



# Climate Resilient Agriculture Practices Investment Prioritization

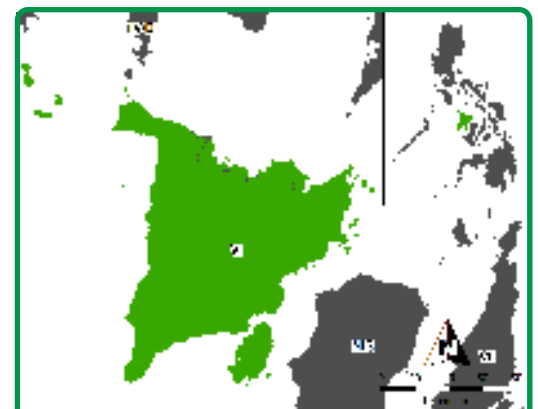
Investment Prioritization for Region VI: Western Visayas on Sloping Agricultural Land Technology

## 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. This is followed by sugarcane and corn. Irrigation was 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 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.<sup>[1]</sup>

Iloilo is at high risk from 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 it has managed to keep its population growth down to 1.53%, much lower than the national average.<sup>[2]</sup>

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.<sup>[3]</sup>



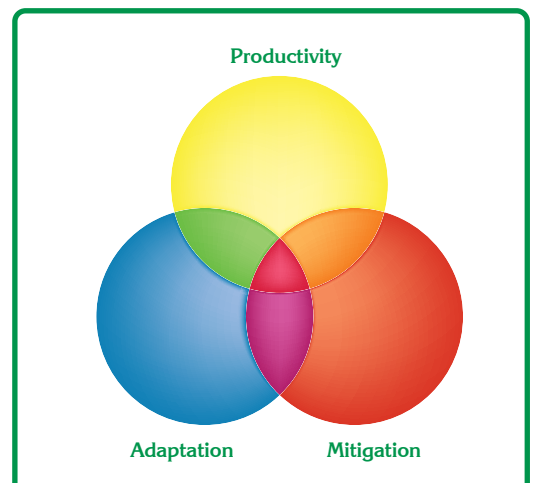
Western Visayas is composed of the provinces of Aklan, Antique, Capiz, Guimaras, and Iloilo.

## Prioritized Climate Resilient Agriculture (CRA) Practice

Sloping Agricultural Land Technology (SALT) is a scheme developed for small farmers with few tools, little capital and little knowledge of modern agriculture. It is a form of alley farming in which field and perennial crops are grown in bands 4-5 meters wide between contoured rows of leguminous trees and shrubs.

The region conducted tests on crop productivity with emphasis on corn, a traditional upland crop in the area. Many public and private organizations have voluntarily disseminated the technology to their clientele. SALT farms, established with the help of these organizations, now occupy over 5,000 ha throughout the country.

This helped in the control of weed growth and reduced labor requirement for weeding. Also, this reduced labour input since lesser labour is required for permanent perennial crops than for seasonal crops such as corn.



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-site visits with farmers to four municipalities were 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 to the current and actual prices of the commodity in the region and assuming an increase in productivity of rice, taking on SALT as a commonly used CRA practice in Iloilo is not so profitable from the point of view of farmers and stakeholders. This CRA practice is risky for the farmers to adopt because of its potential net present value (NPV) of Php437.60 (USD 8.98) and an internal rate of return (IRR) of 13 percent, which is lower than the discount rate of 14 percent.

However, with the presence of externalities such as reduced soil erosion, water conservation, increased soil biodiversity, and increased biodiversity, the integration of SALT as a CRA practice seems to be quite attractive with the NPV of Php21,339.84 (USD 437.92) and social IRR of 46 percent.

## Recommendations

From the reasons mentioned, it is recommended that the Government look into the possibility of adopting SALT as a CRA practice. Somehow, as a very flexible, but low-input system, SALT can provide ecological benefits.

With this, it is also recommended that corn farmers be provided with proper training on the establishment and management of SALT. By then, they could identify potential problems, and relevant preventative or curative procedures in their application of this common CRA practice.

## 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 8.98*	USD 437.92	13%	46%	10 years	USD 2,366.40	WITHOUT CRA: Conventional Corn Production	WITH CRA: Sloping Agricultural Land Technology
Aggregate analysis	Total area of corn	Current adoption rate	Adoption rate	Aggregate NPV		Period		
	4ha	10%	10%	USD 663.96		11 years		

\*USD 1 = Php48.73

## References

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

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