



Climate Resilient Agriculture Practices Investment Prioritization

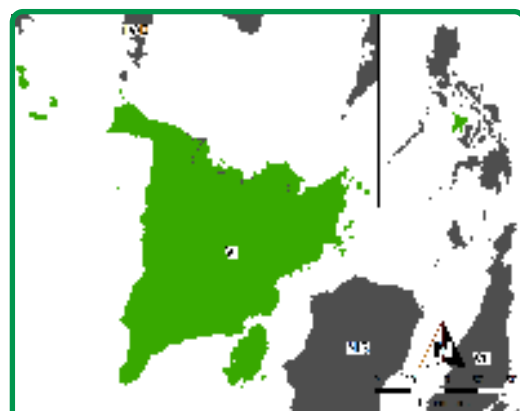
Investment Prioritization for Region VI: Western Visayas on Small Water Impounding Project

Overview

Iloilo has the largest number of farms among the provinces in Western Visayas. Palay is the major temporary crop in Region VI in terms of area planted followed by sugarcane and corn. Irrigation is an indispensable means for producing agricultural crops. The most common system of irrigation is the individual system, which supplies water to 50.6 thousand farms with an irrigated area of 94.1 thousand hectares. This is followed by the communal system of irrigation and the national irrigation system. There are also a number of farms utilizing other systems of irrigation such as windmills, waterwheels, water fetching and many others.^[1]

Iloilo is at high risk for the effects of climate change because of its location and high population density. Adaptive capacity assessed variables such as labor force, city revenue, expenditures or reserves, and functional literacy reflected its ability to implement adaptation strategies. The study noted that Iloilo remains highly flood-prone but has managed to keep its population growth down to 1.53%, much lower than the national average.^[2]

It is also located within the typhoon belt wherein 20 percent of all typhoons in the country hit Western Visayas in the months of October, November and December. Aside from being a coastal city, it is also a flood-prone area and a drainage end of water from the upstream.^[3]



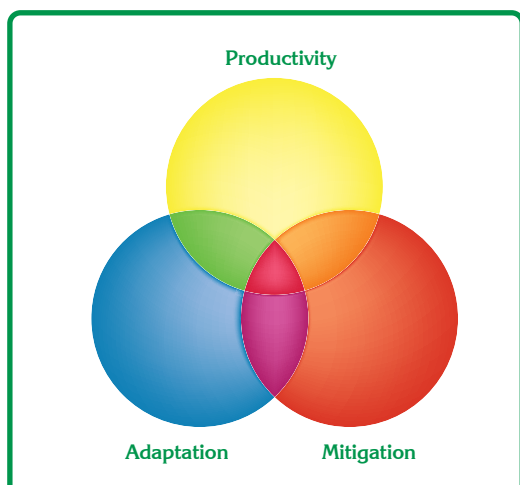
Western Visayas is composed of the provinces of Aklan, Antique, Capiz, Guimaras, and Iloilo.

Prioritized Climate Resilient Agriculture (CRA) Practice

Small Water Impounding Project (SWIP) is the development of micro-catchment for soil and water conservation and for the provision of supplementary irrigation during the dry season.

This CRA practice strengthens the existing farmer's associations in the region by training farmers on this new cropping technology. It helps farmers increase their yield and income and diversify into high value commercial crops other than rice.

As partner of the DA Region VI, the provincial government has provided 10% counterpart fund for the following projects: (a) Rehabilitation of Buwang Small Water Impounding Project (SWIP) in Lambunao, (b) Rehabilitation of Aglosong SWIP in Concepcion, and (c) Rehabilitation of Batiti SWIP in Concepcion.



Practices are considered CRA if they enhance productivity and at least one other objective of CRA (adaptation and/or mitigation). The CRA pillar (diagram shown) was used as basis for the prioritization of the CRA practices in all regions.

Data Gathering Methodology

Key Informant Interview (KII) or structured interviews, Observation Method and Literature Review (MAO, Province, Region, Farmers' Association) were used to gather data. Eight corn farmers practicing both conventional and CRA practices, and four agriculture experts/consultants were interviewed. On the site visit with farmers in four municipalities was also conducted. Data gathered were analyzed using the Cost-Benefit Analysis (CBA) online tool developed by the International Center for Tropical Agriculture (CIAT).

Results

In support of the current and actual prices of the commodity in the region and assuming an increase in productivity of rice, taking on SWIP as a commonly used CRA practice in Iloilo results highly profitable from the point of view of farmers and stakeholders, with a potential net present value (NPV) of Php152,308.05 (USD 3,125.55) and an internal rate of return (IRR) of 434 percent, which is highly above the discount rate of 10 percent, making this CRA practice highly attractive for the farmers to adopt in the absence of externalities.

In the presence of externalities such as water availability, social capital, reduction of soil erosion and legal and political feasibility, the integration of SWIP as a CRA practice seems to be more attractive with an NPV of Php173,650.82 (USD 3,563.53) and social IRR of 893 percent.

Recommendations

It is recommended that the Government promote the adoption of SWIP as a CRA practice.

Further, to enhance the competitiveness of rice farmers in the region and to promote their participation in CRA initiatives, it is recommended that information dissemination concerning the CRA practice and other farming methods be conducted on a regular basis. This will also maintain the interest and level of farmers' perception specifically on SWIP as a common cropping technology introduced to and adopted by rice farmers in Western Visayas - Region VI.

CBA Tool Summary Results

Farm-level Analysis	Net present value (NPV)	Social and Environmental NPV	Internal Rate of Return (IRR)	Social IRR	Payback Period	Initial Investment	Scenario in the Analysis	
	USD 3,125.55*	USD 3,653.53	434%	893%	10 years	USD 2,366.40	WITHOUT CRA: Conventional Practice	WITH CRA: Small Water Impounding Project
Aggregate analysis	Total area of corn	Current adoption rate	Adoption rate	Aggregate NPV		Period		
	4ha	10%	10%	USD 5,188.86		11 years		

*USD 1 = Php48.73

References

- ^[1] <https://psa.gov.ph/content/review-agriculture-sector-western-visayas>.
- ^[2] <http://climatechange.searca.org/index.php/climate-change-latest-news/philippines/2370-iloilo-city-most-vulnerable-to-climate-change-impact>
- ^[3] <http://bayanihan.org/2014/02/10/iloilo-city-highly-vulnerable-to-effects-of-climate-change-says-environment-officer/>

About the authors

This investment brief was authored by the team from Iloilo State College of Fisheries (ISCoF), CIAT-AMIA's partner SUC for the CRA-DS project in Western Visayas.

Jessel B. Biton-onon: Project Leader, Iloilo State College of Fisheries
bitononjessel@gmail.com

Dr. Michael B. Dizon: Socio-Economist, Iloilo State College of Fisheries
mikedizon41@yahoo.com

