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Conservation Farming Village (CFV) Programme for Protecting Uplands and Building Resilient Communities

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ABSTRACT: The Conservation Farming Village (CFV) programme was designed to transform erosive farming in sloping lands (uplands) into a strategy for improving the income and quality of life of farmers and for promoting the resilience and sustainability of upland areas. It involves the active collaboration of upland communities, local government units (LGUs), and academia in enhancing the capability of upland communities in practicing conservation farming and other related technologies. Prior to this project, 75 initial upland communities in five different towns were implementing the CFV programme. This project aimed primarily to build the capacities of upland farmers and communities, LGU executives, and technical personnel to implement the CFV programme in other upland areas, especially on sloping lands, in the country. The target of the project was to facilitate the establishment of at least one new CFV model farm in each of the 15 new provinces. Enhanced capability of the farmers and LGUs were vital to the success of CFV in these sites. Five training courses were conducted with 272 participants consisting of farmers, LGU officials and academia. Participants visited existing CFV sites. Eighteen farms were established in the eleven provinces where CFV capacity building activities were implemented.

KEYWORDS: *conservation farming village, capacity building, local government units, sloping land management, agroforestry*

Introduction

The implementation of the Philippine Republic Act 7160 in 1991 mandated that local executives chart their path towards sustainable access and development of their resources, including adaptation strategies for climate change and food security. Such strategies would ensure sustainability of efforts in promoting upland farming technologies and approaches, and would strengthen the "multiplier effect" of existing technology diffusion processes at the local level.

CFV is a programme for transforming traditional farming systems in sloping lands into sustainable upland production systems and stimulating climate-resilient upland community development. The CFV programme adopts a community-based participatory approach to technology development, promotion and utilisation, and a multi-level technology promotion mechanism that will capacitate local extension/change agents.

CFV started from the upland development programmes funded by the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) entitled Environmental and Productivity Management of Marginal Soils in the Philippines; ASIALAND Network: Management of Sloping Lands for Sustainable Agriculture in the Philippines, implemented from 1997-2004 in the Provinces of Batangas, Catanduanes, and Camarines Sur; and the National Programme on Sustainable Upland Farming Through the Establishment of "Barangay Sagip-Saka (Conservation Farming Villages–CFVs) from 2009 2011.

Following lessons learned from previous CFV practices, the present study was conducted to build the capacities of LGU executives and their technical personnel to undertake CFV. In turn, these LGU personnel are expected to help upland farmers improve their economic conditions by strengthening their capacities to manage the natural resources, thereby protecting their communities against environmental degradation while sustaining their sources of livelihood.

Technology adoption among farmers is very often met with doubt. The "Theory of Diffusion" explains how, why and at what rate new ideas and technology spread through cultures. According to Rogers (1962), this theory has five main elements: innovation, communication channels, time, and a social system. This paper explains the processes the CFV programme went through in order to enhance farmers' adoption of sloping land management technology and building resilient communities.

Methodology

CFV Concept

The conceptual framework for CFV involves three stages — formation, consolidation and integration. (Figure 1). CFV involves a tripartite collaboration among the state university or college (SUC), the local government unit (LGU) and farmers. The CFV project was implemented in 11 provinces in the Philippines from 29 June 2012 to 28 June 2013 through the present project supported by APN: Enhancing the LGU Capacity for Implementing Conservation Farming Villages as a Strategy for Climate Change Adaptation and Upland Development.

Selection of Provincial Participation

The implementation of this project built linkages established by the University of the Philippines Los Baños (UPLB) with the existing state colleges and universities and local government units in five provinces in the Philippines. These are the Ifugao State University and the town of Alfonso Lista, Ifugao; Bicol University College of Agriculture and Forestry and Ligao City, Albay; Silliman University and La

HIGHLIGHTS

- CFV is a model village, where farmers practice conservation farming and other sloping agricultural land technologies.
- CFV enhances the transfer of conservation farming technologies and practices.
- Training courses coupled with visits to CFV farms prove beneficial for prospective adopters of the technologies.
- Farmers practicing conservation farming technologies were able to share their experiences, including best practices, with other farmers interested in implementing conservation farming.
- Active LGU participation is vital in creating an enabling environment for farmers and farming communities, and in mobilising and improving accessibility to technical, financial and other resources.

Libertad, Negros Oriental; University of Southeastern Philippines and the Panabo City, Davao del Norte; and General Nakar, Quezon for UPLB.

Criteria for Selecting the Provinces to for Implementation of the Programme

A project management team composed of five school representatives and UPLB project staff selected the provinces to receive the capacity building. These were provinces proximal to existing CFV sites where a majority of the municipalities have numerous farms in upland areas. The geographical locations of the selected provinces are shown in Figure 2.

Capacity Building

Establishment of a program to assess needs was deemed to be critical for training and development (Miller & Osinski, 2002), especially capacity building, in order to identify gaps in knowledge, attitudes and skills that affect individual performance, while taking into account important constraints (International Service for National Agricultural Research [ISNAR], 2001).

Tools were developed to assess the training needs of LGU personnel and farmers on topics related to sloping land management, and the training needs assessment was conducted by partners from academic institutions situated near or within the provinces. Results of the training needs assessment provided the basis for designing the training activities aimed at developing the capability of the LGUs.

Training was then provided to LGU executives, LGU technical personnel, and farmers. The training was conducted through lecture-discussion, hands-on/practicum, and cross visits to CFV farms.

From among those who attended the training course and were willing to develop their farms into model CFV farms, a number of farmers were chosen as Farmer Volunteers (FVs). The physical attributes of the FVs' farms were assessed using the Agroforestry Land Capability Mapping Scheme, or ALCAMS (IAF and Kapwa Upliftment Foundation, Inc., 1994). ALCAMS takes into consideration the slope of the area, vegetation, and soil fertility to determine the agroforestry system most suitable for the farm given the current conditions of the land. However, decisions as to the species made by, and not imposed on, the farmers, based on their specific needs and on other information regarding the market situation in their localities.

Results and Discussion

Results of the Training Needs Assessment

The socio-demographic profile of the respondents is shown in Figure 3. Similar to the study of Maharashtra (2010) there are more male than female respondents (http://www.strcmsgdnh.org/pdf/Training-Needs-assessment-Final-Report.pdf.) Most of the

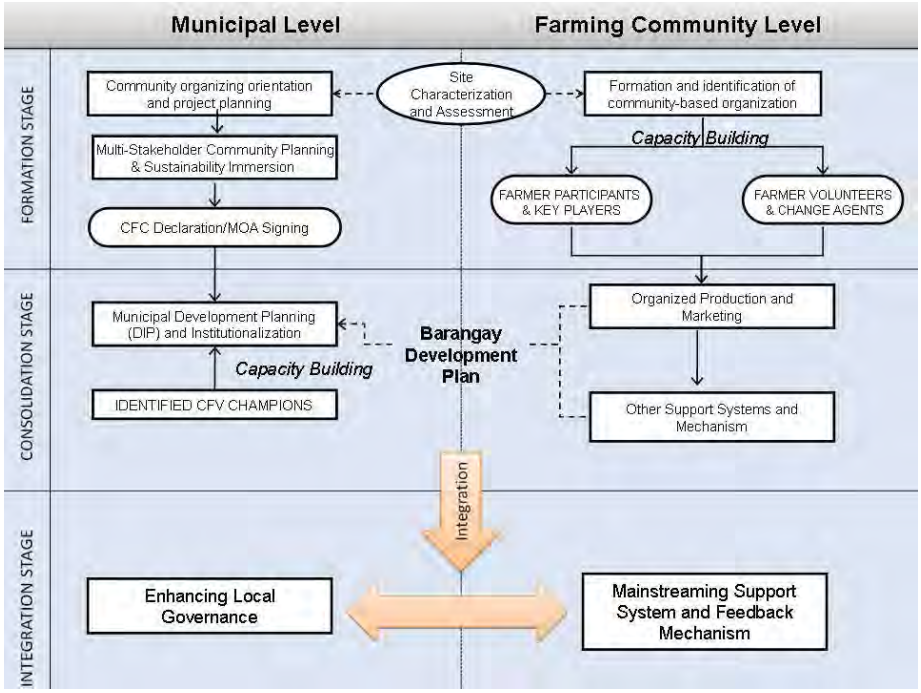

Figure 1. Conceptual framework for the establishment of Conservation Farming Village (CFV).

respondents from the LGU are college graduates and are mostly between 31 to 40 or 51 to 60 years old. A majority of the respondents have attended training courses related to upland development.

The topics identified by LGU personnel as being of the highest priority to them were climate change and upland development, followed by soil erosion control (Table 1). Community organising ranked third and marketing strategies, fourth.

The training needs identified by the farmers are shown in Table 2. Understanding climate change and upland development was ranked number 1, followed by the need to understand how best to organise farming communities. Soil erosion and its control were ranked third.

Training Implementation

Rank	Suggested Topics	Weighted Score* n = 62
1	Climate change and upland development	636
2	Soil erosion and its control	620
3	Community organising	609
4	Farm and farmer profiling	577
5	Cropping combinations appropriate for sloping areas	562
6	Soil fertility management	557
7	Basic Concepts of Watershed Management	548
8	Multistakeholder community development planning	491
9	Local policy/ordinance formulation	481
10	Barangay Development Planning	473
11	Livelihood support mechanism	432
12	Community Sustainability Indicators	351
13	Alley cropping	333
14	Financial management	318
15	Marketing strategies	312

Table 1. Results of training needs assessment for LGU personnel in the target provinces.

* The weighted scores were computed based on topics given first priority with 15 points, those given second priority, 14 points and so on, until topics ranked 15th were given a score of 1 (ftp://ftp.cgiar.org/isnar/papers/tna-radio.pdf)

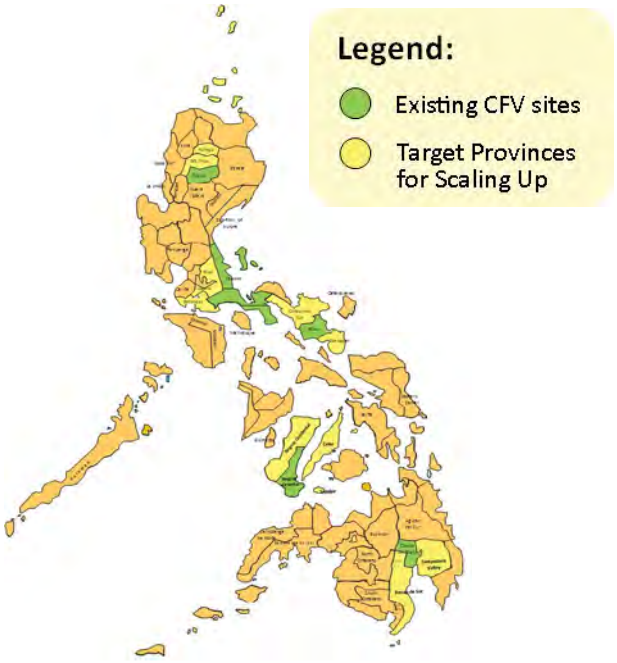

Figure 2. Location map of Conservation Farming Villages (CFV) sites.

Training courses were then developed specifically for each provincial cluster, to meet the needs identified by the prospective participants both from the LGUs and the farmers. Five training courses were implemented with a total of 272 participants composed of farmers, LGU officials, and the academia. Follow-up and knowledge-sharing activities after the training were conducted by the participants in their respective areas, involving other farmers.

Farm Development

For the cluster adjacent to UPLB, ALCAMS was used to determine the best agroforestry system to be implemented in the demonstration farms (Table 3). Results of ALCAMS showed that the farms were generally suitable for agroforestry, albeit requiring incorporation of soil and water conservation measures like terracing, mulching, contour hedgerows, and drainage systems/canals.

Eighteen CFV farms were established through this project. UPLB, USEP and BUCAF have three farms each while IFSU developed five and SU developed four.

Spin-offs from this APN Project

Outside of the proposed provincial coverage of the CFV Project under the APN, the Fostering Education and Environment for Development, Inc., a local NGO

in the Philippines concerned primarily with rural development and environmental protection, requested the support of CFNR-UPLB in implementing CFV in the Baroro Watershed, which covers three municipalities of La Union Province in Northern Philippines. Support of the Project in this new site for CFV expansion is guaranteed even after the completion of this APN Project, by the provincial government and the province's representative to the Philippine Congress. This is a welcomed opportunity to demonstrate the potential of CFV as an integral component of the Watershed Ecosystem Management approach being implemented in the Philippines.

Conclusions

The project was implemented to build the capacities of LGU executives and their technical personnel to undertake sustainable development and build resilient communities in upland areas.

CFV knowledge and skills were transferred from the experts from the academe to the LGU personnel/office in charge of environment and natural resources or agriculture, which were in turn passed on to the potential farmer adopters, in 11 provinces of the Philippines. The CFV programme enabled LGU executives to empower farmers to adopt technologies geared towards upland development.

Sustainable farming in the sloping lands could not prosper unless LGUs embrace fully the responsibility of being the primary facilitators of mobilising resources that are needed by the farmers for sustainable upland development through CFV. The sheer immensity of the resources required to veer the management of uplands away from the path of degradation to sustainable development would be overwhelming for farmers alone to shoulder. Capitalising on farmers' ability and commitment, LGUs must appreciate the value of establishing active collaboration between upland communities, LGUs, and academia to enhance the capabilities of these

Rank	Suggested Topics	Weighted Score* n= 8
1	Climate change and upland development	101
2	Community organising	85
3	Soil erosion and control	65
4	Local policy/ordinance formulation	60
4	Farm and farmer profiling	60
5	Basic concepts of watershed management	54
6	Cropping combinations appropriate for sloping areas	53
7	Multi-stakeholder community development planning	45
8	Livelihood support mechanism	44
9	Soil fertility management	42
10	Marketing strategies	40
11	Alley cropping	30
12	Barangay Development Planning	15
13	Financial management	14
14	Community Sustainability Indicators	13

Table 2. Training needs of farmers in the target provinces.

* The weighted scores were computed based on topics given first priority with 15 points, those given second priority, 14 points and so on, until topics ranked 15th were given a score of 1 (ftp://ftp.cgiar.org/isnar/papers/tna-radio.pdf)

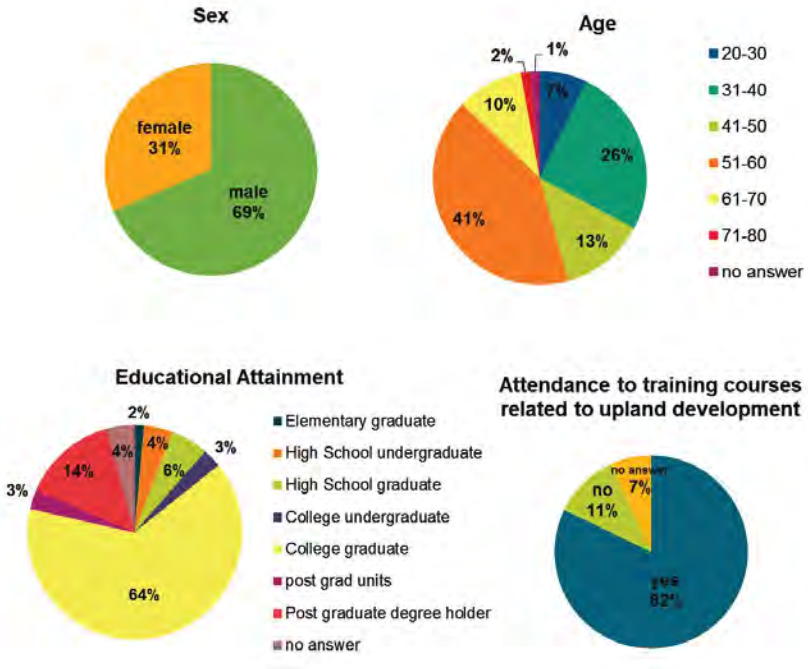

Figure 3 (right). Socio-demographic profile of respondents.

Provincial Cluster	Location	Slope	Vegetation	Soil Fertility	Suitability for Agroforestry
Batangas	Sitio Ulupong, Barangay Sawang, Lobo, Batangas	18-45%	brushland	Medium	Conditionally suitable for agroforestry
Laguna	Barangay Atisan, San Pablo City, Laguna	18-30%	brushland	medium	Conditionally suitable for agroforestry
Rizal	Sitio Pawpawan, Barangay San Salvador, Baras, Rizal	18-30%	brushland	Low	Conditionally suitable for agroforestry

Table 4. Land suitability for agroforestry of identified farms adjacent to UPLB.

communities in practicing conservation farming and other related technologies in order to better pursues the development of these communities.

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PROJECT TITLE

Enhancing the LGU Capacity for Implementing Conservation Farming Village as a Strategy for Climate Change Adaptation and Upland Development

COUNTRIES INVOLVED

Philippines

PROJECT DURATION

One-year project

APN FUNDING

US$ 45,000

PROJECT LEADER

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