

RFO 1, and ISPSC can be potent forces to reckon with in sourcing out these resources.

#### How committed ISPSC is to the program?

Per its Charter (RA 8547), ISPSC is mandated to generate bodies of knowledge of agriculture and rural development and help provide improved technology, information, training, and technical expertise to farmers, communities and other clientele in its service area. Inasmuch as SIPAG is a flagship R4DE program of ISPSC, 60 to 80 percent of the cost of training programs as indicated in the approved SIPAG Work Plan and Budget (2015-2017) shall be on the end of the College and the rest of the training cost shall be shouldered by the concerned agency. In coordination with ICRISAT and DA-RFO 1, it shall also facilitate the preparation of project proposals for SIPAG component PPAs to be submitted to prospective benefactors.

*Through Bhoochetana, drylands can be productive*



#### Prepared & Published by:



Republic of the Philippines  
**ILOCOS SUR POLYTECHNIC STATE COLLEGE**  
Main Campus, Sta. Maria, Ilocos Sur

*Office of the Vice President for Research,  
Extension and Training*

FREQUENTLY ASKED QUESTIONS (FAQS)

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

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



#### Spearheaded by:



INTERNATIONAL CROPS  
RESEARCH INSTITUTE FOR  
THE SEMI-ARID TROPICS



PROVINCIAL  
GOVERNMENT OF  
ILOCOS SUR



ILOCOS SUR  
POLYTECHNIC STATE  
COLLEGE



### What is SIPAG?

It is a science-led development and holistic mission mode program to improve rural livelihoods of smallholder and marginal farmers in Ilocos Sur by increasing productivity of drylands through the use of 'best-bet' soil, water, crop and nutrient management options. SIPAG is patterned after the renowned *Bhoochetana* program in Southern India which was developed and scaled up by the International Crops Research Institute for the Semi-arid Tropics (ICRISAT).

### What is *Bhoochetana*?



Rejuvenating open well with filtered rainwater

It is an ancient Sanskrit word meaning 'soil rejuvenation.' *Bhoochetana* was first introduced and proved successful across the 30 districts in the state of Karnataka, India covering 3.73 million ha wherein crop yields increased by 23 to 66 percent in three years. In *Bhoochetana*, soil health assessment is used as an entry

point to design science-based interventions. It is a very simple package of technology wherein location- and crop-specific nutrient management recommendations or 'best-bet' farming practices are formulated based on the results of soil analysis. Deficiency of soil micro-elements is also addressed adequately. Its success is likewise attributed to availability of quality drought-resistant and drought-avoidant (early maturing) seeds of high-yielding cultivars coupled with soil and water conservation facilities.

### Is *Bhoochetana* replicable in Ilocos Sur?

Yes. Inasmuch as *Bhoochetana* has been successfully implemented under India semi-arid condition, there is little doubt it can also be replicated under Ilocos Sur humid tropics condition wherein there is relatively more annual rainfall than in Southern India where the state of Karnataka is located. For this reason, ISPSC adopted SIPAG as one of its flagship R4DE programs through BOT Res. No. 656, s.2013.

minimum of one Million Pesos (₱1,000,000) will be appropriated annually by each LGU. This is so because ICRISAT, being an international institution, cannot engage its services in programs costing less than Four Million Pesos (₱4,000,000). In terms of hectareage, the ₱ 1M investment of each LGU is equivalent to not less than 65 ha coverage.

### Will funds appropriated by each agency be transferred or remitted to a common trust fund of the consortium?

No. Funds appropriated by each agency shall remain in the custody of the concerned agency, which has the exclusive rights and responsibility for its utilization and disbursement. However, the agencies are required to submit financial reports to the ExeCom for records purposes.

### How can the SIPAG program sustain the long-term productivity of drylands in the province?

The program is not only all about increasing productivity of drylands



Check dam in steep natural waterways

Concrete-lined trapezoidal canal

through soil rejuvenation and application of the right amounts and proportion of macro- and micro-elements to the soil based on the results of soil analysis. In the long run, SIPAG also calls for other component PPAs that are geared towards establishing model climate change-resilient communities through the establishment of sustainable soil and water conservation facilities. These facilities require huge investments thus the support of outside benefactors, especially the national government, is extremely needed. In this regard, ICRISAT, DA-

it is approved by the ExeCom otherwise said PPA is not part of SIPAG.

### **What are the criteria in the selection of a pilot site?**

The LGU shall be responsible in the selection of a pilot site. It can be a whole barangay or a portion of it and/or two or more barangays in different locations. Provided the pilot site shall be contiguous and under rainfed agro-ecosystem regardless of major field crops grown therein.



*Contiguous Bhoochetana farms in Karnataka, India planted with drought-resistant crops*

### **Are all farmers in the identified pilot site included in the program?**

No. Enrollment of farmer-participants in the program shall be voluntary. Thus, for a given contiguous pilot site, it is expected that not everybody is covered. Nonetheless, the productivity of farmers who are not part of the program will be documented for purposes of comparison with farmer-participants. If in the future the farmer-non-participants wish to join in the program, they are welcome at the discretion of the LGU.

### **How much is the contribution of each LGU for the program?**

There is no definite amount required of the LGUs for the program. The LGU contributions shall depend on how much they are willing to spend and can sustain throughout the three-year duration (2015-2017) of the program. The rule-of-thumb for budgeting purposes is that, for every hectare enrolled in the program requires Fifteen Thousand Pesos (₱15,000) per year. Thus, the more hectare the LGU plans to cover the more funds to be appropriated. It is enjoined, however, that a

### **What can SIPAG do to Ilocos Sur?**

Generally, SIPAG will unlock the potentials of rainfed and drought-prone areas in Ilocos Sur towards improving rural livelihoods and achieving food and nutrition security while protecting the environment.

Specifically, it will:

- Increase agricultural production and farmers' income by 20 percent in three years;
- Increase cropping intensity from 1-2 to 2-3 cropping per year;
- Improve access and availability of quality seeds of high-yielding, drought-resistant and drought-avoidant cultivars;
- Enhance better prices of farmers' produce through industry-farmer market linkages;
- Reduce production cost with the use of drought-resistant cultivars that require less energy and labor costs for irrigation and cultural management;
- Reduce postharvest losses and increase farm household income through value-adding technologies;
- Improve crop risk management during persistent droughts in the province; and
- Establish a village model on building climate-resilient communities.

### **Who manages the SIPAG implementation?**



*'SIPAG 5' delegation during their planning conference with ICRISAT Director General, Dr. William D. Dar*

Program implementation is managed by a consortium technically composed of the four pilot municipalities including national government agencies and an international private institution. These are:

- International Crops Research Institute for the Semi-arid Tropics (ICRISAT)
- Department of Agriculture-Regional Field Office 1 (DA-RFO 1)



• The "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

**Who governs the consortium?**

The governing body of the consortium is the Executive Committee (ExeCom) composed of the agency heads or their duly designated representatives, as follows:

- Chairman - ISPSC
- Vice Chairman - DA-RFO 1
- Members - ICRISAT
- DA-BAR
- LGU Sta. Maria
- LGU Cabugao
- LGU Cervantes
- LGU Lidlidda
- Secretariat - ISPSC-OVPRET
- Adviser - PGIS

**Who implements SIPAG at the municipal level?**

The body responsible to spearhead the implementation of SIPAG at the municipal level is the Municipal Program Management Committee (MPMC) composed of the following:

- Chairman - Municipal Mayor
- Vice Chairman - Municipal Vice Mayor
- Members - SBM Chairman of Agriculture
- SBM Chairman of Appropriation
- MA/MAO
- MPDC
- Budget Officer
- Magsasaka Siyentista/Farmer Leader
- Barangay Captain(s) of pilot barangay(s)
- ISPSC Municipal Focal Person
- Secretariat - Municipal Agriculture Office

**Is the coverage of SIPAG province-wide?**



No. Due to limited resources, phase 1 of SIPAG implementation (2015-2017) covers only four pilot municipalities, namely: Sta. Maria, Cabugao, Cervantes and Lidlidda. One or two barangays are covered per municipality. Depending on the results of this initial phase and availability of resources, SIPAG will gradually diffuse to other municipalities in the future that will eventually cover most if not all of the rainfed and drought-prone areas in the

province. It is emphasized that *Bhoochetana* is best effective for rainfed areas and may not be suited for irrigated farms due to difference in soil physico-chemical properties of the two agro-ecosystems. Hence, SIPAG is designed specifically for dryland agriculture in the province. Irrigated areas will be considered later when there is already enough evidence to support that *Bhoochetana* is applicable also for irrigated areas.

**Can the Municipal LGUs implement their own PPAs at will and as they wish?**

No. All programs, projects and activities (PPAs) including policies and guidelines shall be approved by the ExeCom to ensure that the consortium partners shall adopt the following principles:

Nonetheless, the LGU can implement any PPA in its jurisdiction provided

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