

- Established at least one 'learning farm and resource center' for integrated watershed model in the province
- Improved access and availability of quality seeds of high-yielding, drought-resistant, and drought-avoidant (early maturing) cultivars
- Soil health and land use maps depicting macro- and micro-elements status
- Better prices of farmers' produce through industry-farmer market linkages
- Reduced production cost with the use of drought-resistant cultivars that require less energy and labor in crop management and irrigation
- Reduced postharvest losses and increased farm household income through value-adding technologies
- Better crop risk management during persistent droughts in the province
- Established a village model on building climate-resilient communities
- Databank of lessons learned, impacts and outcomes of the SIPAG program as scaling up model for agriculture R4DE programs for other provinces in the country to emulate.

#### Consortium Partners

- International Crops Research Institute for the Semi-arid Tropics (ICRISAT)
- Department of Agriculture - Regional Field Office 1 (DA-RFO 1)
- 'SIPAG 5'
- Ilocos Sur Polytechnic State College (ISPSC)
- Local Government Unit (LGU) of Sta. Maria, Ilocos Sur
- Local Government Unit (LGU) of Cabugao, Ilocos Sur
- Local Government Unit (LGU) of Cervantes, Ilocos Sur
- Local Government Unit (LGU) of Lidlidda, Ilocos Sur

#### SIPAG Implementing Principles

4C's	4I's	4E's
• Consortium	• Innovation	• Efficiency
• Convergence	• Inclusiveness	• Economic gain
• Capacity building	• Integration	• Equity
• Collective action	• Intensification	• Environment protection

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# SUSTAINABLE INTENSIFICATION FOR PROSPERITY AND GROWTH (SIPAG) PROGRAM:

The *Bhoochetana* Approach for  
Natural Resources Management  
towards Sustainable Dryland  
Agriculture



Spearheaded by:



INTERNATIONAL CROPS  
RESEARCH INSTITUTE  
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S I P A G P R O G R A M

## Rationale

Producing enough food for the ever increasing population to achieve food and nutrition security, and improving rural livelihoods are challenges that need innovative solutions. Aggravating these challenges even more serious is the declining hectareage available for food production due to population pressure, wherein farm lots are being converted into residential and industrial usage. Increasing productivity of rainfed and drought-prone areas is one such innovative solution.



Drylands are hot-spots of poverty and malnutrition. Globally, 80 percent of agriculture is rainfed providing 62 percent of the world's staple food. In the Philippines, out of the total land area of 30 million ha, 33 percent or 9.3 million ha is arable land, of which 75 percent or 6.98 million ha is rainfed.

The province of Ilocos Sur has 768 barangays straddled in 32 municipalities and 2 cities with total land area of 257,960 ha. Arable land is about 63,000 ha, 50 percent or 31,500 ha of which is rainfed. Major food crops grown are rice and corn along with cash crops such as tobacco, vegetables and fruits.

In 2010, the total population of the province is 658,587 with 145,674 households. Almost 8 out of ten (79.8%) households are living in rural areas. There are 25,312 poor households in the province comprising 113,904 individuals. While Ilocos Sur is not one of the 10 poorest provinces in the country, poverty incidence is quite high at 17.3 percent. These are the people that directly benefit from the SIPAG program.

## Goal and Objectives

Generally, SIPAG aims to unlock the potentials of dryland agriculture in Ilocos Sur towards improving rural livelihoods and

achieving food and nutrition security while protecting the environment.

Specifically, it seeks to:

- assess the soil health status in the province using stratified soil sampling and prepare GIS-based soil fertility status maps for developing specific nutrient management recommendations;
- develop, evaluate and popularize 'best-bet' soil, water, nutrient and crop management options to increase crop productivity and cropping intensity through inclusive market oriented development (IMOD) framework;
- develop and strengthen existing seed delivery system to sustain good quality seeds of improved high-yielding cultivars to improve productivity of smallholder farmers;
- develop and pilot test farmer-friendly ICT-enabled innovative extension and delivery system to reach smallholder farmers; and
- build capacity of the different stakeholders for increasing agricultural productivity through sustainable intensification using integrated scaling-up model in the province.

## Strategies

- Organize the Executive Committee (ExeCom) as governing body and the Municipal Program Management Committee (MPMC) as implementing body.
- Facilitate the generation and integration of resources from different national government agencies (NGAs), local government units (LGUs), non-government organizations (NGOs), private individuals, and other benefactors to ensure financial support for the program.
- Assign lead agency and program leader to manage the overall implementation of the program with the support of the technical working group and MPMC under the supervision of the ExeCom.
- Refurbish the ISPSC Soil Laboratory and equip it with state-of-the-art tools and equipment.
- Ensure timely supply, availability and access to necessary vital inputs such as knowledge-based soil nutrient management options, acquiring micronutrients and availability of good quality seeds.
- Undertake improved 'best-bet' management practices on large scale and share knowledge through peer groups.
- Use scientific approach of mapping soil nutrient deficiencies as entry point for scaling up the soil analysis-based integrated nutrient management practices in rainfed and drought-prone areas.



- Establish seed banks to provide farmers access to quality seeds and ensure the timely supply at reasonable prices.
- Establish and strengthen farmer-industry market linkages to enable better prices of farmers' produce.
- Ensure 'inclusiveness' of women and small-scale, marginal farmers so that they will have deeper integration in the development process.
- Conduct trainings on value-adding technologies to reduce postharvest losses and increase income of farm households.
- Devise standardized formats for monitoring and evaluation (M&E) at the barangay, municipal and provincial levels.
- Work out a system of knowledge dissemination using rainfed and empowered farm facilitators through ICT-enabled services including the establishment of a project website for information access and data management.
- Conduct rapid baseline studies to map household data, incomes and other village dynamics.
- Adopt reward and incentive mechanisms for exceptional and outstanding performance of stakeholders.
- Capacitate program implementors so that they will be more responsive to the technical requirements of the program.
- Establish credible evidence through the documentation of program outputs for policy makers, for scaling out the program to other provinces, and for information of prospective benefactors.

## Expected Outputs

- Increased agricultural production and farmers' income by 20 percent in three years
- Increased cropping intensity from 1-2 to 2-3 cropping per year