Moving Up Innovations to Scale

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Moving Up Innovations to Scale

Lessons from IFAD-Supported Development Interventions in the Philippines

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Foreword

Achieving sustainable impact has indeed been receiving increasing attention from the Philippine government and its development partners. This is in the context of ongoing debates about agriculture and rural development's role in the post-2015 development agenda, the national efforts to reach the Millennium Development Goals' poverty reduction targets, and the Philippine Development Plan 2011-2016. Meanwhile, the International Fund for Agricultural Development (IFAD) for the past 5 years has used a systematic approach for scaling up in the agricultural and rural development sector.

This publication is a knowledge product to create new and partnership spaces and to present successful or promising innovations through several channels. This is based on a systematic use of a set of scaling-up framing questions to document approaches made for selected interventions in agriculture and rural development. The IFAD has supported this undertaking through its country programme in the Philippines.

Therefore, we in NEDA are grateful for the many institutions and individuals who made this publication possible. First, we would like to thank government agencies such as the Department of Agriculture, the Department of Agrarian Reform, and the National Irrigation Administration. We are very grateful to IFAD and its supported programmes and projects in the Philippines and partner institutions such as the CIP, ICRAF, IRRI, and PAFID. Added to these are all the participants, contributors, and the team of facilitators for all of their substantive and financial contributions to this publication.

Overall, we hope that this publication will induce further action, courage, innovation, and resolution in scaling up sustainable agricultural and rural development interventions.

My sincere appreciation also goes to the IFAD President and management, the Director of Asia and the Pacific Division, and the Philippine country office for their commitment to a corporate scaling-up agenda as a critical mission. I am confident that their continued support and guidance will facilitate sharing of experiences locally and between countries and regions worldwide.

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Overview

The Philippines is a growing middle-income country. In 2013, annual growth in GDP reached 7.2 percent. "The Philippines is no longer the sick man of Asia, but a rising tiger." There is macroeconomic stability and the fiscal situation of the government is sound and improving. There is renewed business confidence. The fight against corruption is being waged with determination and transparency is improving in government. There is also a framework agreement reached in Bangsamoro, which is seen as an important milestone for a final solution in the struggle of the Moro people.

There are also a number of challenges in the social and economic development of the country– further expanding the productive capacity of the economy; enhancing government policy for rapid, inclusive and sustained economic growth and development; regional economic integration in East and Southeast Asia; empowerment of the poor and the vulnerable, especially poverty reduction for the rural poor and disadvantaged groups; creating a favorable environment to generate more and better quality jobs for the unemployed and underemployed; simplification and streamlining of business regulations to reduce the cost of doing business and to improve the country's competitiveness; reestablishment of trust in the justice system, including support for community-based and traditional justice mechanisms; adaptation to and mitigation of climate change and disaster management; and further enhancing transparent and accountable governance.

Scaling up agenda in the country. In this country context, the International Fund for Agricultural Development (IFAD) has been working closely with the Philippine government, partner institutions, and various stakeholders over the past 5 years in undertaking a systematic approach to scaling up in the agricultural and rural development sector. This includes:

1. A pilot phase (2009/12) consisting of stocktaking, learning and partnership building, which include institutional reviews (of policies, strategies, procedures) with a scaling up lens, country and thematic case studies, and learning events (including staff guidance stools and training sessions)
2. A mainstreaming phase (since 2013) that aims to internalize a scaling up mindset into the IFAD operational business model for enhanced institutional efficiency and development impact. This phase consists of different levels of interventions at country, corporate, and international or regional levels, including development of scaling up frameworks and scalability assessments as a collaborative exercise linked to IFAD country programmes; identification and mobilization of financing and programmatic instruments at corporate level; country and thematic knowledge products and learning events; customized guidance tools (relative to land, value chains, institutions, gender, targeting); staff training; and expanding the community of practice and learning alliance for scaling up in agriculture and rural development.

This publication is a product of learning and sharing events supported by IFAD and its partner institutions over the past 14 months, including a scaling up workshop in July 2013, an annual country programme review in December 2013, and a scaling up writeshop in September 2014. It also capitalizes on previous and ongoing knowledge management processes and products of the Government of the Philippines, IFAD and its partner institutions, including quarterly and annual country programme and portfolio reviews, annual "knowledge and learning markets" and reviews of the Country Strategic Opportunities Programme. This publication also benefits from findings and recommendations from scaling up country case studies, thematic reviews, and related synthesis reports from the review of "Scaling Up Programmes for the Rural Poor: IFAD's Experience, Lessons and Prospects (Brookings 2013)." Thus, this is a result of joint efforts of various stakeholders in the country programme, including government agencies, the implementing partners of past and ongoing loan– and grant–supported programmes and projects, and staff and consultants from IFAD–supported programmes and projects in the country.

Overview of case studies. Presented in this publication are nine cases of development innovations selected from the IFAD country programme in the Philippines. These cases, selected and largely written by practitioners based on their experiences, reflect scaling up initiatives at different stages of maturity. Thus, the level of sophistication in these innovations vary widely—it ranges from relatively simple approaches (such as deploying farmers to organize other farmers into irrigator associations) to more complex schemes (such as negotiating payments and rewards for upland communities who provide a range of ecological services).

The selected cases may be classified into three types:

1. *Innovative components or approaches within projects.* These are components or approaches developed within IFAD–supported loan and grant programmes and projects that show potential for wider replication within the programme/project or for adoption by other projects and agencies. Some were products of novel project design while others evolved as creative responses to problems met in the course of project implementation. Some of these innovations are still being documented, evaluated, and replicated. While some innovations show promise for wider application within the project, a few, such as the "covenant approach," show potential for wider adoption in national programmes. This group includes:
   - School on Air (SoA), which combines radio with other media forms to create a two-way interactive learning system that delivers certificate courses to farmers in remote mountain villages;
   - Revitalizing indigenous leadership, a creative process whereby indigenous elders and indigenous young professionals team up as co-facilitators to reconstruct tribal identity and revitalize indigenous leadership;
   - Covenant approach, which uses traditional systems in place of legal contracts, to effectively engage indigenous communities in reforestation and natural resource management;
   - Targeting the poorest, a participatory system by which the poorest households in a rural community are identified, organized into self-help groups, and provided livelihood assistance through a

Poverty Alleviation Fund; and
- Farmer irrigator organizer (FIO) approach, which employs farmers to organize co-farmers in the formation and strengthening of irrigator associations.

2. *Innovative technical projects.* These are innovative projects that involve some level of technical interventions. Because these innovations involve more complex processes, they need to be unbundled to be better understood before they are scaled up. Some specific tools and products may be introduced from the outside (e.g., rapid hydrological assessment, seed management practices, improved and more tolerant rice varieties). The group includes:
   - Community-based seed system (CBSS), which builds on community practice whereby farmers in groups or as members of a community, produce, save, and exchange or sell good-quality seeds, especially in times of disaster or seed shortages; and
   - Payments/rewards for ecological services (P/RES), which involves a process of identifying, facilitating, and negotiating payments and rewards for upland poor communities that provide a range of ecological services (e.g., water supply and quality, forest and soil protection, carbon sequestration, etc.) to various users and beneficiaries.

3. *Scaled-up innovations.* These are approaches that have been adopted from earlier practices, then refocused and repackaged to address the needs and advocacies of specific sectors (e.g., linking farmers to markets, assisting indigenous peoples to make land claims). The innovations here have been scaled up and replicated beyond their original pilot project or implementing agency. This group includes:
   - Farmer business school (FBS), a course that utilizes a season-long, action-learning approach to transform farmers into better entrepreneurs— able to respond, individually or jointly, to emerging market opportunities; and
   - Participatory 3-dimensional mapping (P3DM), a participatory approach to mapping ancestral domains, by combining traditional knowledge with global positioning system/ geographic information system (GPS/GIS) technology.

Looking forward. Some general observations can be made about the cases and the process of scaling up, which confirm some of the key findings from earlier assessments of IFAD approaches to scaling up:

- Taking into account the resources available under IFAD loan and grant portfolios and the potential for leveraging additional advice, knowledge and resources in support of IFAD interventions, the task of scaling up does not necessarily have to start from scratch but may capitalize on successful innovations already in place. Nor do the scaling up trajectories have to be limited by the internal objectives of IFAD-funded projects.
- All the innovations under consideration in these Philippine case studies have already gone beyond their initial "piloting" stage. The challenge ahead is to define new scale objectives, define pathways for taking innovations to scale (through replication and adaptation whether within the project or across several communities) and identify entry points for support from IFAD and others

as deemed appropriate, through investments, partnerships, and evidenced-based policy dialogue.

- All the cases involve group-oriented and participatory processes rather than expert-driven approaches. In some cases, technology is demystified (such as P3DM, where mapping is brought outside the exclusive realm of surveyors and geodetic engineers). This confirms the potential role of the target group as scaling up champions, provided there is a shared vision and the right incentives are in place, combined with adequate provision for capacity development.
- The cases show that others can be an important source of learning and innovation. The FBS approach was adapted from a project in Indonesia on farmer field schools, combined with experiences from Latin America on market linkage, while the P3DM evolved from an earlier mapping approach used in Thailand. These are also interesting indications of the role of south-south and triangular cooperation as a powerful tool for opening learning space and partnership space for scaling up.
- When innovations are scaled up, they are not just replicated or repeated, but they evolve into new forms, as approaches and tools are customized to respond to specific challenges faced by rural poor sectors in the Philippines. In other words, innovation, learning, and adaptation go together as part of a scaling up agenda.

In conclusion, what we are looking for is not just scaling up innovations—whether these consist of an approach, a technology, or a tool. Ultimately, the end-result that we seek is to scale up the results of our work, so as to bring benefits to people more widely and more effectively. It is understood, however, that achieving results at scale requires replication or expansion of successful project design features, subject to adequate "unpacking" of project components into models of intervention that can function as "building blocks" toward larger and more focused programmes. Likewise, the earlier classification of three types of innovations also shows that the debate between the "projectized" approach as opposed to the once popular "programme approach" should not be limited to a debate on transaction costs and financial sustainability. It is also about using projects—where deemed appropriate—as stepping stones toward larger mainstream interventions for impact at scale.

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School on Air: Facilitating Community Learning Using Multimedia

In this Internet age, radio has kept its niche in the Cordilleras. Take the case of the School on Air (SoA), for instance, which was born more than 60 years ago in Iloilo.

As a tool for distance learning for Filipino farmers, the use of radio has evolved over time, along with the changes in the use of electronic communications (Figure 1).

From a purely radio broadcast dissemination of agricultural technological information, Filipino farmers can now also access taped and packaged learning modules and tutorial programs aired mostly over television networks and now through home satellite discs or theatres. They can also interact with research institutions through SMS text messaging and the Internet. However the situation in the Cordilleras is quite different. Due largely to inaccessibility characterized by a rugged terrain and poor road and communication network, communities in the Cordillera highlands have not received the benefits enjoyed by other Filipinos with respect to modern electronic communication technologies. Under conditions prevailing in the region, radio remains the most popular medium and source of information for majority of the population.

Utilizing radio as a distance learning tool for project implementation, the Second Cordillera Highland Agricultural Resource Management

Project Information

The Second Cordillera Highland Agricultural Resource Management Project (CHARMP2) is a special foreign-assisted project of the Department of Agriculture (DA) implemented in the six provinces of the Cordillera Administrative Region (CAR) with the local government units (LGUs), and the National Commission on Indigenous Peoples (NCIP) as co-implementing partners.

The project goal is to improve the quality of life of the indigenous peoples in CAR. Its purpose is to increase the family income of households in 170 barangays in 37 highland municipalities under the project's area of coverage in the region.

CHARMP2 is funded by the International Fund for Agricultural Development (IFAD) through a loan amounting to USD 26.6 million and a grant worth USD 0.6 million with financial contributions from the OPEC Fund for International Development (OFID) worth USD 10.0 million, the Government of the Philippines (GOP) and concerned LGUs totaling USD 19.3 million. (From the IFAD Report of the MTR Follow-up Mission: 31 July – 05 August 2012).

The project has five components: Social Mobilization, Participatory Investment Planning and Land Titling; Community Watershed Conservation, Forest Management and Agro-forestry; Agriculture and Agribusiness Development, and Income Generating Activities; Rural Infrastructure Development; and Project Management and Coordination.

Project (CHARMP2) implements SoA, targeting indigenous farming communities in the Cordilleras.

Following project participatory strategies, innovations on SoA were undertaken to ensure the relevance of the topics to the needs and priorities of learners, in collaboration with partners, research and development institutions, and the farmers themselves. Aside from simply downloading development and technical information over the radio, the SoA implements interactive courses on packages of commodities using other channels of interaction.

The SoA courses are formally administered following an implementation and monitoring plan, a module delivery plan, (e.g., accomplishment of forms, filling out of answer sheets and questionnaires) and the completion of the required activities of participation. All these culminate in a graduation.

The planning of SoA defines the roles of various stakeholders at all levels of implementation, from the region down to where student farmers reside.

The SoA broadcast is done covering topics that range from production to marketing. It involves a series of radio programs, aired three times a week for a period of 3 - 6 months. Radio is complemented by a short messaging system and the Internet, among others, to solicit participation and feedback of listeners. This strengthens the two-way communication between the broadcaster as the instructor and the listener as the student.

Farmers enroll in the SoA courses and learning modules are prepared on the basis of each direct beneficiary's project investment plans (PIP), specifically their priority commodities such as coffee. Learning modules, implementation plans, and management and monitoring tools are designed to guide the process of the whole SoA program.

The CHARMP2 specifically prepares each course module as a readily available guide for use by the broadcaster. The scheme is set in such a way that one lesson is equal to one broadcast airing of 30 minutes; some time is devoted to updates and advisories on project implementation. The course module that contains the general topics is referred to as "modules", whereas the set

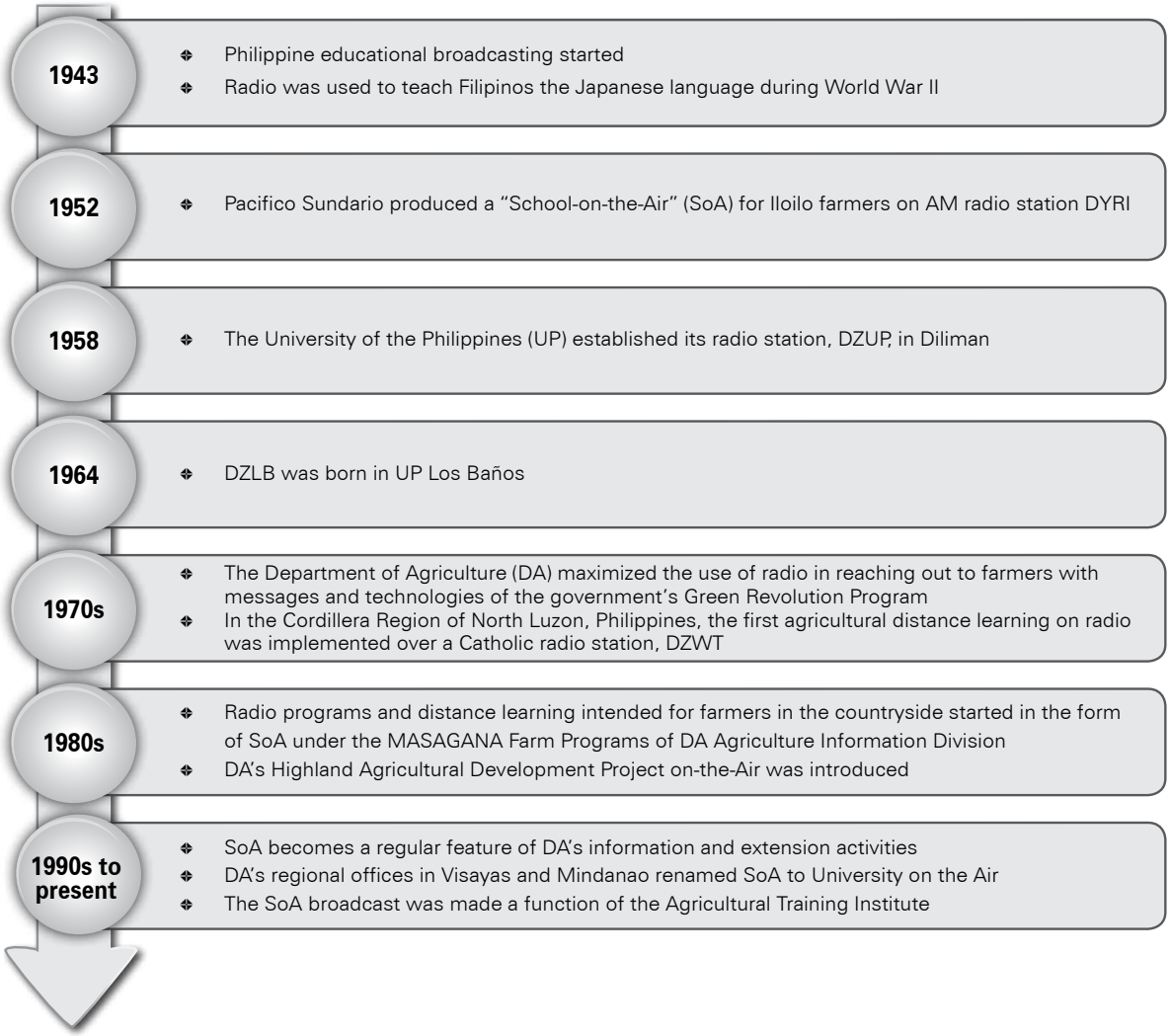


Figure 1. *Evolution of radio as a distant-learning tool in the Philippines.*

of specific topics is referred to as "lessons." The program is aired three times a week, every Mondays, Wednesdays, and Fridays. There are different schedules per province, depending on the best preference of the student farmers (mostly at noon and evening).

The SoA has the following elements:

1. A series of lessons on a specific subject matter is specially designed and aired successively in a radio program over a certain period of time.

2. Daily lessons usually last from 20 to 25 minutes. The remaining time is used for updates and announcements/advisories.

3. Listeners are enrolled through the facilitation of community mobilization officers (CMOs) under CHARMP2 and their counterparts from the municipal local government units, the agricultural technicians (ATs).

4. A pre-test is given before lessons are aired to determine the level of knowledge of enrollees on the subject matter. The post-test is administered after all the lessons to assess knowledge gain. The pre-test is given upon enrolment and the post-test is usually done with the practicum. The field facilitators are involved in the pre-test and post-test of the questionnaires.

5. Quizzes are given after every lesson by the broadcaster. Students are given SoA kits that contain answer sheets, which are then collected by the field facilitators (CMOs and ATs) after every module.

6. A graduation is held at the end of the course and certificates are given out to the enrollees who have met the course requirements.

7. Research is conducted to determine the information needs and characteristics of the target groups or community and to evaluate the acceptance and impact of the SoA. A general course evaluation form is administered to the enrollees by the Information and Knowledge Management Unit (IKMU) after graduation This is to assess the overall impact of the program and to identify areas that need improvement.

The success of the SoA program has been evident through its recently concluded pilot SoA course on coffee titled 'Quality Enhancement of Coffee Product from Seed to Cup.' This SoA course was aired in project-covered areas belonging to the provinces of Abra, Benguet, Kalinga, and Mt. Province. The success of the program was reflected in the 76% graduation rate of enrollees.

The CHARMP2 champions the farmer-students under the SoA program. The SoA is a development catalyst, first and foremost, but it is an action that leads to effective harnessing of available resources in the project areas.

Meanwhile, the general public is also actively engaged as listeners, benefitting from the information on project implementation and technologies shared by the program.

The approach

Field presence is crucial in the implementation of the SoA. The CHARMP2 works through its Provincial Coordinating Office (PCO) which mobilizes offices such as the Provincial Management Group, the Office of the Provincial Agriculturist, the Municipal Management Group, and the Office of the Municipal Agriculturist to implement the enrollment of student farmers. The SoA is managed by the PCOs assisted by CMOs to complement the usually understaffed municipal agriculture offices.

The Information and Knowledge Management Unit of the Project Support Office (PSO) oversees the conduct of the entire SoA process. The systematic approach of delivering SoA to the CHARMP2 covered areas is the foundation of this program. To properly implement and monitor the SoA process, an implementation arrangement was set to allocate responsibilities to different offices.

The implementation mechanism of SoA highlights the participatory nature of project planning and implementation in CHARMP2. The involvement of key partners (LGUs, farmers, and other partners) ensures that SoA broadcast is supported and as much as possible synchronized with project implementation. The roles of the SoA implementers and beneficiaries were determined and made part of the CHARMP2 SoA. The PCO serves as the secretariat for each province, organizing all documents and collecting data from the municipalities. These documents are submitted to the IKMU/PSO for proper documentation and filing.

The local government counterparts of the CHARMP2 are given additional opportunities to work closely with the local communities. By involving the local government, there is a proper

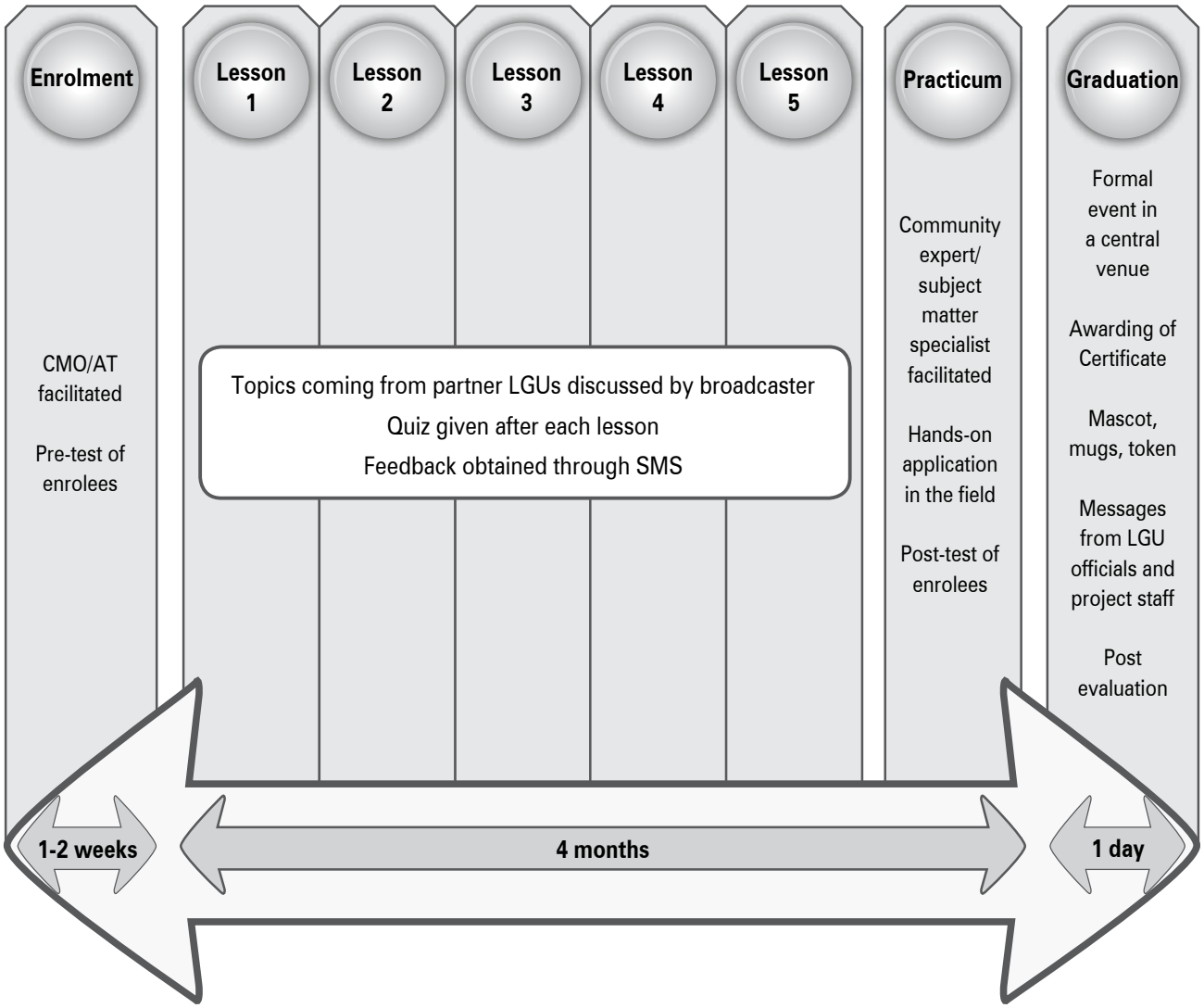


Figure 2. *SoA implementation processes and methods.*

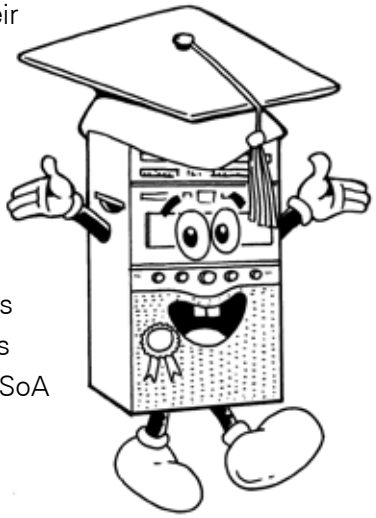
levelling on the vision, goals and implementation of the SoA Program, thereby ensuring its success.

The SoA program packages the technology and information into tangible learning materials for program beneficiaries. To maximize learning opportunities brought about by the SoA, the IKMU has added information and educational campaign (IEC) materials for every commodity course being aired and these are distributed as part of the enrollees' SoA kits.

Since the SoA is implemented in the Cordilleras where the majority of the population (92%) are indigenous peoples (IPs), the broadcast modules and materials are deliberately written in a manner that respects the cultural, social, and spiritual moorings of the enrolled learners and listeners. These are prepared in consultation with resource persons from the academe, elders from the communities, and others.

Among IPs, tokens are gestures of valuing relationships and accomplishments. While certificates are important in highlighting participation and accomplishment, tokens with symbols developed in that relationship enhance how much IPs value their participation, efforts, and friendship. These tokens, like the super berry mug, are given to learners as a form of

recognition of their accomplishment. It comes with a Certificate of Completion. In addition, to promote the SoA Program in its entirety, IKMU has come up with an SoA mascot, Champ.



Lessons and insights

Addressing sustainability

Through the concluded SoA Course on Coffee, the CHARMP2 was able to assess the feasibility of sustaining such program. The key stakeholders of SoA are all very interested in keeping the program going. The initial success of SoA implementation has been due to the presence of CMOs, which compensates for the lack of LGU agricultural technicians assigned in the project areas. However, the completion of the contract of the CMOs in the project areas and the continuing lack of government agricultural technicians may delay the implementation of the SoA.

The LGUs, being a catalyst for SoA, ensures its sustainability in the local communities, although previous experience has pointed to the fact that LGUs have yet to realize their leadership roles in the program.

Meanwhile, there are government-owned radio stations in the provinces that the LGUs can tie up with to fully maximize the use of available local resources in implementing an SoA program.

Dealing with conflict

Indigenous mountain communities beset with access and peace and order problems and other unseen circumstances associated with the terrain need not be left on their own. Their information needs must be met to enable them to manage their resources and to engage in community development and nation building.

Opportunity for scaling up

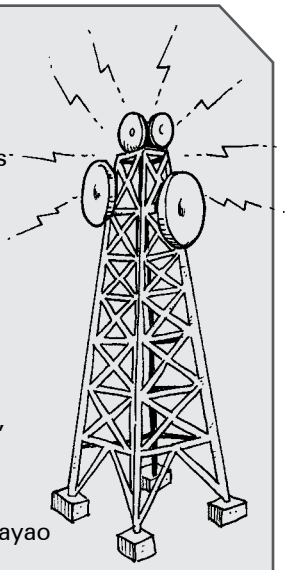
Achievements

As seen in previous SoA projects, there is a very strong team spirit among CHARMP2 staff as well as a very enthusiastic group of SoA beneficiaries. Initially, the SoA relied mainly on the IKMU and the PCOs. Today, the SoA has expanded its active support base, inviting full support from project partners in mobilizing their staff in the field implementation of the SoA at the time that CHARMP2 is winding down its operations.

More than a year into its operation, the SoA has completed the airing of four courses with a total of 483 farmer graduates. In four out of six provinces, a network of radio stations can reach listeners in remote areas covered by the project.

Continuous monitoring efforts resulted in the improvement of signal strength and reach of the different partner radio stations. Before the SoA, several coverage areas of the CHARMP2 were hardly reached by radio signals. With the engagement of people in these areas as target SoA listeners, the radio stations either have increased their signal strength or have covered more areas not previously covered by their stations.

SoA Radio Stations



1. **DZWT** (Baguio City)
   Kilowatt transmission:
   Power AM 10 megawatts

   Coverage areas:
   Primary: Baguio City, Benguet, Pangasinan, La Union, Ilocos Sur, Nueva Vizcaya
   Secondary: Ilocos Norte, Tarlac, Zambales, Cagayan, Isabela, Nueva Ecija, Kalinga, Apayao

2. **Radyo Sagada**
   Kilowatt transmission: Power FM with an approved 1 kilowatt transmission. Currently operates at 200 watts elevated radial system

   Coverage areas:
   Primary: Mountain Province and parts of Benguet
   Secondary: Cervantes, Ilocos Sur, Quirino Province, parts of Kalinga, Abra, and Isabela

3. **DZPA Abra**

   Coverage areas:
   Primary: Abra, Ilocos Norte, Ilocos Sur
   Secondary: Parts of Benguet and Mountain Province

4. **DZPA Tabuk, Kalinga**

   Coverage Areas:
   Primary: Kalinga Province, northern Ifugao, northwestern Isabela, western Cagayan and southern Apayao
   Secondary: Mt. Province, southern Ifugao, Nueva Viscaya, eastern Isabela, eastern & northern Cagayan, northern Apayao
   Number of listeners - 300,000
   Average power output - 6.5 kilowatt
   Minimum. . . . . 6.0 kilowatt
   Maximum . . . . . 8.0 kilowatt

In areas that cannot be reached by radio, exciting opportunities exist to come up with innovative ideas in the knowledge management process. Farmer-learners are educated with the use of multi-media such as video, flipcharts, and reading materials brought by ATs and farmer-leader technicians for the delivery of information.

CHARMP2 will keep looking for ways to improve and empower the SoA program by fine-tuning concepts and designing implementation schemes based on experience.

Drivers

- Development support communication (DSC) methods that are applicable and supportive of distance learning for poor and inaccessible mountain communities.

- Local government units in the Cordilleras have a dearth of agricultural technicians (two to three); hence, they recognize the potential of using radio as the easiest and fastest way to transfer technology to local farmers.

- On the part of farmers, there is consistent reliance on radio as a medium to obtain information especially where communication facilities are lacking. These needs of both parties become more pronounced, especially in the Cordilleras and other regions where populations are located in distant, remote, or not easily accessible places.

- Policies and legal frameworks coming from national and local levels answer the need to maximize media to reach farmers with useful information that can enable them to make good decisions on farming and natural resource management. The approved rationalization plan of the DA has downsized the region's agricultural

information division into a section under the field office administrative division, thereby encouraging the private sector, state universities and colleges (SUC), and research and development institutions to engage in development support communications.

- The current capabilities of LGUs in remote communities and hinterlands limit access to important information that may prove helpful to improve the livelihood and encourage the participation of the majority of farmers in development projects.

Spaces

Environmental space. The innovation will promote wider participation of project beneficiaries in development initiatives that affect their communities and livelihood through sharing of knowledge and information that respond to their identified needs, priorities, situation and prevailing conditions.

Policy space. The implementation of the DA Rationalization Plan will negatively affect information and technology dissemination with reduced manpower and scaled-down functions of the regional agricultural and fisheries information division into an information unit under the office administrative division. This enables the agency to engage and support external IEC and distance education initiatives for farmers, most especially those in marginalized and remote communities that are regarded top priorities of the current government.

Cultural space. Marginal and remote communities in the Philippines are populated mostly by indigenous peoples and fishermen in the coastal areas of the archipelago. The development of learning modules and relevant DSC materials appropriate to their needs will spread the fruits of development and enhance integration and participation in nation building. In the same context, appreciation of their best practices will highlight the importance and recognition of their contributions to natural resource management and food production initiatives e.g., building rice terraces in Quezon Province and in Arakan Valley of North Cotabato.

Partnership space. The DA and CHARMP2 must take the lead in scaling up the innovation in CHARMP2 areas and the DA regular programs. The ATI and a private sector partner, if not the SUC will undertake the development of learning modules, documenting, assessing, and designing its administration with relevance to the conditions of the communities and other stakeholders participating in the program. The IFAD may assist the upscaling of the SoA with additional financial and training grants.

Pathways

Vertical pathway. Replicate the development of learning modules, assessment and administration of the SoA with the involvement of a regional local working group composed of ATI, DA, SUCs, community leaders/elders, and the private sector.

Functional pathway. The CHARMP2 on SoA can be replicated under the auspices of the DA's regular programs and projects, particularly the Philippine Rural Development Programme (PRDP), and IFAD Programme areas, and IP communities with similar conditions found in the Cordilleras.

Geographical expansion and horizontal pathway. Replicate and increase the number of SoAs to other Cordillera provinces without radio stations and with no signals—by using video and other printed IEC materials. Encourage participation from other sectors, such as barangay officials, farmer's organizations, rural improvement clubs, and church groups.

This innovation may take a year to scale up to cover various activities—conduct of training and orientation on administration/implementation of the SoA; collaboration with stakeholders and formulation of memorandums of understanding (e.g., development of learning modules and IEC materials, defining roles, functions, and responsibilities in the different stages of SoA administration, monitoring and documentation, sharing technical and financial resources); mobilization of resources (e.g., technical and financial resources); and post-implementation, assessment, and design of SoA and DSC materials for marginal communities based on results obtained.

Challenges and recommendations

The existing agricultural extension system in the Cordilleras leaves much to be desired as this is hampered by the dire lack of extension workers, the inaccessibility of hinterland communities, and the poor communications system. The development of distance learning through radio, video, and printed IEC materials must be immediately explored and tried. This becomes all the more critical with the downsizing of the DA Regional Office Agricultural Information Divisions (RAFID) into a section under the Administrative Division. Most of RAFID's functions shall be contracted out to the private sector.

The results from this new development in terms of a more engaged participation from our farmers is unknown. However, more funds and development activities under CHARMP2, PRDP (another special project of the DA), special government projects, and under regular DA programs are forthcoming within the next 2 years.

Given this emerging scenario, information is expected to play a critical role. Defining that role and finding a most appropriate way to implement information and distance learning activities that engage active participation of marginal and isolated communities in development is critical.

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Revitalizing Indigenous Leadership

The indigenous peoples (IPs) of the Higaunon, Mamanwa, Banwaon, Talaandig, Mandaya, and Manobo tribes have lived in and managed their traditional domains that straddle across six provinces in north eastern Mindanao. Over the years, however, indigenous social and political structures had been weakened by government neglect, nonrecognition, discrimination, and lack of attention, thus affecting tribal leadership and eventually creating a vacuum in IP governance.

Thus, in 2005, 17 indigenous communities belonging to the six tribes embarked on a process of revitalizing indigenous leadership and self-governance by drawing from their own tribal customary laws and traditions. This task of revitalizing indigenous political structures for self-governance was facilitated by tribal elders/ customary law holders working in tandem with IP young professionals in a 3-year process assisted by the Northern Mindanao Community Initiatives and Resource Management Project (NMCIREMP).

Erosion of traditional governance

Traditionally, the six tribes are semi-nomadic peoples engaged in "shifting cultivation;" they cultivate plots of land, then abandon them to allow the plots to fallow and regenerate as they move on to cultivate new parcels of land. With this farming practice, families transfer and resettle in various locations, resulting in tribe members being dispersed in several places, yet remaining within the scope of their traditional tribal domain.

NMCIREMP and its Support of the Indigenous Peoples

The Northern Mindanao Community Initiatives and Resource Management Project (NMCIREMP) is an IFAD-assisted project implemented by the Department of Agrarian Reform (DAR) in 2003-2009. Its aim was to alleviate poverty among marginalized sectors (agrarian reform beneficiaries, artisanal fisherfolk, upland dwellers, and indigenous peoples) in the northeastern Mindanao (Caraga) region. The project was carried out with the support of national government agencies (Department of Agriculture, Department of Environment and Natural Resources, National Commission on Indigenous Peoples, Department of Health, Department of Education, National Economic Development Authority, Department of Interior and Local Government) and with the collaboration of local government units, non-government organizations, and community-based institutions.

One project component was the Support to Indigenous Peoples (SIP). The major outputs of this component were the issuance of Certificates of Ancestral Domain Titles (CADT) to indigenous communities, the formulation of Ancestral Domain Sustainable Development and Protection Plans (ADSDPP) in 14 ancestral domain claim areas, and the inclusion of indigenous leaders in local government councils. All these were designed to carry out the provisions of the Indigenous People's Rights Act (IPRA) that recognize the collective rights of indigenous communities to their ancestral domains, along with their inherent rights "to self-governance and self-determination, and respect (for) the integrity of their values, practices and institutions…" (IPRA, Sec. 13). Ancestral domains "refer to all areas generally belonging to ICCs/IPs comprising lands, inland waters, coastal areas, and natural resources therein, held under a claim of ownership, occupied or possessed by ICCs/IPs, by themselves or through their ancestors, communally or individually since time immemorial…" (IPRA, Sec. 3).

But while these tribes had traditionally defined their territories as bounded by rivers, lakes, and mountains, the government created new political territories. As explained by a Higaunon, Dominador Gomez, "the Higaunon, like other tribes, fell victim to colonization. Their traditional territories were subdivided into geopolitical boundaries–what we now know as provinces, municipalities, barangays, and sitios–controlled and managed by elected leaders not recognized under tribal customs. These new geopolitical structures under a new type of leadership gradually eroded the indigenous political structures, systems, and processes."

Moreover, the tribes had not sustained their unity, and conflicts arose within tribes and in-between tribal groups. Communities gradually lost contact among themselves. The customary law holders and tribal elders felt the gradual weakening of traditional institutions, especially among the younger generation. IP professionals were not pro-active in advancing the cause of the indigenous peoples for representation and recognition by the mainstream. As further explained by Gomez, these factors "affected tribal leadership, creating a vacuum in IP governance that even grew wider. New leaders emerged in an attempt to fill in the vacuum. But politicians, to preserve their power and influence, intervened by appointing tribal leaders who by tradition are not even worthy of leadership." Furthermore, national government agencies began to issue certifications of IP leadership, leading to even greater confusion in identifying who the genuine IP leaders are.

Rediscovering IP leadership

The challenge was how to ascertain genuine IP leadership in each tribe. In doing so, there was a need to rediscover the tribes' indigenous customary law holders, political structures, systems, and practices and to identify the rightful IP leaders and representatives, as selected and

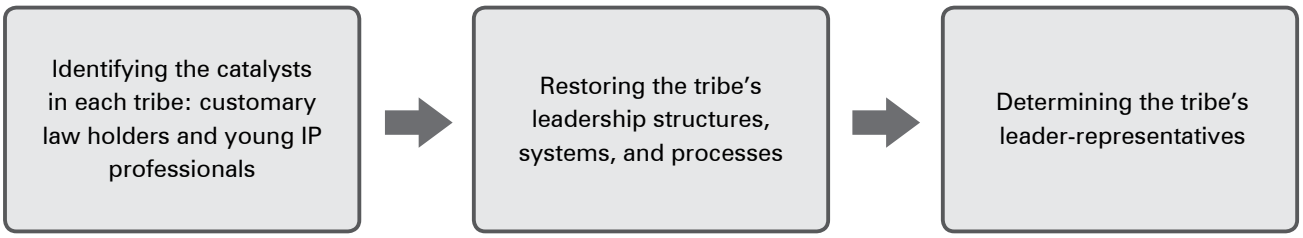


Figure 1. *Key processes in rediscovering IP leadership.*

certified by their respective tribal communities. Three key processes emerged in this journey of restoring indigenous leadership within the tribes.

Identifying the catalysts

In each tribe, there are men and women who are designated as holders of customary law and indigenous knowledge, systems, and practices (IKSP); they keep and protect these laws and IKSPs, transferring them from one generation to the next. They are known as customary law holders or "keepers of traditional knowledge." They may not be the tribal political leaders, but they are respected within the community.

Customary laws are steeped in oral tradition. They are considered sacred and they serve as a source of identity and unity within each tribe.

On the other hand, there are IPs who have been assimilated into mainstream society, and who are no longer aware of their customary laws, systems, and practices. Those trained by academic institutions may have lost their value for customary systems and practices, and thus are unable to assert their rights as IPs for recognition, representation, and participation.

In this situation, there is a need to recapture customary law and to interface traditional systems with mainstream society, through a partnership among customary law holders, young IPs, and IP professionals. The objective is not just to restore traditional ways but to revitalize and strengthen customary governance in ways that would empower indigenous communities and enable them to participate in governance systems within and beyond their domains. As explained

Table 1. *Criteria for selecting customary law holders and IP professionals.*

Customary law holder	IP professional
❖ Holder of the most number of customary laws and IKSPs	❖ Has shown proof of being a professionally trained IP
❖ Has deep-rooted knowledge about his/her tribal ancestry	❖ Accepted being an IP and proud to be an IP
❖ Has not violated any customary law	❖ Has shown and demonstrated willingness and commitment to help the IPs in pursuit of their priorities for self-governance and self-determination as a tribe
❖ Has not jeopardized, manipulated, and exploited any IP member	❖ Has been endorsed by the selected customary law holder
❖ Has been endorsed by the Council of Elders and tribal leaders	❖ Has been endorsed by the Council of Elders and tribal leaders

by Gomez, "this interface is needed for the tribes to renew their identity and unity as a people, in order that they may review the continuing relevance of specific customary laws, as well as indigenous knowledge, systems and practices, in the current times."

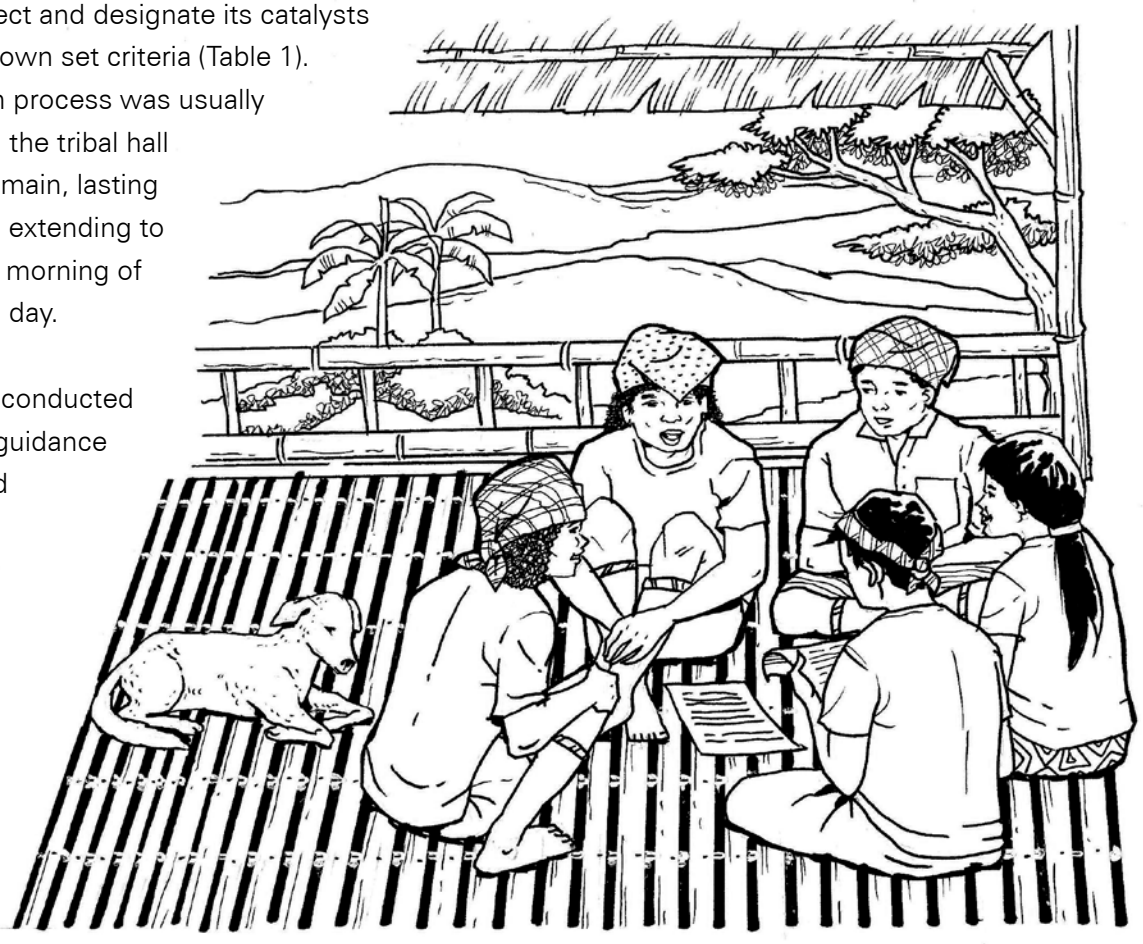
The catalysts. The process started in 2005 with the identification of 10 catalysts: five elderly customary law holders from the four major tribes (Higaunon, Mamanwa, Banwaon, and Manobo) and five IP professionals from these tribes. The tribal elder and the IP professional worked in tandem for each tribe, combining traditional knowledge with documentation and technical skills.

The selection process. Each tribe convened the Council of Elders, tribal leaders, and sectoral representatives that included the women and youth, to select and designate its catalysts based on its own set criteria (Table 1). The selection process was usually conducted in the tribal hall inside the domain, lasting for a day and extending to dusk or early morning of the following day.

Rituals were conducted to seek the guidance of spirits and ancestors.

Restoring the tribe's leadership structures, systems, and processes

With the help of the catalysts, the task of rediscovering traditional governance systems was facilitated at three levels. The first was at the ancestral domain level – conducted for each of the 17 ancestral domain territories within the scope of the NMCIREMP as well as in outlying barangays with large IP populations. The second was conducted at the tribal level, wherein the Higaunon, Mamanwa, Banwaon, and Manobo tribes each conducted their own separate gatherings; each tribe covered several ancestral domain territories. The third was at the intertribal level where the four major tribes converged for common interaction and coalition-building.



Identifying other customary law holders. The process of identifying the genuine customary law holders within each domain took several months to complete, as many customary law holders lived in remote areas.

Once they were identified, the customary law holders were asked to join a gathering at the ancestral domain center or barangay hall for validation. Each validation activity took 3-4 days; these were facilitated by the catalysts in the presence of the Tribal Assembly which included the Council of Elders, tribal leaders, and other representatives that included both men and women, young and old.

Two general criteria were used to identify the genuine customary law holders: (i) ability to recite the oral tradition and (ii) their acceptance by the tribal elders. After a community ritual, those identified as customary law holders were each asked to recite the oral traditions, customary laws, and practices for the particular IKSP theme on which he/she is a supposed holder. These themes differed from tribe to tribe, and included topics such as traditional farming, protection of honeybees, and spiritual healing. Those who passed the test were asked to sit beside the tribal elders; those who failed were asked to sit with the rest of the assembly.

Why Gather Customary Law Holders

"Thematic areas of concerns with the IPs are dealt best and most strategically when you also look for the customary law/IKSP holder of the same thematic area of concern, for the IPs have their own traditional system of governance, over several thematic areas of concerns."

-Dominador Gomez, a Higaunon and IP specialist for NMCIREMP

The genealogy of the tribe in the particular ancestral domain or barangay was then reconstructed to determine whether the person in question was a full-blooded tribal member or a descendant of non-IPs who came to settle in the community and had adopted traditional ways. The IPs in attendance were then asked what they could say about the person in question. After deliberation, the tribal elders gave their advice, and the IP community in attendance decided on whether to declare the person as a genuine customary law holder.

Documenting the tribal leadership structures and systems. The task of documenting oral tradition – i.e., laws, structures, and systems – into a written format (i) allows the community to recall, review, and evaluate their indigenous governance systems as to where their systems and guidelines may be strong or inadequate, effective, or weak, and which existing systems could be improved by the tribe or IP community; and (ii) facilitates the sharing of indigenous knowledge, systems and structures with other IPs as well as with non-IP stakeholders that have sincere intentions of assisting the IP community.

It should be noted that customary law is considered sacred among the tribes. Thus, the act of releasing and making this known publicly requires the permission of one's ancestors. And since the act of transforming an oral tradition into written form can only be done by a trusted member of the tribe, documentation was a task assigned to the IP professional (catalyst).

Documentation processes were implemented for each tribe in locations identified by the Council of Elders and tribal leaders, usually at the center of their territories and nearest to customary law holders who reside in remote (inner) areas of the domains. These activities usually took 3 to 5 days, including rituals held in between. The catalysts

facilitated the internal process of reconstructing customary political structures, systems, and processes within each tribe.

The documentation processes for each tribe followed similar steps:

- A ritual opens the activity to seek the guidance of the spirits for the discharge of customary laws, traditions, and practices.
- Guidelines on documentation and recording are established by those present.
- Customary law holders narrate oral traditions, customs, laws, and practices; some narrations are done in song, dance, and rituals.
- IP professionals interact with customary law holders and seek their permission to put into writing the oral traditions and customary laws.

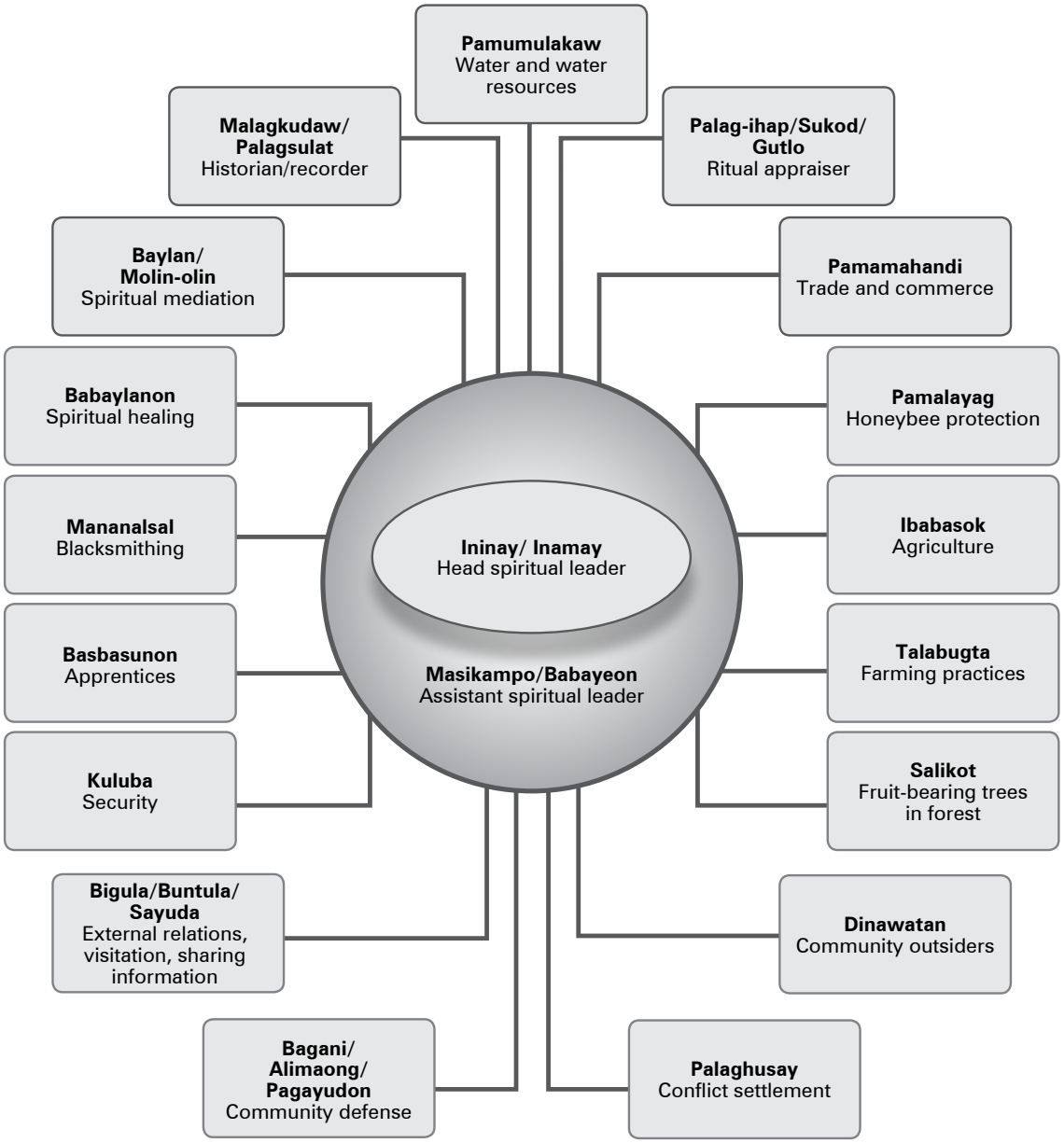


Figure 2. *The Higaunon political structure, as reconstructed through the customary law holders and catalysts (DAR/IFAD NMCIREMP 2009).*

- IP professionals begin the task of documenting, once customary law holders have given them permission.

In this process, the customary law holders usually brought along their apprentices. These apprentices were young, not necessarily having schooled education, but found by the customary law holders to be their potential successors. As a result of this process, some customary laws were codified and IP political structures were restored in the four tribes. Further, the customary law holders were identified for each tribal function (see Figure 2, as example).

Determining each tribe's leader representatives

The IPRA has a provision for the mandatory representation of IPs in local legislative development councils and special bodies. To guide the tribes in the selection of their representatives, a common guideline on IP mandatory representation was first drafted by representatives from the four tribes (which later increased to six, with the joining of the Talaandig and Mandaya tribes.)

The activity lasted 5 days. It started with a ritual, followed by deliberations. The provisions of the IPRA law were discussed and reviewed vis-à-vis the written customary laws, practices, and traditions of each tribe. After a long deliberation, tribal representatives then proceeded to draft the Common Guidelines for IP Mandatory Representation. These guidelines were then confirmed by the Council of Elders of each tribe.

Selection of tribal representatives to local development councils and special bodies. Each tribe proceeded to select its own representatives for the local development councils and special bodies at the barangay, municipal, and provincial levels, following the agreed common guidelines. Nominated representatives were endorsed by the Council of Elders and confirmed by tribal members present in an assembly. When a nominated tribal member did not accept his/her nomination, he/she was asked to give a justification. Another round of the selection process, coupled with rituals, then followed until all tribal representatives to the different positions were confirmed by the community.

Outcomes

- Indigenous political structures were restored and codified. The Higauon, Mamanwa, Manobo, and Manobo-Banwaun tribes were able to reconstruct their IP traditional political structures and to adjust these to the demands of the current situation.

- The genuine customary law holders were identified. A total of 257 customary law holders were confirmed by the four tribal communities. These customary law holders were assigned to specific functions and responsibilities in the restored IP political structures.

- The Common Guidelines for Mandatory IP Representation was adopted by six major tribes in the Caraga region, namely, the Higaunon, Mamanwa, Manobo, Manobo-Banwaon, Talaandig, and Mandaya tribes.

- Scaling up of the Common Guidelines for Mandatory Representation was later done through the following policies: (i) NCIP Administrative Order No. 01, Series of 2009: "National Guidelines for the Mandatory Representation of Indigenous Peoples

Declaring Ancestry

"I have denied my existence as a Manobo for a long time, for people laughed at me, was discriminated upon, and looked down. Now that many of us have come out declaring our tribal ancestry, I am free to act, be known, and be proud that I am a Manobo for we are establishing our place in the sun." *(Name and location withheld)*

"I have been working for 20 years for IP governance. But I have never found what IP governance should look like... with the coalition, I saw the light; it's simple but with concrete steps with all the customary leaders that coalesce the indigenous peoples' structures and institutions… I saw the light." *Datu Balitungtung, Higaunon tribal leader*

on Local Legislative Councils"; (ii) NCIP Administrative Order No. 02, Series of 2012: "General Guidelines on the Confirmation of IPs and the Registration of IPOs"; and (iii) Department of Interior and Local Government (DILG) Memorandum Circular No. 119, Series of 2010: "An Order to All LGUs and LCEs to Implement Mandatory Representation based on the NCIP Guidelines."

- Indigenous peoples were represented in local government bodies. Some 100 IP leaders selected by the IP themselves became members of local development councils and special bodies at the barangay, municipal, and provincial levels, as mandated by law. The recognition of IP leaders in mainstream governance does not only recognize IPs as partners in the development process but also ensures that IP interests, needs, and concerns are addressed.

Lessons learned

- Recognition of tribal leadership should be given only by the tribal community itself following a set of processes and not by any external government institution, political leader, or certifying body.

- The selection of indigenous leaders, representatives, and customary law holders should follow a process anchored on the tribe's own customary laws, processes, and practices, and should be accepted by the community.

- The process of reconstructing and codifying the IP political structures, customary laws, and practices should come from within and not imposed from the outside; thus, the catalysts for this process come from the respective tribes, as selected and confirmed by the tribal community. The power to decide on whether to participate in local government structures, and who should represent them, should be given back to indigenous peoples who in turn will guarantee and uphold their IP structures, systems, and practices.

- In the process of revitalizing indigenous leadership, customary law holders should work in tandem with younger IPs, including IP professionals to provide an interface between traditional and mainstream ways of working. This has proven to be an effective approach in documenting oral tradition through written text, in reconstructing traditional political structures and systems, and in facilitating in-tribe discussions on the relevance of specific customary laws in current times.

Scaling up

Opportunities

The revitalization of customary leadership of the four tribes (Higaunon, Mamanwa, Banwaon-Talaandig, and Manobo) saw the reemergence of genuine IP leadership. The NMCIREMP experience proved that restoring genuine IP leadership can be done even beyond the project scope, as shown when other tribes (Talaandig and Mandaya) joined in the intertribal coalition and even reached out to other tribe members residing beyond the targeted ancestral domain areas.

There is a need and an opportunity for scaling up, however, the question is – "Can this be replicated and processes applied to other tribes still struggling in identifying who their true leaders are?"

Potential drivers

- Indigenous peoples and indigenous cultural communities are the prime advocates in the revitalization of indigenous leadership, political systems and structures, especially with the institution of IPRA. With the growing incursion of various industries (mining, logging, plantations, tourism) into ancestral domain territories, indigenous communities are more vigilant in ensuring that they are represented by genuine IP leaders who will protect their interests.

- An increasing number of local government units (LGUs) are now implementing the IP mandatory representation, as provided by law. Having specific budget allocations can help push LGUs in this direction, especially among those municipalities with significant IP populations. One of the indicators to ensure getting the seal of good governance is the presence of IP representatives in LGU councils, following the implementation of the National Guidelines on IP Mandatory Representation.

- Another potential driver is the DILG as it should monitor the implementation of its memorandum circulars on IP mandatory representation.

- Among government agencies, the task of revitalizing customary leadership and of ensuring genuine IP representation in local government councils should fall squarely on the NCIP.

Spaces

Policy. There are several enabling policies, such as Republic Act 8371 or IPRA, which recognizes IP rights over their ancestral domains through tenure instruments such as CADTs and CADCs. IPRA also recognizes IP rights to self-governance within ancestral domains, through the formulation of ADSDPPs, which should be integrated into the local and provincial development plans. Other enabling policies include the NCIP administrative orders and the DILG memorandum circulars on the National Guidelines on IP Mandatory Representation.

Political. One requirement for the seal of good governance among municipal and provincial governments with a significant IP constituency is the presence of IP representatives in the local councils, following the National Guidelines on IP Mandatory Representation.

Key challenge

The major challenge lies in the government agencies mandated to help the IPs. There is a need for a radical shift in the mindset of the government personnel for them to become effective drivers of the scaling-up process. Most personnel of these mandated organizations have lost their IP culture and could hardly become advocates for IP development. Once this barrier has been overcome and there is commitment to their common agenda, the process of revitalizing indigenous leadership can be scaled out to other tribes still struggling in selecting their genuine leaders.

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The Covenant Approach:
Tapping Indigenous Communities for Reforestation and Agroforestry

Indigenous communities in the Cordilleras have managed their watersheds through their traditional knowledge systems and practices. These practices have evolved through centuries of practice, repeated and developed by each generation while, in turn, sustaining and developing the next generation. Their deep understanding of the interrelationship of natural forces and how man can maximize use of natural resources without destroying it has sustained not just a family or a clan but entire communities for centuries.

Local communities have long been involved in government reforestation projects; however, they were engaged through contract-based arrangements where organizations were selected on the basis of public bidding and were paid for their services. During the first phase of the Cordillera Highland Agricultural Resource Management Project (CHARMP) (1998-2004), 61 peoples' organizations (POs) were engaged in reforestation activities through contract arrangements. The Community-based Forest Management (CBFM) strategy of the Department of Environment and Natural Resources (DENR) was based on the policy that forest lands with slopes of 18 degrees and above belong to the state. There is benefit-sharing between the government and the CBFM holder for a period of 25 years (renewable for another 25 years) after which the land and the improvements on it revert to the state.

However, reforestation activities are often seen as a short term-employment opportunity rather than a long-term community responsibility. People perceive that a contract ends when project funding ceases. Tree saplings are often left to survive on their own after they are planted. And as one project evaluation report observed, "the POs gradually dissolved once the contract ended." Moreover, the newly created POs became a parallel organization to the council of elders/leaders in the same barangay. Most reforestation work is therefore not sustained and watersheds continue to be degraded.

Studies have shown that government and foreign-funded reforestation projects have often been left to the elements after the flow of funds stopped when the projects ended. Communities and POs, which reforest an area, stop maintaining them after the contract is terminated.

The covenant approach

The covenant approach, an initiative of CHARMP2, recognizes the role of indigenous communities as the protector and manager of watersheds in their traditional domains. It responds to concerns about sustainability. A covenant is some sort of an oath, a commitment by the community driven by indigenous systems and laws that have a deeper binding effect than a legal contract.

The project engages communities in the planting of trees and protection of the watershed. The covenant binds the community to the task of taking care of their natural resources in perpetuity, including protection from forest fires. The covenant also formalizes the agreement with the LGUs as stakeholders in the program.

The CHARMP2

The Second Cordillera Highland Agricultural Resource Management Project (CHARMP2) is a 7-year (2009-2015) project implemented in the six provinces of the Cordilleras with the Department of Agriculture as executing agency and Local Government Units (LGUs), the National Commission on Indigenous Peoples (NCIP-CAR), and non-government organizations as co-implementing agencies. The project aims to reduce poverty and improve the quality of life of indigenous peoples of highland areas in the Cordilleras through increasing family income, improving land tenure security, ensuring food security, and conserving and improving highland forests and watersheds based on sustainable practices.

The project is implemented in 170 barangays in 37 highland municipalities of the region. Around 99% of the target beneficiaries are indigenous people (IP). CHARMP2 is co-funded by the International Fund for Agricultural Development (IFAD), the government of the Philippines (GOP), and concerned LGUs.

One of the project components is Social Mobilization, Participatory Investment Planning and Land Titling (SMPIPLT). Its mandate includes the promotion and enhancement of the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP). Another component is Community Watershed Conservation, Forest Management and Agroforestry (CWCFMA) that aims to promote the rehabilitation of watersheds using sustainable forest management practices to enhance conservation of major watersheds in the Cordilleras and to provide indigenous communities with opportunities to improve their socio economic well-being.

The key features differentiating the contract approach from the covenant approach are described in Table 1.

Table 1. *Key features of the contract and covenant approaches.*

Feature	Contract approach	Covenant approach
Contracted party	Any legally registered organization in the community (selection through a bidding process)	Indigenous peoples' organizations (selection by community)
Selection and delineation of areas for reforestation and agroforestry	◆ Denuded forests areas ◆ DENR selects the sites	◆ Denuded microwatersheds that directly benefit the IP community ◆ Community selects the sites
Terms of agreement	◆ Fund provided is for payment of completed work under contract ◆ No counterpart required from the community ◆ Government decides on the use of reforested areas	◆ Fund is a form of assistance to the POs for natural resource management (NRM) ◆ PO provides a counterpart in terms of free labor and/or local materials for NRM activities ◆ Community decides on the use of the reforested area using community plans and ADSDPP as bases
Ownership of forest land	◆ Government (forest land falls under the public domain and is owned by the state)	◆ Indigenous peoples (forest land falls under the ancestral domain and is owned by the community)

Reforestation and agroforestry are implemented under the project in consonance with indigenous knowledge systems and practices (IKSPs). For example, in the Lapat system of Abra, the Sapata ritual is incorporated in the covenant signing between partners. Sapata, a swearing-to-the-truth ritual or swearing to do a commitment is observed during the covenant signing of all stakeholders in the reforestation project. It binds the people under a covenant with the spirits of their ancestors and god Kabunian and not just among themselves.

The covenant approach is in consonance with the Indigenous Peoples Rights Act (IPRA) that upholds the rights of indigenous peoples (IPs) to occupy and own ancestral domains and lands; to develop the land, manage and conserve resources therein; and to benefit and share the profits from the allocation and utilization of resources. Accompanying these rights are the responsibilities of the IPs to preserve, restore, and maintain a balanced ecology in the ancestral domain by protecting the flora and fauna, watershed areas, and other reserves and restore denuded areas by actively initiating, undertaking, and participating in the reforestation of denuded areas and other development programs and projects subject to just and reasonable remuneration.

This innovation has been implemented in 148 barangays engaged in reforestation and agroforestry activities covering 10,740 hectares with 163 indigenous peoples' organizations (IPOs) from 2010 to 2014.

The approach also encourages initiatives from the communities in support of natural resource management (NRM) activities. For example, in Luba, Abra, the members of the community volunteered their labor to start the

Table 2. *Indigenous resource systems and practices in the Cordilleras.*

Resource management and land use systems	
Apas	A Kalinga term which means a declaration of moratorium over a certain tract of land by the immediate kin of a deceased village member, where the deceased met his/her demise. The system is also practiced by tribes in Apayao Province and is also called Lapat.
Imong	A type of agro-forestry practice in Kalinga Province that covers a tract of land within the village territory, appropriated by a village member for his own use. This could originally be a dense or sparse natural forest, grassland or other land use but improved through assisted natural regeneration or planting of selected forest trees and agricultural crops, and protected from fires as well as from encroachment and animals.
Lapat	Lapat literally means "prohibit" in Tingguian. It encompasses a whole system of checks and balances governing misbehavior and misdemeanor in Tingguian society, which for ages have helped communities to regulate, protect, manage, and properly use their land and natural resources.
Lawa and inayan	These concepts relate to the ill consequences (inayan) of doing unfair acts (lawa) as applied to all aspects of community (ili) life, from the relationships among the community people (umili), to their relationship with the natural environment. Inayan is the foundation of the umili's value system.
Maukos, umapos	The concept connotes making one feel bad and driving (it) away. Communities in Mt. Province believe that wasteful and overextraction of resources drive away the spirits (maukos/umapos) who dwell in forests, water, trees and other sacred sites, resulting in the fast depletion and unsustainability of the resources.
Muyong, pinugo, batangan, tayan	Private, clan-owned forests that serve as watersheds and sources of firewood and timber, wild animals, and herbs. In Ifugao, the muyong is generally found above the ricefields where they generally form part of the watershed. Management of resources inside these forests and within the communities is governed by community rules and regulations.
Payew, payo	Irrigated terraced rice lands which are traditional sources of food. There are differences in rice farming practices in different cultures in the Cordilleras. For example, in Ifugao, the payo is kept wet the whole year-round as the payo is also a source of fish and shells aside from rice. In other provinces, after the first rice cropping season, the payew is drained and the soil raised and planted to camote (sweet potato).
Saguday	Originally established as an uma but converted to other land uses such as pine tree plantation. In certain communities, these are family owned which, through time, become communal through intermarriages of descendants of original holders.
Uma, habar, ilit, nem-a	Swidden farms which are cleared from hill slopes that are not heavily forested with trees and planted to annual crops, usually vegetables such as beans. These unirrigated farms are maintained for just two or three croppings, as long as soil fertility allows, and then left fallow for as long as 10 years. This traditional form of agriculture is now being converted into permanent farms, which are planted to cash crops.

reforestation activities even before the fund was released. Similarly, the community monitors the reforestation areas so they are not used as agricultural or residential areas. The communities apply indigenous systems and practices that are applicable to the reforestation and agroforestry projects (Table 2). In the selection of tree species, the communities prioritize native species that they are familiar with. All these contribute to the success of the covenant approach.

Indigenous practices	
Begnas	A general term denoting celebrations, particularly in the western part of Mt. Province, which coincide with community events in the agricultural calendar such as rice planting and harvest.
Ob-obbo, galatis, alluyon, badchang	The practice of reciprocal group labor or exchange of free labor among community members, usually during peak agricultural activities. The badchang in Ifugao or galatis in Mt. Province are forms of free labor wherein participants are not necessarily paid or reciprocated. In the practice of free labor, it is the host's obligation to provide good food and drinks, usually intoxicating, if available.
Sogsogli	The practice of water distribution rotation, particularly in Mt. Province, during the height of the dry season when water is scarce.
Tengao, tingao, teer	Rest days or holidays imposed on the community when villagers are not allowed or are prohibited from going to the fields or out of the community and outsiders are not allowed to enter the community. These rest days usually coincide with the begnas and are part of the begnas and serve as preventive measures to avoid transfer of pests to other localities. Tengao also serves as a quarantine measure to protect the community during pest and disease outbreaks.
Umaarak, lampisa	An informal irrigation association of ricefield owners who have the same resource unit and whose main function is to take care of the irrigation. In the case of the lampisa who make sure that water is distributed equally among all fields and that water reaches even the end part of the canal, they are given compensation.

Scaling up

Potential scope and pathways

Several reforestation projects are now being implemented in the Cordilleras under the National Greening Program (NGP) where the covenant approach could be adopted to engage indigenous communities. The NGP is a massive forest rehabilitation program of the government that seeks to grow 1.5 billion trees in 1.5 million hectares nationwide within a period of 6 years, from 2011 to 2016.

The covenant approach may also be adopted by the DENR for its other reforestation projects, including the Integrated Natural Resources and Environmental Management Project (INREMP) financed by Asian Development Bank and IFAD. The INREMP project covers the whole Chico River watershed in the provinces of Mt. Province, Kalinga, and Apayao. It may also be offered to the DENR-NGP and other reforestation programs, NRM programs of LGUs, and those of other agencies as well.

The LGUs, as parties to the covenant, especially the Environment and Natural Resource Officer of the provincial governments, have been encouraged to adopt project NRM strategies in coming up with sustainability plans for CHARMP2. Tapping traditional institutions in NRM and protection within government projects will give greater chances of success and will ensure sustainability.

Drivers

The drivers and main champions of the approach are the indigenous communities whose roles as traditional protectors and managers of watersheds and forest need to be recognized.

The LGUs, as parties to the covenant and, having witnessed the advantage of the approach, are expected to continuously support the program using their available resources.

The entry of extractive industries (mining and hydroelectric) in IP communities creates conflict in the utilization of watershed resources. By giving the IPs the right to full ownership of their resources, prioritization in the use of these resources will ultimately depend on them.

IP communities treasure their IKSPs and integrating these IKSPs in the implementation of reforestation projects will provide better chances of sustainability.

Spaces

Environmental and cultural space. The engagement of communities in reforestation projects based on a covenant that upholds traditional arrangements will sustain the watershed. To ensure that the environmental impact of the intervention will be positive, the participation of communities in reforestation projects must be improved and its sustainability ensured in order to benefit not only the present generation but the incoming generations as well.

The role of IKSP in watershed protection needs to be recognized and maximized. IP tribes have their indigenous ways of managing and conserving their natural resources. The integration of these IKSPs in project implementation would create a more systematic way of sustaining the watershed. In the same way, these IKSPs will also be preserved.

Partnership space. CHARMP2 must take the lead in scaling up the innovation in DENR regular programs, especially in the NGP. IFAD may assist in the upscaling of the innovation with additional financial and training grants for the IPOs. The covenant approach strengthens the bond among all stakeholders. More than a piece of paper, it is the lifetime pledge of every partner to dispense their duties and responsibilities as promised. It can be passed on to succeeding generations – the sense of ownership and their culture, traditions, beliefs, and principles will guide them as they conserve their natural resources amidst fast-paced modernization.

Policy space. Under an autonomous government, the regional government would have the authority to devise its own NRM program based on traditional practices and institutions. As the Cordillera region aspires to be autonomous, the national government has to provide support for NRM projects in the Cordilleras as it is the watershed cradle of northern Luzon and a major source of hydroelectric energy of the adjacent lowland regions.

IPRA recognizes the right of indigenous people to manage their own domains and resources where the IPs are treated as managers of the forests.

IFAD's role

IFAD continues to support programs and projects that directly benefit IPs and to engage the national government in making policies and programs that will achieve the same goal. IFAD's continued policy support for "bottom-up approaches" and the need for incorporation of "culture and identity" while working with indigenous communities in development projects are critical. Likewise critical are the recognition of IPs'/community's rights and integrating their cultural practices into project implementation. The provision of incentives to innovative learning and scaling up champions by IFAD would further

encourage and empower IPOs in managing their domains.

The IFAD policy on indigenous people provides for the strengthening of IPs as one strategy to achieve effective and sustainable project implementation which can create proofs of concepts that can be scaled up.

Furthermore, knowledge management processes or IKSPs are essential in empowering IP communities to sustainably protect and manage their watersheds.

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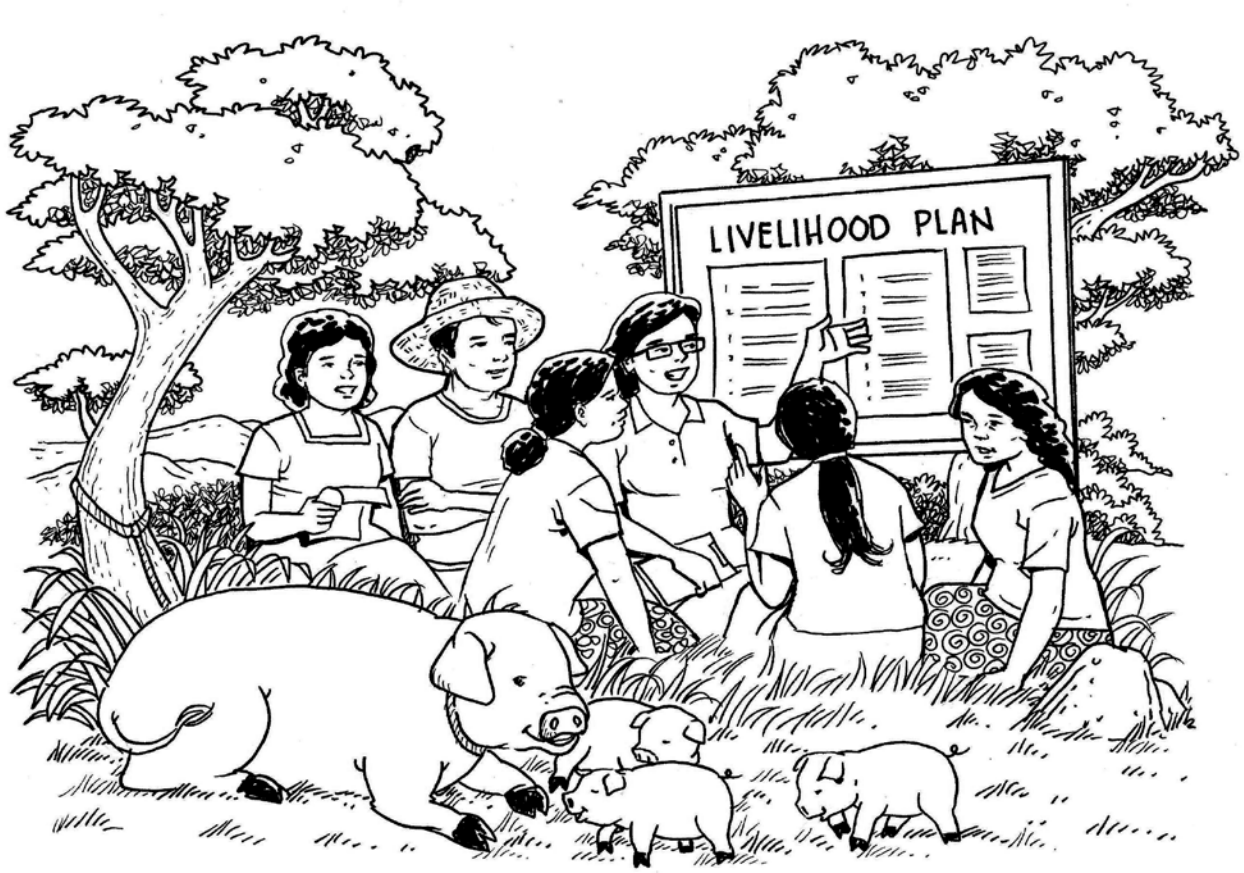

Targeting and Reaching the Poorest: the Poverty Alleviation Fund

Targeting the poor in development programmes and projects is a difficult process. Taking the poor out of poverty is even more challenging. In the absence of explicit poverty-related criteria, a project may tend to favor the richer and less remote villages. And even when the poorest villages are chosen, implementing teams are likely to select those households that are better organized, more accessible, and easier to work with. More so, when interventions are directed to the poor, development practitioners are confronted with the task of avoiding the capture of project benefits by the more influential and relatively richer members of the village.

The Starter Fund

In reaching out the poor and in improving the lives of those who reside in 230 barangays or villages located in 44 municipalities in six provinces in northern and northeastern Mindanao, Philippines, the Northern Mindanao Community Initiatives and Resource Management Project (NMCIREMP) introduced the Poverty Alleviation Fund (PAF). The NMCIREMP (2003-2009) is an IFAD-assisted project implemented by the Department of Agrarian Reform (DAR) in the Region of Caraga and Region X that aimed to alleviate poverty among the marginalized sectors composed of agrarian reform beneficiaries, indigenous peoples,

fisherfolk, and upland dwellers, especially rural women.

One of the six project components was Community Institutions and Participatory Development (CIPD), which sought to assist the poorest households in selected barangays through self-help and community initiatives, supported by the PAF facility. The PAF was eventually established in 209 barangays of 44 municipalities.

The PAF facility is a starter fund to support self-help initiatives of poor rural households, especially women, to help augment household incomes through income-generating projects. The intention behind PAF is to provide the poor access to a wider door out of the poverty trap. It provides a small grant of P2,000 per household, which is channeled through self-help groups (SHGs) composed of about 20 participating rural households within a given neighborhood or community.

The PAF beneficiaries are usually located in remote rural sites and represent the poorer households in rural communities. Yet, many questions arose: How would the poorest households be targeted? How would one ensure that the fund reaches the poorest and is not just captured by local leaders and the relatively richer residents in a barangay? Who would manage the PAF and how should it be managed? How can it be ensured that this fund is used for livelihood and not just for consumption?

Identifying the poorest households

In selecting the poorest households eligible for PAF, NMCIREMP adopted three stages of selection.

First, during the appraisal phase, the project selected communities where agrarian reform beneficiaries, indigenous peoples, and fishers reside as target areas. The criteria used in the identification were the degree of poverty, agricultural productivity potential, and absence of other donor agencies operating in the area.

Second, the project selected sitios (villages or neighborhoods) in target barangays with a high concentration of poor sectors. With the assistance of non-government organizations (NGOs) and local government units (LGUs), the project identified existing people's organizations (POs), cooperatives, and local groups (which the project called community institutions or CI) as possible project partners, as well as possible beneficiaries of PAF.

Third, the project targeted the poorest sectors and groups, namely the agrarian reform beneficiaries, indigenous peoples, upland dwellers, and poor fishing households with special focus on women-headed households. Those identified were encouraged to form themselves into self-help groups as a pre-condition for availing PAF. Together with CIs, NGOs used wealth-ranking tools and other participatory rapid appraisal (PRA) tools in identifying the poorest households.

However, during the 2005 IFAD supervision, the mission found the methods used by NGOs inadequate. The mission noted that some SHG members did not belong to the poorest in the community. The mission observed that the CIs assisting the NGOs in poverty mapping selected some of their members to be SHG members as they deemed it easier to implement the PAF if some of their members were also SHG members.

To avoid the exclusion of the poorest in the formation of SGHs, the project designed a new

method for determining the poorest of the poor. The project took the poverty indicators used by NGOs in their PRAs, the indicators of the Minimum Basic Needs of the Social Reform Agenda, and poverty indicators from IFAD's results and impact management system. A multistakeholder conference convened by the project decided on a list of indicators to determine the poorest in the community. Twenty indicators were identified on the basis of three dimensions: (a) survival with seven indicators, (b) enabling with 10 indicators, and (c) security with three indicators (Table 1).

Methodology in identifying the poorest households

Based on the agreed 20 indicators, the project developed a survey tool that further categorized the poor households into (a) extremely poor, (b) highly poor, (c) moderately poor, and (d) slightly poor. From the initial list of poor households in every barangay, a survey team headed by a community development facilitator (CDF) from the NGO and assisted by a local community organizer volunteer (LCOV) conducted a total enumeration of the identified poor households in every barangay. A survey instrument was used where each respondent household was rated 1 to 4, based on each indicator. An Excel programme was provided to the survey team to tabulate the results.

Key informants from the community (the barangay health worker, the barangay nutritionist, the barangay day care worker, the barangay secretary, the CDF, and the LCOV) validated the survey results.

In a random review of survey results in seven barangays, 135 households (9%) were considered extremely poor, 302 households (20%) as highly poor, 885 households (60%) as moderately poor, and 156 households (11%) as slightly poor. The extremely and highly poor households were then targeted as priority recipients of the PAF without excluding the moderately poor.

Channeling the PAF through SHGs

To ensure that the PAF would reach the very poor in the community, SHGs were organized and strengthened. SHGs were referred to locally as *sihag* (meaning, transparent).

Formation of SHGs. The SHGs are informal groups composed of poor rural households largely coming from the highly poor category as identified by the project survey. At least three SHGs were formed in each barangay. Each SHG was composed of 20 poor households on average; thus, there were at least 60 poor households covered in every barangay. At the end of the project in 2009, 841 SHGs (including the gaups among the indigenous peoples or IPs)

Table 1. *Poverty indicators for identifying the PAF beneficiaries.*

Dimension	No.	Indicator
Survival indicators		
Demographic	1	Number of dependent children
Health	2	Child mortality in the last 5 years due to illnesses
	3	Incidence of persisting communicable diseases and ailments in the family
Food and nutrition	4	Number of meals per day
	5	Type of food consumed
Water and sanitation	6	Access to safe drinking water
	7	Access to sanitary toilet facility
Enabling indicators		
Livelihood/ income	8	Source of livelihood/income
	9	Regularity of livelihood/income
	10	Monthly household income
	11	Ratio of household income to household expenditure
Education	12	Educational attainment of family head
	13	Number of children attending school
Resources	14	Land tenure status
	15	Access to credit
Support	16	Remoteness of house location
	17	Accessibility to basic social services such as health and other services
Security indicators		
Shelter	18	Type of housing
	19	Household assets
Peace and order	20	Exposure to calamities and conflict

were established or revived with a total of 18,587 members (56% women, 44% male).

SHGs were organized among the very poor households in the same neighborhood or vicinity. This was to facilitate meetings of the SHG members, and to enable them to easily undertake their group livelihood activities. The organizing of the SHGs was facilitated by NGOs through their CDFs who were then assisted by LCOVs.

Strengthening the SHGs. Though they were informal organizations, SHGs had a set of officers, livelihood development plan, and capacity-building activities. NGOs facilitated the strengthening of SHGs in the following areas: organizational, financial, and livelihood management.

To assess the maturity of these SHGs, the project developed a self-assessment tool called *sihaga* (a local term, which means "to make something more transparent"). Areas of assessment were on the organizational, financial, and managerial capacity of the SHGs. The results of the assessment would describe an SHG as Level 1 (poor), Level 2 (fair), Level 3 (average), or Level 4 (good). These would also point to SHGs what to improve on and would signal to NGOs what interventions were needed.

Implementing livelihood projects through SHGs

Preparation of PAF proposals. SHGs formulated their livelihood proposals with the assistance of community institutions, NGOs, and LGUs. Many of these proposals were written in the local language following a simple format to ensure that SHGs would be able to draft their own proposals. Most of the livelihood proposals were on crop and vegetable production, livestock (piggery and poultry raising) trading and vending (rice, sari-sari store, fish vending).

PAF in IP Areas

NMCIREMP also covered indigenous peoples (IPs) in 17 ancestral domains (AD) straddling Regions X and Caraga. The survey instrument to identify the poorest in non-IP areas was not applied to the IPs. NMCIREMP declared that all IPs in ADs were eligible for PAF, considering that these people had been marginalized, neglected, discriminated, and often denied of development assistance. Instead of forming SHGs, IPs were organized into their traditional groupings called *gaup*, usually a grouping according to tribal clan. In a gaup, membership would include as many as 10-30 households.

Review and approval of PAF proposals. A multistakeholder committee (MSC) established at the municipal level reviewed and approved PAF proposals. MSCs were headed by the LGU Municipal Project Development Coordinator or the DAR Municipal Agrarian Reform Officer with representatives of municipal-based government agencies, the NGO, and the various sectors (women, farmers, fishermen, and IPs).

Ensuring that PAF benefits the poor

Technical support from local government units. The municipal LGU, through the Municipal Project Office (MPO), facilitated the overall implementation of PAF and provided technical assistance in implementing the SHGs' PAF projects, especially in ensuring market outlets of SHG products. Together with the MSCs, the MPOs monitored whether PAF projects were implemented as proposed and not used for consumption purposes. If more complex

assistance was needed, the Provincial Project Coordination Offices provided technical assistance.

Community institutions as Big Brother to SHGs. SHGs were linked to registered CIs with sound financial management in every barangay. The CIs helped manage the funds and acted as big brother to small sisters (SHGs) to help them implement their PAF proposals, especially on the management of funds. To further ensure that disbursement of funds was transparent, the PAF were deposited in conduit banks accredited to the local government and located nearest the municipality.

Organizational support from NGOs. NGOs, through the CDFs and LCOVs, were behind the SHGs' every effort and initiative. Aside from facilitating planning, review, and assessment of their activities, NGOs coached and mentored the SHGs.

Reflows for livelihood projects for new SHGs. Though NMCIREMP regarded PAF as grants, in actual operation, SHGs returned half of the PhP40,000 allocated for each SHG to the CIs as fund caretaker. All repayments and reflows were used to assist the other poor households, especially those missed out in the first round of SHG formation.

Implementation on the same page. The PAF manual was a key document that guided all stakeholders in implementing the PAF livelihood projects. This manual was presented and duly

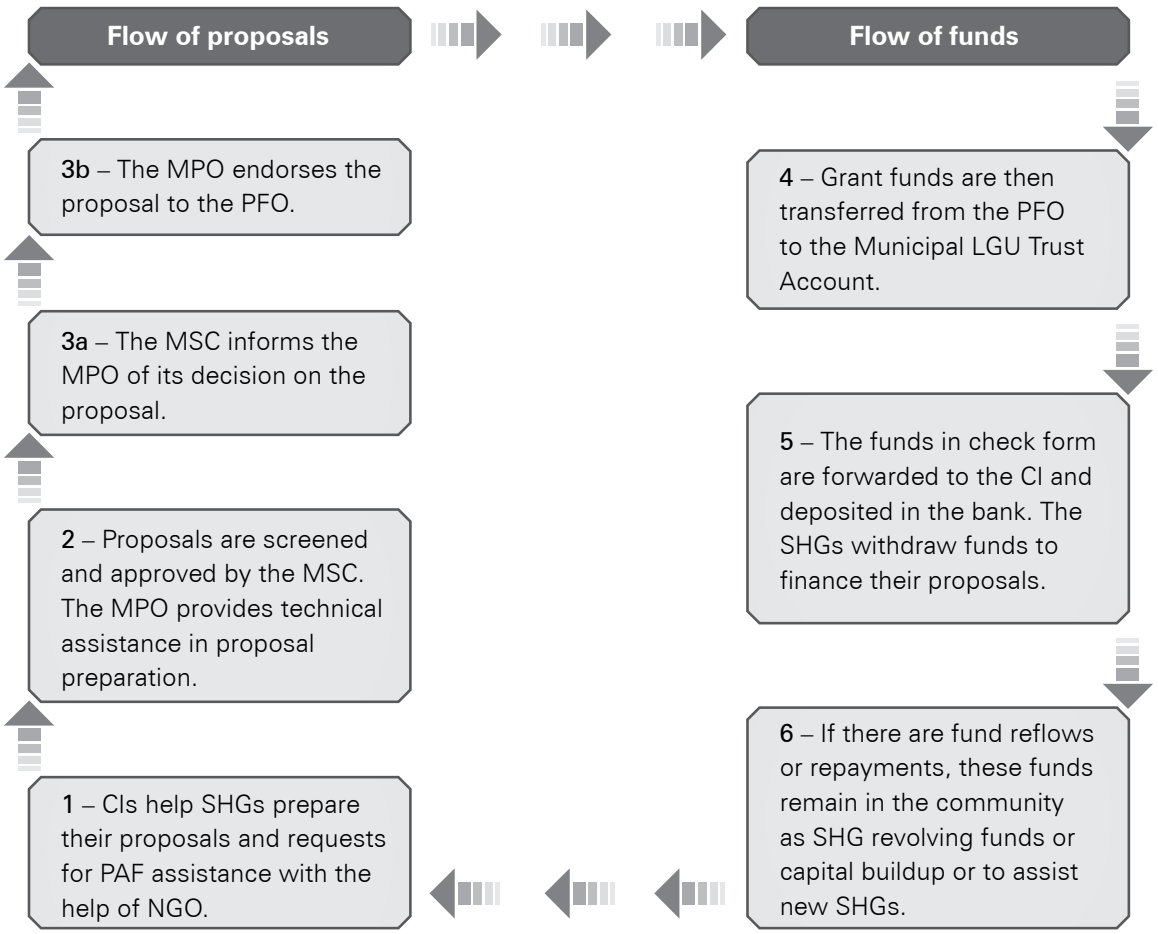

Figure 1. *The process of making proposals for PAF availment.*

validated by the community. Compliance was ensured by adhering to policies and processes from start to end of a PAF cycle.

Benefits

- A total of 18,587 households were organized into 841 SHGs. These consisted of poor households that would not have otherwise qualified for government assistance as they were not members of existing CIs. Registered CIs are usually the conduits of government assistance.

- There were 17,032 poor households from SHGs that directly benefited from the PAF. This was 92% of the SHG members and 30% of the total 58,000 households reached by NMCIREMP.

- The income of these poor households increased. A PAF rapid assessment conducted in 2004-2009 showed that the average additional income of households from PAF was PhP 266 in 2004; PhP 2,667 in 2005; PhP 1,204 in 2006; PhP 1.339 in 2007; PhP 694 in 2008; and PhP 1,651 in 2009. The study showed positive results but the increases in income were not enough to create an impact on poverty.

Lessons learned

- Targeting the poor in projects cannot be achieved only by choosing the poorest regions, provinces, municipalities, and barangays. It should be done by self-assessment at the barangay level to determine the poorest. This is to avoid the capture of the project by the most influential and relatively rich members of the poorest barangay.

- Reaching out to the very poor and organizing them into groups like the SHGs should be coupled with activities that would address the basic need of the households. This would give poor households adequate facility to join community groups such as the SHGs and later on the CIs. Though difficult to mobilize, the very poor can be organized and become productive, through small groups such as SHGs, which can be viably managed and supervised. This method gives the very poor confidence and self-esteem. Processes for SHGs should be simplified, such as allowing them to prepare PAF proposals in the local dialect.

- Collaboration among multistakeholders, including CIs, LGUs, NGOs, and rural financing institutions will provide the enabling space for the very poor to rise up and become productive. The use of a multistakeholder approach in implementing the PAF helped ensure that funds were used for livelihood development of SHG members.

- The 'big brother-small sister" approach wherein the CIs acted as big brother and the SHGs as small sisters helped SHGs gain access to government funds as required by government processes. Through the CIs, the SHGs gained legal recognition, allowing them to receive government funds. The revolving fund scheme that was used in the financial management of PAF projects by the community eventually became a simplified microfinancing tool that reaches the very poor in the community.

- There is a need to increase the size of PAF. The PAF facility of PhP 40,000 (pegged at

SHG Women Speak

"I have always dreamed of owning the pigs I raised, because all my life I have raised pigs owned by others but never mine. Do not take away my dream, I have always wanted 'raising my own pigs', which PAF has supported. From pigs, I now have chickens and goats and able to help provide more for my family." *DAR/IFAD. 2011. Women: Partners in Weaving Fabrics of Development.*

"We started with PhP 40,000 at PhP 2,000 per household and we were 20 in all. Now we have 17 hectares on lease to our group for 12 years planted with coconut-bearing trees and we harvest quarterly and have bought our own 3 hectares planted with young falcatta trees. We planted corn and sweet potato in-between rows of these trees and now our incomes are secured and stable." *DAR/IFAD. 2011. Women: Partners in Weaving Fabrics of Development.*

PhP2,000 per household) was too little to create impact. Though there were success stories on the use of the funds, the proceeds generated from PAF projects were just enough to cater to immediate subsistence needs of the very poor.

- Proper timing should be observed in the release of PAF, especially for livelihood projects that are agriculture-based. There is a need to shorten the processes and duration of fund releases.

- Scaling up livelihood activities into enterprises within project duration should be properly phased, giving enough time for the enterprise to grow and be sustainable. The project graduated some livelihood activities into micro enterprises, but there was not much time left to nurture their development, thus, putting into question the sustainability of these enterprises.

Scaling up

The NMCIREMP experience shows that while it is difficult to organize the poor and mobilize them to become productive, the targeting approach through the PAF can increase the poor's access to government services and improve their self-esteem and social capital while veering them away from a dole-out mentality.

Replicating PAF targeting

Some LGU partners such as those in Binuangan, Misamis Oriental and Prosperidad, Agusan del Sur adopted the project's process of identifying the poorest in the community, organizing them into SHGs, and providing livelihood funds for their development.

Household-based livelihood projects financed by PAF paved the way for the development of group enterprises. In Prosperidad, Agusan del Sur, SHGs' PAF projects increased the inventory of swine in the community. This prompted the SHGs to venture into meat processing and the selling of meat choice cuts with the assistance of the municipal LGU. The new investment needed workers, so a training was conducted on meat processing, and a meat processing center was established. The scaling up was done on the commodity itself, starting from raising hogs to processing of swine meat, and the trading of processed meat products with acceptable packaging standards.

Building on the success of PAF, NMCIREMP later introduced a second PAF facility (PAF2), which was intended to increase the entrepreneurial capacities of CIs. There were 44 proposals approved, benefiting a total of 6,261 households (both members of SHGs and CIs). These were implemented in the last 2 years of project implementation.

From PAF to LAF: adaptation by CHARMP2

The Second Cordillera Agricultural and Resource Management Project (CHARMP2) adopted NMCIREMP's targeting approach and provided funds to jumpstart the economic activities of target beneficiaries. Learning from NMCIREMP's experience, CHARMP2 improved the PAF concept into a livelihood assistance fund (LAF).

The LAF is a fund allotted under the Agribusiness, Agriculture and Income-Generating Activities (AAIGA) component of CHARMP2 to finance livelihood subprojects prioritized in the project sites. It is a bridge fund for barangay– or municipal-based group enterprises designed to improve the bank ability of beneficiaries to give them access to the formal credit system. LAF supports the development of priority value chains and capital for groups that will engage in production, marketing, and other income-generating activities identified during participatory planning processes in the project sites.

Similar to NMCIREMP's PAF, the LAF has the following features: (1) focus poverty groups, which are identified by the community with the assistance of community mobilizers; (2) productive poor households are organized as livelihood interest groups (LIGs); (3) poorest households are given priority for LAF assistance; (4) proposals are based on projects identified in the barangay's participatory project investment plans; (5) funds are administered by community financing institutions which will act as big brother to LIGs. Learning from the NMCIREMP experience, CHARMP2 added a new twist by developing an enterprise development plan in each barangay or municipality. LIG projects are then linked to barangay or municipal enterprises, which is part of a value chain. As LIGs treat their livelihood projects as a business undertaking, group members undergo enterprise training such as that offered in the farmer business school.

Targeting in CONVERGE

An upcoming DAR project called Convergence on Value-Chain Enhancement for Rural Growth and Empowerment (CONVERGE) draws lessons from NMCIREMP's implementation of PAF2. CONVERGE conducted thorough production and marketing analyses of specific commodities and prepared feasibility studies.

Table 2. *Scaled-up projects from PAF1 to PAF2.*

From PAF1	To PAF2
Hog fattening	Hog raising, fresh meat trading, meat processing (*tocino*, ham, *longaniza*), barbecue, *lechon*, selling of piglets
Cassava production	Cassava chips, cassava crackers
Abaca production	Abaca weaving, handicraft
Banana production	Banana chips
Candle making	Scented candle, floorwax making
Sari-sari (variety) store	Food catering, selling of motor parts, motor servicing, lending

The strategic focus of the project is rural poverty reduction through participatory value chain development with the aim of helping improve the profitability of household—based farm enterprises. Its targeting approach is focused on agrarian reform community (ARC) clusters that have potential for further agricultural and agribusiness development, availability of markets, availability of an ARC cluster development plan, commitment of participating agrarian reform beneficiaries (ARBs), and availability of support services, and where poverty is high.

The project strategy is to cluster a group of ARCs with similar agroclimatic and socioeconomic conditions to encourage business interactions among ARCs, disseminate better technology, improve and consolidate production and marketing of commodities, and establish agribusinesses so that farmers and farmers' organizations can obtain the best prices for their products. Within a cluster, development starts from the existing ARCs where substantial development works have been implemented and expanded to include other ARCs and non-ARC areas to spread the benefits of ARC development to a greater number of ARBs and other farmers. While the main focus of Project CONVERGE is to work with existing CIs or agrarian reform beneficiary organizations (ARBOs), DAR will map out the extent of poverty in each ARC cluster and will prioritize the poor households to be included in the value chain development.

Drivers

Government national agencies, especially those providing services to farmers, fisherfolk, IPs, micro entrepreneurs, and women are mandated to reach out to the poor through their development programmes and projects. For example, the Department of Social Welfare and Development (DSWD) has its own national household targeting system to identify the poor for its conditional cash transfer programme. DAR also has its Program Beneficiaries Development that aims to empower ARBs and provide them access to necessary support services to make their land more productive and enable them to venture in income-generating livelihoods.

Local government units as mandated by the Local Government Code have the authority, power, and resources to provide basic services devolved to them. They are critical drivers for targeting the poor in their areas of responsibility, managing the process of development projects implemented in their locality, and providing resources for this process. For example, the municipal LGU of Prosperidad in Agusan del Sur continued to provide assistance to SHGs even after the completion of NMCIREMP.

Non-government organizations have the expertise in social mobilization. They are key in providing support to LGUs in poverty mapping and in organizing the very poor into groups such as the SHGs of NMCIREMP and the LIGs of CHARMP2.

Community institutions that are based in the communities can provide support to informal groups like SHGs. They have a stake in the community as they expand their membership to include other households in the community.

Development donor agencies that are into poverty reduction are keen on a clear targeting approach to reach the poor. Putting in place mechanisms such as monitoring, supervision, and review missions will help push donor assisted projects carry out their targeting and delivery approaches to reach the very poor.

Spaces

Institutional space. Under NMCIREMP, PAF involved a livelihood grant of PhP 2,000 given to the poorest individual households. This was later revised into LAF where poor households pooled their resources for joint livelihood undertakings. The DAR has indicated its interest in documenting the lessons of PAF for two related purposes: First, DAR's approaches have evolved from PAF to Livelihood Development Fund and then now to "value chain" under the new CONVERGE project where DAR is the lead agency. Second, DAR is currently examining the possibility of a new approach that provides "matching grants" to ARBOs. Other government agencies like the DA are also exploring this approach.

Policy space. The Philippines is committed to the UN MDG, especially on reducing poverty. The updated Philippine Development Plan (PDP) aims to decrease the incidence of poverty to between 18 to 20% by 2016. One of the strategies in the PDP Midterm Update is directed at improving the responsiveness of poverty to growth (which implies higher incomes). The target of poverty reduction gives a signal to all government agencies, including LGUs, to look for approaches that can reach the very poor and lift them out of poverty.

Pathways

There are several pathways for adapting the approach of targeting the poorest through poverty alleviation funds or similar starter funds. This will depend on who will take the lead. Below are likely pathways for scaling up.

Pathway 1. The LGU takes the lead in initiating such a program. This is exemplified by the case of the LGUs in Binuangan and Prosperidad. Once development projects are introduced in their areas, they could refer to their experience in NMCIREMP. LGUs reached by NMCIREMP and CHARMP2 would be able to champion this approach once development funds are made available to them.

Pathway 2. Introduce the NMCIREMP approach of targeting coupled with livelihood development funds to other development projects, partner, and donor agencies. This is the case of CHARMP2, where the project adapted key features of the PAF approach and modified strategies on the basis of lessons learned as well as the demands of their area.

Pathway 3. Link SHGs and LIGs to the Department of Trade and Industry (DTI)'s programme to develop microenterprises and to other government agencies such as the Department of Science and Technology (DOST), which are also helping small enterprises. These agencies are on a lookout for groups that they can assist as part of their target to contribute to poverty reduction efforts in the country.

Pathway 4. Scaling up livelihoods into enterprises that take on a value chain approach. The CONVERGE project of DAR is a value chain approach of a specific commodity. DTI is also developing a value chain approach of priority commodities like coffee. The SHGs or LIGs can be taken as production units that supply the needed raw or semi-processed materials to be linked into a specific commodity value chain.

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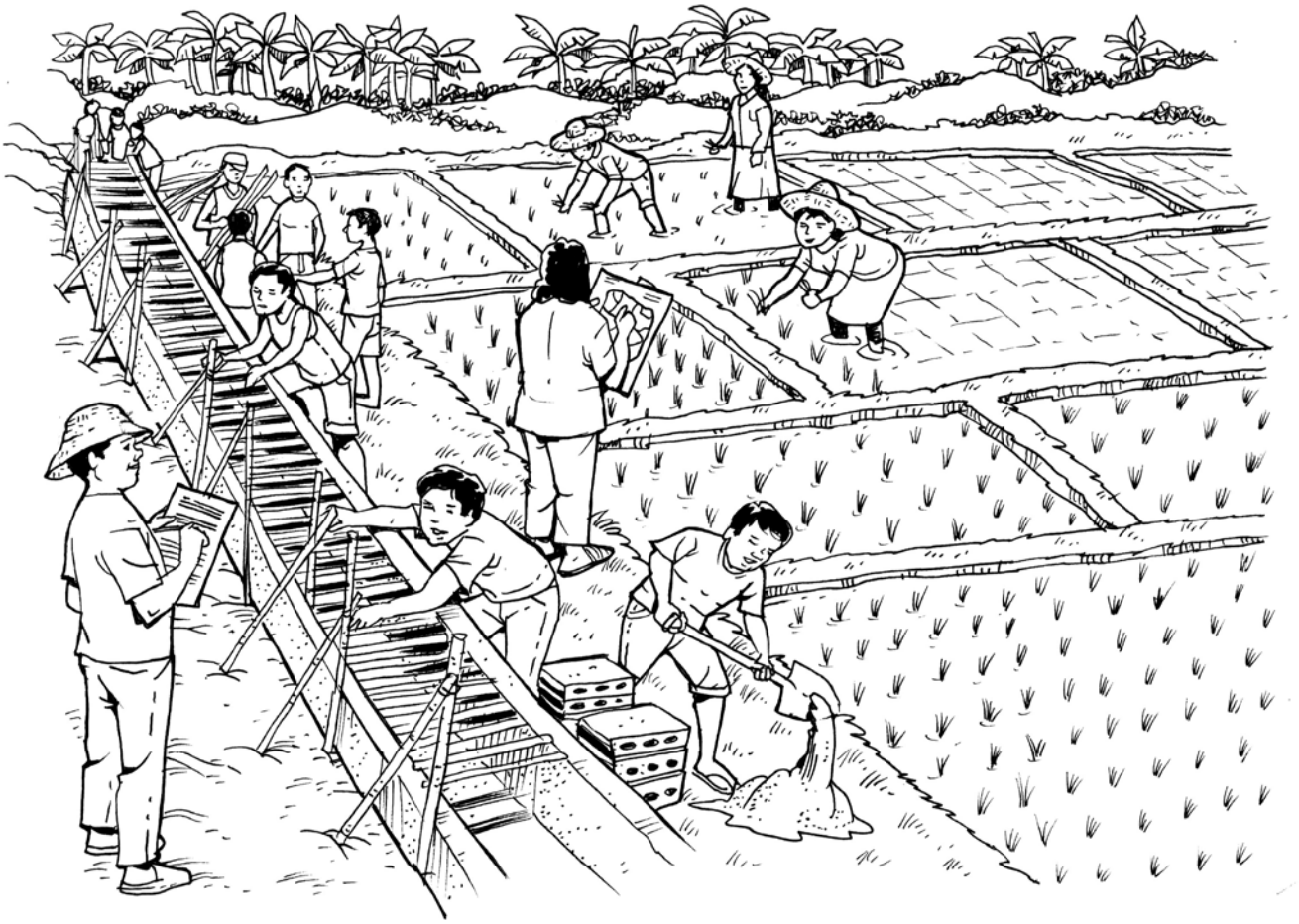


Local Farmers as Organizers of Irrigator Associations

A crucial factor for improving farm productivity is an efficient and equitable system of water distribution. This task is best managed by the water users themselves organized into irrigator associations (IAs).

Community organizing, especially of IAs, is essential so that farmers in the community are mobilized to operate and maintain irrigation systems on which their livelihoods depend.

Experience has shown that IAs become functional with the presence of professional organizers deployed in the area. The creation and use of these "social organizers" have been effective in facilitating the information and development of farmer groups. Because of this, the role of institutional development officers (IDOs) or community organizers is crucial. Professional IDOs would live in the project area and enable farmers to effectively manage their organization and their water system.

However, most often, IDOs get reassigned to other projects or their contracts end. In this case only the IA officers remain to lead the IAs. With the problems accompanying the reassignment and contract termination of IDOs, the need for farmer-irrigator organizers (FIOs) becomes paramount.

The Rapid Food Production Enhancement Programme

The Rapid Food Production Enhancement Programme (RaFPEP) has been implemented since 2009 by the Department of Agriculture and its line agencies: the National Irrigation Administration, the National Food Authority, and the Agricultural Training Institute. Jointly funded by the European Union (EU), the International Fund for Agricultural Development (IFAD), and the Government of the Philippines (GOP), RaFPEP aims to contribute to poverty reduction by uplifting the situation of rural farming households. It has two projects—the Rapid Seed Supply Financing Project (RaSSFiP) and the Irrigated Rice Production Enhancement Project (IRPEP). RaSSFiP provided high-quality seeds to marginal farmers nationwide; it was completed in 2011. IRPEP is for implementation until 2015 in three regions and six provinces to increase production and productivity of irrigated lands not just by improving rural infrastructure and facilities and providing inputs but also by empowering the beneficiaries–the farmers–as would-be stewards of the interventions.

One of the components of IRPEP is the strengthening of IAs. Farmer-members are given training on the operation and maintenance activities of their irrigation system and on the affairs of their association.

Beginnings of FIO

In 1983, NIA started employing farmers as organizers on a pilot basis in two pump national irrigation systems in Bustos, Pandi, Bulacan with assistance from Ford Foundation. In 1988, with the United States Agency for International Development-assisted Accelerated Agricultural Production Program (USAID-AAPP) covering Regions V, VI, and X as well as the World Bank-assisted Irrigation Operations Support Program (WB-IOSP) covering other regions outside the AAPP, NIA expanded the use of FIOs nationwide. This became known as the Farmer-Irrigators Organization Program (FIOP).

This FIOP is an innovation because it differs from NIA's approach of utilizing professional community organizers.

This pilot scheme was used for the national irrigation systems (NISs). Most of the FIOs were male and older (45 years and above). Their main responsibility was to organize farmers for operation and maintenance (OM) activities of the IA. They were contracted for one year and their progress was assessed every 6 months.

However, NIA stopped the FIOP due to lack of funds and manpower.

Assessment

In 1996, the International Irrigation Management Institute documented the process of FIOP implementation and came up with findings that served as learning points for project implementers:

Key Features of FIOP

1. Local farmers are identified, selected, trained, and utilized as farmer organizers.
2. Trained farmers become a local force in the formation of irrigation organizations.
3. Local farmer organizers gather together the farmer beneficiaries of an irrigation system, which results in the simplification of operation and efficient delivery of irrigation water.
4. Farmer organizers and irrigation organizations actively participate in decision making and in the long-term operation and maintenance of irrigation systems.

- The FIO selection process proved to be useful in determining potential FIOs.
- The training consisted of topics that went beyond ordinary innovative ways of doing things are emphasized.
- Enhanced ground working activities answered most of the farmers' queries on FIOP.
- The type of farmers selected as organizers was key to an effective process of organizing IAs.
- With the introduction of FIOP, the value of cooperation or *bayanihan* was renewed in the farming community.

The FIO approach in IRPEP

The implementation of the IRPEP was expanded in Antique to Region VI. An additional 60 communal irrigation systems (CIS) in the province were proposed to be rehabilitated and 63 IAs were to be strengthened.

Under IRPEP, Antique farmers were trained to become community organizers or FIOs. The use of FIOs, instead of professional organizers

Table 1. *Comparison between FIOP and IRPEP FIO approaches.*

	FIOP (1983 and 1988-1991)	IRPEP FIO (2012-2014)
Type of irrigation	National irrigation systems	Communal irrigation systems
Main responsibilities	Organize farmers for OM activities	Organize farmers in preparation for preconstruction, construction, and OM
FIO involvement		
◆ Pre-construction phase	None	Facilitate signing of memorandum of Agreement with local government
◆ Construction phase	Minimal participation (FIOs and IAs not part of manpower complement)	Facilitate creation of different committees such as manpower and quality control
◆ OM phase	OM conferences facilitated by FIOs and NIA personnel	Help organize OM conferences; Facilitate production of IA OM manual and formulation of policies; Facilitate preparation of OM plans;Serve as link to NIA, LGU and other government agencies
Age and sex	Older; mostly male	Younger; male and female almost equal in number
Duration of contract	1 year	3-month (renewable depending on performance and status of project work)
Accomplishment assessment	Done every 6 months; monitoring of work based on monthly reports prepared by FIOs	Done monthly and quarterly; regular dialogue with supervisors conducted

Table 2. *IA performance before and after the project.*

	Before (2011)	After (2013)
IA getting satisfactory to outstanding grades	45%	80%
Women leadership in IAs	11%	31%
Collection rate of irrigation service fees	77%	85%
IAs registered with Securities and Exchange Commission	67%	100%
IAs with complete plans	56%	97%

or IDOs, was revived because of the need to strengthen IAs for CIS rehabilitation. Moreover, the heavy workload of the IDOs (six IDOs cover 63 IAs with 7,268 members) became a deterrent to IA's functionality.

With limited funds and time constraints, NIA and IFAD thought of using the FIOs.

FIO features

To date, 51 FIOs (27 males and 24 females) are employed under IRPEP. Unlike their FIOP and AAPP counterparts, the FIOs are given a wider scope of responsibility. They organize farmers and strengthen farmer organizations in preparation for the pre-construction, construction, and OM phases of their irrigation systems.

The FIOs also facilitated the drawing up of a memorandum of agreement that details equity sharing with the local government. At times, they also act as in house agriculturist. Other tasks assigned to the FIOs can be gleaned from Table 1. There is an almost equal number of females and males among the FIOs. Moreover, younger FIOs are hired.

FIOs undergo a week-long pre-deployment training to prepare them for field work. They attend the same training with the farmer beneficiaries to ensure that they are "on the same page" with the other farmers.

FIO outcomes

The hiring of FIOs was seen as an advantage to the IAs. The following were expressed by the farmers: IAs activities and transactions are transparent to everyone; and corruption and misconduct in the rehabilitation of CIs are lessened. The use of FIOs reflects the bottom-up/participatory approach that NIA would like to establish in irrigation communities. The presence of FIOs were critical in increasing the number of IA membership from 5,468 members in 2012 to 6,296 in 2013. Women in IAs also increased from 876 in 2012 to 1,987 in 2013. Perfomance of IA improved as shown in Table 2.

Lessons learned

- ***Work efficiency***. FIOs interact frequently with farmer-beneficiaries and have a full

understanding of issues raised in the irrigation community. It takes professional organizers 2 months to do organization and reorganization, whereas farmers can do this in just 2 weeks. The ideal IDO-to-IA ratio is 1 IDO:3 IAs. However, in the IDO-FIO setup, the ratio is 1 FIO:1 IA, which results in: a) close coordination with IAs, b) more accurate and timely outputs from FIOs inasmuch as they are already familiar with the area, and c) faster organizing process as the FIOs have the respect of IA members and the community.

- *Identification of rice production area*. Through a walk-through and mapping activities done by FIOs, additional areas that are irrigable are reported, thereby increasing the areas dedicated to rice production in the irrigation system.

- *Strengthening the leadership in IA.* These FIOs are relied on by farmers as leaders/ advisers, and oftentimes, they become officers of their own IAs.

- *Sustained partnership with LGU and other agencies.* The FIOs' role is important in the development and continuous existence of IAs. They assist in improving institutional irrigation infrastructure, enhancing IA capabilities, and providing extension support services.

Potential for scaling up

Opportunities

The IRPEP will be completed in 2015 but FIO deployment in Antique will end in 2014. To ensure sustainability, NIA could employ FIOs for other irrigation projects in the future, be they CIS or national irrigation systems. Moreover, the idea of farmers leading farmers can inspire other organizations and agencies such as the DA to use agricultural technicians who are farmer-members and who can serve as a bridge between DA and the LGUs.

Drivers

- *FIOs.* The FIOs' willingness to accept responsibility and their desire to work for the common good hasten mobilization efforts in the field. The level of engagement and the proficiency of their contribution are the core driving forces that contribute to work effectiveness. The FIOs' degree of engagement as organizers, focal persons, knowledge brokers, and IA advisers will determine how they can help—not only by providing service to their IAs but also by facilitating linkages with other government agencies.

- *NIA.* As the main agency concerned with FIO deployment, NIA can provide training to build FIO capability and find ways to continue the use of the FIO approach.

- *LGU.* The LGU in its agricultural endeavors gives priority to community assistance by providing counterpart contribution for the construction and/or rehabilitation of CIS. The LGU shoulders 10-30% of the CIS rehabilitation cost. They can also include in their budget the hiring of FIOs.

- *IA.* Since the IA members are the immediate beneficiaries, they will ultimately take full control of the irrigation systems. Their willingness to work hand-in-hand with their FIO contribute to the success of their organization as they are able to fully utilize

the assistance provided by the FIOs. The IA's acceptance of the FIO would fast–track the mobilization process and would result in better IA performance and functionality.

- *State policies.* The Institutional Development Division of NIA is mandated to organize farmer beneficiaries into irrigator associations and to strengthen these organized groups with the ultimate goal of enabling them to operate and maintain part or the whole irrigation system. Likewise, following the Agriculture and Fisheries Modernization Act (AFMA), NIA shall turn over to organized farmer groups the completed irrigation systems and farmers shall be assisted in this regard. The development of the FIO concept is one program that contributes to the devolution of responsibilities related to CIS management to the LGU.

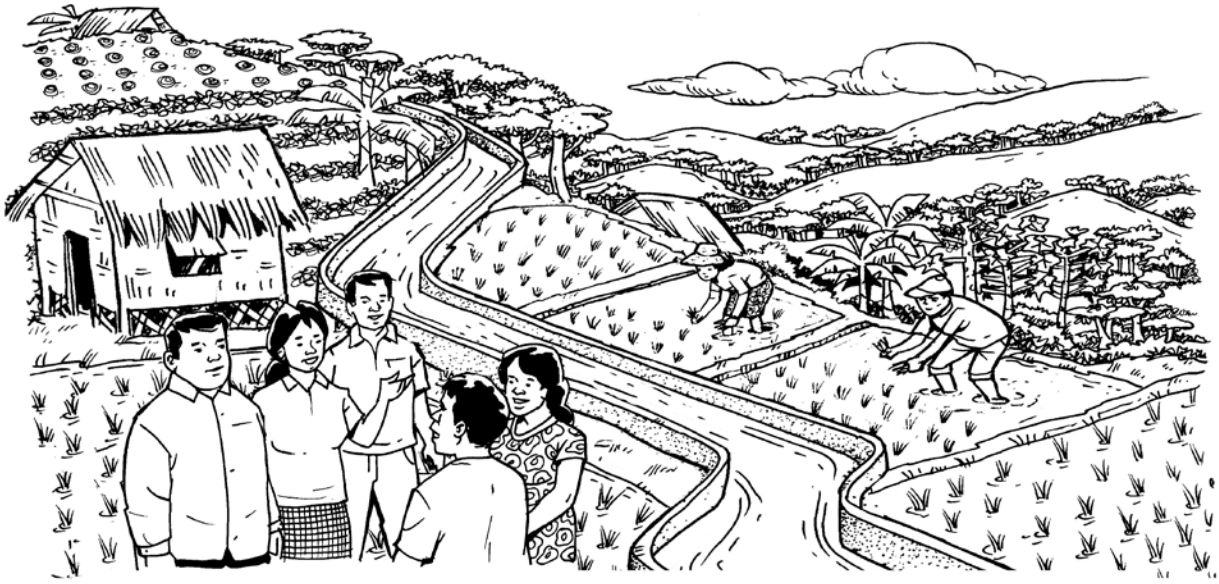
Spaces

- *Partnership space.* The Agricultural Training Institute (ATI) provides extension support to farmers through the conduct of Training of Trainors. In turn, farmer leaders engage in capability-building training for farmers through farmer field schools. Moreover, the National Food Authority (NFA) trains farmers in marketing and NIA deals with IA strengthening. This partnership with NFA and ATI can enhance the capabilities of FIOs and thereby enhance the capabilities of IAs.

- *Learning space.* Monitoring and evaluation of IA and external entities such as DA or NIA is needed to identify strengths, weaknesses, opportunities, and challenges involved in scaling up. In this regard, documentation and SWOT analysis may be conducted to provide a basis for assessing success.

- *Political space.* FIOs can serve as a link to LGUs, other government organizations, and people's organizations that provide agricultural support and services to IAs. FIOs may sit on the IA Board of Advisers to help with policy formulation.

- *Financial space.* Usually standard costing for the construction or rehabilitation of irrigation systems include a 10% share of the total cost for IA strengthening. The 10% share includes the cost for FIO hiring. Funding organizations and lending institutions that would finance



future irrigation projects should consider giving full support to IA strengthening. The IA's capability to produce and maintain equity is another factor to support the assignment of FIOs.

Pathways

Training, mobilization, and financial resources are needed to sustain FIO involvement in the IA and the CIS community. For this to materialize, LGU-NIA-IA can have a tripartite dialogue to discuss ways to integrate the FIO concept and to come up with a memorandum of understanding among various stakeholders. This is in accordance with the provisions of AFMA, that states that responsibilities related to communal irrigation systems must be given to the LGU.

NIA can take a second look at the participatory approach in order to meet the current needs of its farmer clienteles specifically the IAs. Moreover, policy dialogues between stakeholders and NIA management can be initiated to discuss the possibility of employing FIOs in upcoming projects.

IFAD and other project support

IFAD would play a bigger role in future irrigation projects by providing financial assistance to support IA strengthening activities. As such, projects involved in irrigation systems should look not only into engineering aspects but also into social aspects because irrigation development is a combination of hardware (irrigation facilities) and software (IA strengthening), wherein the latter is much more complicated to sustain.

With the lessons gained from this project, other agencies like DA, ATI, NFA and private entities that provide assistance and support to farmers could hire farmers as extension workers.

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Community-Based Seed Systems:
Improving Access to Quality Seeds

Lack of access to good-quality rice seeds, inadequate storage facilities to keep seeds healthy and viable for the next cropping season, not having enough money to buy seeds, and experiencing long hungry months—these are some of the reasons Arakan Valley farmers adopted the community-based seed system (CBSS).

The CBSS approach

CBSS is an informal arrangement wherein members of a farming community or a group of farmers follows a collective system of producing, exchanging, or selling good-quality seeds, especially in times of disasters or seed shortages. The CBSS comprises a formally organized/registered group of well-trained and committed farmers who "learn-by-doing" the best management options to ensure seed purity. The principle that "seed security equates to food security" works well within the CBSS setup. CBSS delivers management practices on seed health and crop diversification, allows the introduction of improved and tolerant varieties, creates opportunities for market integration, and promotes the conservation of traditional varieties.

In the Philippines, CBSS was first tried by NGOs such as the *Sibol ng Agham at Teknolohiya* (SIBAT) in the 1980s; the *Magsasaka at Siyentipiko para sa Pag-unlad ng Agrikultura* (MASIPAG) in the late 1980s; and the Southeast Asia Regional Initiatives

for Community Empowerment (SEARICE) in the early 1990s. SEARICE used community seed banks in an effort to restore farmers' inherent right to save, use, exchange, and sell seed. In Mindanao, the country's southernmost island, SEARICE established projects on participatory plant breeding and participatory varietal selection. Center-based and community-based seed banks were established to support community efforts to systematically collect, conserve, develop, and utilize plant genetic resources. The community seed banks give farmers access to and control over seeds and strengthen local seed supply systems.

With CBSS, farmers are able to raise their productivity, thus reducing their hunger months; enhance their cropping system resilience; and ultimately increase their income from the sale of seed. In addition, farming communities, through CBSS, are able to preserve their time-treasured landraces and, where preferred, combine these with modern varieties that command higher prices in the markets. Women farmers notably play a critical role in seed health and storage.

For the International Rice Research Institute — Consortium for Unfavorable Rice Environments (IRRI - CURE), the CBSS model is an approach in enhancing farmers' access to good seeds of new stress-tolerant varieties developed through partnerships between IRRI and the national agencies and partners in rice research and development. Responding to the call to have a wider dissemination of new stress-tolerant seeds in fragile environments, CURE introduced components of the CBSS model that evolved with the end in view of meeting the farmers' needs.

The CBSS process

The process contains specific steps that can be adopted/adapted by interested change agents in upland environments and other harsh rice environments (Figure 1).

What is CURE?

To benefit 100 million poor farm households that depend on rice in Asia's unfavorable rice environments—this is the rallying call of the IRRI-hosted Consortium for Unfavorable Rice Environments (CURE).

CURE is a network of research and development institutions in South and Southeast Asian countries. It focuses on rice farming systems in unfavorable environments with problem soils. In partnership with national agricultural research and extension systems, this network develops, tests, and validates new rice varieties that are tolerant of drought, flood, salinity and are suitable to upland areas. Side-by-side with developing and testing new stress-tolerant rice varieties, CURE also explores management models and systems that would satisfy farmers' actual needs.

How CBSS evolved in Arakan Valley

Arakan, home to Dinorado. Arakan, besides being popularly known as the upland rice belt of Cotabato, is also known as the home of Dinorado, a famous traditional rice variety well loved for its pinkish grain, aroma, and good taste. Through the years, however, Dinorado had lost its dominance among the cultivated crops of Arakan. From 2,753 ha in 1994, Dinorado-cultivated area declined to 377 ha only in 2002. The reasons for this decline included farmers' poor seed health practices, deteriorating genetic purity, and lack of supply of good-quality seed.

Knowing farmers' issues. In the same year in 2002, the University of Southern Mindanao (USM), the Municipal Agricultural Office (MAO) of Arakan, the Philippine Rice Research Institute

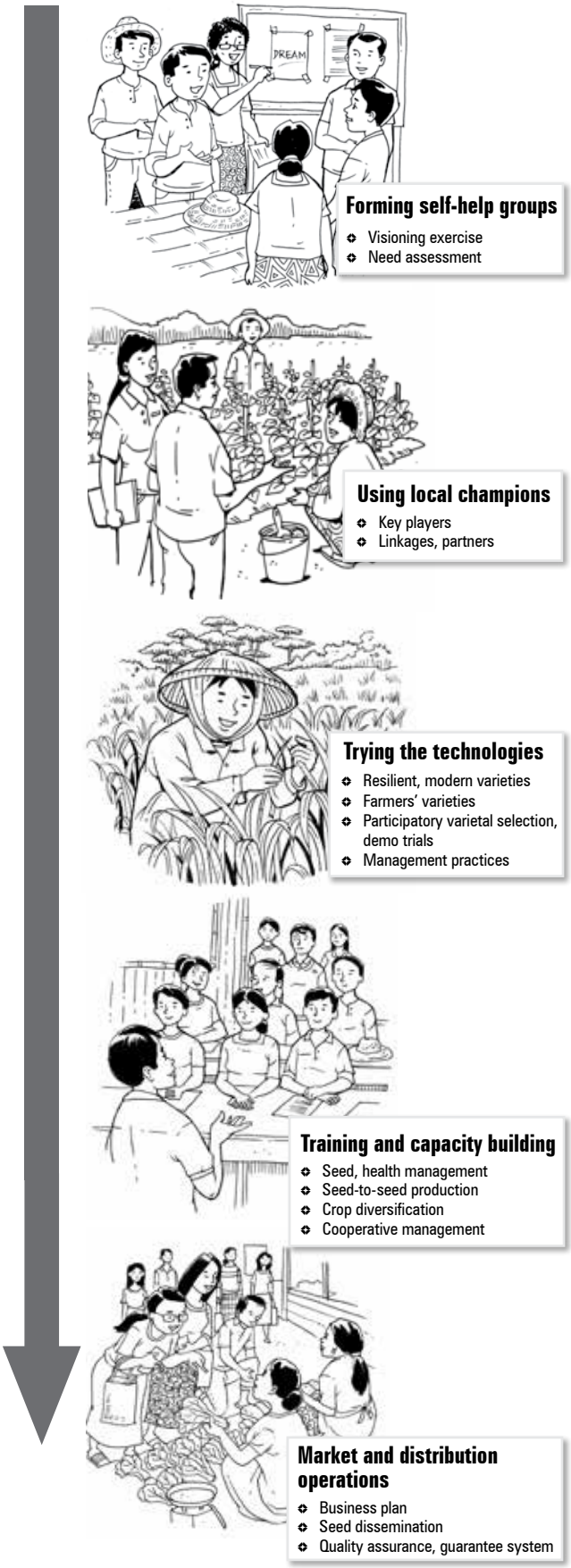

Figure 1. *CBSS key interventions.*

(PhilRice) and IRRI conducted a participatory rural appraisal in the Arakan upland rice farming community. They found out that rice farmers experience at least 6 months of inadequate rice supply and scarcity of quality upland rice seeds during their planting time in March or April.

A year later, the IRRI-CURE team engaged Arakan farmers in a problem analysis exercise. The top five issues that surfaced are as follows:

1. Weak government extension system;
2. Poor quality of seeds;
3. Lack of access to new varieties and appropriate management practices;
4. Need for crop (income) diversification among resource-poor farmers; and
5. Declining areas planted to the traditional variety Dinorado because of drought and other field environment stresses.

Equipping the farmers. Picking up from the results of the problem analysis in 2002, USM and IRRI-CURE designed a capacity development program for the farmers' group in Arakan. From 2002 to 2006, farmers went through a series of trainings, foremost of which dealt with production and management of healthy rice seeds.

Training content. Together with USM staff, IRRI introduced technologies related to seed health management, weed control, rice diversification, and improved varieties for crop diversification. Under the banner program of CURE, "landscape management" was adopted wherein intensive rice production could be done in valley bottoms and other crops or rice could be grown in the uplands. Diversified farming in the uplands would help increase production and reduce the number of hunger months. Farmers have also learned to adopt conservation agriculture, which promotes zero tillage and other soil conservation measures. Barangay officials emphasized the two-pronged objective of the upland management program:

Table 1. *The process of forming a CBSS.*

Process	Steps
1. Initial preparatory work in the community	After a project site is identified, these activities follow: 1. Visioning exercise with the community 2. Rapid rural appraisal 3. Forming a core group of farmers 4. Assessing seeds, validating technologies, and selecting preferred varieties through participatory varietal selection (PVS) 5. Capacity development/training on good seed quality management and production
2. Formation of CBSS	1. Trained farmers start with their own collection of preferred seeds 2. Sites are selected for seed-to-seed production 3. Learnings about seed-to-seed production and seed health management are applied
3. Building the foundation for sustained growth	1. Core group is formally organized; group decides on scope of operation (seed multiplication, distribution and marketing) 2. Seed quality assurance and links to formal institutions are identified. 3. CBSS maintains its own internal seed quality control system based on a set of practical approaches that approximates the standards of the formal system.

increasing productivity and conserving the soil. The training activities also exposed the farmers to the requirements of a formal CBSS. They also went through the barangay agricultural technician (BAT) training. This training enabled them to give support to the local government unit (LGU) in Arakan as the whole town had only four technicians. A season-long training was conducted once a year, and this was done for 3 consecutive years. Farmers met three times a month for hands-on exercises. They served as extension workers in the barangay with their own farm as demonstration area. Part of the BAT was the cross-site visits of farmers to successful farms.

Formal registration. In 2005, the farmers' group that underwent a series of trainings to produce good-quality seeds decided to formally register as the Arakan Community Seed Bank Organization (ACSBO). This group of seed producers agreed to adopt seed health management practices and other introduced technologies as well as exchange seeds to ensure availability in times of need. ACSBO was recognized by the LGU as a formidable organization in Arakan. The trained farmers of ACSBO produced quality seeds for their own farm use and for sale in the local market and adjacent provinces. The introduction of new varieties, such as UPL Ri5 and UPL Ri7, also resulted in improved yield.

During ACSBO's initial year of operation in 2006, the Municipal Agriculture Office (MAO) obtained seeds and loaned these out to farmers without interest. Other components of the program were seed fairs, farmers' field days, farm walks, demonstration trials for traditional and high-yielding varieties, participatory varietal selection, and cross-site visits, among others.

Ensuing improvements. "Before joining the community seed bank, we did not know what to do with our fields. With the training that we attended, our lives improved, including our practices of harvesting and storing rice seeds,"

What the CBSS Beneficiaries Say

- "Before CBSS we did not know what to do with our fields. We just plant without knowing what to do afterward. And we had a hard time getting seeds. What we used to practice turned out wrong. We did not know that the seeds are of low quality. They did not know that it would result in low quality seeds." *Lucena Magdato, ACSBO member*
- "I am thankful for the community seed bank because, we did not have seeds to plant in our field before. It was hard because we had nowhere to buy seeds from. We used to buy seeds to plant in our field. With the community seed bank, we are now doing good. We were able to use seeds, including vegetable seeds. These were given to us by the community seed bank and we will plant these. Because of this, our family will not go hungry." *Russell Samillano, ACSBO member*

says Thelma Mallorca, member of the ACSBO. Farmers' income increased from growing Dinorado, as it commanded a premium price. From 23 farmer partners, the ACSBO grew in membership. At present, there are more than 129 members. More importantly, it has kept 14 upland rice lines/varieties planted in four barangays of Arakan under USM supervision. Putting up other CBSS in new sites are also being considered.

In Arakan Valley, North Cotabato, the project was able to train 1,378 farmers on crop diversification and in situ seed bank development in rice-based systems. This was done through the support of LGUs in Mindanao.

The IRRI-DA partnership on community seed bank also sends participants from the agriculture regional field units (RFU), Agricultural Training Institute (ATI) regional centers, and provincial government units throughout the country. The resource persons for this training came from IRRI, PhilRice, and the Bureau of Plant Industry (BPI). The training activities for upland community seed banks were carried out in cooperation with the state colleges and universities.

The role of seed producer groups

Ensuring food supply. Results of a 2011 study and discussions with farmers conducted by CURE in Arakan Valley show an increase in production (1.4 tons/ha) and net income (PhP 47,000) per hectare per season for farmers involved in CBSS. Other emerging impacts include the reduction of the hunger period – from 6 to 8 months to 3 months.

The CBSS is now creating a ripple effect in the community as more and more farmers see the benefits of using good-quality seeds. The trust in the quality of seeds produced by the CBSS has also resulted in easier seed access for resource-poor farmers who are not able to save their seed for the succeeding season.

Looking at sparks and champions. The factors that sparked CBSS success are a well-planned assessment of needs, helping the community define a clear vision, finding highly committed farmer-leaders and extension workers, and putting in place a capacity development programme.

Local champions were identified:farmer leaders, extension workers, USM professors, LGU officials and staff, IRRI and PhilRice scientists.

Initiating enrichment activities. In addition to training, some of the project activities are seed fairs, seed quality evaluation, and seed diffusion As part of the learning process, farmers visit demonstration farms.

During field days, farmers observe first hand demonstration trials where seeds of new rice varieties are displayed and extension officers discuss accompanying management practices. In mini seed fairs, farmers obtain mini kits (one mini kit contains 2 kg of rice seeds). Simultaneously, farmers have the opportunity to display the rice varieties that they are growing.

Key components for upscaling

Identifying problems. In Arakan Valley, the first steps done by CURE and USM involve identifying the problems of the community using rapid rural appraisal and visioning exercises. The aim is to have a better fit in designing interventions.

Enlisting local champions. CBSS as a model for upscaling has great potential to bring it to a tipping point. In the experience of CURE and national partners, one of its salient features which can further be enhanced is the use of local champions. Local champions, such as institution executives, municipal agriculturists, and government- and non-government extension agents and farmer leaders, can be the catalysts in the change process and the sources of motivation and learning in the community.

Enabling champions. CURE-NARES sees to it that farmer leaders, extension workers, and ordinary members undergo a training on appropriate management practices so that they would learn the ropes in producing pure, healthy, and good-quality seeds at a quantity that would meet demand. Basic training courses include, among others, the following: quality seed production, seed storage, and control of insect pests and diseases. Leaders are also trained on cooperative development and management aspects of small business enterprises for seeds.

Preparing a conducive environment through PVS. One of the unique features of CURE's varietal development and testing is the involvement of the farmers themselves. This concept is called participatory varietal selection (PVS). During PVS activities, farmers are given the opportunity to observe and do hands-on field trial of their preferred/selected varieties. They have the chance to validate and score how well these varieties are performing in their own fields. Also during PVS-related activities, such as demonstration trials, field days, seed fairs, and farmer-to-farmer seed and information exchanges, farmers are able to share their learnings and benefit from other people's experiences.

Increasing the benefits. One CBSS feature is the introduction of other crops (cash crops and perennial crops) together with other agronomic options for crop nutrition, pest control, and diversification. This increases the farmers' earning power and enhances their food supply. In addition, farmers' seed groups can also serve as collection and distribution conduits, a channel through which excess production of rice seeds and cash crops can be sold and marketed. Another benefit that can be derived from CBSS is its potential for market integration. Through pooling of excess production, CBSS can be used as a channel for collection and distribution to enable farmers to market their rice, rice seeds, and non-rice cash crops.

Lessons learned

1. The identification of target sites and groups should be based on participatory need assessment and the visioning exercise. It should be noted that the main purpose of CBSS is to enhance seed security. Therefore, sites should be where there is low usage of certified seeds, a lack of sources of seeds,

especially those of new tolerant varieties, and a lack of knowledge on producing quality seeds.

2. Planning and implementation of a CBSS should be initially established on a small scale, be based on resources, and must cover only a few communities. The advantage of small-scale CBSS is that smallholder farmers can easily participate in it. This can expand to other areas as demand for varieties gets bigger.

3. Training programs should be based on an information need assessment. Training and knowledge sharing can include a farmers' field school on quality rice seed production, with special emphasis on seed health management, crop diversification, even production of rice-based products for value addition. However, it should be noted that training does not require any significant departure from their customary agricultural practices.

4. To optimize yield from rice, introduction of appropriate management practices is essential.

5. For added income, introduction of other crops (cash crops and perennial crops), along with other agronomic options for crop nutrition, pest control, and diversification, is also beneficial.

6. Farmers can directly experience the benefits of belonging to a CBSS and purchasers of seed can readily observe the higher yields and other beneficial traits of the new varieties. PVS has contributed a lot to this visibility. Participatory varietal trials and component exercises on preference analysis for varieties contribute greatly to determining farmers' preferred varieties (Paris et. al. 2011). This leads to better provision of good-quality varieties based on farmers' choices.

7. Farmers can only be made part of a seed producer group if they are willing to collaborate with others. Through volunteerism, farmers are made aware of the responsibilities as well. CBSS can recruit members for farmer-to-farmer extension. Volunteerism for knowledge sharing is an important factor in communicating technologies in the community. The presence of local champions is a major driving force in bringing about the formation of CBSS, and continued support for technical assistance is a major success factor.

Scaling up

Spaces

Financial space. IRRI-CURE-, as funded by International Fund for Agricultural Development (IFAD), identifies viable interventions for improving livelihoods in unfavorable environments. The promising innovations are for outscaling and upscaling for widespread adoption in target communities. With the recent approval of the next phase of CURE, the innovations derived from the first phase, including the models for CBSS are potential areas for growth. There are other IFAD-supported projects implemented by IRRI, with synergism under the CURE umbrella, as well as other interested NGOs and funding institutions (private entities and foundations) in the Philippines and partner-countries that can provide the linkages to upscaling opportunities.

Political space. In the Philippines, the removal of seed subsidies creates the space for the creation of more CBSS in each province. The Philippine government has previously provided quality seeds to rice farmers, especially those affected

by drought, floods, and pest infestation. With CBSS, they now are able to produce or source out their own seeds from within the community. The formation of seed banks is a component of PhilRice's Upland Development Program.

The identified partnership strategies will result in a stronger role of the LGUs and RFUs of DA. The project champions in Arakan Valley have linked with agencies and programs such as the national government's agriculture program on food for the masses *(Pagkain Para sa Masa)*. This program is a self-help household food security program for the upland and internally displaced communities in Mindanao.

Cultural space. Partnerships are happening with the indigenous people (IP) farmer groups whose leaders are women who are highly interested in CBSS. In addition, partnerships with seed consolidators (e.g., university, LGUs and NGOs) are being tapped to widen the geographic reach. Participatory approaches are used to engage the farming communities in project implementation, monitoring, and evaluation. Women have been highly recognized as seed keepers as they spend a significant amount of days and hours doing seed selection and seed health care.

Pathways

Pathways for scaling up and scaling out started with the packaging of knowledge management (KM) materials like manuals, case study documentation, videos, policy briefs, presentation materials, and other IEC materials. These communication materials are shared with partners which are actively engaged in the implementation of CBSS. The CBSS manual has been translated into Bahasa Indonesia and will soon be translated into other languages. Discussions with different rice programs of the CURE partner countries are ongoing. Links with NGOs and other projects are being explored to promote the model and support wider dissemination of good-quality seeds of new tolerant varieties.

To date, the Philippine government, through DA has adopted CBSS as a key component of its national rice program under the Food Staples Self-Sufficiency Roadmap 2011-2016. In cooperation with various government agencies, CBSS are being established in the provinces. PhilRice supplies breeder and foundation seeds to private growers in each province; Bureau of Plant Industry (BPI) expedites the seed certification process.

On the other hand, the Land Bank provides credit assistance to seed growers. According to the DA, this strategy is more efficient and less costly in the long run compared with providing rice subsidy every cropping season. A total amount of PhP 150 million was programmed for 2012 for the establishment of CBSS in strategic rice production areas nationwide (Alave 2011).

The head of the National Rice Program and the DA secretary with their attention focused on upland rice areas and organic rice production, also pushed for the establishment of CBSS in the regions. Memorandum Order No. 20 was signed in September 2011 to ensure food sufficiency and farmers' access to quality seeds through the establishment of community seed banks.
The scaling-up is part of the project on heirloom rice funded by the Philippine government and being implemented by IRRI-CURE in partnership with PhilRice, DA-RFO XII, and the Cordillera Administrative Region.

Recommendations

The CBSS ensures easy access to preferred varieties and supply of genetic materials,

especially when these varieties become endangered. Existing farmers' groups provide the entry point for extension of services that will supply good seeds to the community, through CBSS. With this in view, policies and programs that can build on the local capacity of farmers to organize themselves should be put in place. Building partnerships with NGOs, cooperatives, and international NGOs can provide the necessary push and financial support for upscaling efforts. A strengthened linkage between gene banks (IRRI), plant breeding organizations (IRRI and PhilRice), seed producers, and distribution enterprises can provide access to newly released varieties that can further enhance seed security.

Knowledge sharing is a critical element of upscaling, from documentation of experiences, learning, and models to sharing of technologies and management practices to produce quality seeds. This can be done through dissemination of community-level educational materials such as posters and brochures to support a nationwide program on rice-based diversified system, development of seed banks, and awareness of stress-tolerant varieties.

Local capacity enhancement and empowerment of farmers are both key inputs and key outcomes of the establishment of CBSS. This indicates that farmers have acquired the necessary skills and knowledge in seed selection, seed health management, and seed production. Capacity building activities related to enterprise building for farmer-members of the CBSS are also in order. Farmers' groups should be trained to become local seed growers to give them the opportunity to charge a premium for quality seeds. Government support for promotion of small-scale seed enterprises can take the form of providing credit to farmer-seed growers. Women play a significant role in seed selection and seed health management. As this is recognized, upscaling programs should take into account the contribution of women in ensuring the availability of good seeds in the communities. Women and men should be given equal opportunity for training and similar access to seeds of new varieties. CBSS also means empowering women farmers by enhancing their leadership roles. Any program or activity related to securing seeds in the community should therefore ensure that the role and contribution of women in rice farming, their involvement in decision-making processes, and their right to control seeds and other productive resources are duly recognized and properly compensated for. Lastly, approaches that capture and incorporate learnings from other countries' experiences and successful upscaling of community seed operations should be in place for greater impact.

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Reaping the Rewards:
Payments for Watershed Services

Watersheds are vital to all people, but their degradation remains a pervasive environmental problem in the Philippines. An average of 55,000 hectares of forest is lost every year in the past decade (FAO 2014) due to population growth and economic pursuits. Natural constraints, accelerated changing climate, and people's poor land use and inappropriate land management practices also reduce the capacity of watersheds to consistently provide essential goods and services. Notably, millions of the country's poorest live on degraded watersheds where the stark imbalance between supply of and demand for natural resources is indeed evident, and addressing this is a difficult task.

It is important to understand that watersheds are not just composed of biophysical elements such as farms, forests, trees, and bodies of water. They also contain social spaces where different stakeholders interact and use their knowledge and values to plan and justify their actions. In the management and allocation of scarce natural resources, it is essential to consider the varied needs and expectations of different stakeholders to ensure sustainability of the approaches. The landscape approach responds to the need for more "people-centered" ecosystem management – wherein socioeconomic and development goals (i.e. poverty alleviation, food and livelihood security) are weighed alongside environmental conservation priorities.

The RUPES Projects

Between 2002 and 2007, ICRAF coordinated the Rewarding Upland Poor for Environmental Services (RUPES1) project through a funding partnership with the International Fund for Agricultural Development (IFAD). Implemented in Indonesia, the Philippines, and Nepal, the project unravelled the complexity involved in developing payment and reward schemes for environmental services (ES). Some of the key lessons learned during Phase 1 included 1) the importance of integrating stakeholders' knowledge and varied perspectives and priorities in all stages of P/RES development to promote shared responsibility and accountability, 2) the key role of local government units (LGUs) and officials in initiating and sustaining payments/rewards for environmental services (P/RES) mechanisms, and 3) the need for policy instruments and institutional measures that support environmental service reward schemes at local and national levels.

The Rewards for, Use of and Shared Investment in Pro-poor Environmental Services-Second Phase (RUPES2) project followed in 2008-2012, to follow up and expand the application of lessons learned through RUPES1 to include China, India, and Vietnam. In the Philippines, Lantapan in Bukidnon province was added to the project sites, which were Bakun in Benguet province, and Kalahan in Nueva Vizcaya province.

The approach is characterized by 10 principles that put emphasis on three main ideas: continuous learning and adaptation, greater involvement of stakeholders, and the integration of multiple objectives in environmental interventions (Sayer et al. 2013). Since 2002, the World Agroforestry Centre (ICRAF) has been working toward bridging environmental and social interests through projects focused on delivering payments and rewards to providers of environmental services (ES).

Environmental services are the tangible and intangible benefits that people derive from ecosystems (MEA 2003). These include watershed services, biodiversity conservation, soil fertility, carbon sequestration, and landscape beauty. When ecosystems are placed under payments/rewards for environmental services (P/RES) schemes, stakeholders of a specific ecosystem become its guardians and stewards. The ES providers (sellers) collect either monetary (payments) or non-monetary (rewards) incentives from those who use or benefit from the ES (buyers) in exchange for sustaining it (Figure 1).

Using the landscape approach, the Rewards for, Use of and Shared Investment in Pro-poor Environmental Services schemes, Phase two (RUPES 2) project aimed to develop mechanisms that offer incentives – including financial, human, physical, and social capital – for upland communities who engage in environmental protection and conservation activities. The ultimate goal of RUPES is to realize livelihood security and poverty reduction in poor upland communities while simultaneously protecting and rehabilitating the environment.

The innovation: rewards for water services

Lantapan is a municipality in the province of Bukidnon (southern Philippines), located within the Manupali Watershed, and bordered by the Mt. Kitanglad Range National Park and the Manupali River. The Manupali River feeds into irrigation networks operated by the Bukidnon Irrigation Management Office (BIMO) and also supplies the

water used by the National Power Corporation (NPC)'s Pulangui IV hydroelectric plant. Over the years, the expansion and intensification of agricultural production has changed Lantapan's landscape, with the operation of banana and pineapple multinational companies in prime lands. This has forced smallholder farmers into smaller plots located in topographically and environmentally unfavorable areas toward the forests. This has resulted in land degradation due to increased soil erosion and shortage of water for domestic use, irrigation, and hydropower generation.

The approach

Starting in 2006, ICRAF aimed to respond to these issues by developing and institutionalizing an acceptable mechanism for rewarding the upland communities of Lantapan for the continued "provision of water" as an environmental service to downstream users, particularly lowland communities, rice irrigators, multinational companies, and the hydroelectric plant of the NPC. ICRAF facilitated the formation of a working group composed of key partners from the local government unit (LGU) of Lantapan, Bukidnon Environment and Natural Resources Office (BENRO), Bukidnon Watershed and Protection Development Council (BWPDC), Department of Environment and Natural Resources (DENR), National Irrigation Administration (NIA) – which is now devolved to BIMO – and the NPC.

There were three main activities:
1) implementation of integrated watershed assessments using cost-effective, replicable tools, 2) negotiations of agreements between ES providers (sellers) and beneficiaries (buyers), and 3) implementation of agreements and monitoring.

Integrated watershed assessment. In Lantapan, water supply was the main environmental service. As such, the rapid hydrological appraisal (RHA) was the first major step toward building the P/RES scheme. Members of the working group

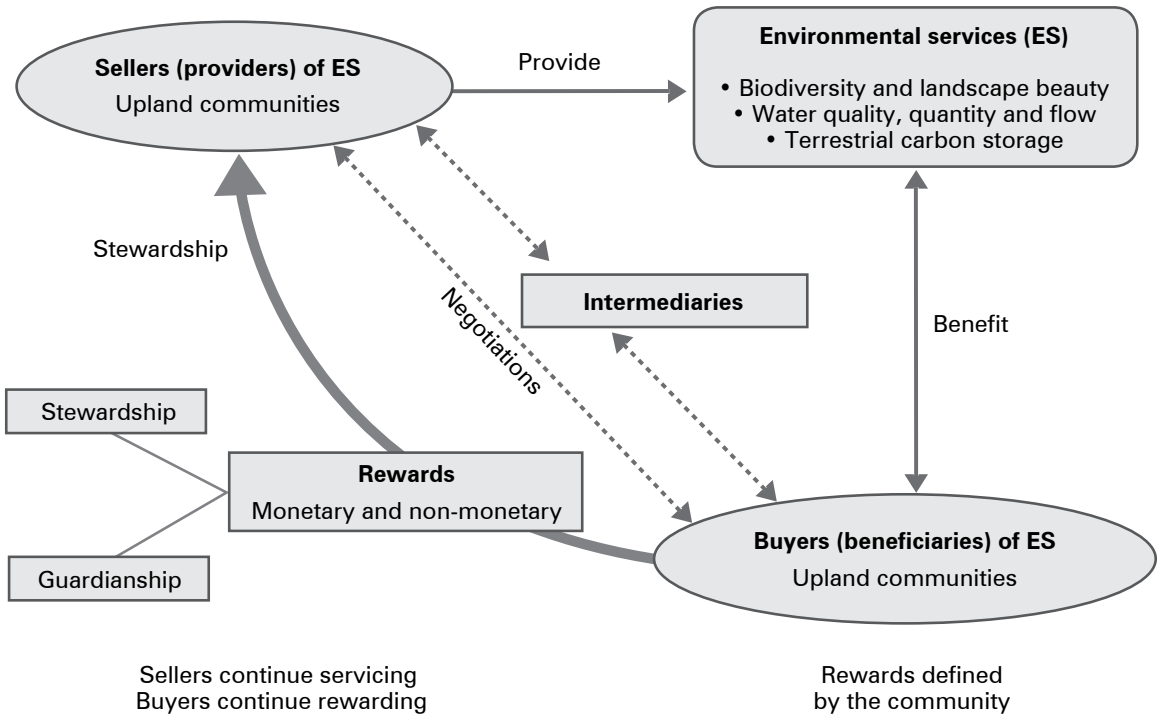

Figure 1. *How payments and rewards for environmental service (P/RES) schemes work (adapted from ICRAF 2005).*

were mobilized to make up the RHA team. The team was led by a soil science expert from DENR and comprised of civil engineers from the local government of Lantapan and NIA, and two foresters and a GIS specialist from the BENRO. From the outset, ICRAF trained the RHA team to gather local, public/policymakers', and scientists/researchers' ecological knowledge about the watershed – essential inputs toward "painting the picture" of the available ES, their flow from ES providers to beneficiaries, and the issues surrounding the ES. The team was also trained in the use of the GenRiver model, a tool which is used to understand the relationship of land use and water balance (Jeanes et al. 2006). ICRAF provided technical support throughout the implementation of RHA.

The results of the hydrological appraisal served as the basis for identifying and developing payments and rewards schemes tailored to the local context. Through their involvement, the community members gained better understanding of the natural processes that occur in their watershed, and the relationships and trade-offs between land use, and the goods and services derived from agro ecosystems. In addition, the exercise enhanced the provincial and municipal governments' awareness on Manupali watershed's current condition, prompting them to provide additional funds to support the implementation of the tool.

From a simple collaboration to appraise available environmental services, there evolved a nested partnership, wherein ICRAF, BWPDC, BENRO and DENR became the mediators during negotiations between the ES buyers and sellers.

Negotiations for ES rewards and payments. In 2009, the local government of Lantapan enacted Municipal Ordinance No. 114, an incentive-based program which urges public and private entities to award incentives to smallholder farmers or community-based organizations (CBOs) that adopt sustainable farming practices. It was accompanied by a five-year investment plan, which outlines the specific incentives for qualified farmers or CBOs, in the form of subsidies for crop production and natural resource-based livelihoods, subsidies for crop insurance, microfinancing, infrastructure, awards and recognition, and extension and marketing support (Catacutan et al. 2010).

With the municipal ordinance in place, the ES providers became better equipped with a framework for negotiating a rewards scheme with

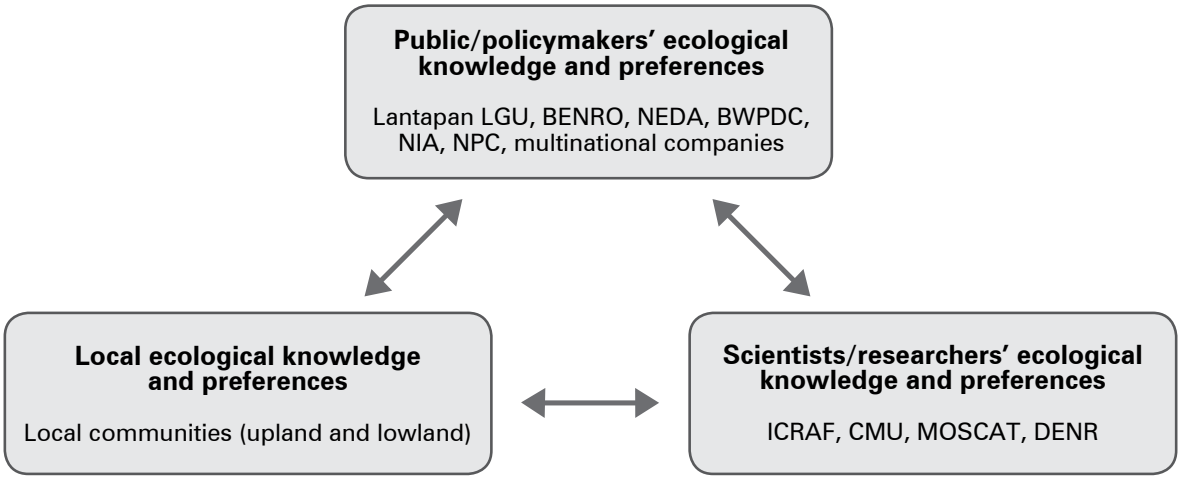

Figure 2. *Ideal interaction of stakeholders' ecological knowledge domains in Lantapan, Bukidnon adapted from van-Noordwijk et al. (2009).*

the ES beneficiaries. Together with BENRO and DENR, ICRAF facilitated negotiations between farmers from the upper Manupali watershed and the operators of the NPC-Pulangui IV hydropower plant. Precisely because both the ES buyers (NIA and NPC) and the ES sellers (Lantapan LGU, representing the upstream farmers) actively participated in the hydrological appraisal, winning the commitment of both sides was no longer difficult. The negotiations resulted in a Memorandum of Understanding formalized in 2013 between the two parties, wherein the NPC was to provide funding for the rehabilitation, reforestation and protection of the upper Manupali watershed, thereby creating livelihood opportunities for the upland farmers and protecting the watershed at the same time.

Implementation of agreements and monitoring. In January 2014, the NPC's Family Approach to Reforestation and Agroforestry Development Project (2014 to 2016) started in the upstream communities of Manupali watershed in Lantapan. Budgets have been appropriated for tree farms and agroforestry (which includes rubber and fruit-based agroforestry, as well as bamboo). Farmers receive incentives based on farm performance, where they are required to maintain at least 90 percent tree survival rate. Seedlings are given free, and there are also backyard livelihood projects supported, such as livestock raising and fishponds. The project is managed by the NPC with support from the Lantapan LGU, as well as from BENRO, DENR and ICRAF.

At the provincial level, BENRO ensures that each village, municipality or city has well-maintained tree parks as a condition for receiving livelihood projects from the provincial government. Around the Mt. Kitanglad Range National Park, DENR has long used this scheme to mobilize resources to improve the livelihoods of forest communities and protect the park. The DENR has also recently adopted a sharing scheme with the communities from the entrance fees collected from mountaineers, bird watchers, and other tourists who enter the park. Indeed, P/RES is encouraging farmers who are adopting sustainable farming systems to continue, as well as inspiring other farmers to adopt and invest in the same practices to gain livelihood benefits and rewards from environmental services.

Lessons and insights

Multistakeholder participation is key. The cooperation and participation of various stakeholders in the integrated watershed assessment was vital in the development of mutually acceptable P/RES mechanisms, as well as in planning for their sustainability. In essence, the RHA served as a learning opportunity for the stakeholders involved because they were able to deepen their understanding of the Manupali watershed's whole system and their common needs and goals.

Clarify roles and responsibilities to minimize conflict and build trust. Clarifying the roles and responsibilities of stakeholders and partners early on helped minimize and avoid conflicts and build trust between the project implementation team, community members, CBOs, LGUs, and other stakeholders.

Direct mentoring and facilitation is preferred over traditional communication methods. Participatory assessment of watershed functions through direct mentoring and facilitation proved more effective than conveying messages through the usual channels of communication. Similarly, stakeholders expressed their preference for learning new technical approaches through hands-on practice as opposed to lectures and the usual information sessions.

Make the most of existing resources. It is important to mobilize domestic resources (i.e., financial, human resources) to ensure that P/RES schemes are sustainable. This allows local stakeholders to develop a sense of ownership over the P/RES mechanism, and helps to build their awareness and understanding regarding ES in the area. However, external technical support from scientists is still important—in order to establish and prove to the ES beneficiaries the direct contribution of upstream ES providers towards sustaining the environmental services from which they benefit.

Involve the LGU in the negotiations. Not only does the LGU act as an intermediary; in some cases, it can also represent the interests of the upland communities during negotiations with ES buyers. In Lantapan, key local government officials were instrumental in pushing for and establishing beneficial municipal ordinances. Likewise, the local government's role in mobilizing and convincing the private sector to include P/RES schemes in their corporate social responsibility priorities is also crucial.

Build institutional support. One objective of the RUPES 2 project is to build systems of understanding to help LGUs and support agencies to make better-informed decisions. If P/RES schemes are to be expanded or replicated, having such institutions in place representing all key stakeholders will be instrumental during negotiations between ES sellers and buyers.

Secure commitments after the agreements. Securing budgetary commitments and institutionalizing concrete mechanisms for collection of payments and rewards from the ES buyers is an essential condition in ensuring sustainability of P/RES schemes after projects withdraw from study sites. The Lantapan LGU's commitment to the agreements reached made it possible for farmers and CBOs to avail of incentives due them. Indeed, it is critical that local governments push for policies to be implemented for P/RES schemes to yield the best possible results.

Potential for scaling up

Drivers

Climate change and degradation of common resource base. As seen in the case of Lantapan, degradation of forest land and the resulting water shortage made the idea of P/RES schemes attractive to the upland ES providers and lowland ES users. Although it can be viewed as a somewhat negative driver, persistent land

National Policies and Laws

- The Local Government Code (RA 7160) encourages the participation of stakeholders in natural resource management to support local governments deliver their devolved functions.
- The Philippine Development Plan (2011-2016) stipulates the institutionalization of P/RES at the national and local levels to achieve ecologically sustainable economic development.
- The National Action Plan for Climate Change also highlights the role of P/RES in environmental conservation and income generation.
- Other supportive major policies include the National Integrated Protected Areas System (RA 7586), Indigenous Peoples Rights Act (RA 8371), and the Water Code (PD 1067), among others.

These policies and laws all promote the active participation of local communities and other stakeholders in natural resource management – a key element in P/RES schemes that fosters co-investment and shared responsibility among them.

degradation, coupled with the effects of climate change, can be expected to continue prompting ES providers and beneficiaries to seek mutually beneficial P/RES arrangements that ensure quality, quantity and consistency of essential ES (Hartmann and Linn 2008).

Stakeholders' common needs and goals. ES providers and beneficiaries need each other. The quality, quantity and consistency of ES needed by the beneficiaries are likely to deteriorate unless the providers continue to rehabilitate and protect the source of the services. On the other hand, poor upland communities need the payments and rewards that downstream users can provide to alleviate poverty and ensure security of their livelihoods. It is important to reach mutually acceptable terms so that both sides will continue to benefit.

P/RES champions. For P/RES schemes to be adopted in other areas, it is important to have the support of committed, persistent leaders (champions) or organizations. In the case of Lantapan, key officials from the LGU who supported the establishment of a key Municipal ordinance served as the P/RES champions in the municipality. In addition, some of the people who were involved in the implementation of RUPES 1 and 2 are looking into potential ways – outside of the project's scope – to support the sustainability of P/RES schemes in Lantapan. Proponents such as these not only push for the operationalization of P/RES mechanisms, they also help to increase local awareness and interest in the schemes.

Spaces

Enabling policies and laws. There are existing national policies and legal frameworks that support the integration of stakeholders in watershed management through various innovative participatory methods, such as the P/RES scheme (see Box). The gap lies in the sustained implementation, and monitoring and evaluation of these policies and frameworks. If process documentation of on-the-ground activities can be maximized and continuously relayed to local, national (and even international) policymakers, the lessons learned can help shape the policy environment for wider adoption of P/RES schemes.

Existing support institutions. Through the RUPES project, ICRAF has been coordinating a PES technical working group composed of representatives from government agencies and non-government organizations. The aim of the group is to promote the mainstreaming of PES into national policies and programs. Among its accomplishments are the holding of national conferences on PES and a draft executive order for the institutionalization of PES in government programs and activities. With such a group already in place at the national level, there is potential for P/RES schemes to be incorporated into future interventions in both publicly and privately funded initiatives.

Co-investment and resource sharing. In establishing a P/RES scheme, the main activities that require financial support are the integrated environmental assessments since they require capacity-building and training for the implementing teams, and also technical support from scientists, researchers, and resource persons. Since LGUs have limited funds that are usually spread over a range of development priorities, it is important to ensure that there is a solid source of funding to support project activities. However, the RUPES Lantapan experience has also shown that local and provincial governments are willing to support such initiatives if spaces for co-investment and shared responsibility are created. The decade-

long experience of conducting participatory research and development in the Manupali watershed in Lantapan has worked due to the contributions of various government and non-government organizations in P/RES development.

Time for social learning. To scale up P/RES, there needs to be time for social learning to occur, as it is a crucial aspect of adaptive and participatory natural resource management. In Lantapan, developing the NPC's reward mechanism for watershed services took a long time, and the process was not without obstacles. There were challenges along the way, but mutual trust and commitment motivated the stakeholders to learn from previous shortcomings and move on through innovation and creativity.

Pathways

Potential for expansion. The current Philippine Development Plan (2011-2016) already calls for the institutionalization of PES for protected area management. As indicated earlier, the PES technical working group which is coordinated through RUPES is preparing an executive order that will accelerate integration of PES into government programs. PES can also be expanded through other ecosystems services such as climate regulation. There is increasing interest globally on the role of forest ecosystems in mitigating climate change and there is an evolving carbon market. P/RES mechanisms like the one implemented in Lantapan have the potential to include a larger number of stakeholders in other upland areas. There is room to expand participation to strategically involve other sectors – such as indigenous communities and women's and youth groups within RUPES and ICRAF projects.

Potential for replication. P/RES schemes can be replicated by other organizations in other areas where watershed degradation remains a problem. For instance, the IFAD-funded Integrated Natural Resources and Environmental Management Project (INREMP) is being implemented by the DENR. One of its objectives is to promote the adoption of sustainable land use systems that protect the watersheds, while increasing the livelihood income of farmers at the same time. To achieve this, PES has been included as one of the project's key mechanisms.

IFAD's role

IFAD and ICRAF share a common interest in scaling up of innovative development programs. IFAD can play a critical role in establishing partnerships to further test this innovation for P/RES development in other programs and projects or in new contexts. Furthermore, through the Climate-smart, Tree-based, Co-investment in Adaptation and Mitigation in Asia (Smart Tree-Invest) project, IFAD and ICRAF will continue their leadership role in convening the PES technical working group and continue to work toward operationalizing P/RES schemes at the action research site in Lantapan, Bukidnon, and the networking site in the Chico River Basin in the Cordillera Administrative Region.

Challenges and recommendations

- Disputes among stakeholders (i.e., farmers and multinational companies) about water rights hampered initial efforts to develop a P/RES mechanism in Lantapan. When such conflicts occur, it is important to come to mutually acceptable, voluntary agreements – if possible, guided by policy measures – so that conflicting water rights claims can be

quickly resolved (Piñon et al. 2012). Once opposing interests are reconciled, there is greater potential for local stakeholders to cooperate and engage in collective action in implementing sustainable watershed management practices.

- There is an opportunity for growth if future P/RES initiatives can focus on strengthening political will in operationalizing enabling policies and legal frameworks, such as public- private partnership in natural resource management.

- There are various environmental models that can enhance local understanding on the interplay of biophysical and socio economic and political components of a watershed. However, more effort needs to be focused on filling technical knowledge and skill gaps among stakeholders, especially with regard to the use of environmental modeling in integrated watershed assessment.

- There is also a need to develop a communication strategy for stakeholders to better appreciate and understand the concept of ES and P/RES as a potential approach toward sustainable watershed management.

- The integration of gender analysis is recommended in future ES assessments. This is challenging given the diversity of stakeholders. Further analysis of land tenure, collective action, and property rights on ES is also recommended as a prelude for P/RES development. This can be done by conducting case studies, which can provide lessons to rationalize conflicting policies, particularly on water access and use.

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Farmer Business School:
Enabling Smallholder Farmers to Connect to New Markets

Most agricultural development programs in the past have focused on increasing production with little or no emphasis on market linkages.

In 2007, the International Potato Center (CIP) conducted an informal survey in Indonesia and found a number of marketing problems that impede the advancement of the potato sector and minimize the benefits of smallholder potato farmers. Although there was a demand, small-scale vegetable farmers in West Java have not been able to deliver a sufficient supply of their produce due to seasonal production.

This concern led wholesalers to source their vegetable requirements from other parts of Indonesia and even outside the country.

In addition to the supply issue, linkages with large and small-scale processors did not materialize because the products being offered by the farmers did not meet specific quality standards and the supply levels needed by the market. The survey findings also indicated the farmers' limited understanding of market opportunities and their inadequate access to accurate market information such as trends, prices, and demand.

Evolution of FBS

The Farmer Business School (FBS) approach was developed by CIP in 2008 through the initiative of an Australian Centre for International Agricultural Research (ACIAR)-funded project that aims to link vegetable farmers with markets in West and Central Java, Indonesia. FBS is a participatory action learning process that involves farmer groups' participation in agricultural value chains. As part of capacity strengthening, FBS comprises a series of group-based experiential learning activities over a production-marketing cycle while interacting with other chain actors and stakeholders.

Before the conception of FBS, the ACIAR-funded project initially used the participatory market chain approach (PMCA) to address the marketing problems of farmers. It is an approach that helps facilitate participatory processes among different market chain actors in order to stimulate joint innovations (commercial, technological, institutional) based on shared ideas and trust. PMCA is implemented together with other participatory approaches such as the farmer field school (FFS). While the FFS is a group-based learning process that is focused on promoting integrated pest management in farmers' field, the PMCA focuses on linking farmers to market.

During the 2010 mid-project review, the PMCA practitioners identified limited business skills and ineffective farmer organizations as key constraints to effective market linkages. They realized the need for another approach that would improve farmers' skills in dealing with the market. Drawing from key features of FFS and PMCA, the FBS was developed. It is an action-learning approach that aims to build farmers' capacity to respond, individually or jointly, to emerging market opportunities.

Figure 1 highlights the fact that the FBS is a product of content-oriented innovation (PMCA concepts) and utilizes the incremental learning structure of the FFS.

The Indonesia FBS experience has been adapted to the Cordillera context under the International Potato Center-Food Security Through Asian Roots and Tubers (CIP-FoodSTART) Project in collaboration with the Second Cordillera Highland Agricultural Resource Management Project under the component Agriculture, Agribusiness and Income-Generating Activities (CHARMP2-AAIGA). The FBS approach was piloted in 2012 with six farmers' groups (approximately 120 farmers) engaged in business enterprises that deal with root and tuber crops (RTCs), vegetables, coffee, and livestock.

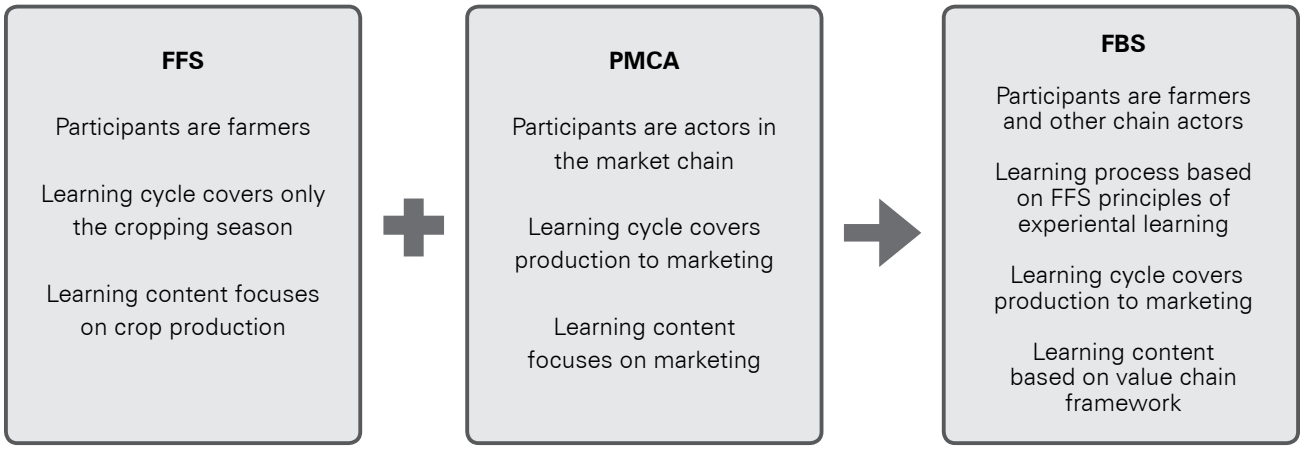


Figure 1. *Evolution of the FBS approach.*

Adapting the FBS approach in the Cordilleras

The Cordilleras is home to indigenous peoples who cultivate RTCs (especially sweet potato, potato, and aroids) for home consumption and as additional source of cash income. The Cordillera highland in northern Philippines is considered one of the agriculturally rich regions in the country. Yet, smallholder farmers are highly dependent on subsistence agriculture for their household income. They have limited market opportunities because of their location and difficulty in accessing markets. The challenge, therefore, is to enable smallholder farmers to transform themselves from being traditional producers and suppliers of agricultural commodities to agri-entrepreneurs. Farmers must also be knowledgeable in promoting and marketing their own produce. The issues identified in the Cordilleras are similar to the challenges addressed by FBS in Indonesia.

The CHARMP2-AAIGA partnership with FoodSTART, which commenced in 2011, grew out of their shared goal of supporting the development of the RTC sector in the Cordilleras. The initial challenge which CHARMP2 and FoodSTART sought to address was how to strengthen farmers' entrepreneurial capacity as they seek to be part of the agricultural value chain in the Cordilleras. Considering the rich and fresh FBS experience in Indonesia, the idea of farmers going to business school was proposed to CHARMP2-AAIGA. Table 1 shows the modifications done in the original FBS curriculum that was developed and pilot-tested in Indonesia.

The Philippine FBS added the following elements to the Indonesian FBS design:

1. Application of FBS beyond the vegetable sector: roots and tubers, livestock, coffee
2. A preliminary module on group formation and strengthening

Table 1. *Comparison of the content of FBS modules in Indonesia and in the Philippines.*

Module number	FBS Indonesia	FBS Philippines
Pre-FBS		FBS planning – preparatory meetings with prospective participants
1	Identifying market opportunities	Group formation and strengthening
2	Assessing market chains	Introducing marketing and business concepts
3	Developing market-oriented innovations	Identifying and prioritizing value chain opportunities
4	Developing business plans	Targeting and testing potential innovations
5	Accessing business services	Business planning and accessing business support services
FBS final event		Launching of new businesses
Post-FBS		Monitoring of businesses, support services and external business environment Managing business challenges and opportunities Facilitating implementation of long-term business plans

3. An expanded module on business planning

4. A more diverse set of "special topics" (e.g., business ethics, quality and safety standards, financial management)

5. Post-FBS support for business development

The pilot FBS curriculum developed in the Philippines was customized on the basis of local needs and opportunities existing in the agricultural value chains in the Cordilleras.

After a series of discussion with CHARMP2, the final version of the FBS curriculum was piloted with six farmer groups in 2012.

From October 2013 onward, FBS was scaled up to 32 CHARMP2-AAIGA project sites. This was made to address the identified need to link farmers with markets through the FFS approach. A three-series training of facilitators was conducted to capacitate FBS facilitators from CHARMP2 sites, local government unit staff, and farmer leaders for the scaling up of FBS in more villages.

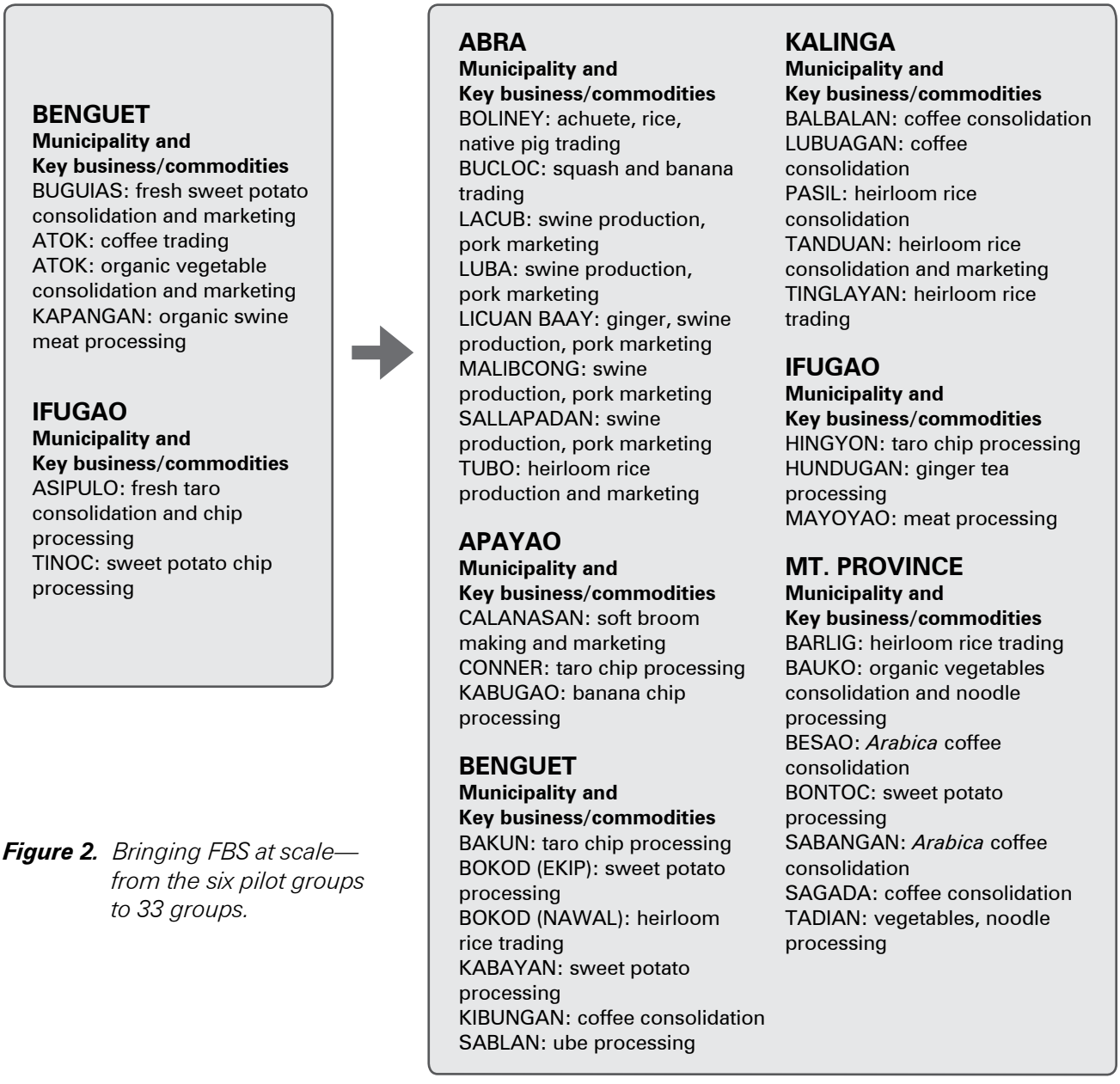


Figure 2. *Bringing FBS at scale—from the six pilot groups to 33 groups.*

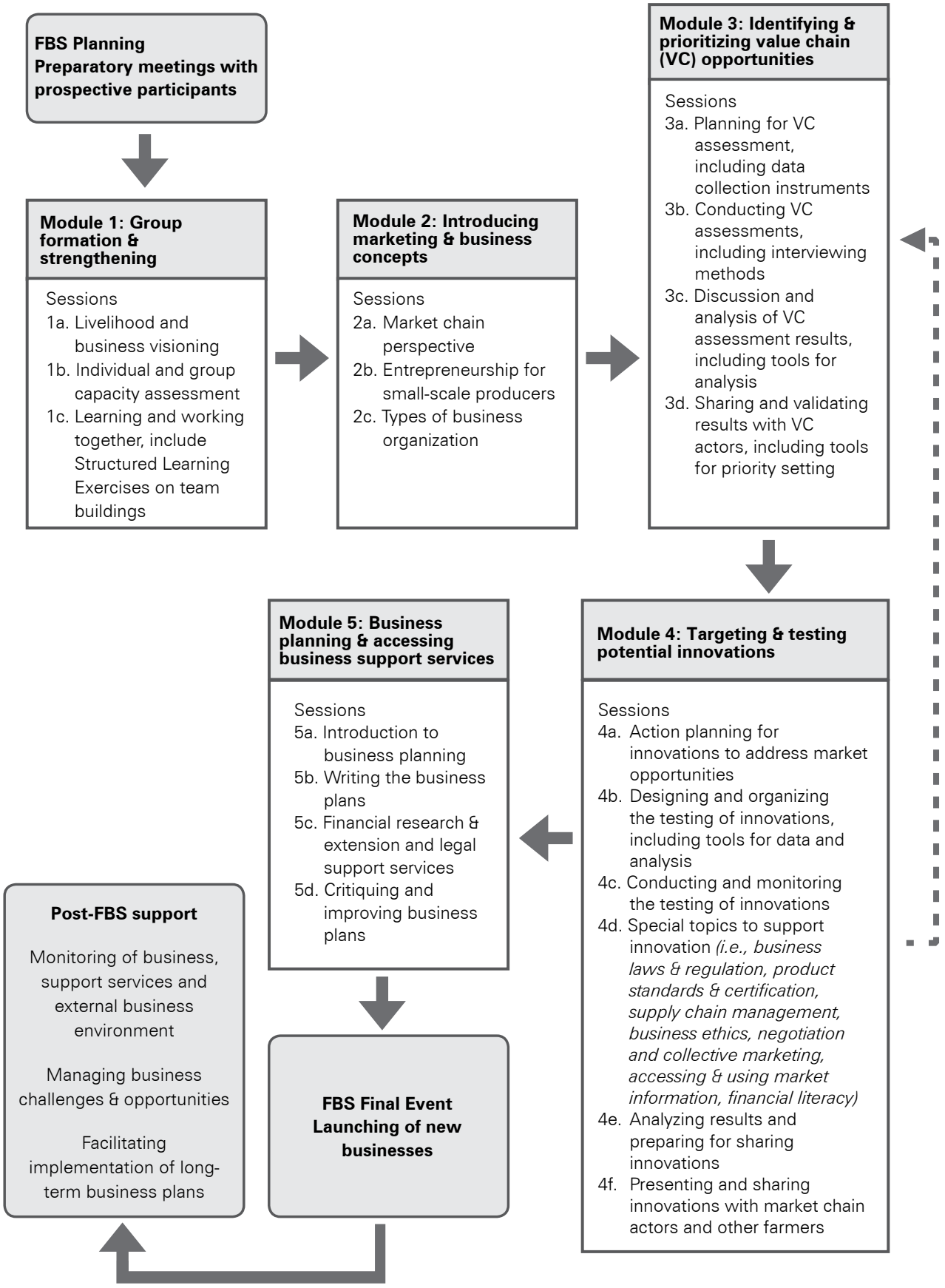


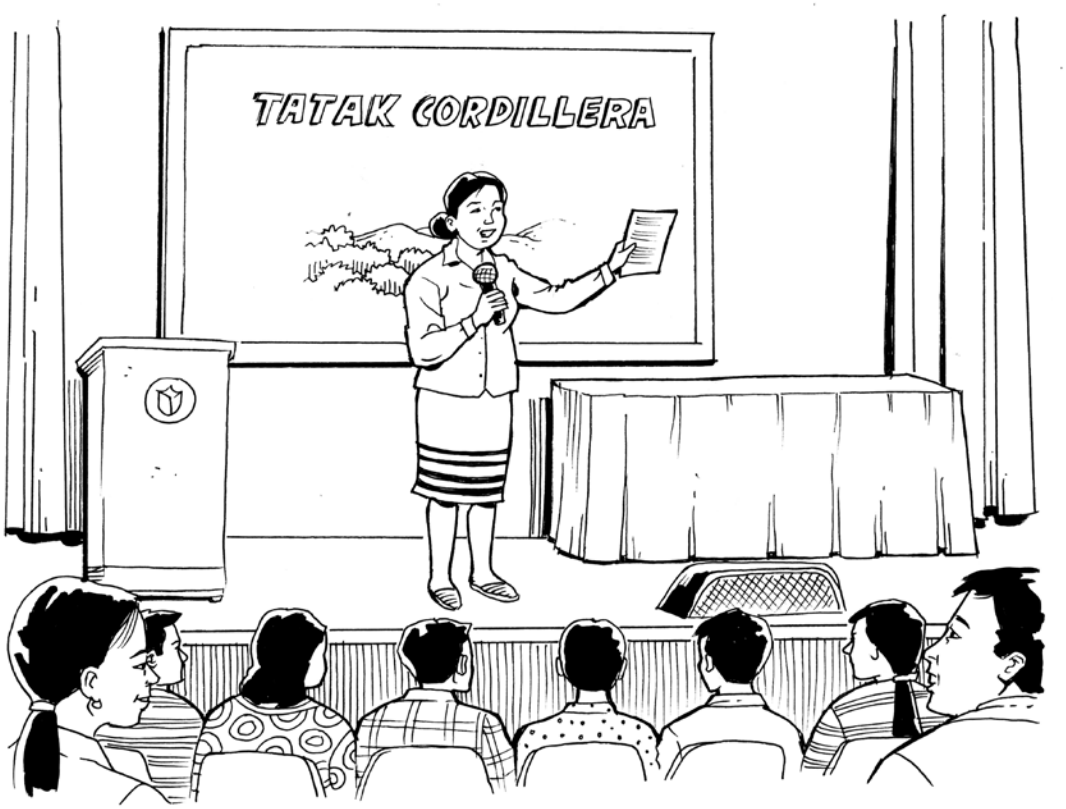
Figure 3. *FBS curriculum as customized to the Philippine setting and pilot-tested by farmer group beneficiaries of CHARMP2-AAIGA.*

The FBS implementation is a flexible and dynamic process that is supported by regular monitoring in a particular set of time to assess and evaluate its implementation. Monitoring workshops are conducted in the mid-term and post-FBS implementation phase to review the lessons and make refinements in the curriculum. The curriculum shown in Figure 3 was the result of a review process that looked into the adaptation of FBS under the Cordillera setting.

Intermediate development outcomes

After completion of the FBS, one immediate outcome is the development of new enterprises by the farmer groups. At this stage, the FBS group had already finalized the products to be featured on *Tatak Cordillera*, a business-launching event for new agri-enterprises developed and organized by CHARMP2 and FoodSTART. Tatak Cordillera created the platform for FBS and enterprise groups to present their products beyond the local market. The event is also an opportunity to solicit feedback from the wider market for further product improvement. In addition, there is a session on interaction with business development service providers, institutional stakeholders, and prospective consumers. More than 300 visitors from the government, the private sector, NGOs, and other stakeholders participated in the business-launching activity at the Baguio Convention Center in December 2013.

With proper monitoring and documentation, each farmer group was able to develop individual stories from their FBS experience. These stories were compiled by CHARMP2 and FoodSTART and published as the first volume of *Value Chain Action Learning Stories.*



Business pitch delivered by an FBS member during the Tatak Cordillera business launching

Value Chain Action Learning Story 1: Taking rural products to urban niche markets

During a barangay planning session, residents of Amlimay selected sweet potato as its priority commodity for CHARMP2 support. For this purpose, the Amlimay Camote Producers Association (ACPA) was organized in 2010 and registered with the Department of Labor and Employment in March 2013 with 83 members – 78 females and 3 males.

The FBS was conducted from November 2012 to May 2013 with ACPA linking them to Health 100, a health and wellness restaurant in Baguio City with a branch called Health 101 in La Trinidad. In October 2013, another branch of the restaurant opened in Baguio City and was called Health 102. ACPA supplies 25 kilograms of fresh sweet potato weekly to Health 100, selling it at P25 a kilo.

"We have been planting sweet potato since the time of our forebears. It is what we eat when we do not have rice. With CHARMP2, we do not just plant sweet potato for our household but also for business," said Ms. Grace Tonton, ACPA president.

Assisted by CHARMP2, the association was able to innovate by combining 2 kilograms of various flesh-colored sweet potatoes in a single pack. Positioned as a healthy food option, it is sold at Php 60 per pack. Through the FBS and with marketing exposure, the group was able to understand the importance of grading, sorting, and quality control.

Value Chain Action Learning Story 2: Farmers establish and manage their own store in a major trading post

The Camandag Agricultural Producers and Processors Association (CAPPA), composed of 17 men and 18 women members, was able to sustain the access and linkage to markets through the establishment of a stall in Nueva Vizcaya Agricultural Terminal (NVAT) where they sell 2 tons of fresh galiang tubers per week, amounting to P20,000–32,000 per week or P80,000–128,000 per month.

This business venture was a product of the FBS conducted from September 2012 to May 2013. During the FBS, the members recognized the vast economic potential of their lowly galiang. Galiang, as called in the Cordilleras, is Yautia *(Xanthosoma sagittifolium).* It is abundant in Camandag, easy to maintain, resilient to weather changes, and does not require external inputs. To most people in the Cordilleras, galiang is food for the pigs. However, for the people of Camandag, galiang is an underground treasure.

The CAPPA members also learned that their variety is preferred by NVAT traders over other galiang varieties sourced from other areas. The demand for fresh galiang tubers at NVAT is 5--10 tons per month at P10 -- 16 per kilogram. NVAT is a 6.5-hectare marketing facility established in mid-2000 in Bambang, Nueva Vizcaya. It is a major drop-off point of agricultural products in Nueva Vizcaya and adjacent provinces; these are then distributed in Regions 1 and 3 and Metro Manila.

Fresh tubers are sorted on-farm by the farmers. Small- and medium-sized tubers are packed in sacks and handed to consolidators, who in turn transport the produce to NVAT for repacking into plastic bags. Oversized tubers are left as feed for pigs and for processing.

At present, CAPPA is being assisted by the provincial government of Ifugao and the municipal government of Asipulo in networking and scouting for additional markets. The initiatives of CAPPA were recognized by other support agencies. The Department of Trade and Industry provided CAPPA with product development training. The Department of Labor and Employment, on the other hand, provided financial assistance for galiang tuber trading.

CAPPA was able to access and sustain market linkages. They were able to make something out of the ordinary by processing galiang.

The stories showcased two different cases on how FBS facilitated the access of farmers to markets. Story 1 is about the FBS group that now regularly supplies multicolored sweet potato to specialty restaurants in the city. Story 2 highlights how a farmer organization learned about the potential market of galiang (taro) in a major trading post during the FBS, which led them to establish a stall in the trading post and open a new business. These cases show the intermediate outcomes generated from FBS implementation in the CHARMP2 area, particularly on how innovations developed during the FBS had given farmer groups opportunities to link with markets.

Scaling up the FBS approach

Opportunities for scaling up

The six pilot groups demonstrated improved livelihoods as a result of the FBS. The success story of each farmer group motivated the program management to scale up the FBS as an approach. Through the FBS, participating farmer groups in the Cordilleras have achieved three key outcomes: 1) development of market-driven product innovations, 2) expanding linkages with markets both locally and regionally, and 3) increased profits from higher production volume and sales. From the six pilot groups, CHARMP2 has upscaled to 32 FBS groups from different municipalities with diverse commodities.

Aside from IFAD's determination to scale up successful outcomes, interest and enthusiasm were also evident among the farmer groups. The 32 FBS groups have a total of 737 farmer beneficiaries, 75% of whom are women. This information shows that women in the Cordilleras are actively participating in agricultural and marketing activities. Also, the business launching activity served as a good venue to share the successes, promote the businesses of farmers, as well as to inspire other farmers to innovate and become agri-entrepreneurs.

Drivers and champions

Support to the FBS is an important driver to its scaling up. There are various champions that facilitated the successful scaling up of FBS in the Cordilleras. One of the important drivers is the support provided by the local government units (LGUs) provincial and municipal levels. The LGUs committed their agriculture officers to serve as facilitators of the FBS, together with CHARMP2 staff (community mobilization officer) and farmer leaders. It was also noted that the involvement of the LGU staff as facilitator can ensure the sustainability of FBS implementation as they had been equipped with tools and skills needed to facilitate learning. In addition, the LGUs also gave assistance by donating in kind: for example, one municipal mayor contributed as their counterpart piglets to FBS participants in the organic swine undertaking. The LGU leaders expressed their interest and support to the FBS by participating in FBS activities such as graduation ceremonies.

Other champions of the FBS are the local businessmen who buy the products of farmer-producers. Some local entrepreneurs have now linked with the farmer groups as suppliers of various commodities to local businesses in Baguio City and Manila. This ensures that the FBS groups have ready markets for their produce. The IFAD Philippine Country Office played an important role in facilitating and supporting the partnership of CIP-FoodSTART and CHARMP2 to implement the FBS and other activities.

Incentives are also a driving factor in the scaling up of FBS in communities. CHARMP2 provided capital through their livelihood assistance

fund under the AAIGA component to help the enterprises established in the FBS.

Spaces

Fiscal/financial space. The IFAD-CHARMP2 investment project funded the FBS implementation through the AAIGA component. CHARMP2 gave financial support to a series of training of facilitators to pilot and scale up FBS in their project sites. The season-long FBS implementation in communities was also funded directly by the AAIGA. The new agri-enterprises developed in the FBS groups were also funded by CHARMP2 through the livelihood assistance fund.

Natural/environmental space. The AAIGA component advocates organic agriculture, which could address and serve as an adaptation strategy in mitigating climate change impacts as well as ensure safe food for producers and consumers.

Institutional and organizational capacity. CIP-FoodSTART provided technical assistance to enhance the capacity of CHARMP2 staff and LGU partners through training, field mentoring, and workshops.

Political space. The LGUs extended their support of the FBS implementation by allowing their staff to be facilitators in the FBS, providing in-kind counterpart to enterprises developed under FBS, and participating in FBS activities.

Partnership space. The complementation of CIP-FoodSTART and CHARMP in FBS implementation had been facilitative in the scaling up of the FBS.

Learning space. FBS was scaled up because there is a conscious effort to revise and adapt this to the needs of the implementors. The curriculum was designed to fit the local context and meet the needs of the FBS participants. The FBS curriculum and implementation scheme were reviewed, assessed, and redesigned in monitoring workshops and through field mentoring. IFAD also created a platform (e.g. knowledge and learning market, quarterly meetings) to encourage sharing among project partners.

Pathways

FBS implementation in programs and projects

Sustaining the FBS initiatives. Need for post-FBS business development support services (e.g., microfinance) as further support to businesses established by farmers

Collaborating with other programs to reach a wider scope. Development programs have the mechanism to reach even the marginal and remote communities. In the case of CHARMP2 and FoodSTART collaboration, the former has an extensive coverage of the program (barangay level), while the latter initiated the approach to be used in achieving the development goals.

Mainstreaming of FBS by reorienting development programs from a production focus to greater market orientation. Development programs can be influenced to include FBS by providing an enabling environment for its dissemination.

Building/strengthening the capacities of local implementing partners. Different program functions require various skill sets, especially if the project is being scaled up. Assessing the training needs of partners is important to ensure that appropriate support on technical skills is provided. Personnel who will manage the scaling up of the program must be competent and credible to sustain the implementation

of program activities. Building a pool of FBS facilitators at the community level, in partnership with LGUs and development organizations, will ensure continued support for FBS (scaling up and scaling out).

Providing M&E and documentation support. An M&E mechanism is essential at the start of the program. Results must be documented and processed on a regular basis. Documentation is important to identify activities/practices that must be improved or replicated.

Creating a platform through which program results/outcomes are disseminated. Use media and other contacts to spread the good practices established and learning experiences gained from the program. Popularize program outcomes and translate the results into user-friendly information materials for distribution to government, media, private sector, NGOs, and other stakeholders. The sharing of success stories inspires others and creates greater opportunities for scaling up.

FBS as an approach

Integrating FBS into a broader strategy for value chain development through other complementary methodologies (e.g., chain-wide approaches).

Adaption of FBS to incorporate gender and climate change perspectives into the curriculum to address vulnerability factors brought about by impacts of climate change and to ensure business sustainability.

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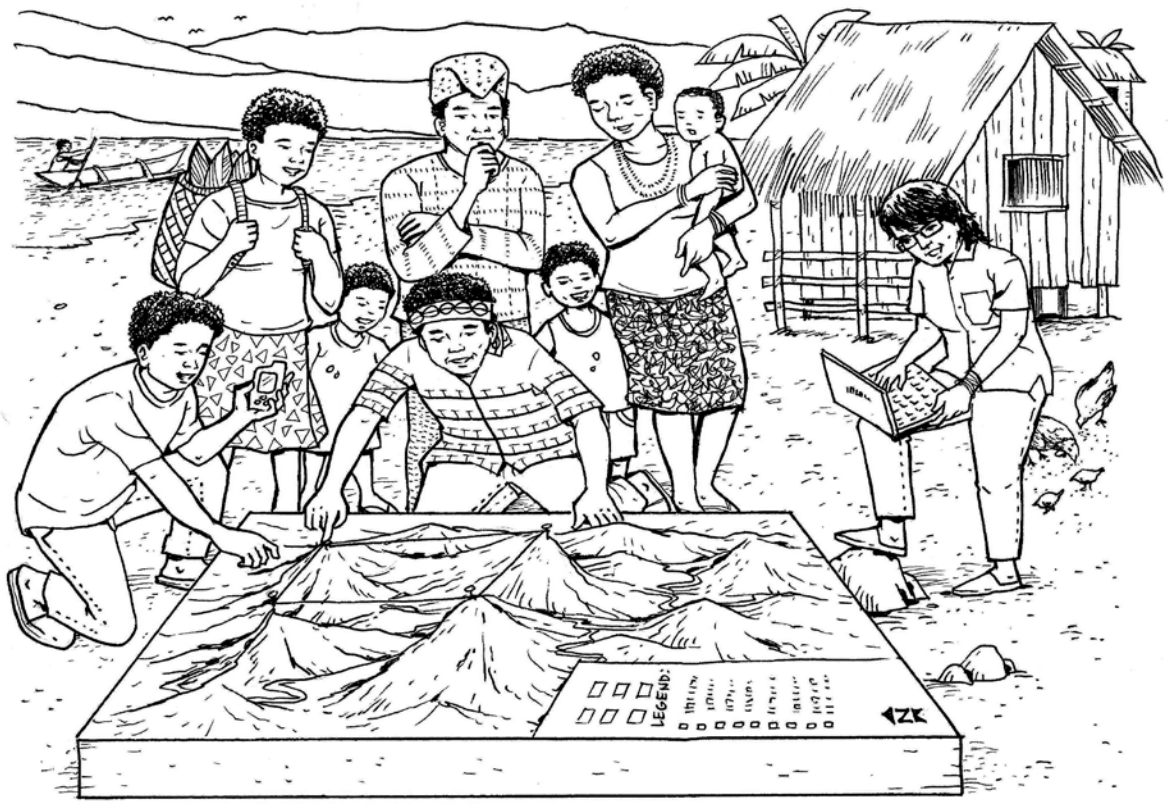


Participatory 3-Dimensional Mapping:
Reclaiming Ancestral Domains

Indigenous peoples in the Philippines continue to count among the poorest of the poor, having been deprived for the longest time of legal recognition of their territories. Yet, there is a legal framework in place that recognizes the rights of indigenous peoples.

Passed in 1997, Republic Act 8371 or the Indigenous Peoples Rights Act (IPRA) addresses four substantive rights of indigenous people/ communities: (i) the right to ancestral domains and lands, (ii) the right to self-governance and empowerment; (iii) the right to cultural integrity; and (iv) social justice and human rights. The law defines ancestral domains to cover "forests, pastures, residential and agricultural lands, hunting grounds, worship and burial areas, including lands no longer occupied exclusively by indigenous cultural communities, but to which they had traditional access."

Under the principle of self-determination, IPRA provides for indigenous communities to document and delineate their own ancestral domain claims and to formulate their own ancestral domain sustainable development and management plans (ADSDPPs) based on their indigenous knowledge systems and practices. At the time the Philippine Association for Intercultural Development (PAFID) NGO-ECP project started in 2003, many indigenous communities in the Caraga region were in the process of filing claims and negotiating for legal recognition of their ancestral domains. Yet,

the boundaries of their domains had not been properly identified and mapped, causing extreme frustration within the communities whose claims were often questioned as to their legitimacy. Moreover, in the absence of perimeter maps and community plans, adverse claimants (including mining, logging, and plantation companies) continued to encroach into indigenous peoples'(IP) lands.

Mapping Ancestral Domains in Northern Mindanao, Philippines

The Philippine Association for Intercultural Development, Inc. (PAFID) is a social development organization that, for 47 years, has assisted indigenous communities in regaining their ancestral domains.

PAFID's project with IFAD, Mapping Ancestral Domains in Northern Mindanao, was implemented for 3 years (2003 – 2006). Its overall goal was to bring about full recognition of the rights of indigenous communities over their ancestral domains. The project provided support to the indigenous peoples' communities that had initiated negotiations with the government for the legal recognition of their ancestral domains in the Caraga region of northern Mindanao. The project focused on achieving its aims using (i) participatory community mapping, (ii) ancestral domain management planning, and (iii) capacity-building.

The innovation: marrying traditional knowledge and technical processes

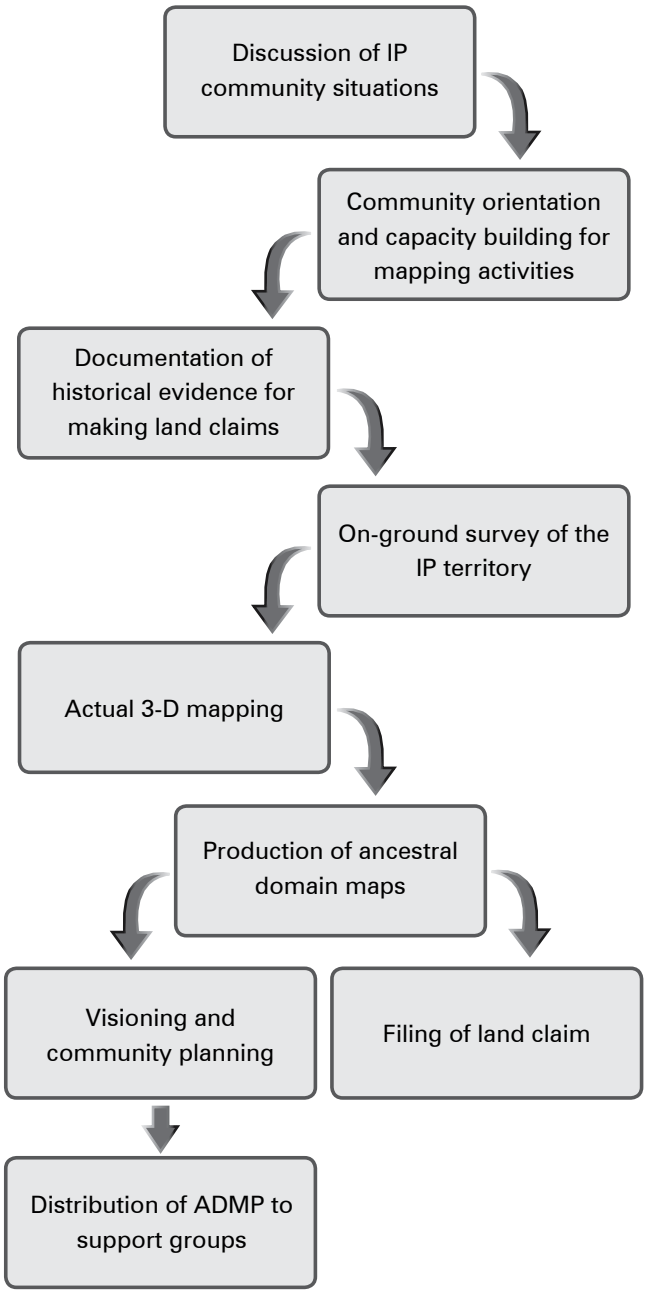
The use of participatory three-dimensional mapping (P3DM) as a tool for community development was pioneered in Thailand in the late 80s and was used extensively by the Royal Forestry Department. It was introduced in the Philippines in 1993 by the Environmental Science for Social Change in their work with the Indigenous Alangan Mangyan in the island of Mindoro. In 1995, PAFID adopted the methodology and customized its use to respond to issues related to indigenous peoples' land rights and to facilitate ancestral domain management planning (ADMP).

With P3DM, local communities construct a relief model of their ancestral domain by combining collective and specific local knowledge and the use of global positioning system/geographic information system (GPS/GIS) technology. A 3-D map is a physical model of a place. It uses an appropriate scale that shows the rivers, mountains, and valleys, as well as the location of residential and cultivated areas, and the resources from which communities derive their livelihoods. It also records indigenous knowledge, beliefs, and practices—i.e., the sacred areas, burial sites, and all those features that have social, cultural, and spiritual significance to the local people are shown.

Table 1. *Conventional vs community mapping.*

Mapping by "experts"	Community mapping
❖ Very expensive and laborious; ❖ Expert-driven; ❖ Leaves little room for participation; ❖ Technically accurate, but usually omits critical data; ❖ Access and control of information is remove from the community.	❖ Cost-effective; ❖ Community-driven; ❖ High community participation; ❖ Acceptable & within the technical standards of state mapping while ensuring community perspective; ❖ Guarantees control of critical data & information.

The mapping process heavily banks on the participation of indigenous communities in delineating their own domains based on physical and cultural markers. This establishes the basis for their filing of ancestral domain claims. Furthermore, because the P3-D map is constructed from the combination of local knowledge and state-of-the-art mapping technologies, it contains accurate and easily understandable spatial information such as area, location, distance and land uses, thus providing critical technical inputs for the local community in formulating its ancestral domain management plans.



The process: empowering communities for claim making and domain planning

The process of P3DM and domain planning involves several related activities:

1. *Discussion of IP community situations*
   Forums and community meetings are first organized to discuss the general situation of indigenous peoples and the salient features of the IPRA law—e.g., socioeconomic and tenurial rights of IP communities; community rights and obligations to protect, utilize, and develop their ancestral domains. Some larger forums may be attended by both tribal leaders and local government officials and may convene up to 300 people.

2. *Community orientation and capacity building for mapping activities*
   In community workshops, PAFID technical staff facilitate sketch-mapping activities to enable communities to identify and determine the coverage of their ancestral domain claims. People recall and write the names of mountains, rivers, sacred areas, and old villages in their indigenous language and provide historical accounts of these. They identify important landmarks such as burial caves, community boundaries, communal forests, and others. These sketch maps provide the basis for preparing enlarged topographic and base maps that would be used to construct 3-D relief models of their domains.

In preparation for the conduct of on-ground perimeter surveys, the PAFID technical staff also conduct a series of community trainings on the use of GPS instruments and other survey equipment. Resource persons often include tribal leaders from other communities who have been previously trained on GPS and have already done perimeter surveys of their own ancestral domains.

Capacity building is also ingrained in actual 3-D mapping and community planning.

3. *Documentation of historical evidence for making land claims*

   Throughout the mapping process, the PAFID staff work closely with the community in gathering evidence to support their ancestral domain claims. These include extensive gathering of documentary and physical evidence, recording of historical and oral accounts, writing affidavits and testimonies of elders, and genealogical profiling. These are compiled into "claim-books," the set of documents submitted to the National Commission on Indigenous Peoples (NCIP) containing the mandatory requirements needed for IPs to support their claims to their land.

   Experience has shown the many difficulties usually encountered during field research. Official statistics regarding tribal communities are neither available nor credible. Often, key informants such as the elders are not available or may have relocated elsewhere. Local customs may require *baylans* or spiritual masters to conduct certain rituals before they are able to mention names of persons and sacred places or to divulge indigenous systems and practices. Some communities face internal difficulties because of boundary disputes or leadership conflicts. Moreover, in areas such as eastern Mindanao, there are peace and order problems due to the presence of rebel groups and military operations in indigenous community areas.

4. *Community on-ground survey of the territory*

   Assisted by a PAFID technical team, GPS-trained members of the community conduct an on-ground perimeter survey to delineate the ancestral domain. They take a perimeter-walk to mark off the natural boundary lines and cultural markers of the domain. They also take point positions of important geographical features inside the domain. These include the location of barangays, sitios, schools, health centers, markets, bridges, concrete and rough roads, and rivers and streams.

All the data gathered are overlaid on a topographic map. This is then used as the base map for determining the extent of the domain.

5. *Actual 3-D mapping*
   Using the base map, community members then construct a relief or 3-D map model at the appropriate scale. The youth, women, elders, and leaders are actively engaged in the construction, identification of landmarks, and recollection of historical accounts of old villages, sacred mountains, and rivers. Sketch maps that were previously drawn at the start of the process are used as additional reference for spatial information.

   Physical materials used for the actual construction of the 3-D map may vary—from resin to rolls of rubber sheets. The physical work involves preparing the base frame; numbering contour lines on the base map; tracing, cutting, and layering rubber sheets; and coating the model with epoxy and painting it white. Once dried, the community then traces and locates geographical markers and land uses on the map (including sacred sites, forests, indigenous settlements, transient settlers, mountains and rivers, traditional farms, etc.).

   Through this process, the 3-D map is able to combine accurate spatial information with community-relevant data. Once finished, it is treated as an accomplishment by the whole local community.

   The 3-D map serves as a user-friendly technical tool in the effort of indigenous communities to identify the exact extent of their domains and to help resolve boundary disputes and other long-standing land problems. Communities also use these maps to dialogue with government and corporations and discuss issues related to the entry or continued operation of mining, logging, and plantation companies within their domains.

6. *Production of ancestral domain maps*
   Other maps are then produced through data generated from the 3-D map to represent the various land uses and other technical information on hydrology, slope incidence, and tenurial patterns or to show settlement areas and road networks. Hazard and risk maps, particularly those showing flood- and landslide-prone areas, may also be produced as part of the map series that will be used during the formulation of the ADMP.

7. *Visioning and community planning*
   The participatory way in which mapping activities are conducted, enables the people to see, understand, and better appreciate the land-use situation in their domain. This sets the stage for the community to formulate its domain management plans and priorities, as well as community rules and regulations, based on indigenous resource management systems and practices. The 3-D map serves as the community's guide in formulating its own ADMP.

8. *Distribution of ADMP to support groups*
   The community may choose to provide a copy of the ADMP to NCIP and LGUs for adoption and integration into municipal development plans and comprehensive land use plans. The community may also opt to look for other sources of funds to implement their ADMP.

9. *Filing of land claims*
   PAFID assists the community in packaging the documents and maps into a claim folder. The community then submits this claim folder together with their official letter to NCIP in their application for ancestral domain claims.

Implementation of the project

The PAFID project (NGO/ECP 214) was funded by IFAD and co-financed by MISEREOR-Germany. Spanning a period of 3 years (2003-2006), it involved nine IP communities from the Manobo and Mamanwa tribes in all four provinces of the Caraga region—Agusan del Sur, Agusan del Norte, Surigao del Sur, and Surigao del Norte. The nine IP communities covered an estimated 12,000 individuals from about 1,600 families.

With PAFID's assistance, seven 3-D models, including one for the municipality of Jabonga, Agusan del Norte and two 2-D maps were completed. Perimeter maps of all nine IP communities, along with thematic maps, were produced. Two of the nine communities completed their ADSDPPS during the project period. Two other communities completed their CADT claim books and had their ancestral domain titles approved and awarded by NCIP, covering 13,657 hectares in five municipalities. More than a hundred members of partner IP communities learned basic skills on participatory community mapping, use of GPS instruments in surveys, and 3-D modeling. Hundreds more acquired basic knowledge about their rights under the IPRA.

Lessons learned

Participatory mapping with the use of 3-D relief models has shown enormous potential for assisting indigenous communities in their struggle for land rights and self-governance. The maps make information tangible and visual for all.

The participatory process of constructing the 3-D models helps the local people to identify the extent of their domains, the conflict areas, the land utilization and resource-use patterns, as well as the overall situation of the community. The spatial and cultural data that are generated become critical inputs for the community in defining future land use, with emphasis on their priorities for development and conservation. All of these create a clearer understanding that supports decision making and consensus building.

The participatory manner in which the 3-D map is constructed enables all community members —youth, women, elders, and leaders—to share information about their domain. Naming the places in the people's own language gives the community a sense of ownership and accomplishment.

In the conduct of perimeter surveys of ancestral domains, the model can be used to guide the technical staff of support groups in the formulation of a realistic or smart survey plan. Locations of corners or markers can be initially identified in the 3-D model and all the survey team has to do is to locate these and take GPS positions. Interactive mapping can take on different forms—from crude hand-drawn sketches to state-of-the-art mapping technology such as GPS and computer software such as GIS.

Resource management and development planning activities will also be much more comprehensive and facilitative with the thematic data generated through the relief maps. Land-use maps showing primary and secondary forest areas, cogonal and idle lands, agricultural zones, and sacred grounds are crucial in the formulation of the ADMP. That these are clearly understood by the people makes any planning activity more productive.

It is important that support to IP communities must respect and appreciate the community's

own development plans, however crudely they may be written. Often, due to pressing project targets and time frames, the importance of integration and rapport building as a crucial element in community-based projects is deliberately overlooked. Oftentimes, the end result is a top-down approach where projects are identified and prioritized by outsiders and time frames are dictated, in complete disregard of the community's traditional processes and calendar of activities.

While indigenous peoples should have an active part in resource use planning, this should occur within the framework of their having secure access and jurisdiction over their traditional territories.

Scaling up and moving forward

PAFID's P3DM process has been scaled up many times and in different ways.

P3DM has been replicated in many indigenous communities throughout the Philippines. From 1995 to 2014, an estimated 790,000 hectares covering more than 100 ancestral domain claims in the country have been mapped using it. Data were culled out from the PAFID database.
The P3DM process has also been introduced to other countries through its partnership with international organizations such as IFAD. These areas include Tura and Sasatgre, Meghalaya, India (2003); the Godavari Watershed, Pulchoki, Nepal (2003); Song Da, Vietnam (1999); and the Upper Nan Watershed, Nan Province, Thailand (1997-2003).

P3DM has also been adopted for other purposes. Several barangay and municipal LGUs in Mindanao had also requested for PAFID assistance in building P3DM to enhance their land-use planning processes. This includes barangay LGUs of Pinalpalan and Datu Danwata of Malita, Davao del Sur (through the Upland Development Program) and the Watershed Management Council of Davao City (through its partnership with Interface Development Interventions, Inc. and Foundation for the Philippine Environment. Other NGOs such as the EcoWEB, has also adopted the P3DM process in CADT applications and community resource management planning. The ADMP as well as the data/information generated from 3-D maps have also been adopted by the Protected Area Management Board of Mt. Kalatungan Range Natural Park in Bukidnon and some LGUs, specifically those in Jabonga and Kitcharao, Agusan del Norte.

Adoption of the P3DM Process in India Through NERCORMP-IFAD

In May 2003, IFAD engaged the services of PAFID thru the North Eastern Region Community Resource Management Project (NERCORMP) to conduct a training on Participatory Community Mapping and Land Use Planning through 3-D-modeling for project staff and Sasatgre villagers to address livelihood concerns without overexploitation of the natural resources.

As a result of the training, project staff and Sasatgre villagers acquired technologies and skills necessary for P3DM and land use planning. An output of the training provided by PAFID was the 3-D map of the Akhing Land of the Sasatgre. The 3-D map has brought to these communities "a deeper understanding and appreciation of their village geography and natural resources, improved village communication and planning capacity, and improved land use management, particularly with respect to selection of areas for shifting cultivation." (Bajracharya et al. 2008)

NERCORMP further replicated the P3DM approach resulting in a total of 24 3-D maps in its sites of operation in India.

Moreover, P3DM in some IP communities have also expanded their use from claim making and ADMP to resolving conflicts as was the case in Tubo and Boliney, Abra; coalition building among Higa-unons in Impasug-ong, Bukidnon; and tapping payment for environmental services (PES) to support the community development plan of the Talaandig-Kalatunganon tribe in Talakag, Bukidnon. In the Subanen communities in Bayog and Kumalarang, Zamboanga del Sur, community participation in the whole process has gone a step further by enabling them to generate their own thematic maps with GIS technology, which was previously delegated to the PAFID GIS specialist only due to its high level of technicality.

Vision and potential scope

As of December 2012, NCIP reported that 158 CADTs had been issued nationwide, covering about 4.2 million hectares and benefiting 918,000 rights claim holders. It is projected that more than 2 million hectares still need to be processed; hence, a total of 6 to 7 million hectares is expected to be eventually covered under ancestral domain titles and claims (NCIP database).

Participatory mapping and 3-D modeling is an appropriate and proven methodology for the purpose of self-delineation of ancestral domains. The 3-D model also provides a good tool for negotiation and conflict resolution between tribes because it provides a complete view of boundaries, traditional territories, and tenurial arrangements.

However, beyond its purpose for achieving legal recognition of ancestral domain rights through a CADT, it can also be used for land use planning, conservation planning, natural resource management, and boundary and conflict resolutions. This enables the IP communities to penetrate into decision-making processes relevant to their ancestral domain in the local, national, and international level.

Drivers and champions

The champions of this upscaling are IP communities that had already undergone the process. In another sense, they could also be drivers, just like the IP communities that have not yet delineated their territories and have not yet formulated their ancestral domain plans due to encroachment into IP lands by mining and logging companies and other destructive projects. This forces IP communities to actively defend their people and ancestral domain.

Environment groups can also act as drivers for the shared goal of conserving of nature, biodiversity, and cultural landscapes. Areas that had experienced devastating calamities (such as Cagayan de Oro City) have now become drivers for scaling up of P3DM in search of means to manage and reduce disaster risks.

Spaces and opportunities

In many applications for CADT, IP communities encounter bottlenecks due to the following:

- tedious and bureaucratic requirements for the processing of claims (institutional/capacity space);
- limited financial and technical resources of both the government agency and the CADT applicant (fiscal/financial space); and
- overlapping, sometimes contradicting, laws and policies relevant to land and resource use, management, and ownership (policy space).

Nevertheless, the products of P3DM are useful for community conservation and natural resource management planning, which are also key components of the ICCA approach.

Although the value of indigenous peoples in resource governance (sustainable use, protection, and conservation) is still not fully recognized by the Philippine government, there is increasing recognition of indigenous and community conserved areas (ICCAs) at the international level. (ICCAs are defined by the International Union for the Conservation of Nature (IUCN) as natural and/or modified ecosystems containing significant biodiversity values, ecological services and cultural values, voluntarily conserved by indigenous peoples and local communities, both sedentary and mobile, through customary laws or other effective means.) This is based on a finding that a considerable part of the earth's biodiversity survives on territories under the stewardship, control, or management of indigenous peoples. Philippine maps produced by PAFID shows a high degree of overlap between forest areas, biodiversity hot spots, and ancestral domains of indigenous peoples.

The Convention on Biodiversity, World Parks Congress, and the IUCN have recognized ICCAs as effective means of nature and biodiversity conservation.

PAFID's 3-D model approach can be potentially used to facilitate local community conservation planning processes and to identify boundaries and extents of ICCAs. It could also provide immediate protection at the international level through registration into the United Nations Environment Programme World Conservation Monitoring Center (UNEP-WCMC), ICCA Registry, and the World Database of Protected Areas.

Pathways to greater scale

Policy support. As of today, an ICCA bill has been drafted and strategies for its passing into law is being developed through the combined efforts of DENR-BMB, PAFID, UP-NCPAG, *Bukluran ng mga Katutubo na Nangangalaga ng Kalikasan sa Pilipinas* or the Philippine ICCA Consortium, and other NGOs. In essence, the draft bill calls for national and legal recognition of and appropriate support to sustain ICCA communities in the Philippines.

Building and linking communities of practice. Participatory 3-D modeling is not just a method but an empowerment tool developed through years of practice in support of tenure rights for indigenous peoples. It requires skilled community facilitation by practitioners driven with a sense of mission. A key pathway to scaling up is to build "communities of practice" and links among IP communities and their supporters.

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Reflections

Where Lies the "GENIUS" of Scaling Up

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IFAD's approach to scaling up results consists of 10 tasks under three steps:

Step1 – Develop a Scaling Up Plan; Step 2 – Establish Pre-Conditions for Scaling Up; and Step 3 – Implement the Scaling Up Process ending up with Task 10: Track Performance and Maintain Momentum. There are three main instruments of intervention – project financing, policy engagement, and knowledge management.

Among the many conclusions of the Brookings Institute Report on Global Economy and Development: Scaling Up Programs for Rural Poor is: "IFAD needs to address the tension between its poverty-targeting objective and its scaling up objective." Getting the rural poor out of where they are, is not a "walk in the park". It often requires working with the non-poor. We must remember that the poor "look up" in modeling their behavior. Strictly targeting only the POOR often yields no results, for there are no "looming bright spots" to kindle otherwise dark horizons. There is inherent merit in subsistence farming for it at least provides food. This is something not to be neglected in the process of scaling up.

A review of the papers submitted as Project Innovations for Scaling Up lead to the following observations:

1. Every project has noble objectives meant to benefit the community but reading between the lines reveals the challenges that each one presents to would-be implementers. To every rural development advocate, one can only expect positive outcomes from well-intentioned proposals. One feels a return to rural development – a development objective which has lost its currency and its appeal to the international development community. Thanks to poverty phenomena, which are rural and mostly agriculture-based, rural development seems to be coming back to life.

2. There is a variety of candidate innovations ranging from customary organizations in reforestation, to school on air, community-based seed systems, ecosystem services in a landscape approach, GIS of ancestral domains, farmer business school, community-oriented poverty alleviation fund; managing irrigation associations. A fervent wish—if only one of these would yield community improvements in a very real sense, the country would be proud even if by then, we would be 100 million plus.

3. The scaling up project write-ups are of divergent quality – some more sophisticated

than others. This is not to suggest that they are better by any criterion. Doers are seldom good writers and writers may capture the substance but not the "soul" of the undertaking. How much more sophistication is forthcoming in these papers for publications?

4. Proposed projects have slightly different "scales" for scaling up. There are individual functionaries meant to serve group interests; self-help groups; individual entrepreneurs; new inter-institutional group arrangements to perform new tasks; community-based but not community-wide efforts; and community-organized and led initiatives. Most projects require collective action to succeed. This is the greatest challenge of all.

   One could look with envy at a Vietnamese, Dr. Pham Van Du, whose achievement to date is the Small Farmer-Large Field (SFLF), a contract farming scheme that links big companies with individual rice growers. The companies provide the farmers technical support including dryers, storage facilities, and milling to ensure the quality of their produce. The companies also purchase and export the rice. They earn more than non-participatory farmers because the model encourages linkages among small farmers, agriculture product dealers, traders and exporters. The system enhances the value-chain.

5. The papers are usually long on descriptions and aspirations but relatively short on evidence-based results meant to justify scaling up. One has to "read through" and envision the results, which undoubtedly exist awaiting courageous exposition of good and not-so-good experiences. Inevitably toward the end, weaknesses encountered are mentioned as anticipated tasks in scaling up. The Poverty Alleviation Fund which was operationalized through the Northern Mindanao Community Initiatives and Resource Management Project or NMCIREMP was easily the most complex of all the projects but this was also the most forthright in its evaluation. Of the nine key activities of PAF, nine were found to be wanting but they are not about to give up on poverty alleviation. Strengthening the indigenous political structures of four tribes was its key achievement, which is not insignificant in itself.

6. Obviously there are missing elements in every story. For example, the community-based seed systems story needs to discuss how the seeds are collected, distributed, sold or shared. Are the seeds held individually or communally? Where does "community" come into the picture? A sense of "community" appears in seed quality management through training; field days; participatory varietal selection and in the more rapid deployment of new seeds which would otherwise take a long time for preferred varieties to be available through the usual testing for release procedures for new varieties. Moreover, a sense of pride in their varieties imbibes a sense of belongingness.

7. Farmer business school ideally, must find a connection with farmer's field school to complete the farm-to-market linkage. Without a good crop, there will not be products to market. Quantity, quality, and timing are essential for this linkage to work.

8. Payment for environmental services is a truly novel innovation through a landscape approach. It is data-knowledge-and-organization-intensive but worthy of scaling up. How else can we learn except through "learning by doing"? equally "hip" on the technology front is the Participatory 3-Dimensional Mapping: Reclaiming Ancestral Domains which produces the basis for claiming land-use potentials, and resolving conflicts. They produce the so-called *Bukluran ng mga Katutubo* for recognition of ancestral rights.

9. Radio as distance learning medium would seem like an anachronism in this age of e-learning but it has its niche in the Cordilleras. We just need note, there is a very strong team spirit among the staff of school-on-air and there is a very enthusiastic group of SoA beneficiaries. Apparently these seem to suffice.

10. The challenge to the continuing role of customary organizations in reforestation is "watershed areas claimed as private properties slowly being turned into farming areas". Can the "customary us" still be recovered from such a turn of events?

11. Practically all the projects require collective action in varying degrees hence much depends on the quality of people who will lead these projects. Are the staff of the Phase I or Phase II pilot projects which produced the results on the basis of which these projects are being proposed for scaling up still "on-board" or have they moved on to "greener pastures," partly as a result of enhanced credentials acquired through involvement in these pilot projects?

All these projects are PEOPLE INTENSIVE in nature, hence their quality is of critical importance. We need people of COMPETENCE such as technical competence or ability to work with those who possess competence or are ready to take steps to building such competence in others; COMMITMENT, in spite of, and not because of personal incentives provided; PEOPLE-SENSITIVITY and the ability to inspire trustworthy relationships. Integrity is a most desired quality, especially now that graft and corruption issues are a major national preoccupation.

In the final analysis, the "genius" lies in the quality of the PEOPLE who will lead the scale-up process. Are they worth the trust and confidence of the potential communities they will work with?

Let us live by the words of Ms. Helen R. Rueco, manager of the Bebak Multi-Purpose Cooperative: "We are building the road as we travel through it. Helping our rural poor attain a better life is an affirmation of our faith in human beings, in hard work, in integrity and in human co-existence". This says it all to inspire PASSION to achieve our vision of INCLUSIVE GROWTH. We need CHAMPIONS of project innovations in deed, in resolutions, and in DREAMS.

Acronyms

AAIGA	Agriculture, Agribusiness and Income-Generating Activities
ACIAR	Australian Centre for International Agricultural Research
ADB	Asian Development Bank
ADSDPP	Ancestral Domain Sustainable Development and Protection Plan
ATI	Agricultural Training Institute
CADT	Certificate of Ancestral Domain Title
CBO	community-based organization
CBSS	community-based seed system
CHARMP2	Second Cordillera Highland Agricultural Resource Management Project
CI	community institution
CIP	International Potato Center
CIS	communal irrigation system
CMO	community mobilization officer
CONVERGE	Convergence on Value-Chain Enhancement for Rural Growth and Empowerment
CURE	Consortium for Unfavorable Rice Environments
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
ES	environmental services
FBS	farmer business school
FFS	farmer field school
FIO	farmer irrigators organizer
FoodSTART	Food Security Through Asian Roots and Tubers
GIS	geographic information system
ICRAF	World Agroforestry Centre
IFAD	International Fund for Agricultural Development
IA	irrigator association
IDO	institutional development officer

IKSP	indigenous knowledge, systems, and practices
IRRI	International Rice Research Institute
INREMP	Integrated Natural Resources and Environmental Management Project
IP	indigenous peoples
IPRA	Indigenous Peoples Rights Act
LGU	local government unit
NCIP	National Commission on Indigenous Peoples
NFA	National Food Authority
NGO	nongovernment organization
NIA	National Irrigation Administration
NMCIREMP	Northern Mindanao Community Initiatives and Resource Management Project
NPC	National Power Corporation
NRM	natural resource management
PAF	Poverty Alleviation Fund
PAFID	Philippine Association for Intercultural Development, Inc.
P3DM	Participatory Three Dimensional Mapping
P/RES	payments/rewards for environmental services
PMCA	participatory market chain approach
RHA	rapid hydrological appraisal
RUPES1	Rewarding Upland Poor for Environmental Services
RUPES2	Rewards for, Use of and Shared Investment in Pro-poor Environmental Services-Second Phase
SHG	self-help group
SoA	school on air
SUC	state universities and colleges
UNDP	United Nations Development Program
USM	University of Southern Mindanao

Framing Questions on Scaling Up

Ideas

1. What is the intervention that is to be scaled up? Is it a new idea (innovation) or an idea adopted and adapted from prior practice elsewhere?
2. Whose idea is it?
3. Has it been tested, piloted or evaluated?

Vision

4. What is the appropriate ultimate scale of the intervention which the IFAD project or program supports in the country? I.e., how many people, households, districts, etc. could and should ultimately be reached, not merely by IFAD's own program and also by others (government, international financial institutions, etc.)?

Drivers

5. What or who are the drivers that are pushing, or are expected to push, the scaling up process ahead? Including local leaders or champions, external catalysts and incentives? (see Box 1) What is IFAD doing to develop and support these drivers?

Box 1: Drivers of Scaling Up

A few key factors drive forward the process of scaling up:

Ideas, Vision, Leadership: Need to recognize that scaling up of a (new) idea is necessary, desirable, feasible.

Successful scaling up is usually driven by champions.

External Catalysts: Political or economic crisis, pressure from outside actors (donors, EU, etc.)

Incentives: These include rewards for actors and institutions, competitions, accountability through the political process, peer and other evaluations, etc. Incentives are key to drive behavior of actors and institutions towards scaling-up; requires accountability.

Source: Adapted from Hartmann and Linn, 2008

Spaces

6. Space has to exist or be created so the intervention can grow to achieve the desired scale. What are the government and IFAD doing to ascertain or help create this space in its multiple dimensions? (see Box 2)

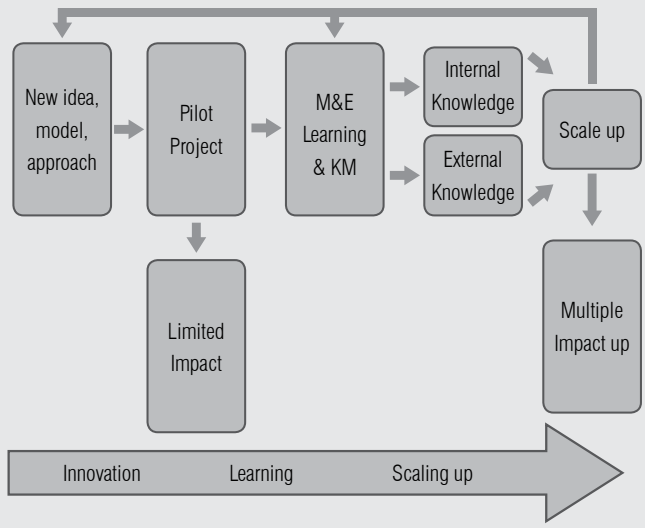
Pathways

7. What are the pathways that define the way interventions in the country are (to be) scaled up with IFAD support, moving from idea/innovation to learning to scaling up? (see Box 3)
8. What is the time horizon over which the pathways are expected to extend?
9. How do the drivers and spaces define these pathways?
10. What are the most serious likely obstacles and risks, and what can be done to mitigate them?

IFAD's Role

11. What is IFAD's specific role in promoting the scaling up process?
12. How do IFAD's policies, procedures and resources support the implementation of the scaling up process?

Box 3: Innovation, learning and scaling up linkages



Box 2: Spaces for Scaling up

If scaling up is to succeed, space has to be created for the initiative to grow. The most important spaces are:

Fiscal/ financial space: Fiscal and financial resources need to be mobilized to support the scaled up intervention; or the costs of the intervention need to be adapted to fit into the available fiscal/ financial space.

Natural resource/ environmental space: The impact of the intervention on natural resources and the environment must be considered, harmful effects mitigated or beneficial impacts promoted.

Policy space: The policy (and legal) framework has to allow or needs to be adapted to support scaling up.

Institutional/ organizational/ staff capacity space: The institutional and organizational capacity has to be created to carry the scaling-up process forward.

Political space: Important stakeholders, both those in support and those against the intervention need to be attended to, through outreach and suitable safeguards to ensure the political support for a scaled up intervention.

Cultural space: Possible cultural obstacles or support mechanisms need to be identified and the intervention suitably adapted to permit scaling up in a culturally diverse environment.

Partnership space: Partners need to be mobilized to join in the effort of scaling up.

Learning space: Knowledge about what works and doesn't work in scaling up needs to be harnessed through monitoring and evaluation, knowledge sharing and training.

Source: Adapted from Hartmann and Linn, 2008