were classified based on these three key areas, which were recommended and approved by the participants.

The book is sectioned with colored tabs based from the PfR logo. The blue section consists of the front matters where PfR is discussed along with its principles and linking and learning agenda in relation to the stories in the book. It also has the country overviews of Indonesia and the Philippines.

The first set of papers with the red tab comprises the stories showing how community resilience is strengthened. These are about what implementers did at the community level. The second set with the orange color is composed of stories on partnerships, on how organizations are supported by PfR and how civil society is empowered in the course of implementing the projects. The yellow set features efforts at various levels that contribute to building a conducive environment for policy dialogue including lobby and advocacy. The green section comprises the back matters where organizations and the list of participants can be found.

The stories are analyzed based on the eight PfR principles, thus the cover of the book. These principles and how they are exemplified in the stories are discussed in the paper From stories to principles to practice and policy.

Our target readers for this compilation are PfR partners, civil society organizations and the alliance itself. It is also useful for agencies, organizations and individuals working on disaster risk reduction, climate change adaptation and ecosystems management and restoration, and the integration of these three areas towards resilience.

Partners for Resilience overview

Partners for Resilience (PfR) is an alliance of five Netherlands-based humanitarian, development and environmental organizations who joined together to reduce the impact of natural hazards on vulnerable communities. The five organizations are CARE, Cordaid, Netherlands Red Cross, Red Cross/Red Crescent Climate Centre and Wetlands International.

PfR works towards the integration of disaster risk reduction (DRR), climate change adaptation (CCA) and ecosystem management and restoration (EMR) in its work in nine countries. It aims to strengthen the resilience of more than 600,000 people through a five-year program supported by the Netherlands Ministry of Foreign Affairs.

PfR puts communities at the centre by empowering them to strengthen their adaptive capacities and reduce the underlying causes of their vulnerabilities. It connects disciplines by using the combined strength of organizations working in partnership; it expands their focus by encompassing wider ecosystems and considering wider timescales; and connects humanitarian and development focus.

In Indonesia, PfR includes: Indonesian Red Cross (PMI), Netherlands Red Cross, Care International Indonesia, Perkumpulan PIKUL, Wetlands International Indonesia Programme, Bina Swadaya Consultan, Insist the Indonesian society for social transformation, Karina KWI, and Lembaga Pengembangan Masyarakat Pedesaan (LPTP). PfR Indonesia works in 37 villages in Nusa Tengara Timur and one learning site in Banten Bay.

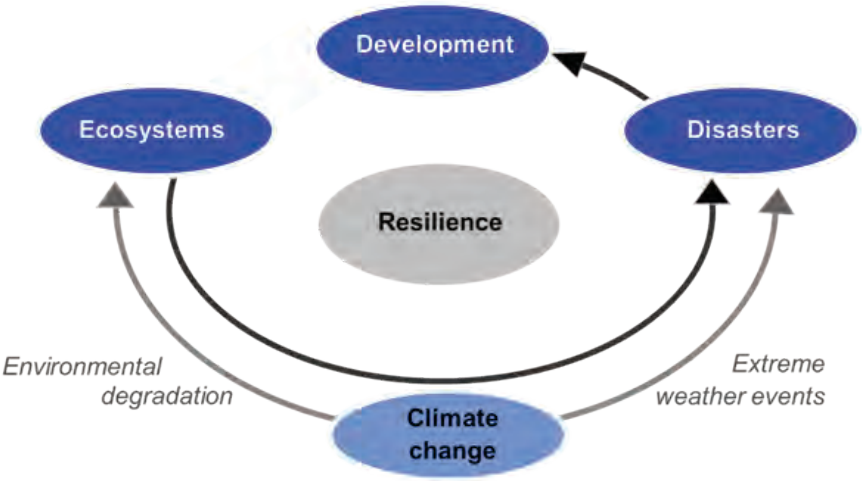
In the Philippines, CARE and Netherlands Red Cross partner with Agri-aqua Development Coalition (AADC), Assistance and Cooperation for Community Resilience and Development (ACCORD), Corporate Network for Disaster Response (CNDR), Cordillera Disaster Response and Development Services (CorDis) and Philippine Red Cross. Cordaid supports PfR Philippines in the Linking and Learning component of the program through the International Institute of Rural Reconstruction (IIRR). Wetlands International and Red Cross/Red Crescent Climate Centre

provide technical assistance to the alliance and its partners. Wetlands International builds capacities of partners in sustaining and restoring wetlands, their resources and conserving biodiversity. In both countries, the Red Cross/Red Crescent Climate Centre supports partners on climate related concerns by developing resources/standards, capacity building materials, participatory games and in scaling up lessons learned as inputs to various policy level discussions.

PfR works in 42 villages to include upstream communities in Mountain Province and Benguet, coastal and river/lake side villages in Agusan del Sur and Surigao del Norte, as well as urban poor communities in Malabon and Valenzuela.

Core to the PfR program is the assertion that if the three elements for strengthening resilience—disaster risk reduction (DRR), climate change adaptation (CCA), and ecosystems management and restoration (EMR)—are implemented in an integrated manner, it creates a significant synergistic effect. DRR strategies will be more robust if climate and ecosystems factors are included in the analysis, and risks and approaches are looked at within the perspectives of disaster risk, climate change and ecosystems.

By positioning the 'triangle' of DRR/CCA/EMR, PfR is grounded on an innovative and cost-effective solution for creating resilience for development. The figure below depicts the inter-linkages between development, ecosystem degradation, natural hazards and climate change.



All elements in the figure are interrelated. The increased frequency and severity of extreme events contribute to the increased level of vulnerability of communities. It is important to understand how climate variability is useful in making informed decisions so risk reduction efforts can be more responsive and aligned to scientific projections. By integrating climate information in analyzing risks, preparing for disasters, doing actual disaster response operations, and in building back better, the PfR framework ensures that people and vulnerable communities are not only preventing accumulation of new risks but also reducing the underlying causes of what makes them vulnerable in the first place. With the changing weather patterns, understanding, planning and acting along different timescales are important so communities can anticipate, act early, respond, adapt and transform.

Vibrant ecosystems do not only provide people livelihood—they are also essential buffers against extreme weather events. Regulation of water flows and quality, decontamination, carbon sequestration and soil conservation are among the important services ecosystems provide. Healthy ecosystems can reduce the impact of hazard events by providing a 'natural infrastructure'. They can protect villages from flooding, stabilize slopes through vegetation, provide coastal protection with mangroves and coral reefs, and greenbelts serve as buffers against drought and desertification. Ecosystems reduce vulnerability by supporting and sustaining livelihood products and services, such as the provision of fuel wood, clean water, food and raw materials like fibers and wood. Yet even as the beneficial functions of healthy ecosystems are largely important, they are often unrecognized in current adaptation and risk reduction planning.

The people most affected by recurring disasters are often those most dependent on these ecosystem functions. A degraded ecosystem has reduced capacity to meet people's needs. Families and communities in the target areas of the program suffer repeated setbacks in their livelihoods as a result of the impacts of natural hazards. When vulnerable communities, households or individuals are affected, all components of their livelihoods may be affected. The increasing intensity and frequency of hazard events, combined with environmental degradation and climate change directly affect development efforts and increase poverty levels.

The PfR alliance agreed to use DRR/CCA/EMR to link the different but mutually reinforcing concepts and approaches to better address these challenges. The DRR/CCA/EMR integrated approach is applied through three intervention strategies:

1. Strengthen community resilience in the face of disasters, climate change and environmental degradation.

2. Increase the capacity of civil society organizations to apply DRR, CCA and EMR measures and conduct policy dialogue.

3. Make the institutional environment from international to grassroots level more conducive to integrate DRR, CCA and ecosystem-based approaches.

Working at different levels through an integrated approach is expected to have maximum impact in increasing resilience of vulnerable communities to deal with disasters, climate change effects, and environmental degradation.

From stories to principles to practice and policy

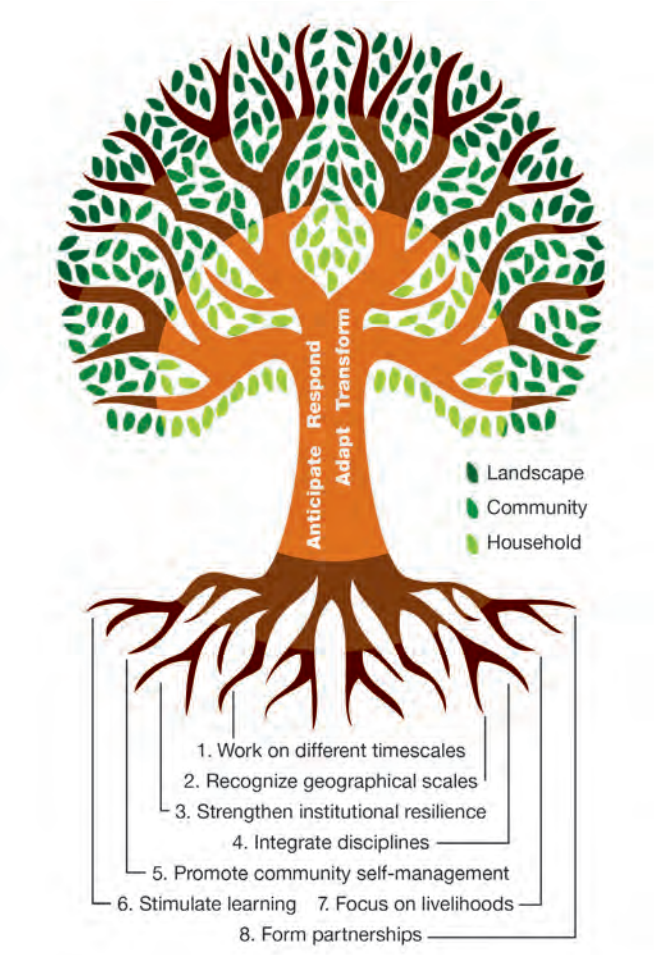
Donna Mitzi Lagdameo, Red Cross/Red Crescent Climate Centre

After two and half years of implementation, the PfR project has already reaped a number of evolving good practices. Even if it is just half way through, positive changes can already be seen in the lives of communities, governments and other partners, and even among the project implementation teams and organizations. The next half of the project will progress towards the realization of resilient communities through DRR/CCA/EMR by taking these learnings and challenges into consideration and by ensuring that they will be sustained, replicated and scaled up.

Sustaining, replicating and scaling up of good practices are key components of the PfR project. Achieving this will require partners to actively engage in policy dialogues at the community and landscape levels so that the enabling environments for the DRR/CCA/EMR resilience-building approach can be created, and the many good and innovative practices will be sustained and be part of long-term programs in both the organizations and the government.

Increasing numbers of communities will thus be able to anticipate risks by building on existing capacities, respond when disaster strikes while maintaining basic structures and functions, adapt to changing risks and changing situations, and transform themselves to address the root causes of risk and become active partners in the implementation of DRR.

Embedded in each story are principles on which the PfR approach is anchored. These principles complement and mutually reinforce each other. They compose the very foundation of resilient communities that take into consideration disaster risk reduction, climate change adaptation and environmental management and restoration.



Work on different timescales

By learning from past disasters, anticipating hazards in the present and adapting to changing future risks, impacts can be reduced. The case stories show that learning from the past can be best acquired if accepted, simple approaches like appreciative inquiry are used. The cases show that among the most effective tools include participatory capacity and vulnerability assessments and rural appraisal of disasters. When communities see the changes, they can collectively use tested approaches like collecting water during the rainy season or developing climate calendars.

Working on different time scales is also about ensuring that communities

are able to make better use of climate science and information to help them plan in short, medium and long terms. By using climate information, communities can manage uncertainty by designing measures so communities can anticipate and adjust to these changes. This also means that communities start to invest more in activities like climate forecast based early warning systems. In the cases documented, evidence shows that in both countries changes in weather patterns are happening. We now see increasingly wet weather in areas normally unaffected by such hazards.

Various PfR project sites have embarked on a number of multi-party collaborations with national meteorological agencies and related scientific institutions. These evolving collaborations not only increase scientific understanding of government bodies and communities, they also provide space for better information exchange for early warning and early action. Institutionalizing these partnerships and ways of working will help communities and governments develop plans for short, medium and long time scales.

Geographical scales

A number of case studies have shown evidence that working across geographical boundaries can help increase community resilience. Whether communities are in urban or rural areas, the watershed or river basin approach can be appreciated and used to understand risks and how best to address them.

The case study on mangrove restoration, for example, showed that continuous public consultations and engagements with different groups at different levels are important prerequisites. Even if ecosystems know no political boundaries, the development and endorsement of policies like the mangrove moratorium helped people think twice before engaging in activities that destroy mangroves that will eventually directly affect them and the communities around the area.

The story of Barangay (*village*) Potrero in the Philippines showed us that even in urban areas, using the watershed approach in developing early warning systems can work. With a lot of community-based sensitization and networking activities and various local government units, people do realize that because they are closely linked together, it is important to address problems holistically and more systematically.

Just like in other cases, the recognition of this principle will be appreciated more, and without bias, when it is done through and with the national meteorological office. In addition, it is important to conduct a landscape level assessment of the situation, taking into consideration climate forecasts and hazard mapping from key government offices and local partners.

Strengthening institutional resilience

Changing institutional culture is important in any new approach because unless organizations and governments are able to change their mindsets and ways of operating, integration of DRR, CCA and EMR will not be sustained. But, as seen in the experiences in the cases documented, this does not happen overnight, especially since some organizations tend to focus on just one or two of the three approaches to resilience building.

In the case stories, even before organizations were able to use the three-pronged approach to resilience building, internal institutional understanding, acceptance, and use have to be undertaken first. They first have to convince themselves that the approach indeed makes sense and that this is something worth pushing for. Second, they have to understand how, through their existing ways of working, the new approach can be applied and used. Third, they just have to do it.

Also, institutional strengthening occurs when the organization accepts its limitations and seeks complementarity of effort with partners. By working together, they understood the value of using these three simultaneously, and this realization helps to strengthen partnerships between and among the organizations.

Institutional strengthening is also needed when working with governments and other stakeholders. Similar to the internal steps undertaken, before communities and governments can accept and use new approaches, helping them understand its importance within their respective organizations is a crucial step. Resilience building is about a way of living and it touches on cultural sensitivities which, when handled with care, can be the key to success.

Integrating disciplines

Linking humanitarian and development perspectives with climate

adaptation planning; integrating different disciplines like health, disaster management, and environmental care; and considering the interaction of ecosystems services and livelihoods capital has been done by different partners in different ways. The cases showed that in most situations, partners' entry points will invariably be through the approach with which they are most comfortable, and from there, integrate the other disciplines.

Some started with existing disaster preparedness work on the ground and later included additional components like greening activities. Others used specific programs as entry points, as in the case of the Red Cross 143 Volunteers and sometimes, even during disaster response operations. These already existing, institutionalized and openly accepted strategies on the ground became the platforms where integration occurred. Thus, as the stories reveal, introducing the integrated approach was more natural and did not entail heavy pushing from the implementing partners. Of course, as earlier discussed, institutional mind-setting had to happen first.

It is important to note that the case stories show how integration is most effective when the entry points are identified based on community assessments and baseline surveys. Through these, socio-ecological interrelationships are understood and proper interventions are planned and operationalized.

Putting communities in the driving seat

One of the strongest indications that communities are rebuilding better is when they have become empowered, able to organize themselves and can manage initiatives without external support. Local ownership is key to the development process.

In the case studies, empowerment and self-management happened through different modalities. One was through the use of the vulnerability and capacity assessments that helped partners and communities understand themselves better by identifying their own strengths and weaknesses. Also, the stories reveal that empowerment happens through building knowledge and skills of communities. Confidence building is key and when people know what to do, with whom to link, how to identify problems, and how best to act efficiently and effectively.

In some cases, people have been able to develop innovative mechanisms wherein they could apply the DRR, CCA and EMR concepts while saving up

resources to help them continue their programs later on. The innovation, leadership and passion showed by farmers, women's groups, and even by volunteers give us confidence that indeed, the once-labelled vulnerable groups can take charge of their development and move forward.

Stimulating learning

When working with communities, it is most effective when traditional knowledge is used. When space is opened, more people become involved simply because they can understand things better. Also, when learning is stimulated by combining local knowledge and scientific assessments, people don't automatically reject the latter.

Using institutional memory also is very important because it helps people relate to the issue more, and they are able to connect the approach to past experiences. These lessons are very dominant in the case studies that use traditional and cultural knowledge like that of the *Mosalaki* leader, the *Mbama* dance ritual, the *Ipung* fish and the *Inayan* golden rule to bridge communities and scientific information and use them collectively to build resilient communities.

To be more effective, the cases showed that using more participatory tools and approaches also helps people become more receptive to new learnings and new paradigms. Participatory video and other educational games help raise awareness about DRR, CCA and EMR through very relaxed atmospheres and friendly environments. Because PfR encourages learning the indigenous and innovative ways, the community's enthusiasm to participate is also strengthened. Abstract terms such as DRR, CCA and EMR become easily understood and accepted simply because traditional practices become vehicles for an open learning culture that helps partners understand that science and culture can work together.

Focusing on livelihoods

Disasters not only take lives. They also impact on livelihoods. When this happens, communities become vulnerable twice over. In communities, whether urban or rural, people are poor when they have no option. Having no option means that they are dependent on only one source of income. When this source is hit or affected by disasters, bouncing back becomes harder. This is why focusing on the livelihoods of communities is an important aspect of the PfR project.

Based on the PfR experience, climate- and ecosystem-smart disaster mitigation measures help partners focus on livelihood options. Starting with sound community and integrated risk assessments, communities can determine and understand the best way forward. They see the need to rehabilitate deforested watersheds, apply organic farming, build floating seedling nurseries, and conduct small-scale mitigation activities. Through climate and eco-smart DRR trainings, communities have begun to cultivate rice, corn and vegetables organically in order to lessen chemical pollution of the river and its tributaries. Small-scale disaster mitigation helps reduce the adverse impacts of hazards to livelihoods through the use of organic farming practices and floating seedling nurseries. The idea was inspired by a women's organizations practice of setting up floating gardens with medicinal plants during the flood season.

The stories show that when the livelihood aspect is addressed, not only are people given more options and sustainable sources of income, but it likewise promotes human well-being and incorporates equity issues, thus contributing to people empowerment.

Forming partnerships

The PfR project will not succeed if partnerships are not developed. Good partnerships start during project implementation and continue to build by taking into consideration the complementarity of people's and organizational disciplines and strengths. Eventually, the partnership becomes an alliance that addresses a single issue: vulnerability reduction.

In the stories, partnerships were formed at different levels, between different groups, and through different modalities. Some partnerships evolved between implementing organizations and others at the level of the local government units. National-level partnerships are just starting and we look forward to seeing strong ties and relationships. One case study talked about public-private partnerships that led to unexpected ties and networks along the way. Some cases used partnerships as the approach while some took it as the end goal.

In all the cases that showed experience in partnership formation, one message came through—working with partners can deepen and strengthen relationships and introduce people to new ideas and ways of working. It is always a mutually beneficial and complementary arrangement and paves the way for positive change of attitude. From

complacency and indifference to participative and engaging relationships, the stories show that partnerships do not happen overnight but need continuous reinforcement and support from both parties. Sometimes, partnerships need some push through formal agreements in order for both camps to be clear on agreements and expectations.

Overall, most of the case stories provided empirical proof of the do-ability and effectiveness of the principles on:

- Working on different time scales
- Institutional strengthening
- Promoting community self-management
- Stimulating learning

This provides strong proof that in building resilient communities, capacity building through learning, organizational management, and understanding the why, how and what, are the basics. After all, paradigm shift can only happen if people understand and are convinced of the approach, the principles and the mechanism—and that they can do it!

Replication and scaling-up of the principles and practices

The learnings and innovative approaches from these good practices can benefit more communities when they are replicated and scaled up. Replication is the identification of key approaches and adopting them into another community or organization, taking into account cultural sensitivities and other key factors. Scaling up, on the other hand, is focused on finding ways by which the good practice is sustained long after the project has ended and through the institutionalization of the practice in local and/or national policies, plans and programs.

Based on the case stories, we can already identify some key policy gaps which, in the coming years, will be emphasized. These include:

1. Institutionalization of partnership modalities between communities, local government units and national meteorological agencies to develop mechanisms of information exchange, understanding and application
2. Institutionalization of public-private-partnerships and identification of key areas where the DRR/CCA/EMR approach can provide mutually beneficial applications/use for both sides
3. Mainstreaming of DRR/CCA/EMR approach in risk assessments

and using these as inputs to local (and national) policy and budget developments, especially those that will impact on livelihood options of the people

4. Use of the DRR/CCA/EMR approach in watershed-based, end-to-end early warning systems
5. Integration of the DRR/CCA/EMR approach in the many capacity building programs and information, education and campaign activities and materials development (like formal school curriculum development)

By using these documented PfR stories as real-life evidence, we hope to be able to convince others, including change leaders and policy makers, that indeed our resilience-building approach is doable and can create rippling positive impacts in the lives and livelihoods of people and communities. They give meaning to our call for building resilient communities by using not just one, not just two, but the three combined approaches of DRR, CCA and EMR.

The following case stories do not just present the things that have happened and those that have not. These cases show how resilience building is happening in real life. They show us that it takes time, it cannot be rushed, and there are simply no shortcuts.

PfR experiences: What are we learning?

Emilita Monville Oro, International Institute of Rural Reconstruction

The Partners for Resilience (PfR) learning agenda is based on lessons learned. As described in the Phase 1 proposal, the members of the PfR alliance found that reducing communities' vulnerability to disasters becomes increasingly important because of climate change and environmental degradation, which makes disaster occurrence more frequent, more severe, and more difficult to predict when using traditional means. Moreover, it makes little sense to work on livelihoods when communities' natural environment is not taken into account, since improper and unsustainable use of natural environments will ultimately be destructive to these communities.

PfR partners, all with different backgrounds, found that they can mutually reinforce each other's activities, hence the disaster risk reduction/ climate change adaptation/ ecosystem management and restoration (DRR/ CCA/EMR) approach. The overall learning goal is therefore to develop an integrated approach to be applied at both community and institutional levels.

Learning objectives

Combination of the three approaches has been piloted in some instances, and yet, the combined strength of the three has never been tested on the scale that the PfR programme has embarked upon. The PfR learning agenda is the backbone of the whole program, which has the following learning goals:

Learning objective 1: Identify good practices in integrated DRR/CCA/ EMR.

Learning objective 2: Facilitate implementation of integrated DRR/ CCA/EMR approaches at the community level.

Learning objective 3: Facilitate implementation of integrated DRR/CCA/EMR approaches at the local, national and international policy levels.

Levels of learning and key questions

Households. All PfR efforts are focused on making a positive effect at the household level—the main economical unit that provides basic necessities to individuals, such as food, water and shelter. PfR seeks to strengthen households to adapt their livelihoods to changing environments and climate.

Key question 1: What knowledge and tools do communities need to conduct integrated risk assessments?

The answer to this question is very context-specific. It is expected that different approaches will apply to different physical environments, socio-economic conditions and climatic variations.

Key question 2: What are effective and innovative measures to reduce disaster risk and to adapt to climate change in a sustainable way?

Communities. Households are part of communities, who provide networks and resources that households can tap into for their livelihoods and resilience.

Key question 3: What community structures and mechanisms facilitate households to apply the DRR/CCA/EMR approach?

Southern partners. The alliance's southern partners are the main implementers of activities and the linchpin between the alliance members, the communities, and government institutions. They are the fabric of civil society in their respective countries.

Key question 4: How do we facilitate application of integrated DRR/CCA/EMR with communities?

Key question 5: What steps are needed to incorporate integrated DRR/CCA/EMR approaches into policy at different levels (local to international)?

Alliance. The PfR alliance is the initial driving force behind the integrated DRR/CCA/EMR approach. It seeks to test and optimize the approach in order to share and upscale its benefits on a global level. The alliance will actively seek existing examples and proven methods for integration of DRR/CCA/EMR.

Key question 6: Which combinations of DRR/CCA/EMR approaches contribute to poverty reduction?

Key question 7: What factors are crucial to secure government, private sector and other stakeholder commitments for DRR/CCA/EMR to ensure sustainability and improve upscaling?

Key question 8: How can the PfR alliance contribute to the global process of improved climate risk assessments and the monitoring and evaluation of the impacts of the integrated DRR/CCA/EMR approach?

What have we achieved so far? What are we learning? These were the key questions posed to the members of the PfR alliance during the Bali writeshop. After almost two and a half years of implementation, it is time to take pride in our accomplishments to inspire us in our work, and take stock of lessons that can guide us in our implementation.

Twenty-five case stories were developed during the writeshop. Most of them discussed initial gains in community resilience building through community empowerment, community preparedness, small-scale mitigation measures, strengthening livelihoods and natural resources management. Local wisdom or indigenous knowledge and partnerships at various levels proved to be valuable given the PfR experiences. It is good to note that institutional changes towards mainstreaming the PfR integrated approach of DRR/CCA/EMR in their work are gradually taking place among PfR partners. Important advocacy initiatives have started scaling up and institutionalization.

Further analysis of the case stories was done given the learning agenda. The lessons learned in these case stories are discussed in the succeeding section.

Several key technical innovations can be derived from the case stories. One of these concerns bio-rights, which can be used to integrate livelihoods and environmental protection. Bio-rights constitutes a mechanism for providing a soft loan facility attached to environmental initiatives. This can be found in the story, Darat pantai honey for community welfare by Wetlands International Indonesia Programme.

Two other technical innovations noted are linked to early warning system (EWS). In the Philippines, an attempt was made to integrate CCA in DRR.

Scientific information was integrated to devise a community-based EWS approach for floods through village leaders linking with meteorological institutes like the Philippine Atmospheric Geophysical Astronomical Service Administration (PAGASA).

While in Indonesia, links to the Technical Unit of the Climatology Meteorology, Climatology and Geophysics Agency (BMKG) and other agencies were made to improve a reporting system about rainfall data for analysis, interpretation and forecasts of rain. These models for linking scientific with local information is shared by ACCORD and PMI/Indonesia Red Cross in their case stories. The Early Warning, Early Action initiative of the Philippine Red Cross has been enhanced through PfR, making it a more effective system of preparing and responding to emergencies that includes capacitating a core of community volunteers, a functional early warning system, contingency plans, and a village DRR plan.

Social innovations

Also highlighted in the PfR case stories are innovations such as having farmers and DRR champions share climate-smart technologies such as in the story Escalating impact through innovative farmers, where farmers share organic agricultural practices; or as facilitators and managers of village DRR programs as told in Leaders in resilience.

PfR has also built on indigenous practices and culture in the promotion of its advocacy. The interesting traditional values of *Inayan*, *Mbama* tradition, *Ipung* phenomenon and spring clean-up ritual can be read in this book. The PfR experiences proved that local knowledge, local wisdom related to perception, culture, tradition and daily practices are valuable in PfR implementation.

Another good practice in the areas of organizational learning can be found in the experiences shared by Philippine Red Cross and ACCORD of the Philippines and PMI of Indonesia. These organizations have embraced the PfR framework and gradually institutionalized it in their own organizations at varying levels. The two Red Cross national societies maximized the opportunity to learn with and from other organizations at the country level, complementing their strengths and drawing expertise from one another for their own approaches. ACCORD, a CARE partner in the Philippines, chooses to be dynamic, and evolves as an organization as it learns the importance and strength of the integrated approach of PfR by practicing it

and learning from other organizations (see Institutional capacity building: the ACCORD experience).

The PfR alliance offers rich learning through partnerships and collaboration. The stories in this book describe how PfR facilitates a multi-party collaboration engaging the community, government, NGOs, academia and the private sector through corporate social responsibility towards resilience building. A good model of public-private partnership is shared in the story Strengthening community resilience through public-private partnership by Corporate Network for Disaster Response (CNDR).

Facilitating implementation at the community level

Risk assessment is an important initial step in PfR implementation. Since the integration of DRR, CCA and EMR, a new framework has emerged. In the Philippines, PfR strives to develop new tools or enhance existing tools for risk assessment. These efforts have resulted in a risk assessment toolkit (PfR Toolkit) with identified common assessment tools used by both Red Cross and CARE partners. Having created the toolkit, they plan to build on it to ensure that the tools would also capture CCA and EMR data. For example, an important tool in participatory rural appraisal, the seasonal calendar is now successfully used in community assessments to indicate not only current hazards but also changes observed over time.

Global positioning system (GPS) has also proved to be useful, as described in the story Policy management in mangrove restoration, where GPS was used in field surveys to map the current status of mangroves in Sikka district.

Appreciative inquiry has also been mentioned as a process that can be used to assess the communities, looking at the strengths and understanding how to build on these strengths to achieve the goals of resilience.

Community structures and mechanisms

PfR considers sustainability in its strategy, which explains the bias for a community-based, community-managed approach. Community organizing is at the heart of our strategy. Listed below are the community structures and mechanisms that can be used by households to apply the DRR/CCA/EMR approach. All are discussed in the PfR stories in this book.

• Kembang Bakau. A community-based organization established at one PfR site in Indonesia to conduct an environmental restoration program and to provide soft loans for capital development.

• Barangay disaster risk reduction and management committee. A village-based structure in the Philippines. It is a political structure mandated by the government in every village through Republic Act 10121, the Philippine Disaster Risk Reduction Management Act of 2010. Its composition includes the village officials as the heads of the committee together with the health workers, leaders of people's organizations and community leaders.

• Red Cross 143 (Philippines) / SIBAT (Indonesia). Exemplifying the spirit of volunteerism, Red Cross 143 is a volunteer system comprised of 44 members in every village and equipped with knowledge and skills to serve as a mechanism in achieving resilience and assisting the Philippine Red Cross in promoting self-help communities. The Sibat community-based disaster preparedness team, which was organized by PMI Sikka, comprises volunteers from the community. Its primary role is to help the community improve knowledge, attitudes and skills to support DRR efforts in the village.

• *Mosalaki*. A traditional structure at the root of social stratification in Lio society in both Sikka and Ende districts in Indonesia. Mosalaki refers to the leaders of a social community (tribe), or the leaders in a specific tribal region or communal. They are formal leaders with great influence on people's lives, with rights of communal land ownership as well as rights to lead traditional rituals. Almost all land proposed for rehabilitation activity is under their control. Read more about Mosalaki in the story Local wisdom for the three pillars of resilience.

Strategies for integration

Building community resilience starts and ends with the community. In its goal to build community resilience and alleviate poverty, participatory approaches are crucial in facilitating application of integrated DRR/CCA/EMR with communities.

Most of the stories in this publication discuss the value of community participation that builds togetherness and oneness. Communities are engaged not only in the beginning but in every step of the way. This

involvement entails collective action resulting in community ownership, and commitment to be involved, and the desire to share knowledge, skills and resources to resolve problems.

Effective capacity building is a critical component of the unique framework that comprises PfR. Partner organizations needed to be trained and introduced into new concepts and analyze how the three key components – DRR, CCA and EMR – can be integrated. Partner communities and community facilitators and volunteers need to be oriented and properly mentored. It is a process of learning by doing together.

Small-scale mitigation measures are concrete actions geared towards risk reduction. These have been implemented in various ways for a long time. But now, with the PfR approach, we consider climate change and ecosystems as part of the package. This includes planting along river banks, reforestation, using organic agriculture, restoring water systems, building nursery establishments, and planting bamboos and palm trees as mitigating measures to reduce landslides and to protect the springs. Supporting traditional livelihoods and building on the internal resources are also crucial in building resilience. All these can be found in this compilation of PfR case stories.

Multi-agency partnerships at various levels are crucial in successful integration as expertise is provided and strengths are complemented by the PfR partners. Program implementation is undertaken in partnership with the government, community-based organizations, academe, meteorological institutions, and the private sector.

Approaches to policy at different levels

For expansion and sustainability of the integration of DRR/CCA/EMR, supporting policies are required. A success story unfolds in the Policy management in mangrove restoration, where a mangrove policy drafting team was created, and PfR partner Wetlands International Indonesia Programme, was recognized as a part of the team. In 2012, the district formally issued Decree 263/HK/2012 Mangrove Protection Zone in Sikka, which calls for the protection of the mangrove ecosystem and prohibition of activities that could damage it. These would not have been possible without effective public consultation and multi-stakeholder participation.

In the Philippines, Red Cross teamed up with the City Government of

Valenzuela to mainstream DRR, CCA and EMR. PfR has established and built good relationship with the local government. It synchronizes its work with the local government and supports the latter in conducting the risk reduction process to include assessments, planning and capacity building in DRR.

Finally, in the story Strengthening community resilience through public-private partnership, CNDR, a CARE partner in the Philippines, has high hopes of what it can do at the policy level. As the representative of the private sector in the National Disaster Risk Reduction and Management Council, it can help facilitate and advocate the three approaches as part of its commitment to help build the resilience of the private sector and the Filipino communities.

More to do, more to learn

Two and a half years down the road, PfR's work for the integration of DRR/CCA/EMR continues to be strengthened. Concepts are becoming clearer, processes are more systematic and partnerships and the alliance are better coordinated. There is more to do, more innovations to be developed, and more learning to be derived. At the end of all these is the hope that true community resilience can be achieved.

Indonesia Overview

Indonesia is the world's fourth most populous nation with 242 million inhabitants. The population has more than doubled since 1970 and is straining the country's natural resources. Indonesia is the world's largest archipelago, a vast span of about 17,000 islands that stretch more than 5000 kms from Sabang in northern Sumatra to Merauke in Papua.

Recent macroeconomic developments suggest that Indonesia's economy has finally recovered from the 1997 Asian financial crisis. The challenge now is to sustain a growth rate of 6-7%. The current unemployment rate is 6.14%, and 12.5% of the population lives below the poverty line (Central Statistics Agency [BPS] 2013).

High disaster risk aggravates poverty levels in the country. Over the period 2000-2009, almost 11 million people were affected by seismic and climate-related disasters. Like the Philippines, Indonesia is located at the convergence of three tectonic plates, which constitutes the Pacific Rim's 'ring of fire' known for frequent and violent earthquakes and volcanic activity, both of which cause tsunamis. Floods and landslides are the most commonly occurring disasters, with many communities experiencing four or more flooding events annually, causing loss of lives, livelihoods and infrastructure. Many parts of Indonesia are also susceptible to drought, often exacerbated by illegal forest logging, resulting in crop failure and uncontrolled bush fires.

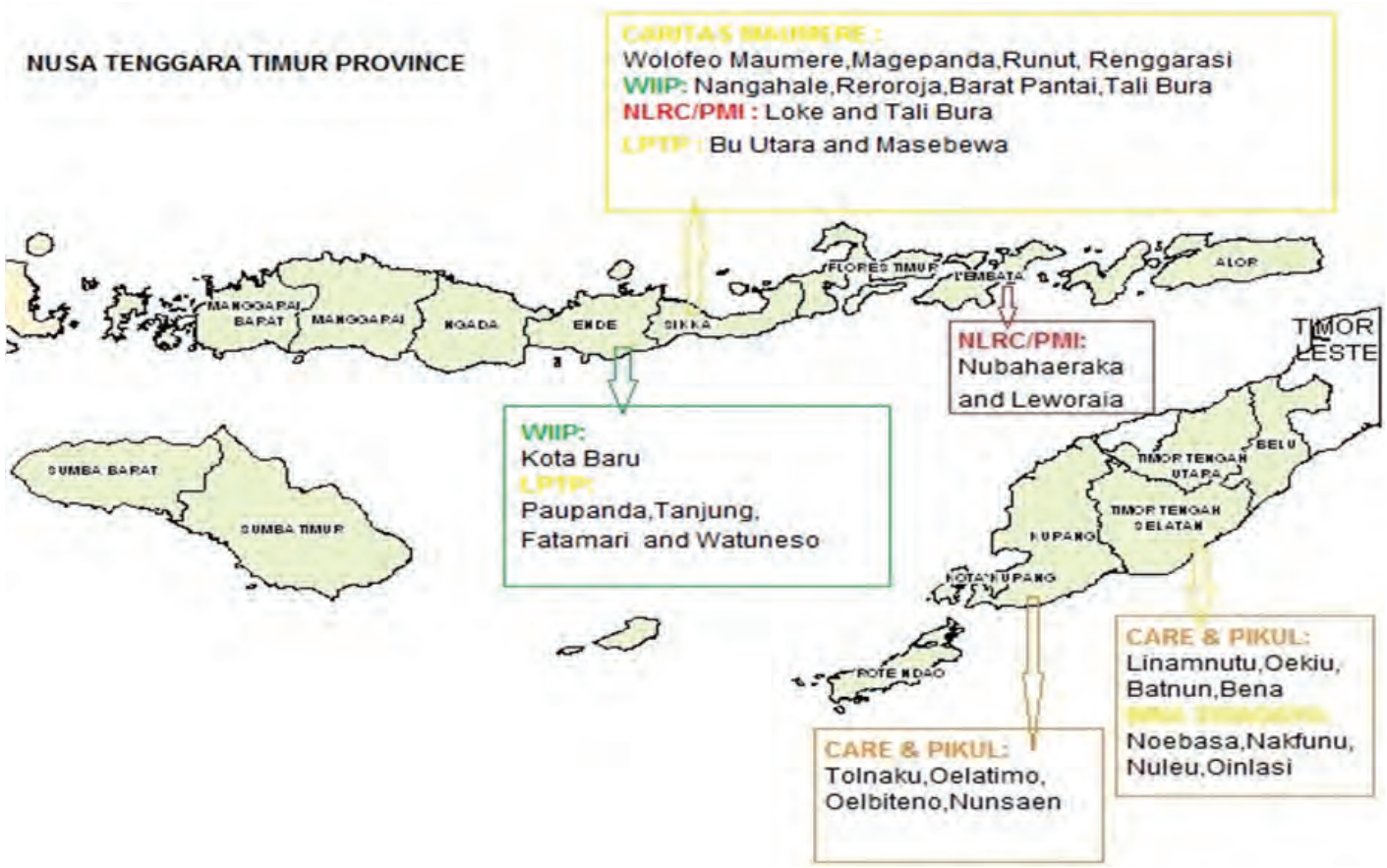
The already large number of related hazards in Indonesia and their intensity is aggravated by climate change. The major trends projected for Indonesia are increases in annual precipitation in most areas and decreases in others. Also predicted are changes in seasonality—a 30-day delay in the annual monsoon, a 10% increase in rainfall later in the crop year (April-June), and a sharp decrease in rainfall in the dry season (July-September).

To address these predicted disasters, the Indonesian National Board for Disaster Management (BNPB) was established in 2008 to replace the National Disaster Management Coordinating Board that was earlier established in 1979. BNPB is directly responsible to the president, and its chairperson is directly appointed by the president. The Government of Indonesia, which has prioritized the control and management of natural disaster risk in its National Medium-term Development Plan for 2010-2014, has significantly strengthened the framework for disaster prevention, preparedness and response. One of its priorities is to increase the country's capacity to overcome natural disasters. In 2011, Indonesia's President Yudhoyono was designated as Global Champion of Disaster Risk Reduction by the United Nations.

Indonesia has significant national expertise and resources, including volunteer groups, to respond to disasters. At the same time, the government welcomes assistance from international agencies that either respond to disasters and or support coordination efforts. In implementing disaster management, BNPB works in cooperation with the other ministries, agencies and other institutions. For example, when dealing with disasters related to the environment, BNPB works with the Ministry of Environment, the Ministry of Marine Affairs and Fishery, the Meteorological Board Agency, and the Indonesian National Board for Climate Change (DNPI).

The agency tasked with the conduct of disaster management is Badan Penanggulangan Bencana Daerah (BPBD), which operates both at the provincial and district/city levels. BPBD is responsible for the formulation of policies related to disaster and displaced people. The body is also tasked with the coordination of disaster management-related activities.

Like other partnership initiatives in Indonesia that focus on saving lives and livelihoods caused by disaster, PfR reinforces the initiatives to integrate the approaches of DRR, CCA and EMR. In Indonesia, PfR is working in Nusa Tenggara Timur (NTT) province, the province most vulnerable to hazard events. Together with four Netherlands-based organizations and six implementing partners, PfR works to strengthen community resilience.

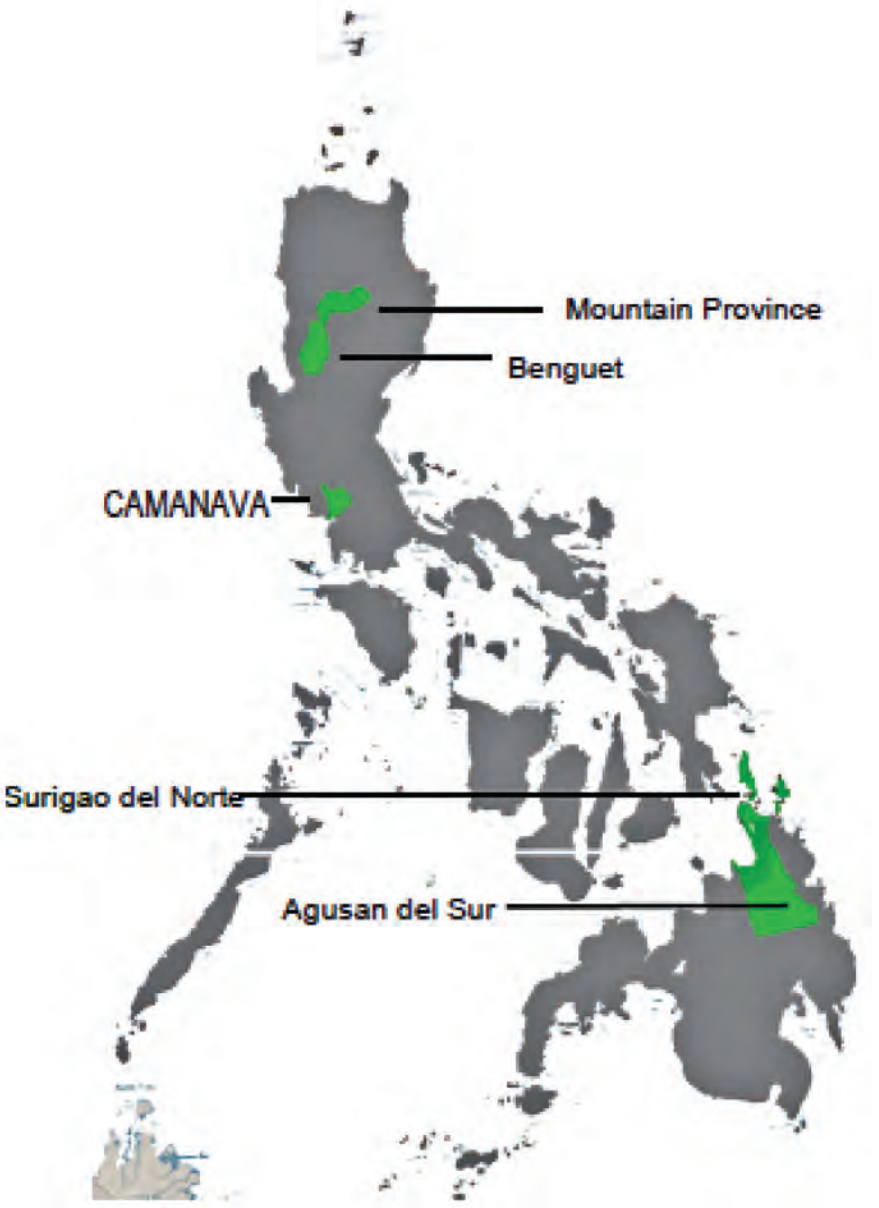

NUSA TENGGARA TIMUR PROVINCE
CARITAS MAUMERE :
Wolofeo Maumere,Magepanda,Runut, Renggarasi
WIIP: Nangahale,Reroroja,Barat Pantai,Tali Bura
NLRC/PMI : Loke and Tali Bura
LPTP : Bu Utara and Masebewa
MANGGARAI BARAT
MANGGARAI
NGADA
ENDE
SIKKA
FLORES TIMUR
LEMBATA
ALOR
NLRC/PMI:
Nubahaeraka
and Leworaia
TIMOR LESTE
WIIP:
Kota Baru
LPTP:
Paupanda,Tanjung,
Fatamari and Watuneso
SUMBA BARAT
SUMBA TIMUR
BELU
TIMOR TENGAH UTARA
TIMOR TENGAH SELATAN
KUPANG
KOTA KUPANG
ROTE NDAO
CARE & PIKUL:
Linamnutu,Oekiu,
Batnun,Bena
Noebasa,Nakfunu,
Nuleu,Oinlasi
CARE & PIKUL:
Tolnaku,Oelatimo,
Oelbiteno,Nunsaen

Philippines Overview

Located in Southeast Asia, the Philippines is an archipelago consisting of 7,100 islands. The country is an emerging economy with a democratic form of government. Its population of over 90 million is projected to reach 140 million in 2040. Total land area is 300,000 square kilometers. Multiple and diverse ethnicity and culture thrive. The country is the third most disaster-prone in the world. It is located on the Southeast Asian Continental Shelf between the South China Sea and the Pacific Ocean—part of the "Pacific Ring of Fire." This area is a belt of active volcanoes and fault lines, which is why the country is prone to earthquakes and volcanic eruptions. In the Philippines, no less than 300 volcanoes surround five volcanic belts of which 22 are considered active.

The inter-tropical convergence zone, supplemented by monsoon rains, result in an average of 20 tropical cyclones annually, nine of which make landfall. From 1997 to 2007, the National Disaster Risk Reduction Management Council (NDRRMC) recorded 13,155 human casualties, 51 million families affected, and economic damage to agriculture, infrastructure, and private property estimated 158 billion pesos (US$3.6 billion). Environmental factors such as denuded forests aggravate the problem. The pace of deforestation since the 1930s peaked in the 1950s and 1960s. The pace slacked off in the 1980s, but the effects are still felt by communities that experience frequent landslides and floods. According to NDRRMC, between 1990 and 2006, the annual direct damage caused by disasters amounted to 20 billion pesos (US$461,000) per year. This is roughly 0.5% of the gross domestic product.

According to a survey conducted by the Social Weather Station, around 47% of Filipinos consider themselves poor. The average monthly income remains low at 4,576 pesos (US$105) with the highest incidence of


Mountain Province
Benguet
CAMANAVA
Surigao del Norte
Agusan del Sur

poverty found in Mindanao and in the Cordilleras. The unemployment rate is estimated at 6.9% or 2.8 million (National Statistics Office 2012). 37.8 million are employed with more than half (51.6%) in the service sector, 32.9 in the agricultural sector, and the rest (15.5%) in the industry sector.

In the past, the Philippines merely focused on response efforts. The National Disaster Coordinating Council (NDCC) was established through Presidential Decree 1566. But amidst the country's capacity to respond to and reduce the risks, the threats remain because the underlying causes of vulnerability have yet to be fully recognized and addressed. In 2009 and 2010, two landmark policies were enacted that contributed to the paradigm shift of the country towards risk reduction and climate change adaptation.

Republic Act 9729 "An Act mainstreaming climate change into government policy formulations, establishing the Framework Strategy and Program on Climate Change, creating for this purpose the Climate Change Commission, and for other purposes." This law created the Climate Change Commission, mandated to formulate the Philippines' framework strategy, program and action plan on climate change, among others.

Republic Act 10121 "An Act strengthening the Philippine Disaster Risk Reduction and Management System, providing for the National Disaster Risk Reduction and Management Framework and Institutionalizing the National Disaster Risk Reduction and Management Plan." The plan stresses a bottom-up approach that aims for "safer, adaptive and disaster-resilient Filipino communities towards sustainable development." It also espouses participation and involvement of communities and other stakeholders together with all political administrations.

Both RA 9729 and 10121 redefined the institutional framework for jointly addressing climate change impacts and disasters. These legislations mark a significant progress aimed at reducing the loss of lives and assets caused by natural hazards and take action to reduce greenhouse gas emissions and adjust to the expected effects of rising global temperatures.

As 90% of the damages caused by extreme natural events are climate-sensitive there is an obvious need to address DRR and Climate Change Adaptation (CCA) together. These policy measures call for a holistic,

comprehensive and integrated approach in addressing impacts of disasters and climate change incorporated in the development plan at various levels of government and mainstreamed in development processes.

Both policies highlight the need for a paradigm shift which involved the promotion of non-structural and non-engineering measures such as community-based disaster preparedness and early warning, the use of indigenous knowledge, and land use planning, therefore, encouraging the application of land use policies and land use planning in disaster risk management. It highlights the "building back better" concept and the fact that resources need to be invested and shifted to prevention and adaptation measures more than to response and rehabilitation. These laws stress that resources should be invested and prioritized for prevention and adaptation by mainstreaming CCA and DRR into the country's national and local plans. This means that CCA and DRR in plans should be viewed as a means towards refocusing the development goals, objectives and targets to be able to adequately respond to disaster risks; and identifying and implementing appropriate interventions to address the impacts of disaster risks.

Several partners and various stakeholders in DRR and CCA have been working together towards a safer and more resilient Philippines, but efforts are still undertaken separately. Because of the devastating effects of disasters aggravated by climate change and environmental degradation, the Partners for Resilience (PfR) initiated the DRR/CCA/EMR integrated approach. In Asia, the PfR program is being implemented in the Philippines and Indonesia.

While governments bear the primary responsibility for ensuring the safety and resilience of the population, it cannot—and should not—take on these tasks alone. PfR endeavors to work with governments at all levels to empower communities to build resilience and alleviate poverty, and together with other partners, stakeholders, and government leaders, build a safe and resilient Philippines.

Strengthening community resilience

Challenges in implementing urban DRR

Erica Bucog, Assistance and Cooperation for Community Resilience and Development Inc. (ACCORD Inc.)

Amidst imposing high-rise buildings and elegant mansions are patchworks of rusty galvanized iron sheets, plywood, tarpaulins and other lightweight materials used to build what the community in *Barangay* (village) Potrero, Malabon City, calls home. Here, community members in the target locations try to make ends meet, struggling to find resources for a day's meal for their families. Barangay Potrero has 42,000 residents occupying 303 hectares. Under PfR, the Assistance and Cooperation for Community Resilience and Development Incorporated (ACCORD) has been focusing on two *sitios* (hamlets)—East Riverside and a cluster of five streets (Doña Juana, Atis, Mangustan, Banana Road and Juliana). These settlements are among the most high-risk sites in the city.

The experience of Metro Manila during Tropical Storm Ondoy (international name Ketsana) in 2009 pushed the Philippine government to have a clearing program along the river banks. In a statement, President Benigno Aquino said that removal of settlements would become a government program. Months after his announcement, although no official statements were released, rumors started to go around in East Riverside that removal was imminent. Despite the rumors, ACCORD decided to push through the implementation of the disaster risk reduction program under the Partners for Resilience (PfR) in East Riverside.

As the work started with the community in East Riverside, the main concern was when and where the inhabitants would be relocated. During the Community Risk Assessment, it was apparent that because the community lack resources, they are constrained to live in makeshift shelters along the riverbanks. Moreover, their houses are undocumented and unofficial which worsened their situation. No official information is made available as to when their houses would be removed nor where

they would go. This hearsay, as can be imagined, had an unsettling effect on the community.

Barangay Potrero after heavy monsoon rains.

Although the main concern of both ACCORD and the East Riverside inhabitants was the community's safety, dealing with the issue at hand was the priority. Since ACCORD's process follows certain steps that do not directly address the community's issue, their interest in the project waned. During meetings and trainings, it was evident that the community saw the PfR intervention as a project that could help them secure their relocation. Questions arising during training sessions were always about how PfR could help them get through the pending demolition of their homes.

ACCORD realized that it was imperative to have a role in the community's most pressing issue. If not, the PfR program would not be successful and efforts and resources that might otherwise be of assistance to the community would be wasted.

The ACCORD implementing team therefore decided to set aside ACCORD's usual process and took steps to address the problem. First, they did some research and talked to the local and village leaders. The village council said that they had not been informed about the plans of the city government aside from hearsay coming from different sources. This defined the role of the team—to access correct information from government offices and to disseminate it to concerned stakeholders.

The next step was to schedule meetings with relevant local government offices like the City Housing and Resettlement Office and the City Councilor that heads the Housing Committee of the Malabon City local government unit.

After these meetings, the team relayed the information to the Barangay Potrero Council and checked to verify that they were receiving the same information. The issue worsened because the formalization of the clearing operation had not yet been resolved. The team raised the issue and the community's concern to Potrero's village captain during their disaster preparedness training. She then called a sitio-wide meeting and invited officials from the city government to help the community clarify the matters of the removal of their houses.

After these efforts to bridge the information gap, community participation strengthened. It was quite a challenge, but the project team tried different ways on how to get the community's commitment to participate. Community leaders became more open to PfR interventions. The community was capacitated with knowledge that could help them objectively assess their relocation dilemma. The staff held public awareness activities like film showing and dissemination of information-

Adaptation. Flexible schedule and training activities are some of the coping strategies ACCORD staff utilized to encourage community participation.

education-communication materials. Flexible training schedules were adopted, training sessions were conducted in the community, and community-friendly training visual aids were used. Although optimal participation was not yet accomplished, the team is optimistic that in the future this would improve.

The threat of removal of houses increases the risk of the already vulnerable populations. It was clear that especially in urban areas, housing and resettlement issues contribute to the underlying causes of why people are vulnerable and exposed to disasters. Organizations working in urban risk reduction need to seriously take this issue into consideration and really see how DRR and CCA can best be mainstreamed into the local land use plans.

Through this experience, ACCORD has realized the complexity of the different levels of relationships and leadership when working in urban areas. There are so many agencies involved. ACCORD also realized that the different factors contributing to why people are vulnerable do not just revolve around a community's lack of preparedness in disaster management and response, and that it is necessary to answer the community's primary interest first. Through proper risk analysis, necessary steps can be taken to ensure that risk management programs include appropriate, relevant and flexible activities.

Climate and environmentally smart disaster mitigation measures

Analyn E. Bernal, Agri-Aqua Development Coalition-Mindanao

Talacogon is situated in the center of the Agusan River Basin, one of the 18 major river basins in the Philippines. Portions of the town lie within the Agusan marsh and peat lands, which serve as a catchment for flood waters from several upstream provinces. Every year, for about three months, many Talacogon villages are affected by floods several meters high, which in recent years have grown increasingly hazardous due to changes in duration and timing. Another problem is the deterioration of water quality. For the past two years, typhoons have also affected Talacogon and other areas of Mindanao which are not in the usual typhoon paths.

Because of this changing situation, the community has determined, through PfR projects, to implement small-scale mitigation measures. These measures take into consideration the wider ecosystem that provides services and increases livelihood resilience.

The PfR project contributed in developing environmentally sustainable mitigation measures by improving existing community risk assessment tools that incorporate questions on climate change and ecosystem information. It also used the ecosystem-smart (eco-smart) criteria developed by Wetlands International to check whether proposed mitigation measures were environmentally sustainable. The proposals were finalized during CARE's project cycle management training.

Greening the river banks

The community risk assessments were facilitated by the local PfR partner Agri-Aqua Development Coalition-Mindanao (AADC). The assessment results have shown that riverbank erosion greatly contributes to water pollution of the Agusan River and consequently the deteriorating quality

Erosion is damaging the Agusan River.

of its water. Residents have pointed out how diverse trees and plants that used to line the riverbanks have greatly diminished because of erosion. Addressing this situation, Pascual Asis, a member of the village council of La Flora, says 'We will plant trees along the riverbanks to lessen erosion and protect the banks from the strong current of floodwaters.'

Community members have pointed out that they should plant trees and use species endemic to the area to ensure a high survival rate. The PfR project will provide inputs like seedlings and training to community members about general ecosystem services management, and specifically about the technical elements of this mitigation measure. The PfR partner will also ensure a linkage with the local partner, Caraga State University, as well as the government's Department of Environment and Natural Resources.

In *Barangay* (village) La Flora, forest cover of areas around the Lake Manabihid as well as several other lakes has significantly decreased in the past decades due to logging activities. This has resulted in increasingly rare sightings of many animal and bird species in the area. Examples are *kalaw* (Rufous hornbill), parrot, owl, monkey, and a variety of fish species

in surrounding water bodies.

While the logging industry provides income to residents, it has had a negative impact on their sources of food. And since fish are getting harder to catch, some villagers have resorted to electro fishing, the use of electricity through two electrodes to stun fish. This further intensifies the problem by damaging the fish population, stunning or killing even the smaller ones and scaring away the fish.

Rufous (Philippine) hornbill, locally known as *kalaw*, is a species endemic to Mindanao.

The reforestation activity is in line with larger reforestation efforts like the national greening program of the Department of Environment and Natural Resources and the local government unit, both aiming to increase the forest cover of the municipality. These activities will not only benefit the municipality, but also other areas downstream.

Reviving the water source

In addition to these efforts, the risk assessment conducted by the PfR team pointed out the need to rehabilitate a deforested watershed in Barangay San Nicolas. This intervention will secure a continuous water supply of good quality for some 2,300 residents.

This watershed reforestation effort will complement another small-scale mitigation activity, the repair of water system in the same village. The pipe was washed away by the strong winds of Typhoon Washi in 2011 and has not been repaired since then. The tree where the pipe crossing the Agusan River used to perch also fell and only the stump remains.

Jose Guerrero, a village councillor and Project Management Team leader for the water system repair, explains: 'The pipes will be placed on the same site, but instead of just putting it on a tree branch, concrete posts will be built to hold the pipes a few meters from the tree stump, so that

A water reservoir in Barangay San Nicolas.

it will not be destroyed easily by strong winds or river current.'

Since the water pipe was damaged, residents have had to fetch water from a neighboring barangay and transportation costs became more expensive than the water itself. People harvested rainwater as much as possible, but when there is no rain, or if they do not have enough money to buy water, some fetch water from unprotected springs or the murky Agusan River itself, which they use for cooking and drinking.

Leaders and active community members know that restoring the water system is of utmost importance, and that accessing safe water is essential to safeguard health, sanitation and hygiene.

PfR supports this activity by providing construction materials for rehabilitation. To ensure quality intervention, PfR will provide technical assistance by giving an orientation to community members who help in the rehabilitation efforts.

Going organic

Another contributing factor to the pollution of Agusan River and other bodies of water in the area was identified in the PfR risk assessment as the widespread use of chemical fertilizers and pesticides by farms and plantations. Aware of this through climate- and eco-smart DRR training, communities have begun to cultivate rice, corn and vegetables organically.

Farming is the primary means of livelihood of most residents. There have been attempts by the women's organizations to promote organic farming, which will be strengthened with efforts under PfR. With organic farming, yields will be lower than those produced using chemical fertilizer, but the costs of inputs will also be less. In the long run, this will influence farming

practices of other areas and lessen chemical pollution of the river and its tributaries.

To help the community go organic, PfR provides seeds that can resist the fluctuations of changing seasons, as well as training in organic farming. During PfR's mid-term review, the farmers' experiences during erratic seasons highlighted the need to include seasonal forecasts for sharing with farmers.

One of the difficulties after the rainy season is access to seeds and seedlings for planting. Because many farmers do not have enough money for inputs, lower input costs through organic practices will help lessen their expenses.

In addition, floating seedling nurseries will be established so that when flood waters subside, seedlings will be readily available for planting. This idea was inspired by a women's organization as they practice setting up floating gardens with medicinal plants that are particularly useful during the flood season.

Moving forward

Small-scale mitigation activities are aimed at addressing the vulnerabilities of the communities and reducing the adverse impacts of hazards and possible disasters. These activities were identified by community members based on the result of community risk assessments, both of which were participatory and undertaken by community members themselves. Use of the integrated approach of climate and eco-smart DRR has definitely shaped the way the communities analyze their risk and subsequently the drawing-up of risk reduction measures.

The importance of a sound risk assessment is essential to successful implementation of climate- and eco-smart DRR training. It is only with a correct analysis that appropriate and effective risk reduction measures can be designed and an effective contingency plan formulated.

The PfR project also encourages communities to work with experts to decide which mitigation measures are relevant. Alternatives to be considered include the landscape approach and seasonal forecasting to adapt farming systems. Updating of community risk assessment and a contingency plan also help reduce disaster risk.

Given that no project can address all needs in a community, communities need to understand that whichever small-scale mitigation measures are implemented, none of these will completely address the risks. However, they will contribute to solutions and demonstrate how the integrated approach works when used in actual practice. The act of working together as a community will also prepare them for facing the bigger challenges ahead as they address the underlying causes of vulnerability on their way to achieving resilience.

Red Cross 143 volunteers: Drivers of community resilience

Rosalie Morano, Philippine Red Cross, Agusan del Sur chapter
Geneveive Luarez, Philippine Red Cross, Surigao del Norte chapter

The Philippines is frequently hit by hazards like typhoons, storm surge, floods and earthquakes. The adverse effect of these hazards can be reduced or minimized through programs that strengthen the capacities of the communities.

'Being a Red Cross 143 volunteer and having been trained on disaster risk reduction and management help me gain more knowledge on how and when to act before, during and after an emergency.'
- Bevien Limsoy, Red Cross 143 volunteer in the village of Hawilian, Agusan del Sur

The Red Cross 143 volunteer system was created after a massive landslide that occurred in Guinsaogon, Southern Leyte, Philippines, in 2005. Many people lost their lives. Learning from this experience, the Philippine Red Cross created a volunteer system called Red Cross 143, comprised of 44 members in every village in the country.

The Partners for Resilience (PfR) program works to strengthen the resilience of vulnerable communities thru the combined approach of DRR, CCA and EMR. This builds on to the already existing RC 143 program focused on building the knowledge, skills and capacities of a core of volunteers at the community level. The PfR project areas cover a total of 1,100 active Red Cross 143 volunteers located in 25 villages.

These volunteers are involved in disaster risk reduction, climate change adaptation and ecosystems management and restoration activities. The work in the villages begins with a community-based disaster management training of Red Cross 143 volunteers which provides information on environmental degradation and the changing climate.

The next step is to identify the vulnerabilities and capacities of the community to deal with disasters through a participatory risk assessment, facilitated by the Red Cross 143 volunteers. The risk assessment tools are enhanced before starting the project. For example, the seasonal calendar indicates not only current hazards, but changes observed over time. Using this information, the communities create a disaster action plan and also a contingency plan.

Community members are capacitated with community first aid, basic life support—cardiopulmonary resuscitation for lay rescuers, home nursing, and basic water safety and rescue. Aside from trainings, basic rescue equipment and first aid kits are distributed.

The volunteers are also involved in activities like tree planting, clean-up drives and solid waste management. Overall, Red Cross 143 volunteers are the key players in mitigating the vulnerability and disaster risk of the community.

Effective early warning saves lives

When Typhoon Pablo (Bopha) hit the Philippines in 2012, Agusan del Sur was one of the affected provinces. Because of the knowledge acquired through the PfR program, Red Cross 143 volunteers took appropriate action such as installing an early warning system in the community through *bandilyo*, or house-to-house information dissemination system, which alerted the community on the imminent disaster. It enabled them to evacuate on time. Because of the early warning and early action undertaken by the villagers, no casualties were noted in the PfR project areas of Agusan del Sur, while in non-PfR areas, casualties were unfortunately reported.

In Surigao del Norte, the community flood drill had already been completed, making a significant impact on people's level of awareness. It gave them the confidence to move and act accordingly when the floods came. Before the PfR program to the village, it was difficult to convince community members to evacuate because they had inadequate information regarding the importance of early warning-early action scheme. As Red Cross 143 volunteer Narissa Vertudazo put it, 'There was a big difference in our community after the drill. People became alert and always ready to evacuate without panicking. We did not have to force them.'

First aid saves lives... A rescue story

by Red Cross 143 volunteers Mary Jane, Christilyn and Marlyn

In May 2012, an incident occurred in the village of Tagbuyawan, Mainit, Surigao del Norte. Mrs Jhonrose Lampad and her brother-in-law were looking for a lost water buffalo. They noticed that something was floating and it seemed like a doll. As they went nearer, they were shocked to find that it was Jhonrose's son, Wendelino. Jhonrose immediately got him out of the water and shouted for help. Mary Jane Macalolot, a trained volunteer, heard the distress call. She quickly applied her first aid skills, but no changes were noted in the boy. Their neighbor said 'Wendelino is dead.' Two more trained volunteers arrived to help. Christilyn applied cardiopulmonary resuscitation or CPR until Wendelino coughed up water and he was able to cry loudly. After that, Marlyn positioned Wendelino into a recovery position.

Jhonrose says 'I am very happy that we have trained volunteers in our village who were able to save my son's life!'

Jhonrose Lampad with her son Wendelino. (Photo: PRC-SDN)

Working together

The Red Cross 143 volunteers work with the village councils as members of the Barangay Disaster Risk Reduction and Management Committee (BDRRMC). Formation of the BDRRMC is mandated by the government in every village through RA 10121, the Philippine Disaster Risk Reduction Management Act of 2010. Its composition includes the village officials as the heads of the committee together with the health workers, leaders of people's organizations and community leaders.

In the village of Hawilian, Agusan del Sur, 143 volunteers have created ways to raise funds for their group by supporting solid waste management activities. Each of them collected reusable garbage from every household. During their meetings they bring sacks of collected reusable garbage and sell them to the junk shop. The money is then used to replenish first aid materials including cotton, antiseptics, plaster and gauze. With this initiative, they not only identify the source of funds but they also help reduce environmental degradation. This initiative was replicated in the village of Santa Fe in the same town.

The Red Cross believes that a community without planning and adequate preparedness is most vulnerable to the hazards surrounding them. Organizing and capacitating volunteers is therefore an enormously important and effective mechanism for building community resilience and saving lives.

Going green in Talibura

Mario WP Sina (Alfian), KSR Volunteers, PMI Sikka District

> *Give a man a fish, he'll eat it all. But give him a fishing rod and teach him how to fish, he'll eat for a lifetime. - Ancient Indonesian aphorism*

Talibura is one of the village beneficiaries under the Integrated Community-based Risk Reduction–Climate Change (ICBRR-CC) collaborative project between the Netherlands Red Cross (NLRC) and the Indonesian Red Cross (PMI). Talibura's population is 2,414 and the village is spread across 1,594 hectares. Talibura experiences a number of hazards. Tidal waves and floods occur regularly, posing a serious threat to coastal communities in Kampung Baru and Talibura hamlets. Two other hamlets, Habihodot and Tanah Merah, are threatened by floods, especially during rainy season, from December to March every year.

Floods are caused by overflowing water from the confluence of two rivers that cross the area, Tadanong River I and Tadanong River II. The second river comes from Darat Gunung village and the first river comes from a hill not far from Talibura village. Habihodot hamlet, located in the lowlands, is where the two rivers meet before they empty into the Flores Sea. Until the present, houses are damaged and crops are ruined when catastrophes struck. Accepting them as fate was the norm and all the villagers could do was to hope that destiny would be in their favor.

The Sibat CBDRR Team

But accepting disasters as fate has slowly changed since community involvement in ICBRR-CC training programs was initiated for the 30 village volunteers that comprise the Sibat community-based disaster preparedness (CMDRR) team organized by PMI Sikka. Through a seven-

day training, the team became empowered to help the community improve knowledge, attitudes and skills to support DRR efforts in the village.

After completion of the training, the Sibat team focused on routine program activities. They conducted house-to-house visits to implement a baseline survey and invited community representatives to participate in participatory rural appraisal to develop hazard, vulnerability, risk, and capacity mapping in the village. In a bustle of daily program activity, the community allocated regular meetings every month to discuss program planning.

Clean Friday and greening activities

One concrete outcome of program planning is Clean Friday. This is a village clean-up activity organized in each hamlet on a rotating basis. During the second meeting, it was decided to implement greening activities in the village. This idea came out of an agreement during PRA activities. The Sibat team identified various disaster risk locations for greening activities, and in November 2012 greening activities were conducted. This implementation is in line with the PfR approach of ecosystem management and restoration.

Forged by a spirit of volunteerism, about 25 Sibat members became involved in tree planting. The planting was conducted in November, based on an adaptive strategy to climate change that rain should come earlier than the usual time in cropping patterns. The planting location at Habihodot hamlet was located alongside the riverbank. Small hibiscus trees, bamboo, and gmelina (white teak) were selected for planting because these types of trees are able to conserve water and retain soil stability, thereby resisting erosion by flood. A total of 278 saplings were planted in this location.

Sustainability of efforts

Sibat's operational funds were generated from membership contributions collected at every meeting. Because each activity was implemented based on the members' own initiative, they used resources and components existing within the community. So the operation was virtually cost-free because each team member brought saplings and small trees from their gardens. One member, 34-year old Damien Delak, admitted that he had some challenges during planting. Other people refused to contribute

and even scolded us because they were worried that tree planting would reduce their land area. But after explanation, they understood. Their agreement and support showed that tree planting can also be done under individual land ownership. Fences were put around small trees to protect them from livestock.

In addition to the greening activities along the riverbanks, the Sibat team also planted mangrove saplings in Kampung Baru hamlet near the coast. In the future, they plan to establish cooperation with Wetlands International to learn about mangrove nursery and husbandry. It is hoped that a good outcome will result from this collaboration.

In Tanah Merah hamlet, one team member agreed to do planting around one spring that provides water supply for the village. The initial tree selected for planting is mahogany. At a glance, mahogany does not appear to be the proper tree for planting at the spring, but it was chosen as a way for landowners to give permission for their land to be planted with other trees. The Laka Wair spring is located on communal land, so it is hoped that mahogany trees could give economic value for the owners.

In addition to implementing the above system, the team also coordinated with hamlet, village staff and community leaders so their plan could be implemented smoothly. Based on the information they collected from the community, proper trees to be planted at the spring are bamboo, pandan leaves and raon. One constraint to tree planting at the spring is the difficulty of obtaining tree seeds. It is therefore recommended to approach a relevant institution such as the Forestry Department or NGOs who might be able to support PMI at district level.

Through PfR, the 3 pronged approach to building resilient communities gives us a range of interventions. We do not only help communities adapt to the impacts of the changes in climate. Equally important is that we also build community self management and partnerships through capacity building and through our resilience champions and teams on the ground.

Strengthening community preparedness through drills

Dinah Espanto Dicap, Philippine Red Cross, Surigao del Norte chapter

'I cannot imagine how we can do our community drill!' exclaimed Jeanelita Dandan, village captain of Tagbuyawan, as she shared her sentiments and apprehensions during a special meeting with the barangay's (village) disaster response team. Knowing the hard work that lay ahead and the need to solicit the community's full participation, the planned drill seemed impossible. But with persistence, close coordination, and working as partners, the village was able to plan and conduct the drill, preparing the village for the hazards to come.'

Tagbuyawan, which forms part of the municipality of Mainit, is one of the partner villages of the Philippine Red Cross in Surigao del Norte and part of the Partners for Resilience (PfR) project. Tagbuyawan has a total population of 440 with 91 households and 115 families.

Risk assessment

Through the PfR project, a participatory vulnerability and capacity assessment (VCA) was conducted in 2012. Participants included members of Tagbuyawan council and workers, *purok* (hamlet) leaders, people's organization leaders, and representatives of various sectors.

The hazards identified were flooding caused by the overflowing of Lake Mainit and the river alongside it, locally known as Guob, and landslides after prolonged rains. Results of the risk assessment showed increased frequency and amount of rainfall during the rainy months of December, January and February as compared with that of 20 years ago. Community members were severely affected, drowning incidents were reported, livelihoods (farming and fishing) were compromised, and houses and

The Red Cross team.

infrastructure were damaged. Community leaders realized the need to be prepared. Early evacuation of community members had to be executed and a temporary evacuation site had to be established.

Community planning

The results of the risk assessment led to the village disaster action planning and contingency planning, both of which were initiated by the village and facilitated through the PfR project. The changing climate, the intensity and frequency of the rain, and the state of the ecosystem including the water level of Lake Mainit, were all considered during the planning.

The contingency plan considered floods and landslides as the worst case scenario. The community was aware that damage of the environment upstream could spell disaster in their village. This scenario therefore served as the basis for the community drill.

The drill process

The elements to be measured during the drill were the early warning system (EWS), the evacuation plan, the roles and actions of the Barangay Disaster Risk Reduction Management Committee (BDRRMC) and the RC 143 volunteers, and the participation of the community members.

The process necessitated close coordination with the local government units and various government agencies such as the Philippine Atmospheric Geophysical and Astronomical Services Administration, the Mines and Geosciences Bureau of the Department of Environmental and Natural Resources, and the Department of Education. Through the PfR project staff, the village coordinated with the officers of the Provincial Disaster Risk Reduction Management, the Municipal Disaster Risk Reduction and Management, and the Municipal Planning and Development for technical guidance.

An RC 143 volunteer leads the evacuation.

Before conducting the drill, a control group and an observer group were established. The control group, which designed and implemented the drill, had previously undergone disaster management training that integrated DRR, CCA and EMR. The observer group provided feedback, evaluated the

Evacuation under way.

Giving instructions as those at the back prepare for the drill.

whole process and made recommendations for improvement.

Purok meetings, barangay assemblies and dissemination of the BDRRMC structure, roles and responsibilities are important aspects that help increase community awareness. Supplies needed for the drill like megaphones, relief goods, vehicles and logistics must be prepared well ahead of time. Photography and video documentation should also be in place. All these preparations were in order for the drill in the village of Tagbuyawan.

The BDRRMC led the community drill together with team leaders and members of the various sub-committees responsible for early warning, relief, evacuation, security and traffic, transportation, first aid and rescue, supply and damage control, and health. The observer group consisted of provincial and municipal representatives, partners and village officials, and Red Cross volunteers from other PfR project areas. There was full community participation with men, women, children and the elderly participating in the drill.

Despite her initial doubts, Village Captain Dandan was moved to tears of joy, seeing that everyone in the community was able to safely evacuate.

No longer just a drill...

Five months after the community drill, Barangay Tagbuyawan experienced flooding. The people were alert and prepared. The village captain monitored weather updates and reported the situation and the community's actions to the Red Cross. The BDRRMC leaders and members took the lead in early warning and evacuation management.

Before the drill, people ignored warnings and evacuated only when the water was already high. This time, the community showed concern and helped one another in transferring their valuables and setting up a temporary evacuation camp, not only for their family but also for their neighbors. People living near Lake Mainit and Tagbuyawan River evacuated in an orderly manner, bringing along their basic needs. They shared what they had with one another. Early warning team leader Alfredo Timon reported that the drill helped the people become more vigilant in heeding the warnings and evacuating early in an organized manner.

Village officials realized that the drills should be conducted regularly and contingency plans continually updated. Not only did the drill at Tagbuyawan increase the community's level of resilience, it also strengthened the institutional resilience of the PRC. While preparing for this drill, clear guidelines were developed which institutionalized the conduct of drills.

One of the great successes of this drill was how the community was in the driver's seat throughout the process, promoting the principle of self-management. Barangay Tagbuyawan has proven that by being prepared, risk is reduced and a true sense of resilience is achieved.

Local wisdom for the three pillars of resilience

Didik Fitrianto, Wetlands International Indonesia Programme

The integration of the three pillars of resilience in the PfR program—disaster risk reduction (DRR), climate change adaptation (CCA) and ecosystem management restoration (EMR)—requires a clear and simple approach that can be easily understood and applied at the community level. To create a sense of community ownership, the community must be involved from the initial phase, through the implementation phase, to the program monitoring phase. Each community has its own ways and wisdom in managing their nature and environment.

One of the strategies used by Wetlands International in implementing the PfR program at the community level is to use traditional knowledge. In Sikka and Ende districts, local wisdom related to perception, culture, tradition and daily practices is still very strong. With the various conditions described above, it is wise to use traditional knowledge in implementing various programs related to the three pillars. The approach is effective in getting people actively involved in various community activities. Using it will simplify understanding and implementing the programs that have been agreed upon.

Mosalaki: key to successful rehabilitation

Rehabilitation activities in the PfR program conducted by Wetlands International take place in various kinds of environments, including coastal areas, hilly areas and water springs. One of the requirements in any successful ecosystem restoration program is that the planting site should have clear land ownership status because it will become a reference for every activity and avoid conflict in the future. In several villages, land ownership is still controlled by tradition and custom, whether in the mountains, the coast or the lakes. Land ownership is usually under

the power of traditional or customary authorities represented by the landlord, which in Lio, the local tribe and language, is known as *mosalaki*. *Mosalaki* is derived from *mosa* (adult) and *laki* (man). *Mosalaki* is at the root of social stratification in Lio society in both Sikka and Ende districts. *Mosalaki* refers to the leaders of a social community (tribe), or the leaders in a specific tribal region or communal land. *Mosalaki* is therefore a formal leader with great influence on people's lives, who has rights of communal land ownership as well as rights to lead traditional rituals.

In Reroroja village, Done (in Sikka District) and Tou Timur and Kota Baru (in Ende district), *Mosalaki* rule is still very dominant. Almost all land proposed for rehabilitation activity is under their control. *Reroroja* is a mangrove planting site, Done village is the location of springs rehabilitation, Tou Timur is the rehabilitation site of Bowu Lake, and Kota Baru is another mangrove planting site.

Approach to traditional institutions, in this case *Mosalaki*, is therefore necessary before rehabilitation can be implemented. Without attaining blessing of the land under *Mosalaki*, planting cannot be undertaken. But experience shows that if sincerity and good will are exhibited to help the community and the environment, the blessing of *Mosalaki* will be forthcoming.

Neither government nor local authorities can intervene on land ownership

A *Mosalaki* ceremony.

issues because absolute power is in the hands of the indigenous group. Wetlands International therefore had to approach the *Mosalak*i to include them or their representatives in all PfR activities as board members and group leaders. *Mosalaki* represents local wisdom, and any efforts toward rehabilitation and restoration of the environment must take cognizance of this in shaping community resilience. Without *Mosalaki*, implementation of the PfR program will face many obstacles.

Mbama ritual

A *Mbama* ritual.

In Done village, local wisdom related to agriculture informs land management and climate change adaptation. Indigenous land management is environmentally friendly because it does not use inorganic fertilizer made from chemicals. Unfortunately, eco-friendly practices began to decline in the community. To remind the community about adaptive agricultural traditions and the eco-friendly environment inherited by their ancestors, Wetlands International, together with traditional leaders, the community leader and village officials worked together to revitalize local traditions in communities by recognizing a traditional harvest ritual. The purpose was to liven up and remind the younger generations about local wisdom related to agriculture.

The *Mbama* tradition, which pertains to the harvest season, is performed between June and July. During this period, the Done village community began harvesting their first fields all together. A post-harvesting ritual is an expression of gratitude to the rice goddess for the success of the harvest. It is done at each farmer's house. Harvested rice is put into a basket and carried by a man. The man is not allowed to speak while carrying the basket.

Afterward the *Mi Are* ritual is conducted to justify the use of rice. The ritual is a performed as a dance as an expression of gratitude and praise to the Almighty. *Mbama* tradition teaches proper treatment of the land and avoid chemical fertilizers, slash-and-burn practices, or excessive use of water for irrigation. Saving crops in a traditional house in *Mbama* shows that people know how to use food wisely.

Ipung fish – A sign of season change and end of planting season

In addition to meteorological forecasting information, *Ipung* (in Maumere language) or *Ipu* (in Lio language) is a unique local wisdom used in the villages of Reroroja and Done to help determine seasonal change from dry season to rainy season or hot season. People believe that the seasonal change will be marked by emergence of thousands, even millions, of small fish (*rebon*) where the small streams meet the sea. The streams are connected to the mountain springs, forming a link between the mountains and the sea. The emergence of this small fish is usually marked by the sound of the boom and vibrations can be heard and felt by local communities. The ritual usually takes place in the evening and early morning.

Collecting fish for the *Ipung* ceremony.

The *Ipung* phenomenon is used to mark the planting season. The presence or absence of *Ipung* fish is used to calculate the change of seasons from rainy to dry and to determine when to start or stop planting activities. This process of determining seasonal changes is marked by presence of millions of these small fishes that swim frantically upstream against the current, from the sea to the mountains. After the fish reach the spring, they settle into the water, and their color changes to black. The belief is that after the fish have lived in the spring for about one week, extreme and heavy rain, even floods, will come. The fish in the spring then return to sea. When the fish reach the sea, the rains will stop instantly. When the rains stop, it is said, the rainy season is over, and dry season has arrived.

We know that rainfall patterns are uncertain, and follow scientific probabilities. The same is true for the presence of *Ipung*, which cannot be predicted every year. *Ipung* can appear anywhere from the end of February to May. *Ipung* is a local wisdom in which the truth has been proven for a long time.

The three pillars of resilience strengthened by traditional knowledge and local wisdom

These local practices described above help shape community resilience associated with the three pillars of DRR, CCA and EMR. Local wisdom has the power to bridge communities by actively engaging them in the activities. While recognizing the added value of scientific information, we advise those intent on reaching the communities of these areas to use the community's local wisdom. In implementing the PfR program at the community level, Wetlands International found that respecting and honoring local wisdom was very effective to support the success of the program.

Leaders in resilience

Erica Bucog, Assistance and Cooperation for Community Resilience and Development Inc.

One of the initial steps in implementing a project is introducing it to stakeholders. Although presenting it does not necessarily translate to their acceptance of it, implementation can be easily facilitated if local leaders and government officials are active and willing participants. Leaders are often urged to heighten their profile of involvement in DRR if their constituents live in a high-risk area frequented by extreme natural calamities. In these areas, leaders serve as rescuers, first aiders, and resource generators during emergencies. But more than that, PfR aims to transform them to be DRR practitioners too. This is the story of two leaders from different PfR project areas in the Philippines.

Kagawad Melchor's story

Melchor Macabalitao is one of the councilors (kagawad) of Barangay (village) Potrero, Malabon City. Before becoming Kagawad, Melchor was a professor of agricultural engineering. He is an active leader in the implementation of PfR.

The people of Malabon City are used to flooding. Because much of the city lies below sea level, it is a catch basin of the water systems and trash coming downstream from Quezon City and Bulacan to Manila Bay. This situation is exacerbated by a garbage-filled, heavily silted, dead Tullahan River. In recent years, the effects of climate change have encouraged extreme weather events that aggravated this situation such as the case of Typhoon Ketsana in September 2009. Kagawad Melchor and his community did not expect the water to rise to a height of five meters—typhoons with such extreme rainfall occur only once every 30-40 years—so they were quite surprised at the torrential rain (*habagat*) in August 2012 because it occurred less than five years after Ketsana.

In the Barangay DRR and Management Committee, Kagawad Melchor heads the Relief and Medical Service Committee. He was involved in the village's rescue operations and resource generation efforts like gathering and requesting relief goods and distributing them during both Typhoon Ketsana and the *habagat*. His personal experience in the rescue operations opened his eyes to the dangers faced by rescuers and made him realize that their village needed to be involved in preparedness and risk reduction.

As part of the PfR program, the local government unit of Barangay Potrero underwent the basic DRR trainings offered by ACCORD: the community-based disaster risk management training and disaster preparedness training. The gap analysis during the training indicated a need for a village-wide early warning system (EWS).

Kagawad Melchor took an interest in establishing his village's EWS because he sees this as an important factor in reducing the damage, expense and most of all the risks encountered by rescuers when the floodwaters are high. Preparations for the processing and planning of the EWS were speedy because of his initiative. He tapped into his network of friends and former colleagues in relevant government agencies.

Kagawad Melchor during the Disaster Preparedness Training of Potrero Village Council at Mendez, Cavite, January 2013. (Photo: ACCORD)

During the coordination meetings with various sectors, the relationships of DRR, CCA and EMR to each other became clearer to Kagawad Melchor. 'DRR/CCA/EMR is important for our barangay because our area is a low, flood-prone area frequented by disasters. For our EWS to be successful there must also be coordination with the municipalities and cities upstream of the Tullahan River. Rehabilitation and restoration of the river must start in order to lessen the impact of flooding in our area,' he said.

Kagawad Melchor participates not only in the PfR activities in Malabon, but also in DRR activities initiated by the city government or other civil society organizations. He encourages his fellow council members to do the same. He said that government officials should be involved in issues like this and situate themselves in the front lines when responding to disasters. Kagawad Melchor ensures the attendance of the village council members and staff in various PfR activities, supports the preparation of the contingency planning workshop, and attends community-level activities. Currently, he is also trying to contact other local government units that cover the area along the Tullahan River to start the talks about the EWS and the rehabilitation of the river.

'The Partners for Resilience program is a big help for our community,

Kagawad Melchor, ACCORD staff and scientists from PAGASA after a meeting about the Potrero EWS, February 2013. (Photo: ACCORD)

especially in terms of preparedness and responding to calamities,' he says. He recognizes that he does not have a monopoly of knowledge on disaster preparedness so it is important for him to attend the meetings and trainings offered by PfR. He sees the importance of inputs from CSOs and scientific institutions in strengthening Barangay Potrero's resilience.

Ate Venie's story

Venie Mondejar is a farmer, purok (hamlet) leader, BDRRMC member and mother of two. Having lived in Barangay San Nicolas, Talacogon, Agusan del Sur all her life, she has experienced flooding incidents and disasters in her community first-hand. Changes in weather and rain fall pattern have affected Venie's farming practices. She is also witness to how the ecosystem has changed and how risks have increased throughout the years.

Venie starts her day with household chores, preparing breakfast for the family and getting the kids ready for school. Afterwards, she tends her small farm where she grows corn, banana and coconut for sale, as well as various vegetables for consumption. Outside her home, Venie has been heading their *purok* for two years now. Her constituents recognize her leadership. She mediates conflicts and is in charge of activities implemented in their *purok*. She is also the designated parent-leader for

'It is fulfilling to serve the people without asking for anything in return. I also want to share whatever I have learned from different trainings.'
Ate Venie with her children in their farm in April 2013. **(Photo: ACCORD)**

the conditional cash transfer program of the government, assisting in the monitoring of the beneficiaries.

Venie is one of the most active community leaders who participate in PfR activities. Her contributions to the discussions during the trainings and workshops are very important. When asked why she keeps on doing this, she says, 'I think that the PfR project will be of great help to us, like the trainings and other activities. This is the first time disaster risk reduction has been introduced to us—showing us that we are valued as citizens. The things discussed in the trainings are relevant to our situation.'

After the series of DRR/CCA/EMR trainings under PfR, Barangay San Nicolas started drafting their own contingency plan. For the first time, the BDRRMC was reorganized to include community leaders and members outside of the village officials and staff. Through the contingency planning workshops, BDRRMC committee memberships were formed, and Venie became the Vice Chair for the Relief Committee. In early 2013, her committee led the relief distribution and coordination with different government agencies and organizations that provided assistance. 'PfR

Ate Venie during the Contingency Planning Workshop in Barangay San Nicolas, Talacogon, Agusan del Sur, April 2013. (Photo: ACCORD)

guided us on what we should do to prepare for disasters. They also helped us analyze problems and identify priority needs such as potable drinking water, livelihood program, tree planting activities, and so on.'

Venie passes on the knowledge she gains from PfR trainings to others. For her it is very important that people understand how to mitigate the impact of disaster and changing climate as well as how to prepare for them and to care for the environment. She articulates her insights on issues such as logging and mining, and attributes it to environmental degradation. 'Because of poverty, people are forced to do these things to make ends meet,' she says.

Addressing disaster risk and its underlying causes, Venie says 'If we ruin the environment, we are responsible for restoring it. We should take part in gradually restoring what has been destroyed.' She cites tree planting, proper waste disposal, avoidance of logging and mining, and promotion of organic farming as examples of what people can do. Venie is determined to continue what the community has started with PfR to be able to reduce disaster risks. She looks forward to a better way of living in the coming years.

Although the PfR intervention is the first formal integration of DRR, CCA and EMR, having leaders who are open to the program can ensure that learning and results will be optimized.

Building crossway, building resilience in Batnun

Rido Hambandima, Perkumpulan PIKUL (PfR CARE-PIKUL)

In recent years, floods have been plaguing the lives of the inhabitants of Batnun village. People have come to realize that the floods that hit their village every year are caused by their own actions of cutting down trees in Batnun forest to harvest wood for building houses and for sale. But the floods that have hit the village over the past 10 years have disrupted village activities.

Schoolchildren are the most affected by these floods. Under normal conditions, they need to travel 700 meters to reach the junior high school (SMP) in the neighboring village of Bena. But during floods, the distance is quadrupled to more than 3 kilometers since they have to take alternative routes to reach the school (baseline survey results, PfR team, TTS District, 2011).

'We are the Batnun village community, we are the most responsible for what happens in our village. We have to move, we have to start doing something! For too long we accepted this situation and we want to enjoy the results of our hard work.' - PDRA results, Appreciative Inquiry, Batnun Village, March 2012

Batnun village is located in South Central Timor (TTS) district, East Nusa Tenggara (NTT). The

At work on the crossway, Batnun village.

total population of 2,397 consists of 646 households in three hamlets. Communities that want to sell their crops in the market at Bena found it difficult to get through due to the muddy road conditions during the rainy season. Neither four-wheeled nor two-wheeled vehicles can negotiate the road. 'Village representatives submitted a proposal to local government to build a crossway, but there was no response until now,' says Antony Lekewatu, Head of Batnun village.

To follow up the Participatory Disaster Risk Assessment–Appreciative Inquiry (PDRA-AI) results conducted by PIKUL-CARE in March 2012, people started to work together to build a crossway in June 2012 using local materials. Roles and responsibilities were divided among the three hamlets. Hamlet I was responsible for providing stones, Hamlet II for providing sand, and Hamlet III for providing white soil. After all the materials were collected, the community began communal work. All villagers were actively involved in the work, both men and women.

The PfR team also supported the process by providing contributions through the PIKUL office. A total of 19 bags of cement were provided to the villagers to help them complete the crossway, which was finished in December 2012. With the completion of this simple crossway, it is hoped that during the next rainy season in January 2013, the community will be able to navigate the small river even during rains. People using public transportation to bring their crops to Bena market will also be able to use it without worrying about getting stuck in the mud. The crossway will also

PfR provided cement.

benefit the people in the neighboring villages such as Oekiu by taking a shortcut to Bena.

The successful construction of the Batnun crossway gave the community confidence in making positive changes using their own initiative and taking advantage of local materials without relying on the government. The success of the crossway construction was an excellent first step for PfR's

Top: the crossway under construction.
Bottom: the completed crossway.

PIKUL-CARE team in encouraging the people of Batnun to improve the condition of their village.

The crossway, constructed through community initiative, has ensured accessibility during rainy season thereby addressing a significant community need. It also provided an opportunity to connect villagers living in the three hamlets by raising a sense of togetherness and increasing community awareness about coping with periodic floods. As a follow-up activity, the community has developed a plan to further reduce flood risk by planting bamboo saplings along the riverbanks and the village forest in the near future. The PfR PIKUL-CARE team will continue to support the community in its efforts to integrate DRR, CCA and EMR approaches.

Inayan: Reviving indigenous values for resilience

Laudemer Mejia, Assistance and Cooperation for Community Resilience and Development Inc.

Science and tradition have opposed each other for centuries. Science, which has made profound changes in all aspects of our lives, continually establishes new thinking and practices while refuting long-held myths and beliefs that sometimes seem out of place in modern society. However, tradition has often stood its ground through the changing times and some of tradition's strongest values have remained relevant. This phenomenon is demonstrated in one indigenous community in Kayan West, Mountain Province, Philippines.

Kayan West, a village in the municipality of Tadian, was once a part of Kayan East, an older village. Before the Second World War, Kayan was the rice granary of Tadian. But recently, due to the steady onset of drought during summer, rice production has decreased and villagers are faced with reduced water supply for daily use. Based on the climate projections by the national meteorological institute for 2020 and 2050, summers will be drier, rainy seasons wetter, and the whole year will be hotter by 0.9 degrees Celsius. Erratic rainfall also affects the cropping cycles of farmers. The ground is highly prone to landslides. In 2010, heavy rainfall brought by Tropical Storm Parma induced a massive landslide in Kayan East.

Kayan West is inhabited by members of the Kankanaey tribe, one of the ethno-linguistic groups of the Igorot people who dwell in the Cordillera of northern Luzon. Like many other indigenous people who directly depend on nature for their livelihoods, the Kankanaeys'

intimate relationship with the environment is illustrated by their belief that because every rock, tree, creature and mountain has a spirit, they should be treated with respect.

Kankanaey elders play a central role in maintaining their ancestors' beliefs, values and customs. As custodians of tradition and pillars of tribal identity, the elders have significant influence on community concerns. Most of them have lived their whole lives in the mountains, and their limited experience with the outside world makes them hesitant about new ideas and changes in their communities. They tend to explain the causes of various events based on their own experience and less on scientific approaches.

The elders believe that landslide disasters, erratic seasons and drought are visited on the community as the result of revenge by nature spirits angry with the abuses and changes of modern civilization. The elders say that the spirits are angered by the destruction of the forests, noise and other abuses.

Kankanaey participants of the training which discussed the social, physical and attitudinal vulnerabilities and capacities of the community. *Inayan* is an attitudinal capacity of the community. (Photos by CARE/ACCORD/CorDis RDS)

The Cordillera Disaster Response and Development Services (CorDis RDS), a local partner of CARE Netherlands, together with the village council and a local people's organization called Apit Montañosa, implemented the Partners for Resilience (PfR) program. CorDis RDS is an NGO that seeks to address the problem of disaster vulnerability by increasing people's capacity to respond.

The partners have approached the situation by building on what the elders understand and the positive aspects of the traditional practices. In this manner, the elders and community members have been able to accept the program and understand its concepts without feeling that it is disrespectful of their beliefs and values.

One important approach of the partners working in the area is the revival and appropriation of one of the traditional Kankanaey values, the concept of *Inayan. Inayan* is similar to the Golden Rule of not doing to others what one does not want others to do to oneself. Based on their belief that everything in the natural world has a spirit, to abuse the environment would eventually cause harm. It is also used in social interactions. Because the *Inayan* concept also reflects the ideal for harmony and balance, which are characteristics of a healthy ecosystem, it also reflects the ideal for fairness and justice.

Prior to the landslides that occurred in 2010, the elders once found a rare insect which they believe to be an omen of a catastrophe. When the omen was encountered by the village people, some community members suggested sacrificing pigs to appease the spirits, thus transferring the catastrophe to other villages. However, adhering to *Inayan*, they did not want to impose suffering on other communities because this would only lead to greater harm. They therefore bravely accepted the warning, even without knowing what catastrophe was to befall them.

Because Kankanaeys believe in conserving natural resources for use by the next generation, they regulate the cutting down of trees. They cut trees only for their own use and replace them by planting new ones. They also believe in conserving other natural resources for use by the next generation. Their consideration for the needs of future generations reflects their strong sense of community.

Mering, a CorDis RDS staff member working on the PfR programme, emphasized the importance of inculcating and reviving *Inayan*, especially

among the younger generation, by encouraging them to attend trainings on disaster preparedness, where *Inayan* is one of the highlighted positive attitudes discussed in the vulnerabilities and capacities assessment. This can help strengthen community spirit and participation. PfR encourages learning the indigenous ways, especially when risk assessments are conducted, so that special attention will be given to understanding risks in the area.

Modern methods and science have helped us solve many problems. However, disaster risk reduction, climate change adaptation, and ecosystem management and restoration are abstract, universal concepts and methods that must be applied in contexts that are very particular in nature, such as highly urbanized communities, agricultural communities, indigenous communities, and so on. These communities have varying levels of knowledge, understanding and acceptance based on their social, political, economic and cultural stages of development. Nonetheless, experience of locals should never be overlooked. They can provide a wealth of particular experience and history in the community.

PfR promotes the use of scientific data through coordination with meteorological institutions and universities. However, it never disregards nor downplays the information coming from the community members. Instead, PfR encourages the collection and use of indigenous knowledge and practices. Knowing which native species of trees and plants are favored by the community, for example, will provide clues as to which plants are appropriate for ecosystem restoration, or which kinds of livelihood approaches should be implemented that are effective and fair to all concerned.

Such considerations highlight the importance of participatory approaches by ensuring sensitivity and guarding against violating the rights of stakeholders, especially those of vulnerable communities. Along with scientific knowledge, a special emphasis should be given to traditional knowledge and practices. These two approaches can coexist, and they deserve equal respect.

Darat Pantai honey for community welfare

Kuswantoro, Wetlands International-Indonesia Programme

The earthquake and tsunami that hit Indonesia in December 1992 changed the coastal landscape, especially the estuaries and wild honey beehives in the forest. It also changed people's behavior and livelihoods in the affected areas. The flooding brought by the tsunami damaged public facilities and livelihood sources of many people. Climatic changes in the length of monsoons and dry seasons have negatively affected agricultural productivity, thereby lessening the community's capacity for resilience by weakening the source of livelihoods and threatening food security.

Reacting to the change in weather patterns, communities have been forced to undertake activities that are destructive to the environment, such as slash-and-burn agriculture, illegal logging and shifting cultivation in upland areas that causes disruption to the forests.

Honey to the rescue

Traditionally, forests produce oxygen, give shade from the hot tropical sun, aesthetic appeal, prevent landslides, and are sources of non-timber products. They also increase water absorption. But degraded forests are no longer able to provide these environmental services.

One important non-timber forest product that can be obtained from forests is the natural honey produced by *Apis dorsata*, the honey bee. Forests are home and food sources for honey bees. Natural honey in the forest is abundant wherever bees are—from mangrove forests to hills around the village. Honey is traditionally harvested twice a year, once in October–December and again in March–May. During each harvest, honey gatherers can collect around 1,500 bottles of honey with a price range of 25,000–30,000 rupiah (US$ 2.5–3) per bottle (PRA-Darat Pantai Village).

Honey is harvested by the traditional system, so no special treatment is needed during the harvest other than fogging with coconut fiber to avoid bee stings. In the local culture, honey collectors make special marks on the tree trunk that alert others that the hives in that tree belong to a specific person and cannot be harvested by others. Such traditions are important to preserve honor.

Honey collection is not without problems. In addition to physical threats, road access is very difficult. Availability of honey is also decreasing due to weakened traditional values in society. Importantly, slash-and-burn agriculture also has a huge and negative impact on honey production. A dynamic joint effort to restore ecosystem functions, including environment rehabilitation, is therefore needed.

Economic sustainability and honey production

With PfR, community resilience was strengthened through environmental restoration and economic sustainability. Through Wetlands International together with the Darat Pantai community in Talibura sub-district a group was formed called *Kembang Baka*u which literally means mangrove flower. The group was established to carry out an environmental restoration program and to provide soft loans for capital development.

Known as bio-rights, the mechanism provided soft loan facilities for group

Wild honey beehives in the forest.

members willing to help preserve the environment. The said loans can only be used to improve livelihoods, including collecting and selling honey. Environmental restoration efforts such as mangrove planting and mixed cropping can also be used to provide places to store beehives and to feed the bees.

To open up business opportunities for wider market penetration, training in management and marketing has been conducted. Honey producers are trained in techniques of maintaining cleanliness of honey by filtering a few times before putting the commodity on the market. Producers are also shown how to avoid cutting all beehive columns to ensure sustainability. Additionally, good packaging quality is required for better markets. To sustain honey collection, such management practices are needed.

Honey collection is one example of how communities are able to develop and sustain livelihoods where ecosystem maintenance becomes a pre-condition to success and business sustainability. It is an option available for communities to help them economically adapt to the changes brought about by the climate.

Environment restoration and preservation are important for sustaining honey production and for continuing environmental services so that honey can be produced in a sustainable manner. According to Mustamil, leader of the Kembang Bakau Group, 'The training conducted gave honey more value and good price. Previous honey prices were only 25,000–30,000 rupiah per bottle. Now it has increased to 30,000–40,000 per bottle. In addition, mangrove planting in coastal areas has reduced erosion from tidal waves while providing a good home and food for honey bees.'

The experience has shown that combining environment restoration efforts with domestic economic development as a means to adapt to the evolving impacts of climate change is possible and do-able. The application of the principles described above, as well as awareness of local customs and cultural values, can lead to life-enriching changes in people's behavior. The results have shown that what was once barren land is now starting to turn green, and honey bees are now searching for mangrove pollen.

Harvesting rainwater, reaping resilience

Ida Adu, CARE International Indonesia with Perkumpulan PIKUL

Dealing with drought in Oekiu village

Oekiu village in South Amanuban sub-district, Southern Central Timor district, East Nusa Tenggara province, is one of eight villages where CARE and PIKUL have implemented PfR interventions. The most serious disaster identified in this village is drought. For as long as they can remember, the villagers have struggled with the lack of water. The village accesses water from two springs. The closest spring is about 10 kms away, and the road is steep and poorly maintained. The amount of water in the two springs cannot meet the requirement of this community of 1,182 people. The available data (ProAir Project, GTZ) reports that water debit at the peak of the dry season is only 0.06 liters/second.

The steep and poor road to the closest spring in Oekiu village. The spring is about 10 kms away from community houses.

Yupiter Tenistuan, a former village head of Oekiu, says that the climate in the village, which is located at high altitude, is typified by very sparse rainy season that lasts only for 2-3 months with low intensity. 'We haven't had rain since April and even March,' he says. The uncertainty of the season due to changes in rain patterns in recent years has further aggravated water availability in the community. The dry season, which used to end in October, has now shifted to December. The villagers no longer know when to rely on rain for water supply.

At the peak of the dry season, villagers have to queue for hours to get clean water. Due to the limited water debit, the community agreed to receive 20 liters per household. 'Some people make campfires while waiting to get water,' says Yupiter. This condition causes villagers to use their precious allocation of water only for drinking, cooking, small agriculture, and livestock—little or none is available for bathing or washing clothes.

Many efforts have been made by the community in collaboration with external parties to supply sufficient water such as building water reservoirs and digging wells. However, clay soil and the depth of ground water level as deep as tens of meters, caused the wells to be abandoned. Water reservoirs, intended to collect water from the springs for community water supply during the dry season, was not optimal since the water debit in the spring was very small. The only other way to access sufficient water was spring revitalization.

PfR's work in Oekiu village started with a Participatory Disaster Rural Appraisal–Appreciative Inquiry (PDRA-AI) activity in April 2012. During this activity, the community was assisted in drawing a roadmap for the next 5 years, especially with regard to disaster risk reduction, climate change adaptation and environmental degradation. One of the community roadmap goals was called Safe Clean Water Oekiu. Through the Appreciative Inquiry approach, PfR CARE and PIKUL identified agents of change in the community and encouraged them to replicate and adopt adaptive ideas against drought such as those applied by Yupiter.

Yupiter and his family practice rainwater harvesting. They have not experienced water shortage for domestic use for some 12 years now. The technology used to harvest rainwater is actually very simple. A plastic funnel is used to collect rainwater from the roof of the house, making it flow into a dry well in the yard in the hope that the water infiltration can

be a source of ground water within the next few years. By collecting water during the rainy season, sufficient water can be stored for use in the dry season.

However, because not all households have their own wells, this innovation cannot be replicated in each house. Moreover, because the wells are sometimes located very far from the house, the piping needed for distributing rainwater from the roof to the wells entails a cost beyond the means of most villagers.

Addressing community needs and water shortage conditions, PfR facilitates a multi-party collaboration between the community, NGOs, and the private sector through corporate social responsibility programs and academia to apply rain water harvesting methods and technologies. The agreed principle underlining the multiparty collaboration is that a community needs to organize to respond to disaster risks. Communities must be empowered to respond to the threat through analysis of hazards, vulnerability and capacity, including the risks associated with climate change and environmental degradation in planning and implementing local initiatives.

In the process of multi-party collaboration, each component serves to complement the other. The community is in charge of manpower, labor

Oekiu community dreams and roadmap: a journey to Safe Clean Water Oekiu.

availability, and sustainability of rainwater reservoir maintenance as well as water distribution to beneficiaries. The community agreed to proceed in a participatory manner with water reservoir construction and identified the best location for the tanks. It was agreed that the tanks would be made of fiber. Meanwhile, the academics' role was to provide inputs and technical knowledge related to the calculation of area coverage, tilt of the roof and accessibility by other households, who are also beneficiaries. The private sector was to be responsible for providing funding, and the NGO was responsible for facilitating the communication and collaboration between the community, the private sector and the academics.

At the end of 2012, a total of 10 rainwater tanks had been constructed and located at 10 points scattered throughout all hamlets. Rainwater tanks reached 79 of 213 households. One of the beneficiaries expressed his happiness to have a rainwater tank in his yard. His wife and children no longer need to walk far to fetch water or stand in a long queue at the spring. The neighbors also utilize water from the tank. They still have to see how long the water will last during the dry season since they only started to collect it during the rainy season this 2013.

Hopefully, through multi-party collaboration and community knowledge enhancement on technical optimization of rainwater harvesting, based on tilt and roof area, the community will succeed in capturing rainwater. With the efforts to address vulnerability to drought, to adapt to climate change and to maintain a life source by acting in harmony with nature, the community has achieved its dream: Safe Clean Water Oekiu. It is expected that the multi-party collaboration applied in Oekiu can serve as a model that can be replicated widely. Exploration of each party's role in multi-party collaboration must be undertaken for the greatest benefit of the beneficiaries.

Reducing risks through early warning, early action

Reynaline G Esguerra, Philippine Red Cross, Agusan del Sur chapter

The Partners for Resilience (PfR) program aims to reduce the risks of the most vulnerable areas through its combined DRR, CCA and EMR approach. Agusan del Sur, a landlocked province surrounded by mountains of the Caraga Region in eastern Mindanao, was selected as a project area. The primary waterway in the province, the Agusan River, drains water from the majority of the Caraga Region as well as the neighboring province of Compostella Valley. The province has invented an acronym for the four major hazards that plague the area: LEAF (landslide, earthquake, armed conflict, and flood). Notably, typhoons are not included.

During the first phase of the PfR project implementation, we undertook participatory assessments and organized volunteers at the community level. Results of the Vulnerability and Capacity Assessment (VCA) showed that in 1981 the province was hit by Typhoon Nitang, which caused massive casualties and destroyed people's livelihoods and properties. But since then, no typhoon has affected the province and the communities who live there have become complacent.

New challenge

In the Philippines, the observed mean temperature between 1971 and 2009 has increased by 0.57 degrees Celsius. Included in the list of the impacts induced by this temperature change are the increased intensity and amount of rainfall in areas not previously experiencing such unusually hot days. Compounding this problem is the presence of poor land use and environmental management within watersheds in both urban and rural communities.

Consecutively for the past 5 years, the country has been hit by super typhoons like Ketsana in 2009, Sendong and Habagat in 2011, and

Damage caused by Typhoon Bopha in the village of San Marcos, Bunawan, Agusan del Sur, December 2012. (Photo: RGE)

Bopha in December 2012. These extreme weather events, characterized by intense rainfall and powerful wind, induced flash floods and landslides and dramatically affected the lives and livelihoods of the most vulnerable communities.

When Typhoon Bopha (local name Pablo) hit Mindanao in December 2012, thousands were affected. Houses, infrastructure and vast agricultural lands were devastated. The Agusan River became a violent force, hurling enormous logs and debris from the mountainous areas of Compostella Valley at defenseless farmers and villagers. The monstrous winds affected the western provinces causing flash floods and landslides, leaving the communities devastated.

The Provincial Disaster Risk Reduction and Management Office warned all municipalities and villages of the possible impact of Typhoon Pablo. But the community was doubtful that the typhoon would affect them. 'We really didn't expect that we could be hit by a typhoon,' says Rudy Ayala, the Village Captain of San Marcos and a Red Cross 143 Volunteer.

Responding to the new challenge

The community used to respond to its annual flooding through indigenous knowledge such as observing the behaviours of the animals, trees and insects. Restlessness in animals such as dogs and water buffalo (carabao), and insects moving to higher ground are considered signs of a coming catastrophe.

The communities lack the appreciation and understanding of the early

warning system because they only anticipate flooding during the rainy season months of December, January and February. Nonetheless, they were in possession of bells for use as early warning device.

The village captain, who received weather reports from the Municipal Risk Reduction and Management Office, observed the changes of the water level in the Simulao River. When the water reached the danger level, he rang the bell to alert the community. The leaders of some sub-villages also had hand-held radios to communicate with each other. Red Cross 143 volunteers were also given a megaphone to be used to give warning.

Through the efforts of PfR in promoting the three-pronged approach to reduce disaster risk, adapt to climate change and restore the ecosystem, the communities realized that these approaches are interconnected. Through the participatory approach of the Vulnerability and Capacity Assessment, the community observed the changes in the occurrence and severity of the hazards through tracing historical hazard trends and changes in community activities over the years.

Red Cross 143 into the fray

In 2012, before Typhoon Bopha hit eastern Mindanao, Red Cross 143 volunteers, the village council, the village police and the chairperson of the sub-village monitored the television and radio. They also monitored the heavy rain patterns of the neighboring province of Compostella Valley in anticipation of the approaching typhoon and floodwater.

Red Cross 143 volunteers were mobilized to monitor the sudden rise in water level of the river. They quickly reached the sub-villages to warn every

Volunteers mobilized to provide hot meals at the evacuation center in the village of San Marcos.

household and to encourage families to evacuate. Households were also advised to monitor the radio for weather updates.

Families were evacuated to the San Marcos Elementary School. Noting that food scarcity and potable water supply were the main concerns, Red Cross 143 volunteers promptly saw to it that food assistance was delivered from provincial, municipal and village sources, as well as from the Red Cross and other humanitarian groups. Red Cross 143 members worked hand-in-hand to rebuild houses destroyed by the typhoon.

'Annually we have floods, but this time it was hard for us when typhoon and flood happened at the same time. We are afraid to lose our properties, much more our lives. I am grateful that our trained Red Cross 143 volunteers together with my people have been responsive and clever enough to evacuate everyone on time, even with the strong winds.' - Rudy Ayala, Village Captain

The community came to recognize the important role of ecosystems in predicting flooding in their community, and that the arrival of disasters in their area also spelt disaster for others living downstream. They learned to be vigilant about the reports and news from television, radio, especially as regards the weather patterns in Compostella Valley. The information became their early warning to prepare for disaster.

Way forward

The community's experience with Typhoon Bopha (Pablo) taught them the need to prepare better and to heed warnings. They realized that they should strengthen the existing early warning system to make it more effective. They came to understand that the village disaster action plan and contingency plan should be updated annually and that these plans should integrate climate projections for both short-term and long-term warnings. The effort to improve the early warning system was included in the disaster plans at the municipal and village levels. Most importantly, they learned that to have an effective early warning system is to ensure that every community member is made aware of the relevance of climate projections and ecosystem restoration.

Saving Nauana

Meli Riwu Hadjo, Lingkar Belajar Komunitas Bervisi (PIKUL)

In Oelatimo village, Kupang district, East Nusa Tenggara (NTT), there is a rice field the villagers call Nauana. Nauana was known as a fertile place not only for growing rice but also sorghum. It is a good place to spend time with one's family fishing or looking for crabs. When people were thirsty or it was time for lunch break, they would gather at Nauana spring to drink and unwind.

The earth is the mother that gave birth to our lives, the sky is the father that keeps us alive, and human beings are the children who continue to live.

But things have changed at Nauana. 'Since 2000, the Nauana springs have been neglected without anyone noticing. In fact, the source of this water has never dried up,' explains Oelatimo village elder Yakob Tapikab. 'Several springs that existed in the past became dry. Now, many bore wells have been drilled around here. Surprisingly, this spring still survives. We believe this is the source of all water springs around here and that it will never die.'

Yakob's statement is shared by Julius Nakmofa, a DRR specialist who works with Pikul, a local NGO and a partner in the PfR program. During a visit to Nauana springs in November 2012, he said 'Take a look around. Many bore wells have been dug because it's cheaper and easier to do. The forest and mountains are now destroyed. This is why springs have dried up. If Oelatimo's water source is to be sustained, the springs and the water catchment areas must be protected. Trees must be planted to conserve nature. Cultural values should be maintained as a gateway to develop the community's strength.'

Aware of the problem, Pikul and CARE decided to partner with the Oelatimo community to save the Nauana springs. Yakob, responding to the offer to help restore the springs, suggested a meeting with the village

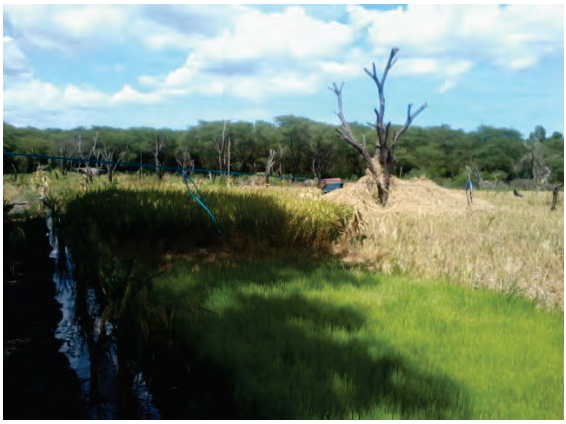
The Nauana spring clean-up ritual provided an important lesson for the Oelatimo community—to preserve nature as a mother who gives life to humans.

leaders, especially with the Tapikab and Metkono clans, the traditional community and religious leaders of the Nauana region, whose permission would be needed for any intervention.

Pikul-CARE then facilitated meetings with the Metkono and Tapikab clans. When they understood the measures that needed to be taken to restore the springs, the traditional leaders said that before any cleaning operations could commence, a ritual was necessary. If the ritual was performed correctly, they said, the Nauana springs could be restored. Moreover, they assured the PfR team, all the work done around the springs would also be fruitful. Upon hearing this news, Julius told the team, 'This ritual has cultural value and should be honored to build rapport with the community.'

When the clean-up day was held on 11 November 2012, many people gathered around the spring, including the Metkono and Tapikab traditional leaders, village heads and community members. Cleaning equipment such as buckets and spades were prepared. Chicken, rice and vegetables

were brought for a community lunch. The spring was surrounded by tall and dry grass vegetation, chromolaena, banana trees and other plants. The spring itself was muddy, full of dead leaves and the water color was black. Clean-up activities lasted for three hours.



They have recently opened a new garden in Nauana complete with rice paddy irrigation system.

After the clean-up, one of the village leaders began the ritual with an opening remark: 'The earth is the mother that gives birth to our lives, the sky is the father that keeps us alive, and human beings are children who continue to live.' The leaders then sat near the spring, prayed, and gave *kolekte*, a traditional offering in the form of cash put into a bowl, as a way of expressing gratitude. Through observation of this ritual, any work undertaken in the area would succeed. The ritual included sharing a meal with the community. The ritual meal required both 'flat plates' (rice or maize) and 'round plates' (chicken or pork).

After a day of clean-up, the traditional leaders also planted red sorghum, a climate-resistant crop sown in the area for the past 30 years. Yakob prepared a new farming land, set up an irrigation system, and because he supports organic farming, planted rice without chemical fertilizers.

Pikul-CARE facilitated meetings between farmer groups to demonstrate how to make bokhasi (natural fertilizer) using natural ingredients such as mau muti (Chromolaena odorata) and how to multiply Effective Microorganism-4 (EM4).

Follow-up activities undertaken independently by Oelatimo villagers included building a wooden bridge for easy access to Nauana. They also made plans to make use of the seawater that overflowed into the planting area by creating saline ponds, and by planting mangroves to maintain embankments in a natural way.

This story highlights the importance of respecting existing cultural values and practices in our efforts to build the adaptive capacities of communities. Traditional knowledge plays an essential role in designing DRR and CCA interventions that fit the community's context. By building on already existing practices, capacities and beliefs, we are able to more effectively help the people become more open to the additional interventions toward resilience building and empowerment.

Escalating impact through innovative farmers

Noldy Franklin, Perkumpulan PIKUL (PfR CARE-PIKUL)

Nunsaen village is located in Central Fatuleu sub-district, Kupang, East Nusa, Tenggara, Indonesia. It is located near Mount Fatule'u (altitude 4000m) and is typified by hilly topography. Most of the villagers are crop and livestock farmers.

'My dream is that the good things I did will be imitated by others for the common good.' - Julius Tallas

Nunsaen's community garden is located on hill slopes far from the village. The farmers spend their days working in the garden, cleaning the land and taking care of their plants. When harvest season comes, people prefer to stay in the garden before bringing the crops to their house. Nunsaen farmers practice both slash-and-burn agriculture and shifting cultivation. These traditional practices increase the village's vulnerability to hazards such as landslides (baseline survey PIKUL-Partners for Resilience-CARE, August 2011).

Nunsaen village was selected by PIKUL-CARE (PICA) for intervention. PIKUL uses an asset-based approach using the appreciative inquiry (AI) method. This approach seeks to explore and discover the strengths, successes and potential of various farming methods by examining past and present practices and integrating DRR/CCA/EMR—the PfR framework. Through the AI method, PIKUL identified change actors in the community who became known as 'agents of change'. Julius Tallas is one such agent.

Julius practices a land terracing farming system. Unlike most of his fellow farmers, he uses no chemical fertilizers, applying only cow manure to enrich the soil. His wife and son help him cultivate land that had been neglected by one of his close relatives because it was considered unproductive.

Slash-and-burn agriculture and shifting cultivation have been practiced in Nunsaen for generations.

For generations, slash-and-burn agriculture has been the trusted practice of Nunsaen farmers as the most effective method of producing crops. When land becomes unproductive, it is abandoned and new farming land is prepared by clearing plants and trees by setting them on fire. The burnt land was initially rich and fertile, but steadily lost its nutrients through continuous use. This loss of nutrients obliged farmers to use chemical fertilizers, which were introduced to Nunsaen by an industrial plantation company that came to the village in 1987.

The overuse of farmland and the slash-and-burn system degraded the soil. So when the land on Julius's farm proved productive, many people followed his practices. The farmers who adopted the terracing system introduced by Julius agreed to establish the Tunfe'u farmers group in 2007. Because of the motivation and willingness of the farmers to adopt the innovative practices of Julius, the group was formed without outside influence.

Today, Tunfe'u farmers group consists of 20 members and two sub-groups: a group of 16 young people called Germudes and a group of 20 mothers

called Pelita. Both Germudes and Pelita are committed to agriculture and cattle farming activities. The mantra *'Work* can be lighter if we work together' became the strength of their activities. The farmers group have prepared 4 hectares for practicing the knowledge that can support agriculture.

Julius's success story inspired not only members but nearby communities as well. 'Before practicing Julius's farming system, crop production from my garden was little. But after practicing his system, crop production has increased. I decided to join the farmer group to learn more,' says Peter Poen, a member of the Tunfe'u farmers group.

The group faces certain challenges also, such as limited human resources for preparing the land, water availability, irregular rainfall patterns, drought, lack of fertilizer, and the inadequacy of information about the weather.

One activity implemented by PICA-PfR team together with Tunfe'u farmers group is to provide training for making and using organic fertilizer so that people will gradually phase out the use of chemical fertilizers.

PfR-PICA's assistance to Julius and his group focuses on strengthening community capacity to be resilient by identifying agents of change. PfR-PICA seeks to encourage replication of initiatives that can contribute to better environments by helping farmers to abandon shifting cultivation and slash-and-burn practices, thus restoring the ecosystem.

Empowering civil society

Institutional strengthening through partnerships

Resty Lou Talamayan, Philippine Red Cross
Yana Maulana, The Netherlands Red Cross, Indonesia

The Indonesian Red Cross, known locally as Palang Merah Indonesia (PMI), and the Philippine Red Cross (PRC), have unparalleled networks of volunteers and staff across their respective countries. Both organizations play vital roles in ensuring that preparedness and risk reduction programs are conducted on a day-to-day basis at chapters and branches in their respective countries.

Disaster Risk Reduction (DRR) is not new to either PMI or PRC. They have been working with communities at risk to strengthen their coping capacities and resilience, while building their own capacities at every level to assist the communities and reduce their exposure to risk.

As early as 1994, PRC has introduced community-based disaster preparedness through its Integrated Community Disaster Preparedness Program (ICDPP). A proactive approach to disaster preparedness, ICDPP focuses on building disaster management capacity at the community level as a proactive measure tailored to addressing perennial community problems caused by existing hazards and vulnerabilities.

Over the years, ICDPP evolved into Community-based Disaster Risk Reduction and Management (CBDRRM). It developed a wide range of activities aimed at increasing community awareness and helping communities to become resilient by empowering them through a series of participatory activities, including risk assessment and community planning. These activities resulted in the formulation of the community disaster action plan, which identified community-specific mitigation and preparedness measures. This was funded by the Red Cross, aid agencies and private organizations.

PMI, on the other hand, has been aware of the impact of climate change

in Indonesia for several years. PMI is a primary partner of the Netherlands Red Cross. They provide DRR training and capacity building for their volunteers and staff for deeper understanding of risk reduction and climate change impacts in their effort to integrate the concept into their program of Integrated Community-based Risk Reduction (ICBRR) that began over a decade ago.

Both national societies attempt to establish levels of cooperation with other organizations at the country level, strengthening and complementing in various ways to enhance community resilience.

Forging partnerships: opportunities and drawbacks - PRC

'In working together, one has to consider what the added value of the partnership is and identify the anchor of this partnership. For PfR, having different approaches seems a challenge initially, but once the niches of individual partners are identified, the partners realize that they can draw on the strength and expertise of one another for their own approaches without one being subsumed by the other.' - Catherine Martin, former PRC Disaster Management Director

In 2011, the PfR concept paved the way for PRC to open its doors to forging partnerships outside the Red Cross Movement and to work together in an alliance with other organizations with entirely different mandates, different working modalities, and different fields of expertise. The new partnership brought opportunities as well as challenges to PRC. The first challenge was how these organizations would synergize their actions to achieve the PfR goal.

To maximize each organization's strength, PRC hosted a workshop in March 2011. The workshop aimed at familiarizing with each organization's expertise and how these can best be used for the project. It provided each organization an idea of how they can complement each other to create synergy in integrating DRR, climate change adaptation (CCA) and ecosystems management and restoration (EMR) in their respective approaches.

Recognizing the challenge that partners have different approaches

and frameworks, the working team decided to concentrate on separate areas while agreeing to continuously share and learn from each other's experiences. To synergize the work, PfR, through the leadership of the Red Cross/Red Crescent Climate Centre (RCCC) and Wetlands International, developed a set of minimum standards on climate-smart DRR as well as criteria on ecosystem-smart DRR. The PfR alliance partners also worked together to create a risk assessment toolkit and identified the common assessment tools used by both Red Cross and CARE partners. Having created the toolkit, they then built on it and ensured that the tools would also capture CCA and EMR data (see Tools for Resilience).

Mainstreaming EMR into PRC's DRR and climate change agenda also proved to be a challenge. As PRC has long established its frameworks and policies on DRR and CCA, the newly introduced field of EMR needed to be advocated within the organization. DRR framework, risk assessment tools and the CBDRRM model were revised to accommodate the new concept. Capacity building for staff and volunteers and revision of training manuals and IEC materials are ongoing. From the PfR-supported areas of PRC, the integrated approach is now rolled out to other donor-funded CBDRRM projects and to regular PRC activities.

Although working together on one project with partners outside the Red Cross Movement is relatively new to PRC, working in an alliance has provided opportunities that will strengthen its DRR work in the future. Indeed, no single organization can make a community resilient. Organizations should therefore marshal their resources, work in

Bec McNaught of the Red Cross/Red Crescent Climate Centre discusses what Climate Center can offer the project. PfR workshop, Philippines, March 2011.

partnerships, and optimize each other's core competencies to achieve a common goal.

To further the collaboration between partners, PfR Philippines plans to work together in one village in Agusan del Sur and conduct all risk reduction activities together from risk assessment, training and community planning. This has not been done by the project since they are implementing individually as Care partners and as Red Cross for the past years. The PfR alliance also explored the possibility of working together across geographical scales by working in Malabon and Valenzuela and come up with DRR measures that will reduce the risk of flooding in the two cities.

Partnership experiences and value - PMI

Teguh Wibowo, PMI Disaster Management Officer said, 'At PMI, we are integrating EMR components into DRR activities for the first time through the PERTAMA program in two districts through PfR.'

Previously, PMI furthered its DRR agenda on a program called PERTAMA (or its English translation, Integrated Community Based Risk Reduction–Climate Change [ICBRR-CC]) in almost all regions of Indonesia. The program seeks to integrate more deeply the three pillars of the community resilience approach of DRR, CCA and EMR.

PMI experiences in the ICBRR program

PMI started its ICBRR program over 10 years ago. Realizing the real impact and consequences of climate change in Indonesia, especially for rural communities, PMI conducts training sessions aimed to increase the capacity of volunteers and staff who are closely involved in DRR activities. The organization will continue to promote the adoption of CCA into the whole process of the PERTAMA program. This condition is reflected in ICBRR program implementation in several regions of Indonesia where disaster events have occurred. The risk and preparedness strategy starts with an initial familiarization process with the community and evolves into a preparation stage of developing a community's risk reduction plan that has been integrated with climate change adaptation.

Through the PERTAMA program, PMI has conducted various activities in an

effort to improve disaster preparedness at the community level. It starts with the establishment of a Community-based Action Team (CBAT, better known as the 'Sibat Team') of each intervention village. The Sibat team is specially trained to conduct disaster preparedness efforts. Some of the main training materials provided to improve skills using participatory approach of DRR strategy are as follows:

- Introduction of PMI and the Red Cross movement
- Learning about how to communicate effectively with the community
- Learning about early warning systems
- Introduction to the concepts and tools of vulnerability capacity assessment (VCA) and participatory rural appraisal (PRA)
- Risk mapping and analysis process

These training materials enable the team to conduct disaster vulnerability and capacity assessment, especially where vulnerable people live in risk-prone areas. Empowered with tools such as VCA and PRA, the Sibat team can work with communities to determine priority action plans to mitigate risk.

Program implementation

In East Nusa Tenggara province, the PfR alliance integrated the components of CCA and EMR into DRR activities in Sikka and Lembata districts. This was a major challenge for PMI that required enhancing the capacity and understanding of all staff.

Sibat Team members attending a training session on the PERTAMA program for preparedness at Talibura village.

The PMI program villages in 2012 were the Talibura and Loke villages in Sikka, as well as Nubaheraka and Leworaja villages in Lembata. Plans were made to add two new villages in each district in 2013.

The first step in program implementation was to conduct a familiarization session on the three-pillar approach of DRR, CCA and EMR. To strengthen its efforts, PMI recruited 120 Sibat team members, who were then trained in the PERTAMA concept.

The important output achieved so far is preparedness at the community level, where the Sibat team has generated a risk reduction plan. The plan was prepared using VCA, PRA and risk mapping.

Partnership support

EMR is an important component for enhancing community resilience within the PfR alliance. When PMI realized that they did not have sufficient capacity to facilitate the implementation of activities such as nursery, planting and maintenance, they considered external assistance.

Wetlands International-Indonesia Program (WIIP), a partner in the PfR Consortium, has the proven competency to support the EMR approach. PMI therefore decided to work with WIIP. This is the first time for PMI to include management and ecosystem restoration components in its DRR efforts.

An overview of partnership arrangements is also important for the strengthening

of institutional relations within the PfR alliance. For example, when PMI Sikka supported Caritas Maumere with first aid training, the beneficiary villages significantly improved their preparedness for disasters. Another example of successful cooperation between different organizations took place when WIIP participated in sustainable agriculture training organized by the Institute of Rural Development and Technology. WIIP also supported Caritas Maumere by introducing EMR and joint activities in sorghum cultivation to increase capacity of each organization in an effort to build resilience in the community.

Collaboration is particularly valuable when one considers that not all alliance partners (notably PMI) has equal knowledge on all three approaches in efforts to improve community resilience. Each member of the PfR alliance has its own strength according to its mandate, and it is important that all partners know about these strengths. Creating strong community resilience cannot be accomplished without support from all levels, including the community itself, relevant organizations and institutions, and government agencies.

The benefits of this partnership can and should be expanded to facilitate the beneficiary communities in disaster preparedness. These exemplary efforts in establishing community resilience in NTT can be transformed and replicated in other parts of the world.

Institutional capacity building: The ACCORD experience

Laudemer Mejia, Assistance and Cooperation for Community Resilience and Development Inc.

In June 2011, the Philippine partners of PfR attended a training on ecosystems management and restoration (EMR), a seemingly mysterious new term appended to an already complex marriage of disaster risk reduction (DRR) and climate change adaptation (CCA). Just a few months after the training was conducted, one of the organizations that participated in the training, Assistance and Cooperation for Community Resilience and Development (ACCORD) started applying the ecosystem-based DRR in an emergency response to a typhoon in Central Luzon.

ACCORD is an NGO that conducts DRR, emergency response, food security and other programs that contribute to poverty reduction, resilience to disasters and development. Though the organization is newly established, its leadership is comprised of experts with long experience in their fields. DRR and CCA are already mainstreamed into ACCORD's interventions. The PfR global approach of introducing an integrated DRR, CCA and EMR approach to all local program areas and institutions found relevance and success in the Philippines. The climate and ecosystem-smart DRR was adopted by ACCORD because of its success in applying it.

Prior to the training in June 2011, when EMR was introduced for the first time to PfR Philippines by Wetlands International, most of the participants were quite puzzled by its complex terminology. However, it turned out that EMR was not entirely alien to what ACCORD had been practicing. Before the PfR program, ACCORD had already implemented DRR projects with an environmental approach in its small-scale mitigation work. Realizing the potential of EMR in providing livelihood and food sources, ACCORD recognized the contribution of environmentally sustainable approaches to reducing the impact of hazards on vulnerable communities.

ACCORD, through its involvement in the PfR program, deepened its

understanding of EMR. Managing and restoring ecosystem services benefits people and communities by providing food, water purification, buffers of hazards, aesthetic pleasure, and so on. EMR also allows the analysis of the risks from different spatial scales. This means understanding the disaster risks, vulnerabilities and capacities at various levels from the community level to a larger landscape level. Ecosystems are interconnected and most of the risks should be viewed from a landscape level that can also encompass various other kinds of ecosystems. Changes in the upstream ecosystems affect those that are downstream, and vice versa. In ACCORD's experience, most of the mitigations conducted that incorporate an environmental approach only consider the risks at household and community level.

ACCORD first tried the EMR approach by including it in an emergency response to a typhoon disaster during the last quarter of 2011 when some provinces in Central Luzon were heavily devastated by floods. ACCORD conducted a damage, needs and capacities assessment in the affected communities to devise an appropriate plan of response. The assessment noted that rivers and waterways had been heavily obstructed by massive growth of invasive water hyacinths. Thick blankets of the parasitical plants covered entire surfaces of rivers and creeks, dramatically impeding water flow. Floodwaters did not recede to normal level due to this invasion.

Community members removing the water hyacinths that obstruct river flow slowing down the subsidence of flood water. (Photo by CARE/ACCORD)

The emergency response included an activity linked to food distribution to reduce the impact of the flood. Representatives from affected and vulnerable families were enlisted to clear out the water hyacinths in exchange for food aid. The community members were given tools such as large heavy knives, ropes and wheelbarrows. The disabled and elderly were given direct food assistance.

To help the affected community understand their disaster experience and plan ahead against disasters, ACCORD also included a new session on EMR in its short introduction to DRR and CCA. Also, a brief presentation on the characteristics of the particular risks and ecosystems of the affected villages was given. It showed the various factors that may have contributed to the flooding. It briefly described the whole Pampanga River Basin in Central Luzon. It also identified the different kinds of ecosystems surrounding and included within it (from the mountainous forests of the Sierra Madre to the agricultural ecosystems in the heart of Central Luzon. The nutrient-rich waters flowing in the Pampanga River and its tributaries that spread like veins through the rice fields and fishponds were a natural target for the invasive water hyacinths. The nutrients may have come from the eroded soils from the denuded mountains, fertilizer run-off from the rice fields, and the unconsumed fish feed from the fish ponds.

The discussions raised the awareness of the farmers, fisherfolk and community leaders that the risks were contributed by factors beyond the boundaries of their communities. However, the intervention was limited by its nature as a short-term emergency response. Thus, we have recognized the need to draft a DRR action plan for the community. This experience in applying EMR has provided the organization with a concrete understanding of its concept and approaches.

Eventually, based on its initial experiences and further development of its understanding of EMR, ACCORD continued to mainstream EMR in all its projects and programs. It formally included EMR in all its regular trainings on community-based disaster risk management. It also actively participated in the development of risk assessment tools that investigate information related to climate change, ecosystems and land use. Finally, together with its CARE Netherlands partners in the Philippines, ACCORD helped it draft a long-term strategic plan that emphasized the adoption of the integrated climate and ecosystem based DRR in all its projects, highlighting the PfR program as its backbone.

Strengthening an organization's capacity is never a simple process of acquiring skill and knowledge in a vacuum. ACCORD learned the importance and strength of the integrated approach of PfR by practicing it and learning from other organizations. The climate- and ecosystem-smart DRR approach has proven to be an effective and sustainable approach to risk reduction and development.

Strengthening community resilience through public-private partnership

Karen S. Tria, Corporate Network for Disaster Response

Barangay (village) Catmon in Malabon City is the project area of the Corporate Network for Disaster Response (CNDR) under the Partners for Resilience (PfR) program. It is an urban poor community with a total population of 40,000 people where 40% of the total population is comprised of informal settlers. The community lacks basic infrastructure such as shelter, toilets, street lights, pathways and drainage. It is highly vulnerable to almost all forms of natural and man-made hazards.

CNDR is a network of business groups, associations, corporations and corporate foundations whose objective is to rationalize and institutionalize the disaster risk management efforts of the business community.

The implementation of the PfR project has been very challenging in terms of getting the elected community leaders to participate. Even with supporting national laws, disaster risk reduction (DRR), climate change adaptation (CCA) and ecosystem management and restoration (EMR) were not the priority of the local government. This is because of low awareness on the laws, lack of capacity and resources, and lack of appreciation to invest in DRR/CCA/EMR measures.

Working with PfR's program goals and objectives was also a challenge in terms of maximizing available resources. Although a significant number of civil society organizations implement DRR activities and vulnerability reduction programs in Barangay Catmon, resources and efforts had not been consolidated.

The turning point

Then, in August 2012, prolonged and unusual rains brought flooding to

Metro Manila, especially Malabon City. Barangay Catmon was totally inundated and inaccessible for a week.

CNDR helped during the emergency response in Malabon, especially in Barangay Catmon, by mobilizing food and other donations. The local government, seeing that the impact of the hazard was overwhelming and beyond expectation, realized that unless the community worked together, the disaster would happen again.

Over the succeeding months, significant areas of improvement in the partnership have been evidenced. One such improvement is the evident increase in attendance of the leaders. People were more open to discussions and consultations.

After the monsoon rains had ceased, the Barangay DRRM Council was organized into a more functional structure, taking into consideration the lessons they had learned from the monsoon flood experience.

Snapshots of shanties and the people of Barangay Catmon

Public-private partnership

The challenges and opportunities for building community resilience were the driving force of CNDR to formulate a collaborative strategy to complement the PfR program. The efforts and resources of the local government units and the private sector had to be consolidated to strengthen community resilience, empower civil society, and promote climate and ecosystem smart DRR at various levels.

To help strengthen community resilience, CNDR partnered with the Malabon City government and Smart Communications Incorporated for the city-wide implementation of the Noah's Ark Project. Smart Communications, a leading telecommunications company, funded the project to strengthen the capacity of the local government to prepare for floods, giving emphasis to the early warning system, communication protocol, and evacuation. The project tested the early warning and communication protocol of the city through a communication drill using INFOBOARD technology, an innovation of Smart Communications. INFOBOARD is a web-based solution that offers various SMS facilities with various functions and capabilities catering to the needs of communities. It provides advance warning information about impending typhoons or other weather disturbances that could bring flooding to the area.

As a complement to the PfR agenda, the partners tapped into the Ateneo School of Government (AsoG) to provide training and workshops on the mainstreaming of DRR and CCA in the plans and budget of Malabon City. ASoG is a private partner under the Ateneo de Manila University, whose mission is to work with effective and ethical public servants to build prosperous and just communities throughout the Philippines.

The Albay Public Safety and Emergency Management Office (APSEMO) also worked with CNDR in providing technical assistance and peer-to-peer counseling to the Malabon City government, sharing their good practices in addressing DRR/CCA issues. The Province of Albay has one of the most advanced models of resilience-building in the Philippines.

At the policy level, CNDR as the representative of the private sector in the National Disaster Risk Reduction and Management Council (NDRRMC), helped facilitate and advocate the three approaches as part of its commitment to help build the resilience of the private sector and the Filipino communities. The organization's access to the vast resources of the private sector, its proven track record, and its credibility in partnering with the academe and government were crucial in mobilizing support to complement the PfR areas of intervention.

Elements of successful complementing partnerships

The mutually reinforcing roles and inter-operability of public and private sectors were essential ingredients for successful and complementing partnerships. Resilience-building is a whole-of-government, whole-of-

society, whole-of-budget and whole-of-people approach. The public-private partnership is an effective strategy to complement already existing programs and to strengthen community resilience, empower civil society, and advocate for local and national policies on the DRR/CCA/EMR integrated approach. Using the PfR as the holistic entry point, its principles helped develop more partnerships on the ground.

Rehabilitation group Ma'e Welu received funds from state owned enterprises

Didik Fitrianto, Wetlands International Indonesia Programme

Environmental damage in the north coastal area of Ende Regency, particularly in Kotabaru village, has become a great concern. Continuous abrasion has made Bele hamlet in Kotabaru village more and more isolated. Not only are the access roads severely damaged, settlements area are also badly eroded. Children cannot go to school, and economic activities are disrupted as no transportation can get in or out of the village during high tide. This situation cannot continue and concrete action is greatly needed to reduce the impact of the disaster.

Wetlands International Indonesia Programme through the Partners for Resilience (PfR) is pioneering efforts for environmental improvement on coastal areas of Kotabaru village by rehabilitating mangrove forests. It is important to note that abrasion as well as the rising sea water in Bele hamlet is not only caused by natural factors but also of environmental damage resulting from the loss of tens of hectares of mangrove forests that has been converted to land, which is either used for agriculture or to produce salt.

Ma'e Welu Rehabilitation Group was formed and facilitated by WIIP through the PfR program. Consisting of 20 people composed of youth, women, and community leaders, Ma'e Welu Rehabilitation Group has conducted planting activities of various crops. Such crops are beach hibiscus (*Hibiscus tiliacus*) and *Ketapang* (*Terminalia catappa*), 5,000 mangrove trees and yielded as many as 20,000 saplings nursery for *Rhizophora* and *Ceriops* types.

Ma'e Welu Rehabilitation Group also carry out alternative business development activities to strengthen the livelihood of their group members with funds provided by WIIP through Bio-rights mechanism.

The group's hard work and the capacity strengthening being conducted and facilitated by WIIP continuously for almost a year are gradually showing visible results. Coastal areas have been rehabilitated with mangrove and beach plants. The group also runs alternative economic activities such as goat farming.

WIIP also helps link the group to relevant agencies and other institutions. Cooperation with the Office of Marine and Fisheries (DKP), the Regional Working Group on Mangroves (KKMD), Local Disaster Mitigation Agency (BPBD), and state-owned enterprises in the district of Ende, is going well so far. Working together with these institutions is important to complement efforts and pool together resources for rehabilitation, disaster risk reduction, and other group activities.

CSR funds from state-owned enterprises for Ma'e Welu Rehabilitation Group

To do the initial planting for the rehabilitation of coastal areas in Kotabaru Village, WIIP worked closely with DKP, KKMD and state-owned enterprises including Bank BRI, Bank BNI, Bank Mandiri and state electricity company (PLN). The official planting ceremony was attended by Head of Ende district (Mr Don Wangge), students from elementary to university levels, the head of Kotabaru sub-district, head of villages within Kotabaru sub-district, the village disaster preparedness team and other community members.

In his speech, the Head of District expressed his concern on the worsening condition of coastal areas in Kotabaru. He pointed out how back in the days, the coastal side of Bele hamlet stretched very far to the sea, but today the land has been wiped out to almost 100 M. The dense mangrove forest is mostly gone. It has been chopped down and cleared for land opening, and wild animals such as monkeys are no longer existent. This mangrove planting can become a momentum for the people of Kotabaru village to put the greens back in the coast.

The Head of Ende district also prohibits people in Kotabaru village to chop down mangroves for any purpose, even those that are dried out. If people are caught damaging or cutting down a tree, they are obliged to provide 100 mangrove saplings as replacement. Mr. Wangge also hopes more people in the village will take the initiative to form another 'rehabilitation group' in order to save more coastal areas affected by sea abrasion. If they

also succeed in planting and caring for the mangrove trees, the Head of Ende district will give them a reward.

State-owned enterprise representatives took the event as an opportunity to hand in their grant support for Ma'e Welu Rehabilitation Group. State-owned enterprises that provided financial assistance, among others were: Bank BRI (12,500,000 IDR), Bank BNI (5.000.000 IDR), Bank Mandiri (5.000.000 IDR), PLN (3.000.000 IDR) and the Fishery Department (12,500,000 IDR). Total funds received by Ma'e Welu green group was 40,000,000 IDR. The funds will be used for the rehabilitation and development of alternative livelihoods.

The Bank BRI will also provide support to establish a mangrove nursery and loans to the group for the total amount of 60,000,000 IDR. In line with that, Bank BNI will also provide financial assistance to procure as many as 5,000 mangrove saplings in 2013.

Coastal rehabilitation is a one-shot deal. It requires collaboration with

Group photo of the Ma'e Welu Rehabilitation group after receiving funds from Bank BRI

all stakeholders. WIIP through the PfR program in two districts in Sikka and Ende has built good networks among government agencies, local NGOs, enterprises, media and universities to accelerate the environment rehabilitation of the coastal zone. The kind of support provided by state-owned enterprises of Ende for Ma'e Welu Rehabilitation Group is a valid evidence of 'linking and learning' within the PfR program.

Policy dialogue

Partnering with local government

Mary Allyn Aldamar, Philippine Red Cross Valenzuela City Chapter

Partnership has always been equated with working together towards a common goal. There are many different types of partnerships, and they offer various benefits. Some partners help generate ideas or design engagement activities. Some share skills and knowledge to ensure success of the initiative. Others provide complementary resources. Working with partners can deepen and strengthen relationships, as well as introduce new people and ideas. It may also lead to other opportunities in the future. Therefore, before entering into partnership, it is important to think through why you want to partner and why partners may want to work with you.

PfR and local government

Because Partners for Resilience (PfR) seeks maximum impact and cost effectiveness from its activities, the formation of partnerships is one of the alliance's eight key principles (PfR Resilience Vision).

The Philippines, one of the countries where PfR works, is subdivided into 17 regions, 80 provinces, 1,494 municipalities, 140 cities and 42,027 *barangays* (villages). It has a decentralized form of government in which the local government units have devolved functions. This makes the village very important, as it is at the forefront of community development.

Aside from decentralization, the Philippines passed the Republic Act 10121 (also known as the Disaster Risk Reduction and Management Act), which allows for institutionalization of the National Disaster Risk Reduction and Management Plan and appropriation of the requisite funds for its implementation. At the local level is the Barangay Risk Reduction Management Committee (BDRRMC), which involves the key actors who implement risk reduction plans within the communities. All these provide

an enabling policy environment that is crucial in moving PfR forward.

The PfR project in the Philippines is implemented in Valenzuela City, one of the 16 cities of Manila. Valenzuela City has a land area of 44 square kilometres and a population of approximately 600,000. It is an industrial and residential area. It is situated in a low-lying area bordered by three inter-connecting rivers: the Tullayan, the Polo and the Meycauayan. The confluence of these rivers makes Valenzuela vulnerable to flooding during high tides and also to flash floods that occur regularly during the rainy season.

To address this situation, the PfR teamed up with the city government of Valenzuela to mainstream the disaster prevention tripod: DRR, CCA and EMR. The Valenzuela City chapter of the Philippine Red Cross (PRC), with support from the Netherlands Red Cross, has been implementing the PfR project since June 2011 in five villages—Balangkas, Coloong, Malanday, Tagalag and Wawang Pulo.

Process of partnerships

PfR builds on the current good relationship between PRC and the city. It synchronizes its work with the local government and supports it in conducting the risk reduction process to include assessments, planning and capacity building in DRR.

Through the vulnerability capacity assessment and other community-based participatory approaches, PfR was able to engage the local government units. They identified local priorities and stimulated appropriate action to reduce disaster risk. The assessment results helped bring about a DRR plan that reflects a dramatic improvement on the earlier Barangay Disaster Risk Reduction Management Plan (BDRRMP), which focused mainly on procurement of materials and supplies.

Technical support was also provided by PfR, which assisted the local government in developing the BDRRMP. It is now more detailed, holistic and comprehensive. The new BDRRMP was disseminated and discussed frequently with community members and the local government. This also enabled the local government units to comply with the requirements of the Department of Interior and Local Government.

The Valenzuela City chapter of the Red Cross consistently coordinates with

different offices of the city government of Valenzuela by providing regular updates, plans, and project progress reports, thus establishing a solid, long-term relationship with the city government. PfR staff, together with the chapter administrator and board of directors, participate regularly in Local Disaster Risk Reduction and Management Council monthly coordination meetings, where they can raise different concerns and share plans or proposals relative to the project.

Gains of partnerships

Both PfR and the local government units have benefitted from the partnership. A significant change of attitude is apparent—people previously indifferent and complacent have become participative and engaging. The city government now makes it a point to support PfR activities such as the turning over of training equipment and community drills. To formalize the relationship, the partners have signed a Memorandum of Agreement to support the DRR mitigation project. Also, the Local Disaster Risk Reduction Management Office has endorsed the outputs of the vulnerability capacity assessment process for study and review purposes. At the village level, PfR has been recognized and supported through the village resolution, which was signed by all members of the Barangay Council and submitted to the City Association of Barangay Councils.

The meeting where PfR was introduced to Valenzuela City LGU.

Interaction between the Valenzuela chapter of the Red Cross and PfR has increased the awareness of the local government about the concept and approaches of PfR.

Partnership with local government has facilitated smooth implementation of the PfR project. The local partner has provided equipment, vehicles, venues for training, and sometimes sponsorship of activities or projects. They also provide easy access to important information such as reports and data. Additionally, Red Cross Valenzuela serves as a partner in disseminating DRR-related information and trainings to the community. It also helps local government to facilitate planning, drills and advocacy campaigns at the community level.

This partnership experience has clearly shown that working with local government units increases community participation in risk reduction activities. During the recently concluded contingency planning and community drill at Barangay Malanday, Red Cross 143 volunteers and local government enthusiastically showed their interest and support. Right after the contingency planning, they prepared for the contingency drill by organizing a coordination meeting, a field assessment, and an early warning system. Importantly, the local government unit submitted an updated Barangay Disaster Action Plan ahead of time. During the actual drill, various groups and individuals participated and supported the drill. The exemplary partnership between the Red Cross 143

Mapping during the vulnerability and capacity assessment of Valenzuela City.

volunteers and local government officials led to the successful implementation of the drill.

The community doing the drill.

Lessons learned

Working with local government is a challenging but rewarding experience. Although various issues and problems were encountered, solutions were invariably found. One issue that arose, for example, was the perception of some politicians that the project involved political issues. But because the PfR team made a dedicated effort to inform them about the potential positive outcome of the project, this problem was successfully resolved.

As the project proceeded, different strategies were implemented by the Red Cross and PfR, and the local government supported every single activity, especially those involving community mobilization and training. The key factor in the project's ongoing success is the untiring support of Red Cross 143 volunteers from the community and the effective and efficient partnership with the local government.

Truly, the role of partnership in achieving a specific development goal has been demonstrated by the PfR experience in Valenzuela city. Strengthened collaboration between the city government of Valenzuela and the Valenzuela City chapter of PRC will lead to the development of more proactive and resilient communities.

Developing an early warning system for Barangay Potrero

Merdie Jean Arcilla and Laudemer Mejia, Assistance and Cooperation for Community Resilience and Development Inc.

Rain or shine, there are floods in Malabon. This is how Malabon is usually described. Television footages have frequently featured Malabon with above-ankle-deep floodwater due to high tides even during clear skies and good weather. When there is rain and during typhoons, of course, the situation worsens considerably.

Malabon is a densely populated city in the northern part of Metro Manila near Manila bay. Like many highly urbanized cities in developing countries, there are thousands of poor informal settlers, many of whom dwell in high-risk areas. Its largest *barangay* (village) is Potrero, which has a population of around 45,000. In 2009 during Typhoon Ketsana, residents of Barangay Potrero were startled when the water kept rising faster than normal, eventually reaching the second floor of some homes. Around 6,000 families were affected. Some were trapped inside structures, and needed rescue support and emergency provisions.

Three years later in August 2012, the same communities were again affected by floods due to heavy monsoon rains that lasted for several days. The flooding primarily affected the urban settlements that line the riverbanks. This village was therefore chosen as one of the project areas for the Partner for Resilience (PfR) programme.

Addressing problems holistically and systematically

Part of the PfR program in Potrero is engagement with the local government to enhance its preparedness for emergency response and to work together toward a climate- and ecosystem-smart disaster risk reduction.

The Barangay Disaster Risk Reduction Management Committee was

established and a 3-year disaster risk reduction plan (2011–2013) was prepared, largely identifying flood as the main hazard to be addressed. However, several challenges needed to be faced in responding to disaster events. Weather forecast information and warnings were available but were not sufficient for issuing local warnings effectively to prepare people for evacuation. Floods could still occur even if the rains were limited upstream. Moreover, many residents resist evacuation during floods. Addressing the problem within the community is limited to responding to emergencies, rescue and relief. During the worst floods, the village officials and staff were mainly focused on rescuing trapped families along the riverbank settlements, thereby risking additional lives in the process of saving these families.

Augmenting the community early warning system

Trainings on climate- and ecosystem-smart disaster risk reduction were provided to the village leaders, who came to understand the importance of risk reduction, including the need to set up an

PAGASA flood forecast experts explaining the warning systems to Potrero leaders and ACCORD members. (Photos by CARE/ACCORD)

effective early warning system (EWS) for Potrero.

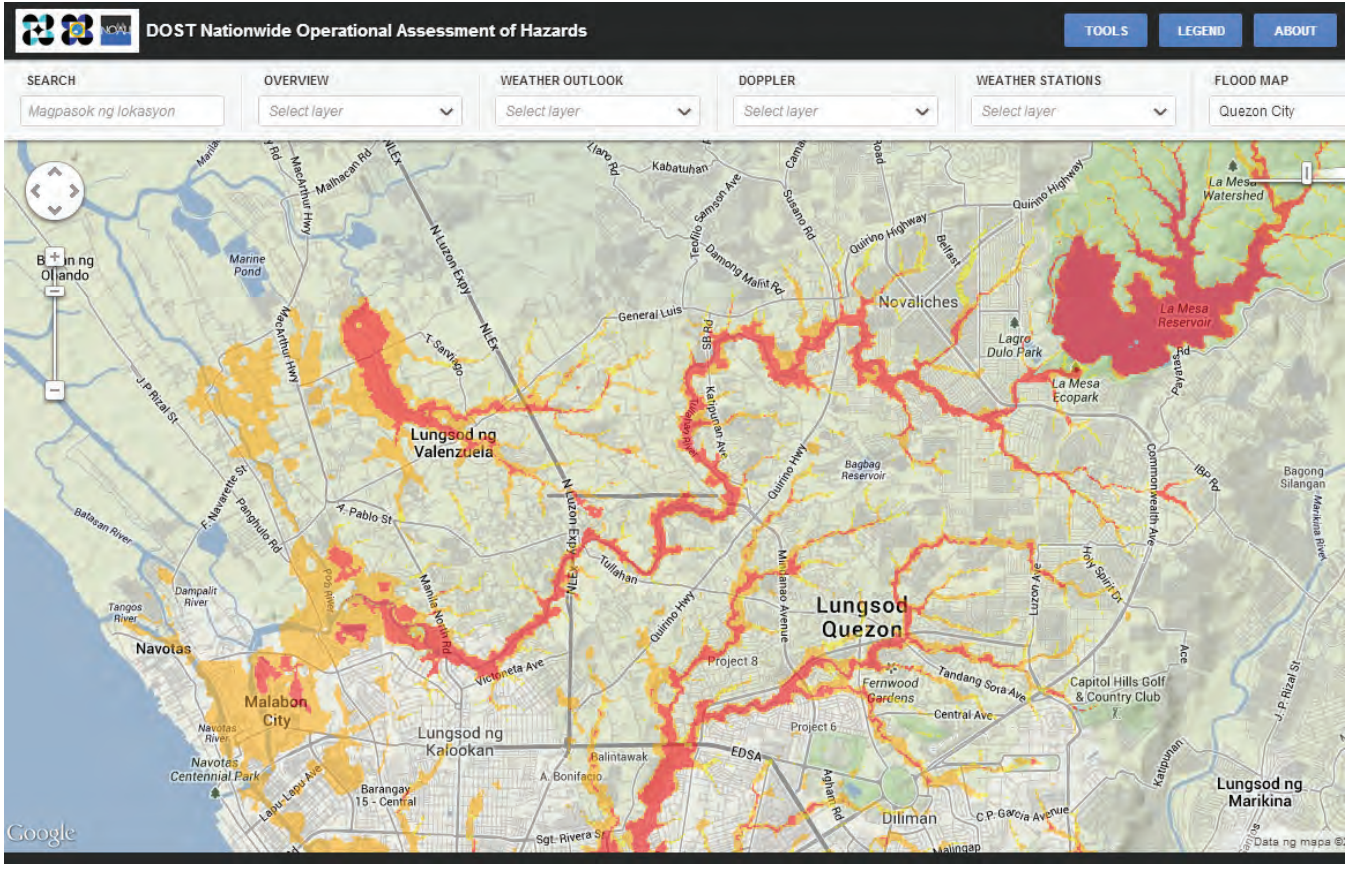
The current early warning system cannot provide timely, sufficient and relevant information. The existing sources of weather forecast and warning information are television and radio, as well as advisories from the La Mesa Dam Management. People in the communities also subscribe to unofficial warnings such as sirens of fire trucks and that of a private bottling company. Village leaders, on the other hand, disseminate warnings through phone messaging and direct visits of the high-risk communities. They realized the need for more accurate and relevant information that considers the specific nature of the flood risk in the village. The PfR programme facilitated the linking of the village leaders with the meteorological institute, PAGASA, to devise a flood EWS for the community.

Landscape approach

In an effort to improve the short-term EWS system for flood risk, Potrero demonstrated the importance of understanding the risks from an ecosystem perspective at the landscape level. The Potrero EWS should consider where the floodwater comes from and how it flows. The water in the river flows from La Mesa Dam to Manila Bay. Water also comes from the tributary canals and runoffs from upstream cities such as Quezon City and Valenzuela. Concrete ground surfaces of urban areas prevent floodwaters from being absorbed into the soil. High tides slow the flow of river water into the sea. The Tullahan River is narrow, clogged, silted and polluted. Flow is also slowed by heavy siltation, clogging with solid waste and obstruction of the riverbanks.

The flood risks of the communities in Potrero are affected by factors beyond the boundaries of the village. The landscape approach of EMR proved useful in reducing their risks. Designing an EWS requires data on the amount of rainfall from various points in the surrounding cities upstream, water levels of the river and its tributaries, and high tide levels. The data can be used to establish a trend for predicting future events. Lead time can then be calculated from the trends and be used to warn residents of an impending flood.

Eight devices to observe the amount of rainfall and water level in the area from Quezon City to Malabon were subsequently installed by different government agencies such as PAGASA (the national meteorological



Map of the Tullahan river and some of the installed early warning systems. (Photo from PREDICT (fmon.asti.dost.gov.ph))

institute) and the Advanced Science and Technology Institute (ASTI). Tide level data can also be obtained from other government agencies. The barangay local government will also be trained to maintain the improved EWS. Coordination with the local government units of Quezon City and Valenzuela can provide additional improvement of the Potrero EWS.

Continuing work

Completing the requirements of the EWS is ongoing to make it functional by year 2014. The leaders are also conducting workshops to review and update its DRR and preparedness plan. Solid waste management and mitigation activities to reduce the causes and impacts of floods still need to be considered. Long-term plans still need to be developed for Malabon and surrounding cities to prepare for the long-term impacts of climate change, especially the possible increase in rainfall and sea level rise.

The PfR project has helped connect local communities with local authorities of Potrero. Due to their limited circumstances, they were forced to live in high-risk areas. But with more concerted and organized action they can be more confident to deal with such challenges.

The PfR approach is holistic. It brings to the fore the need for a landscape-level assessment of the situation. This includes not only the specific urban ecosystems of the area, but all ecosystems, natural and human-made, that are connected to it, such as the sea downstream, and the river and the dams upstream. The landscape approach is crucial in setting up an EWS, and confirms the efficacy of an integrated approach.

Importance of participation in mangrove restoration policy management

Eko Budi Priyanto, Wetlands International Indonesia Programme

The earthquake and tsunami of 1992 damaged housing and infrastructure on the north coast of Sikka district, claiming approximately 2,000 lives. Arman Fiqih, a 50-year old villager, tells the story of the tsunami with tears in his eyes. 'Alhamdulillah...there are mangroves, so the whole family survived the tsunami. I cannot imagine what would have happened to us if there were no mangroves,' he says, pointing to the mangrove trees lining the coast.

Over the past two decades, the condition of the mangroves has deteriorated. The Sikka District Forestry Office reported that in 1997 mangrove forest covered 1,196 ha, dropping to 1,056 ha in 2001 and to only 575 ha in 2012. Mangrove losses were mainly caused by construction of new settlements and logging. Unless these activities are checked, the coastal ecosystems cannot be maintained, and the area will be left vulnerable to tsunami damage.

In an effort to restore the ecosystem, Wetlands International Indonesia Programme (WIIP), through PfR, has been working with farmer groups in eight villages on planting activities. So far they have planted a total of 400,000 mangroves and coastal trees.

WIIP has encouraged the district government to issue a policy to maintain and safeguard the mangrove belt. One direct result of the series of coordination and consultation meetings with relevant institutions was the establishment of the mangrove policy drafting team of which WIIP is part of based on District Decree No.206/HK/2011.

Participation in policy making

Experience has shown that public consultation is pivotal for effective

mangrove restoration policies. The environmental expertise from one of the PfR partners, Wetlands International, combined with a broad consultation process, has resulted in an important resolution to protect the environment.

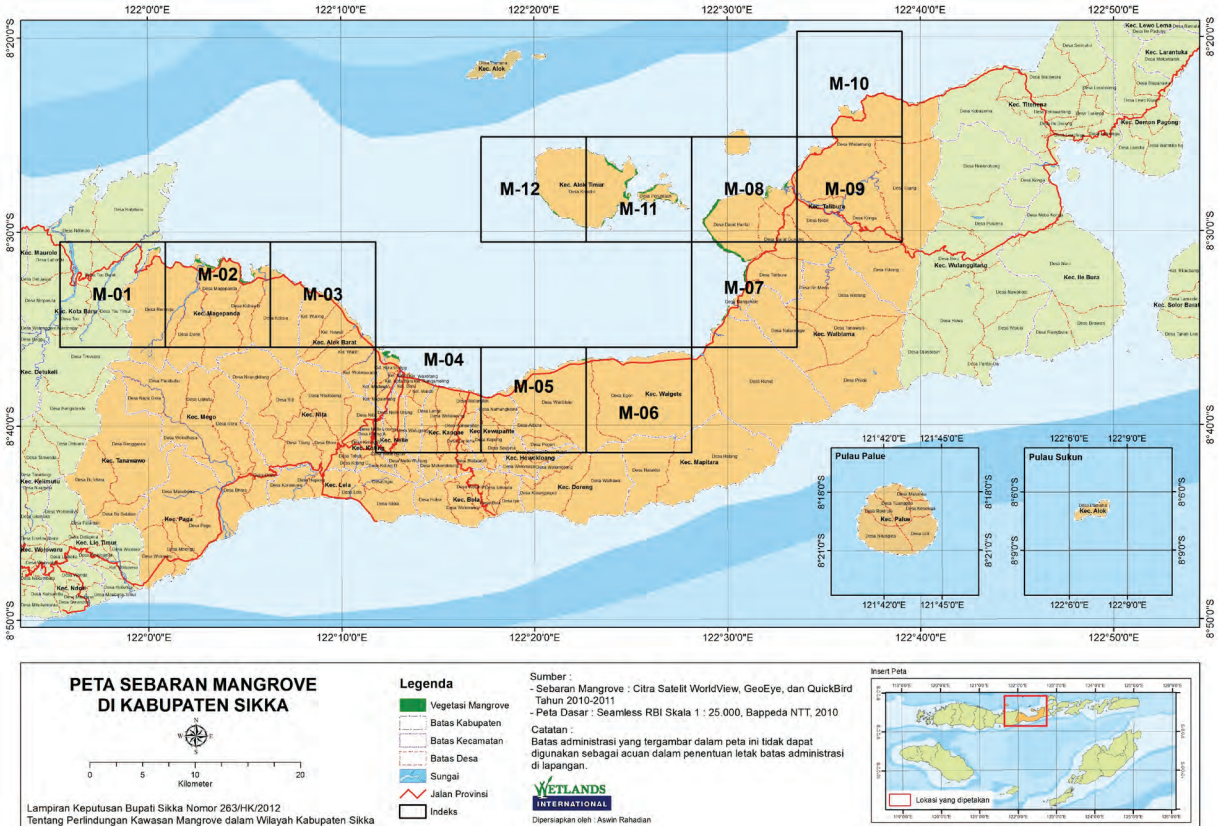
To get inputs from the public, the drafting team held a workshop called *Establishment of a mangrove green belt.* The workshop involved key stakeholders from farmer groups, NGOs, universities, media, and local government. The latter included representatives from the Regional Environmental Agency, the Regional Disaster Management Agency, BAPPEDA (Indonesian regional body for planning and development), and the Departments of Forestry, Marine and Fisheries, Tourism, and Agriculture.

The workshop was to outline the mangrove policy making plan and to trace its progress to date, as well as to get input and feedback from the various stakeholders. The inputs obtained were grouped into three categories: biophysical, social-economic and policy-focused. One important policy recommendation emerging from the discussion was a proposal that the government should immediately suspend all activities causing the reduction of mangrove area—a mangrove moratorium.

The team scheduled another meeting to identify strategic measures to respond to the proposals emanating from the workshop. One strategy that was immediately approved was to conduct field surveys to map the current status of mangroves in Sikka district. This was undertaken by the WIIP team, who visited all the villages with mangrove vegetation. They recorded coordinates using global positioning system (GPS) and put these on a map which was distributed throughout the district. The map was then used as the primary technical reference for discussions to ensure that the policies describe the actual conditions on the ground so that it can be used to ensure the survival of mangroves in Sikka district.

It took nearly a year to discuss available data and information and to approach various parties related to policy before the draft decree could be submitted to the district for endorsement. Finally, on 29 September 2012, the district formally issued Decree 263/HK/2012 Mangrove Protection Zone in Sikka. The decree calls for protection of the mangrove ecosystem and prohibition of activities that could damage it.

The endorsement of decree was quite effective. People began to think



Map of protected mangrove coverage in Sikka district.

twice before engaging in activities that caused destruction of mangroves, while the villages located in coastal region started to think about protecting mangroves through village regulations.

Two PfR principles are highlighted in this process of policy development. Addressing disaster risk and maintaining the ecosystem could not be addressed only at the community level. The need to work at different geographical scales was recognized in this process. Also, the positive outcome could not have been attained without the partnership. The key to success lies in how to foster trust among all concerned parties, and by so doing, build lasting relationships. If policy is to function properly it must be, as Abraham Lincoln said, 'from the people, by the people and for the people'.

From Lembata to Jakarta

Benediktus Kia Assan, PMI Lembata

On 18 July 1979, Waiwejak village (since renamed Nubahaeraka) on Lembata Island in Indonesia was hit by landslide. A huge pile of soil 3,000 meters wide and 50 meters thick was dislodged and slid into Waiteba Bay, Atadei sub-district, Lembata district, NTT. The soil and mud that fell into the Waiteba Gulf not only destroyed the Waiteba village, but also caused big waves that destroyed several nearby villages, including Leworaja (Jonathan Lassa, Journal of NTT Studies 2009).

In 2012, 33 years after that incident, both Leworaja and Nubahaeraka village communities are still surrounded by disaster.

The village of Leworaja faces two threats: landslide and big waves.

Big waves and landslides have become a routine threat for villagers in Leworaja. Meanwhile, Nubahaeraka, which is located in a higher altitude and has a cooler climate, has been constantly exposed to strong winds. Then, another disaster, a coconut pest *(Aspidotus destructor)* devastated the economic lives of most villagers, who are copra farmers.

'We found life quite difficult because of coconut pest. Hardly any coconuts in the garden could be harvested. Actually, copra helps our economy a lot.' - Yovita Belongi Namang, coconut farmer, Nubahaeraka

In mid-2012, the Indonesian Red Cross (PMI) initiated the Integrated Community-based Risk Reduction–Climate Change (ICBRR-CC). During the implementation, PMI, supported by the Netherlands Red Cross (NLRC), joined a global alliance of five organizations called Partners for Resilience (PfR), to adopt an integration of three approaches: disaster risk reduction (DRR), climate change adaptation (CCA) and ecosystems management and restoration (EMR).

What has PMI found?

The two PMI villages are vulnerable to disasters. Leworaja village is often hit by big waves and landslides, while strong winds often affect agricultural land in Nubahaeraka village. Even as no deaths were recorded, floods and landslides compromise the community's sources of income.

The PfR-PMI program, which started in May 2012, is currently developing a participatory risk reduction plan. In addition, the integrated approach to resilience building is also being promoted to increase their knowledge and skills and develop positive attitudes and behaviours within in the community toward the DRR/CCA/EMR approach.

Bamboo planting was conducted by the Sibat team (also known as CBAT or Community-based Action Team) in Leworaja village in landslide-prone areas. This is one of the actions done to mitigate landslide damage by implementing DRR using the EMR approach. Bamboo was selected as suitable for retaining soil and for restoring the ecosystem.

Leworaja fishermen are major suppliers of fish for mountain communities

on Lembata, including Nubahaeraka. But the threat always lurks of sudden big waves. Fishing tools and equipment such as boats or nets are periodically lost or damaged by huge waves. The actual risk can be minimized by evacuating fishing tools to a safer place, behind the permanent government-built dikes along the coast. Larger boats can anchor on safer coasts.

'Every year, fishermen lose boats and equipment because of big waves. When this happens, they usually try to find alternative income. Some become ojek (motorcycle taxi) drivers. Others work in their gardens. But many migrate to Malaysia.' - Abdullah Daud, Sibat commander, Leworaja

Meanwhile, to reduce the risk of landslides that threaten settlements and water sources, Nubahaeraka villagers have begun planting bamboo and palm trees. At the same time, the EMR approach has also been implemented because it restores ecosystems by protecting springs.

Residential areas are located on higher ground from the spring. Every day people walk back and forth on a steep path to fetch water for domestic needs. Over time, Nubahaeraka villagers began to believe and participate in various range of activities organized by PMI through the PfR program.

Most Nubahaeraka villagers are farmers. The main cash crops are coconut, coffee and cashew. Farmers also grow rice, corn and peanuts for food. The planting

A Sibat member in Leworaj village carrying bamboo to be planted on slopes prone to landslides.

Villagers have begun planting bamboo and palm trees.

season begins around October to December. January to February is rainy season when strong winds hit every year, destroying crops before they can be harvested, and very often farmers experience crop failure.

Through participatory rural appraisal (PRA), the community was able to improve planting schedules and to extend the variety of crops to get the harvest in before the strong winds hit. Because of the unpredictable rainfall, it is now more difficult to predict the optimal time for planting. To complement scientific knowledge, local knowledge, such as the arrival of certain bird species (believed to be a sign of early rains), is currently being used to predict rainfall.

Rainfall information, both actual data and forecasts, is available for Lembata district but is less detailed. Since 1999, however, daily and monthly information about rainfall in Lembata district is no longer sent to the Technical Unit Climatology Meteorology, Climatology and Geophysics Agency (BMKG) in Kupang, NTT Province. The District Agricultural and Forestry Department only records rainfall data for the needs of their work, and no longer sends it to BMKG. As a result, BMKG cannot produce rainfall forecasts and climate information specific to the district.

Therefore, PMI, collaborated with BMKG and Plan International to improve the reporting system on rainfall data for analysis, interpretation and forecasts of rain and climatic conditions through an information exchange

agreement held in May 2013. With the support of BMKG and based on their capacity, communities can maximize the climate change adaptation approach in designing their farming system. Coastal communities are also expected to receive information from BMKG.

Various support models such as seasonal forecasts, rainfall or climate information are important to the integration of the three PfR approaches. This type of support almost certainly cannot be provided by PfR alone. The existence of the PfR program should be seen as an opportunity to combine the strengths of each partner. This strength should be translated to support a variety of advocacy work with government at the national level. Institutions relevant to the PfR program are BMKG Center, Ministry of Environment, National Disaster Management Agency and others.

Partnerships with national institutions will undoubtedly strengthen the legitimacy of the PfR program, enabling it to work at both provincial and district levels.

PfR is also seeking to build partnerships with national government in Jakarta. All resources and cooperation at the regional level will be encouraged to obtain legitimacy from the Indonesian government, thus strengthening partnerships with provincial and district government.

PfR at the ASEAN Ministerial Conference

Guineviene R. De Jesus, Partners for Resilience Philippines

As an overarching strategy to promote resilience, PfR Indonesia advocates for an integrated approach on disaster risk reduction, climate change adaptation and ecosystems management and restoration in various policies and strategies of government and civil society.

This was the main message brought forward by over 15 representatives from PfR alliance members and partner organizations in the ASEAN Ministerial Conference in Disaster Risk Reduction (AMCDRR). The AMCDRR is a biennial conference organized by rotation in different Asian countries since 2005. The conference provides an opportunity to reaffirm commitment to the implementation of the Hyogo Framework for Action. In 2012, the AMCDRR was held in Yogyakarta, Indonesia, from 22 to 25 October.

The event attracted over 2,500 participants who took part in the technical sessions, film festival, market place and high-level ministerial meetings. PfR Indonesia was given various opportunities to convey the importance of integrating disaster risk reduction, ecosystem management and restoration and climate change adaptation. The alliance joined the market place to share PfR accomplishments and materials with participants.

PfR Indonesia's participation in one side event was particularly significant. Together with Climate Development Knowledge Network (CDKN) and Mercy Corps, PfR Indonesia organized a side event called Illustrating the importance of a local, integrated approach to tackling disasters and adapting to the impacts of climate change. The PfR Indonesia team presented a number of experiences that demonstrated the critical importance of climate-proof and ecosystem-based DRR and more effective mainstreaming in development planning and poverty reduction. An agreed

set of Minimum Standards for local climate-smart disaster risk reduction was developed with strong support from CDKN was also launched during the AMCDRR. The Minimum Standards discussion considered practical approaches that can be referred to by the communities when implementing climate-smart DRR programs. These standards were developed with inputs from both PfR Philippines and PfR Indonesia.

While climate change was widely mentioned and discussed in different sessions and side events, the integration of ecosystem management into existing community-based DRR work did not receive similar attention. In the end, however, the Yogyakarta Declaration on Disaster Risk Reduction recognized the need to build and sustain capacities and legal mandates of national and local governments to integrate DRR in land-use planning as well as to enhance investment in natural resource management. The declaration also called on DRR stakeholders to integrate local DRR and CCA into national development planning.

Building on these experiences, the three-pronged approach of PfR should be continuously brought forward to different platforms to highlight the importance of a climate-proof and eco-smart disaster risk reduction programming.

South-South Citizenry Based Development Academy

Extracted from the report The 5th South-South Citizenry Based Development Sub-Academy (SSCBDA), Kupang, Nusa Tenggara Timur, Indonesia, 21-23 May 2012, Executive Summary & Recommendations

The 5th South-South Citizenry Based Development Academy (SSCBDA) was held in Kupang, Nusa Tenggara Timur Province (NTT), Indonesia from 21 to 23 May 2012. The event was organized by the Partners for Resilience (PfR) consortium with funding support from the Netherlands Ministry of Foreign Affairs through the MFS II Project (2011–2015) and the UNDP Special Unit for South-South Cooperation. The Academy is a local version of the UNDP Special Unit for South-South Cooperation's three global platforms:

- Global South-South Development Academy
- Global South-South Development Expo
- Global Asset and Technology Exchange

The theme of the 5th SSCBDA, Building resilience in a changing world, was chosen with a view of providing capacity building support for organizations and individuals involved in the community-based development activities for disaster risk reduction, climate change adaptation initiatives, and ecosystem management in the Asia-Pacific region and beyond.

The Academy was attended by 175 participants representing communities from villages throughout Indonesia, local and national government, civil society, academia, media and the private sector. The focus of the event was to explore how communities are strengthening their resilience in a changing world.

Communities from NTT and beyond were provided with opportunities to exchange experiences and learning about strategies for coping with and adapting to changing environment, climate and hazard risk. Participants explored five thematic areas: disaster risk, water access, energy alternatives, climate risk and environmental risk. Participants debated on several seminal questions: Why are communities at risk? How have

communities strengthened resilience? What aspects are important to address in strengthening resilience?

Lessons and recommendations were also identified. A market place was held where communities and civil society organizations were able to share their approaches, innovations and products.

Community voices: the changing nature of risk

Communities shared stories about how they see climate change and climate variation affecting them. In Southeast Maluku, for example, villagers see that changing climate has aggravated disaster risk and food insecurity in coastal villages. They have experienced increasingly larger numbers of big storms and high tidal surges over the past 10 years. This tendency has caused coastal erosion, destroyed the beach areas surrounding their villages, and damaged houses. Salt water intrusion in well water has increased, resulting in less fresh water to irrigate crops or for household use. Each year waves appear to get bigger and there are fewer days when fishing is possible.

In Ende district, coastal communities are being destroyed through increased coastal erosion and fishermen are unable to go fishing as a result of increase in frequency of big coastal storms. Many women leave their villages to become migrant workers to generate income for their families because they can no longer rely on a secure income from fishing.

For inland communities in Kupang and Sikka districts during the past 10 years, communities report that the timing and intensity of both the dry and rainy seasons have become more and more unpredictable. Seedlings at the point of flowering are destroyed, rain damages crops and harvests fail. These experiences are replicated in Sinjai District in South Sumatra, where community harvests of products such as cloves, chocolates, and rambutan—products that communities previously sold to pay for food, school and health services—have also dropped.

Access to water significantly contributes to a community's ability to cope. Communities in dry areas of Kupang experience water scarcity at the peak of the dry season between September and November. This leads to insufficient water supply to meet basic household needs and impacts livelihoods through livestock fatality and harvest failure. Although water harvest ponds have been built, communities recognize that because they do not have ownership of the maintenance and operations, when they are

damaged, communities cannot rely on them for irrigation or for watering livestock. Communities have dug shallow wells but the water is often contaminated. Nonetheless, people are obliged to consume the tainted water as alternatives are limited. High intensity rainfall causes floods, which destroy crops and houses and cause landslides.

In Flores and Timor islands, communities recognize that poverty and low income leads to unsustainable natural resource exploitation along the coastline. Mangroves are destroyed, riverine sand beds are mined, trees are cut down and minerals are extracted from the land. Communities recognize that these depredations contribute to a loss of nature's support and protection to their livelihoods. Coastal storms increase and there is no natural buffer to protect coastal communities.

Communities urgently need access to information and skills to allow them to increase their coping capacity to reduce risk and strengthen resilience.

Community innovations: increasing coping capacity

At the Academy, communities shared their approaches in reducing risk from disaster, climate variation and environmental degradation. A number of examples shared by communities are:

- Village level rainwater harvesting: household level collection and storage of rainwater from the roof of a house to be used at times of drought for livestock, irrigation and 'grey water' for household use.

Participants check out the water desalinator model.

- Coastal village seawater de-salinization system that produces clean water that can be used for livestock, irrigation and household including drinking water. Additional by-product is salt which can be sold in local markets.

- Coastal village seaweed cultivation to diversify and provide alternative livelihoods.

- Mangrove re-planting in coastal villages to recover fish yields, stopping village practice of cutting mangroves for firewood through local regulations and producing briquettes from coconut shells and animal dung as an alternative for fuel.

- Village and household collection and sharing of information on climate forecasts based on local knowledge and where available scientific information. In Ende villages, communities recognize nature's signs to indicate when strong winds will hit the village. If thick heavy clouds pointing downwards move from west to east, winds will hit the village. If these clouds travel from east to west, rain will come. Villagers use this as early warning and prepare for limited access to their garden/field and start to prepare food stocks for at least a week. When the winds die down the villagers will restock from their garden. Strong winds usually last a month between January and March.

- Re-establishment of traditional practices such as household and village food barns, a tradition in many communities throughout Indonesia up to the 1980s and 1990s that fell into disuse as a result of government food support programs. Food barns can provide food stock for times of crop failure. Other sustainable livelihoods practices are also coming back: palm sugar production where wood and briquette energy are concentrated within the ground to reduce burden on firewood, and the production of coconut oil using coconut shell briquettes.

- Farmers in Kupang, Ende and Sikka are cultivating seeds that are more hardy to drought conditions like sorghum and beans.

- Farmers harvest naturally occurring tubers (*Dioscorea hispida dennst*) from the forest and process them to produce food products. This initiative also involves promoting the use, production and

Various sorghum seeds.

consumption with other communities.

- Intercropping and agroforestry to diversify subsistence level agriculture and reduce risk from complete crop failure. Using animal waste as fertilizer to limit use and cost of chemical-based fertilizers.

- Developing low cost biogas and fuel-efficient stoves to reduce dependence on purchase of kerosene and reduce the quantity of wood or briquettes required for household level cooking. Containing cows and goats within a pen or stable to reduce their damage to vegetation and allow collection of animal waste for production of briquettes.

Next steps

The event allowed for exchanges between communities, civil society organizations, university and national government representatives from Ministry of Environment, National Agency of Disaster Management, Meteorology Climatology Geophysics Agency and National Climate Change Council.

Communities were able to share stories and experiences about their efforts in coping with risks. They were able to link with other villagers' experiences and challenges. The interchange facilitated a productive exchange of innovations, technologies and skills.

Similarly, CSOs and universities were able to share experiences and

approaches to supporting communities to cope with risks. Linking needs of communities with low input technology and learning to CSOs and universities was discussed and planned.

Government representatives, recognizing the importance of integrating disaster, climate risk and environment in national strategies and programs, requested the PfR consortium to share learning and experience emerging during the 5-year effort.

Results emanating from the 5th SSCBDA have contributed to the drafting of Minimum Standards for local climate-smart disaster risk reduction developed by the Climate and Development Knowledge Center and the Red Cross/Red Crescent Climate Centre. Global and regional PfR staff liaised with decision makers from Indonesia and Philippines. Recommendations were shared during the 8th National Conference on Community Based Disaster Risk Reduction in Kupang. A number of aspects were adopted by the conference committee which were brought to the Asian Ministerial Conference on Disaster Risk Reduction in October 2012.

Partners for Resilience produced a newsletter reflecting stories from participants of the 5th SSCBDA, and recommendations from the conference were shared with national, regional and global government leaders. Some of the conferences identified were: the Asian Ministerial Conference on Disaster Risk Reduction in Yogyakarta, the United Nations Framework Convention on Climate Change in Doha, and the 4th session of the International Strategy for Disaster Reduction in Geneva, Switzerland, in May 2013.

The 5th SSCBDA emphasized the need for government, knowledge-based institutions, international NGOs, Indonesian CSOs and other stakeholders to take recommendations into account and progress through meetings and negotiations at local, national, regional, and global levels. This will support communities in strengthening resilience and reducing risk from disaster, climate change, and ecosystem degradation.

Tools for Resilience

Margot Steenbergen, The Netherlands Red Cross

The dire humanitarian consequences of climate-related events, particularly for the world's most vulnerable people, are alarmingly evident. Indeed, the UN has recently released an environmental report with a bleak future outlook, indicating that the earth's environmental systems have reached their tipping point. As climate and environmental hazards increase in frequency, intensity and magnitude, resulting losses in human and economic terms will serve to magnify the shortcomings of the prevailing 'wait and see and respond' approach.

For disaster risk management to become better and smarter at safeguarding human and natural systems, it will need to be anticipatory and innovative. Deeply participatory tools for designing and implementing development and disaster risk management operations hold significant power to transform traditional thinking across all scales, particularly at the local level.

Six tools used under the Partners for Resilience program are related to:

- Risk assessments,
- Quality standards, and
- Innovative participation.

I. Tools for risk assessments

The community risk assessment toolkit

The harmonized risk assessment toolkit brings together disaster risk reduction (DRR), climate change adaptation (CCA) and environmental management and restoration (EMR) in 8 simple tools. The toolkit has been developed under the Partners for Resilience program in

the Philippines through a partnership with King's College in London. Existing tools of the implementing agencies were compared, enhanced and field tested. All community risk assessments in the Philippines are carried out with the guidelines of this toolkit. Challenges so far included changing the mindset of addressing different time and spatial scales. However, it is recognized that understanding the factors that contribute to vulnerabilities in communities is a prerequisite for designing and implementing more effective and sustainable adaptation activities. By clearly explaining the steps before, during and after a community risk assessment, this toolkit creates a single, holistic approach to community risk reduction.

The regional risk assessment

The regional risk assessment is a methodology that considers the wider geographic or landscape approach and its relation to local risks. This methodology consists of a one-day workshop that reviews the community risk assessments at the regional level. In addition, this workshop focuses first on identifying root causes created by environmental degradation. It then focuses on activities that can be clustered, which leads to additional cost-effective disaster risk reduction. This methodology was conceptualized by the environmental partner, Wetlands International, in the Philippine Partners for Resilience program. The workshop has resulted in an overview of the most effective strategies to reduce disaster and climate risk, both by adapting people to the risk and by addressing the root causes of disaster risk. Challenges in using this tool are mainly in the follow up, especially in considering which identified strategies lie within implementing organizations' core strength and mandate. Using this tool is effective, considering that community level risk management is more effective when taking into consideration a wider geographic/ landscape approach.

II. Tools for quality standards

The climate smart minimum standards

The minimum standards outline actions at the community level that ensure disaster risk reduction actions are climate smart. They are a set of practical approaches to implementing climate-smart DRR activities in a way that is achievable by many communities with relatively limited external support. The minimum standards are based on ample local

experience and consultation, including lessons learned during the first years of the Partners for Resilience program in Indonesia and the Philippines. This process was facilitated by the Red Cross/Red Crescent Climate Centre. Having recently been developed, the standards are currently tested in the planning, monitoring and evaluation of the program. The first challenge observed is moving a community from being climate-aware to being climate-smart. The program recognizes that to be effective, DRR on all level must consciously incorporate scenarios of changing risks rather than simply responding to disaster patterns of the past. There is a need to identify the minimum that communities should do to ensure DRR activities are climate-smart.

Criteria for ecosystem-smart DRR and CCA

This tool is set of Ecosystem-Smart Criteria, which describes the required steps to develop an 'ecosystem-smart' approach in the design, implementation and evaluation of risk reduction programs. The criteria were developed in the context of the Partners for Resilience Alliance by environmental partner Wetlands International. Similar to the climate-smart minimum standards, these criteria are currently tested in the planning, monitoring and evaluation of the program. One challenge is that the document does not provide specific guidance on the technicalities behind selected ecosystem and natural resource management interventions. This is purposefully done, since these are typically highly site-specific and no generalizations can be made. This means that engaging in ecosystem activities involves creating linkages with environmental experts, be it CSOs or government partners. As a tool for program design and implementation, this tool contributes to resilience by helping organizations appreciate how the management of ecosystems across wider landscapes is relevant in the context of their programs.

III. Tools for innovative participation

Participatory Video

Increasingly affordable communication technologies can help to capture, process, store and disseminate relevant information, extending the benefits of knowledge to those who most need it. Participatory video is a particularly relevant methodology. It involves a group in shaping, creating and filming their own video, from creating the storyboard to interviewing and camera operation. The Partners for

Resilience in the Philippines were trained in this methodology in 2012, and have since produced multiple films that are used for awareness raising and policy dialogue purposes. So far, partners have indicated that the editing part is the most difficult, but practice makes perfect! This method of working has been tried and tested, and according to the Red Cross/Red Crescent Climate Centre (one of the PfR partners): 'Making their own film has the power to meaningfully involve the people who are most vulnerable to climate change in spreading knowledge about adaptation.'

Participatory games

Last, but certainly not least, we encourage the use of participatory games. Games are gaining traction as valuable tools for engaging a wide array of stakeholders in meaningful dialogue about what the most effective risk management measures in a climate-constrained world may look like and how they should be implemented. The Red Cross/Red Crescent Climate Centre is a frontrunner in developing and conducting participatory games. Under funding of the Climate and Development Knowledge Network, new games will be developed specific to the Philippine and Indonesian contexts. In the meantime, several game sessions have been conducted in the two countries, engaging the participants, varying from project staff to government members to donors. The facilitation of games requires both skill and intimate knowledge of the subject matter. Currently, this is a challenge that the Red Cross/Red Crescent Climate Centre is addressing by training focal points. We believe that games are an effective tool in treating the end users of information not merely as a target audience but as partners in co-learning through processes and products that reflect their own contributions.

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Partners

PfR Indonesia

Bina Swadaya Konsultan, under the Bina Swadaya Foundation, is a national leader in promoting community empowerment. During the past 25 years, Bina Swadaya has provided development extension services, awareness raising, training, and consultancy services to increase income and prosperity of the poor in Indonesia. Technical focus areas include livelihoods development, community-based water and sanitation and public health, environmental conservation, micro finance, social entrepreneurship and agro-business development, and community DRR. Bina Swadaya works with the local implementing partner on Timor island to support four communities in resilience strengthening through environmentally friendly economic empowerment.

CARE International Indonesia (CII) has been operating in the country since 1967. CII was initially involved in food distribution, building medical capacity, school feeding programs and small infrastructure projects. By the 1980s, CARE emphasized community development, particularly in health, the environment, and water and sanitation. Responding to both conflict and natural disasters, CII developed initiatives to reduce humanitarian suffering while laying a strong foundation for future recovery and development. Within PfR's DRR program, CII shares responsibility with PIKUL for the implementation of the program in eight communities in Nusa Tenggara Timur (NTT).

Cordaid (Catholic Organization for Relief and Development) has been supporting development programs in Indonesia for 30 years and has presence under the structure of the national Caritas of Indonesia, Karina KWI. The team under Karina KWI supports national partners in their efforts in community-managed DRR, climate change

adaptation and environmental management and restoration through linking with external resource institutions to explore specific technical solutions, and learning through exchange activities between communities, partners and stakeholders. The team supports partners in planning advocacy efforts, utilizing learning and innovative approaches. Cordaid works with a total of four national organizations for the PfR program including KARINA KWI, INSIST, LPTP, Bina Swadaya, and their local implementing partners Caritas Maumere, Mitra Aksi, FIRD, Payo-payo, Nen Mas II and Oisca.

Caritas Network of Indonesia represents 37 Catholic dioceses. Karina KWI, as the humanitarian arm of the Bishops Conference of Indonesia, is the national DRR and emergency response preparedness arm of the church throughout Indonesia. Karina KWI takes into account the importance of integrating DRR-CCA-sustainable environmental management to support strengthened livelihoods; protecting current livelihoods and creating alternative livelihoods options to cope with locally identified hazards, linking increased capacity and opportunity for social justice in natural resource and land management. Karina is an active member of the Caritas Confederation in Asia. Karina works with Diocesan Caritas Maumere in Flores to support resilience strengthening in three communities.

Insist network, which represents 22 NGOs throughout Indonesia, is at the forefront of Indonesian efforts to develop critical discourse, alternative perspectives, and new discourse on social transformation. The network's current focus is exploring resilience through disaster, climate and environmental risk proof livelihoods and government programs and policies at district level through policy advocacy at district and national levels. Insist works with local partners Mitra Aksi, FIRD, Payo-payo, and Nen Mas II on evidence-based research on resilience strengthening to support policy advocacy.

LPTP Foundation (Lembaga Pengembangan Teknologi Pedesaan) provides assistance and services to government, CSOs and communities throughout Indonesia. Technical focus areas during the past 10 years include alternative technologies for food, energy, and environmental systems; community-based sanitation, water and land

management; conservation; community development through capacity strengthening; DRR and CCA; environmental management; rural business development; media development; and policy advocacy. LPTP works with 4 communities in Flores to support food security, renewable energy, natural resource management and resilience strengthening.

Netherlands Red Cross (NLRC) Indonesia supports the Indonesian Red Cross (PMI) through a partnership approach in project management, and provides technical and financial assistance to a range of sectors, including water and sanitation, community-based first aid (since 2006), HIV/AIDS, disaster response, and DRR-CCA (since 2005). NLRC also supports PMI organizational development and capacity building.

Indonesian Red Cross Society / Palang Merah Indonesia (PMI) was founded in 1945. PMI is in a unique position to respond to disasters because of the mandate it has from the government to assist local governments during the first 2 weeks following a natural disaster. It is the only organization recognized by the government's disaster management boards at central, provincial, district and sub-district levels. PMI has an extensive network of 33 chapters at provincial level, 406 branches and 3,560 sub-branches at district and sub-district level. With more than 2 million volunteers across the country, PMI is able to respond to disasters in even the most remote areas. Through the PfR program, PMI is supporting eight communities/villages in NTT in resilience building.

PIKUL is a non-profit, non-governmental organization established in 1998. PIKUL is mandated to strengthen local capacities and institutions in Eastern Indonesia. Currently, PIKUL serves its mandate by facilitating local champions and communities to create and achieve their vision towards resilience. PIKUL uses appreciative inquiry (AI) as its frame of working and learning. With AI, PIKUL continues to seek what will work best for the benefit of people and communities, as well as what potential and opportunities exist that would enable them to achieve their future vision.

Red Cross/Red Crescent Climate Centre (RCCC) is a reference centre on climate change that supports the Red Cross and Red Crescent Movement and PfR partners in reducing the impacts of climate change and extreme weather events on vulnerable peoples. RCCC activities revolve around key areas including communication/awareness raising; capacity building through the participatory approaches and games on climate change; mobilization of resources; national and international policy advocacy; and climate risk analysis. Although RCCC is not doing direct operational work in both the Philippines and Indonesia programmes of PfR, it provides support through a technical advisor.

Wetlands International–Indonesia Programme (WIIP) is the Indonesian office of Wetlands International, the only global non-profit NGO dedicated to the restoration and conservation of wetlands. The mission of Wetlands International is to sustain and restore wetlands, their resources and biodiversity. The vision is a world where wetlands are treasured and nurtured for their beauty, the life they support, and the resources they provide. WIIP works with community groups in 8 villages in Ende and Sikka, NTT. A learning site in Banten Bay is also maintained by WIIP.

PfR Philippines

Agri-Aqua Development Coalition–Mindanao (AADC) was established in October 1994. It is an offshoot of the Congress for People's Agrarian Reform (CPAR), a broad coalition of Philippine peasant groups formed to lobby for a genuine agrarian reform law during the 1980s. Initially focused on agrarian and fisheries reform advocacy, it re-directed its efforts towards participation in local governance and then to economic empowerment. AADC implements community economic development and community enterprise in collaboration with a number of local coalitions in various provinces.

Assistance and Cooperation for Community Resilience and Development (ACCORD) draws its strength from its members who possess long local and international experience in diverse yet interrelated fields and disciplines. These include DRR and CCA, natural resource management, food security, and local governance. ACCORD traces its roots to a collaboration between CARE Netherlands, CNDR and AADC, with funding from the European Commission Humanitarian Aid department. ACCORD is the lead partner of CARE in the Philippines for the implementation of DRR/CCA/EMR program of PfR.

CARE Netherlands was established in 2001 when the former Disaster Relief Agency joined CARE International. CARE Netherlands supports people in emergencies, especially those caused by natural disasters and armed conflict. The organization is supported by about 50,000 donors, who jointly contribute to the implementation of 30–40 projects per year. CARE started programming in the Philippines in 1996. The country has since become CARE's focus country in the region. CARE works with Agri-Aqua Development Coalition-Mindanao (AADC), Assistance and Cooperation for Community Resilience and Development (ACCORD), Cordillera Response and Development Services (CorDisRDS) and Corporate Network for Disaster Response (CNDR).

Cordaid, the Catholic Organization for Relief and Development, is a Dutch development agency operating worldwide to fight poverty and exclusion in fragile states and areas of conflict and extreme inequality. Cordaid's main expertise lies in reducing conflict, facilitating access to health care for all, making local business prosper, saving lives and reducing risks. Cordaid has no physical presence in the Philippines but contributes to the PfR Alliance and learning component through IIRR.

Cordillera Disaster Response and Development Services (CDRDS) was born in the aftermath of the June 1987 earthquake that brought disaster to scores of villages in three provinces of the Cordillera Region of northern Luzon. Following an evaluation exercise, CDRDS has reorganized and expanded its program, adopting a scope of work that not only addresses disaster

response but a more holistic community development service. CDRDS continues to extend its services to the communities of the Cordillera provinces: Apayao, Kalinga, Abra, Mountain Province, Ifugao, Benguet and the City of Baguio.

Corporate Network for Disaster Response (CNDR) is a network of business groups, associations, corporations and corporate foundations whose objective is to rationalize and institutionalize disaster management efforts of the business community. It was set up 20 years ago to provide a formal coordinating mechanism for private sector response and relief contributions after major natural disasters. CNDR's program has evolved to cover the whole range of disaster management work, including DRR and preparedness. CNDR now engages its members to support initiatives towards building resilience in disaster-prone communities.

International Institute of Rural Reconstruction (IIRR) focuses on reducing disaster risk by using an integrated approach that includes livelihoods and health system strengthening. IIRR puts communities at the center of hazard identification, analysis, risk assessment and management. Since 2004, IIRR has tested and developed the community-managed disaster risk reduction (CMDRR) model and packaged its experience through a facilitator's manual. IIRR builds DRR capacities of communities on the ground, and of development organizations through trainings and technical assistance. Learnings are shared through training and publications. IIRR facilitates PfR Philippines' linking and learning component.

Netherlands Red Cross (NLRC) is part of the largest humanitarian network in the world, the International Committee of the Red Cross. NLRC's mission is to prevent and alleviate human suffering wherever it may be found, to protect lives and health, and to ensure respect for the human being. NLRC started supporting the Philippine Red Cross (PRC) in 2011 through the PfR program. Since then, NLRC supported PRC through several programs and projects. In times of emergencies, NLRC may support PRC either bilaterally, or multilaterally through the International Federation of Red Cross and Red Crescent Societies.

The Philippine Red Cross (PRC) was first organized as a branch of the American National Red Cross in 1905. In 1947, PRC was officially accepted as a member of the International Red Cross and Red Crescent Movement. A humanitarian organization with nearly 100 chapters covering all administrative districts and metropolitan cities, PRC is committed to provide services that protect the life and dignity of people in vulnerable situations. PRC provides six major services: blood services, disaster management, safety services, community health and nursing, social services, and volunteer service. These are delivered with the support of a volunteer base estimated at 800,000, and about 1,000 permanent and project-based staff. Three PRC chapters are implementing the PfR program: Agusan del Sur, Surigao del Norte and Valenzuela City, covering 25 communities.

Red Cross/Red Crescent Climate Centre (RCCC) is a reference centre on climate change that supports the Red Cross and Red Crescent Movement and PfR partners in reducing the impacts of climate change and extreme weather events on vulnerable peoples. RCCC activities revolve around key areas including communication/awareness raising; capacity building through the participatory approaches and games on climate change; mobilization of resources; national and international policy advocacy; and climate risk analysis. Although RCCC is not doing direct operational work in both the Philippines and Indonesia programmes of PfR, it provides support through a technical advisor.

Wetlands International is an independent, non-profit, global organization dedicated to sustaining and restoring wetlands, their resources and biodiversity. The organization believes healthy wetlands are a cost-effective strategy for DRR and CCA, with strong benefits for poverty reduction and biodiversity conservation. Wetlands International works in the field to show the capacity of wetlands to reduce the severity of disasters by building technical capacities among stakeholders, and communicating key lessons and knowledge to decision makers from local to global levels. Wetlands International is not physically present in the Philippines, but provides technical support to the Philippine partners through other offices.

PARTNERS FOR RESILIENCE

The Netherlands Red Cross

Wetlands INTERNATIONAL

care

RED CROSS/RED CRESCENT CLIMATE CENTRE

International Federation of Red Cross and Red Crescent Societies

The Netherlands Red Cross

Cordaid BUILDING FLOURISHING COMMUNITIES