VISAYAS STATE UNIVERSITY

DEPARTMENT OF SOIL SCIENCE
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VSU EXTENSION PROJECT
ANNUAL ACCOMPLISHMENT REPORT

CY 2022

I. Basic Information

1. Program/Project Title: DSS Soil Health Services Program (DSoHESeP)
   Program/Project Leader: Dr. Suzette B. Lina

2. Project Component (s):
   Staff Involved: Dr. Suzette B. Lina; Dr. Deejay M. Lumanao; Mr. Medardo C. Magdadaro; Mr. Mark Anthony Barbadillo

3. Implementing Unit: Department of Soil Science (DSS), Visayas State University

4. Cooperating Agencies: LGU Baybay City, Leyte

5. Program/Project Sites: Brgy. Hipusngo, Baybay City, Leyte

6. Duration

   a. Date Started: Started September 2019, and it is a continuing project

   b. Expected date of completion: Ongoing

7. Financial report for the year under review
   a. Total approved budget: Php 200,000.00
   b. Actual released budget: Php 200,000.00
   c. External support or counterpart funds from cooperating agencies:
   d. Actual expenditures:

II. Technical Report

A. Executive Summary

The DSS Soil Health Services Program (DSoHESeP) extension project is a very significant project for the farmers in Baybay. Hence, the team already commenced on the four barangays namely: Higuloan, Pangasugan, Patag, and Gabas. Identified farmers were invited for training workshops/seminars regarding soil health management, integrated nutrient management, and soil conservation. The soil's suitability for land-uses were also determined. By providing local farmers in Baybay soil health cards, they could be able to manage their farms more profitably with fewer input losses (such as fertilizers) and in a safe environment. Furthermore, a demonstration farm will be established. This extension project seeks to offer objective analytical services together with unbiased interpretations and recommendation that promotes competitive agriculture, a healthy environment, and enhanced quality of life.

B. Rationale

Soil health card (SHC) is designed to provide each farmer with information on the condition of his/her soil as well as provide recommendations for using fertilizer and other nutrients that will preserve soil health in the long-term. It is a printed report that provides information on soil health, such as pH levels, organic content, macro- and micronutrients, and some physical and chemical properties. It provides the nutrient stewardship of the soil such as the application of fertilizer in the right timing, right type, and right amount. Both insufficient and excessive fertilizer use will have an adverse effect on the ecosystem of the soil. The usage of the Soil Health Cards is one of the current methods for assessing the soil's condition concerning its fertility and productivity. Conducting soil testing in Philippine agricultural areas is one of the Department of Agriculture's top priorities for 2021. The generation of SHC was introduced in the Philippines by the Yamang Lupa Program (YLP) of the Department of Agriculture.

The Department of Soil Science has an ongoing extension project funded by the university on Soil Testing Program which started in 2019. This enables the experts of the department to conduct soil sampling, analysis, and training related to soil health management in selected barangays in Baybay City, Leyte. Also, in 2018, the Visayas State University particularly the Department of Soil Science among the three (3) State University recipients of the program on Enhancement of Soil and Plant Analysis Laboratory funded by the Sugar Regulatory Admission (SRA). The department got certain laboratory supplies, glassware, and chemicals under this program. These supplies were donated by SRA to cater to the soil samples of sugarcane growers in neighboring towns/cities like Ormoc City. This is also a beneficial partnership/collaboration between VSU and a private organization, the sugarcane growers or the Ormoc-Kananga Mill District Development Council (MDDC). However, the project was already ended, and there were insufficient funding to continue the operations of the laboratory. As a result, this project includes the soil health management program of agricultural lands in Baybay and sugarcane areas in Ormoc, Kananga, and other nearby towns whenever necessary.

C. Logical Framework

Target/Planned (2022)	Activities	Actual Accomplishment/Output to Date	Percent Accomplishment	Outcome	Impact (if ever applicable)
Production and preparation of pamphlet about soil sampling and preparation	Lay-out, review, finalize and distribute pamphlets	Printed 50 copies of pamphlets and distributed to farmer cooperator and also some copies were given to the Dept. of Agriculture c/o Ms. Katrina P. Largo.	100 %	Farmers can take soil samples in their farm on their own following the protocol outlined in the pamphlets.	

Generation of soil health cards	Collect soil samples, prepare and submit to CASL for analysis	Collected soil samples in the farms of two farmers of Brgy. Hipusngo. Samples were submitted to CASL Soil analyses results were interpreted	100% 100% 100%	Generation of soil health cards.	
	Generate soil health cards based on the soil analysis result	Soil health cards ready for distribution.	80%		
Soil testing of soil samples from sugarcane planters (MMDC)	Processed and analyzed soil samples submitted by the sugarcane planters of Ormoc City.	Analyzed sixteen (16) soil samples Interpreted results and generated recommendations which were given to the sugarcane planters thru MMDC.	100% 100%	Nutrient/fertilizer recommendations were generated and given to MMDC.	
Demo farm establishment, monitoring and evaluation	Identify farm/farmer for the establishment of demo farm.		50%		

D. Methodologies Employed

A preliminary assessment of the agricultural area and barangays that need extension support and farmers' willingness to participate in the study was conducted, which leads to the selection of the five barangays (Brgy. Pangasugan, Patag, Gabas, Higuloan, and Hipusngo). We also collaborated to the Department of Agriculture Baybay to assess us in the conduct of our extension project. Training-workshop on integrated soil management and soil conservation was conducted in the Department of Soil Science last 2019 which was attended with the farmers from Brgy. Pangasugan, Patag and Gabas. Another training was also conducted in Brgy. Higolo-an last November 2021 and recently in Brgy. Hipusngo last September 2022. Soil sampling on the farms of the farmers in the barangays mentioned were conducted. Afterwhich, soil samples were processed and analyzed in the laboratory. Based on the data of the soil analysis, SHCs were generated and now ready for distribution. During SHC distribution, training on how to use SHC will be simultaneously conducted in every barangay. A demo farm (min. 1000 m^2) will be established per barangay and also at the experimental station of the Department of Soil Science. The demo farms will showcase the different integrated nutrient management to be introduced and the farmers practice.

E. Results/Accomplishments

a. Production and Distribution of Pamphlet

To supplement the skills and knowledge acquired by the farmer cooperators during the training on Integrated Nutrient Management, pamphlets about proper soil sampling, preparation, and handling and the use of soil test kit were prepared, mass-produced, and distributed to the farmers participated in the training.

b. Training on Integrated Nutrient Management (INM)

Training on Integrated Nutrient Management was conducted in Brgy. Hipusngo, Baybay City, Leyte last September 13, 2022 (Fig. 1). The training activity was participated by farmers from two (2) farmer associations, Barangay Hipusngo Farmers and Fisher folks Association (BAHIFFA) and Sto. Niño Farmers Association (SNFA). There were nineteen (19) participating farmers from BAHIFFA and eleven (11) from SNFA. Series of lectures were given by the experts from DSS which focused on soil fertility and nutrient management. During the training, the farmers actively participated during the discussion of the different topics of Integrated Nutrient Management as well as the practical application of their learnings in the field.

Figure 1. BAHIFFA and SNFA farmers with Dr. Lumanao, Mr. Magdadaro, Mr. Barbadillo, Ms. Bagaslao (Agriculture Technician) and the facilitators from DSS-VSU

c. Soil Sampling Collection and Preparation

Soil collection in Brgy. Hipusngo was conducted (Fig. 2). The collected samples were brought to DSS screenhouse for air-drying, pulverizing, and sieving. Soil samples were analyzed at the Department of Soil Science and some samples were submitted to the Central Analytical Soil Laboratory, PhilRootCrops.

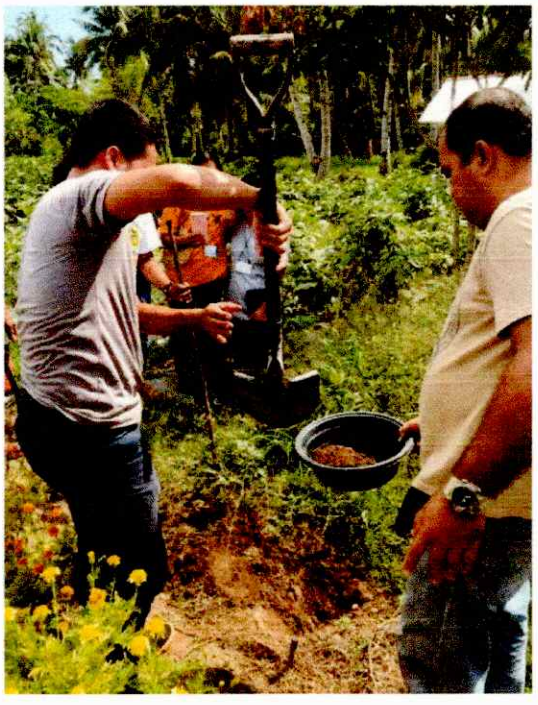

Figure 2. Practicum on soil sampling and collection of soil samples for laboratory analysis

d. Conducted soil testing of soil samples submitted by the sugarcane planters (MMDC)

A total of sixteen (16) soil samples submitted by the sugarcane planters from Ormoc City, Leyte were processed and analyzed in the laboratory. Then results were interpreted and recommendations in terms of nutrient/fertilizer application were generated. Results and recommendations were forwarded to the sugarcane planters thru MMDC.

DSS- SUGAR REGULATORY ADMINISTRATION
Department of Soil Science
Visayas State University
Visca Baybay City Leyte
Philippines 6521-a

SOIL ANALYSIS REPORT

Planter: Del Soccoro, Jeffrey
Address: Agua Dulce, Ormoc City

Mill District: Ormoc-Kananga Mill-District Development Center

Date Submitted: July 25, 2022
Date Released: December 02, 2022

Report No. 39
Type of Sample: Soil

Sample Code	Farm Location	Area (Ha)	Analysis						Fertilizer Recommendation (kg/Ha)					Bags Fertilizer per Hectare					LIME REQUIREMENT (Tons/Ha)
			Soil Texture	Soil pH	Percent (%)		ppm		First Dose			Second Dose		First Dose			Second Dose		
					OM	N	P_2O_5	K_2O	N	P_2O_5	K_2O	N	K_2O	18-46-0 (Ammophos)	46-0-0 (Urea)	0-0-60 (Muriate of Potash)	46-0-0 (Urea)	0-0-60 (Muriate of Potash)	
SRA2022-45	Cataag 2, Brgy. Luna, Ormoc City	1.05	C	4.46	1.91	6.31	5.16	89.33	115	175	155	60	85	7.61	2.02	5.2	2.6	2.8	5.00
SRA20822-46	Basyong 1, Brgy. Luna, Ormoc City	1.19	C	4.39	2.16	7.12	2.40	82.32	115	200	180	60	100	8.70	1.60	6.0	2.6	3.3	5.00
SRA2022-47	Basyong 2, Brgy. Luna, Ormoc City	1.07	C	4.19	1.26	4.17	0.68	8.93	115	200	430	60	230	8.70	1.60	14.3	2.6	7.7	5.00
SRA2022-48	Cataag 1, Brgy. Luna, Ormoc City	2.07	C	4.26	0.69	2.27	0.11	3.16	130	200	430	70	230	8.70	2.25	14.3	3.0	7.7	5.00
SRA2022-49	Basyong 3, Brgy. Luna, Ormoc City	1.53	C	4.12	1.86	6.13	5.28	20.89	115	175	340	60	180	7.61	2.02	11.3	2.6	6.0	5.00

Figure 3. Soil Analysis Report

e. Monitoring and Evaluation of Demo Farm at DSS experimental station

The experiment was conducted in the DSS experimental station and was planted with sweet potato last October 2022. The field were divided into 4 (four) plots with 4 treatments. The treatment were as follows: T0 - Control (No fertilizer application), T1 - Chicken manure only , T2 - Chicken manure and Complete fertilizer, and T3 - Complete fertilizer (Figure 4 and 5).

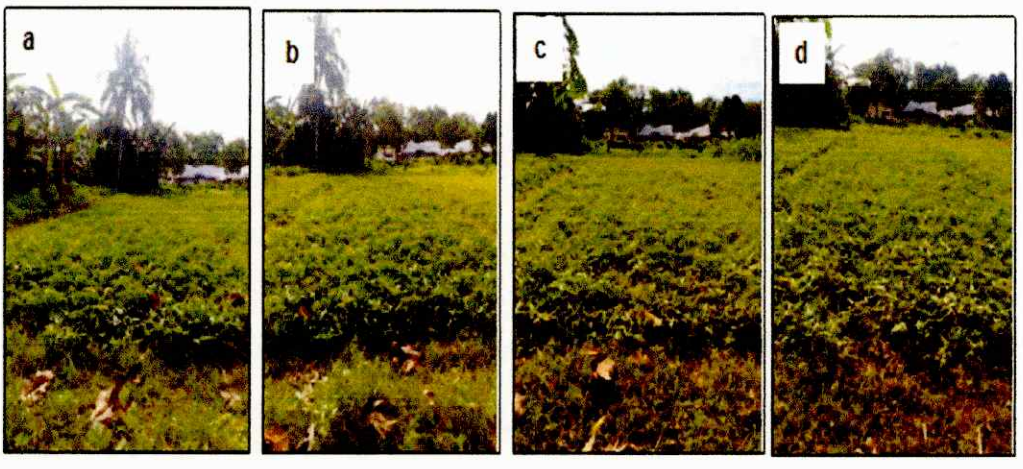

Figure 4. Sweet potato at DSS experimental field: a. T0, b. T1, c. T2, d. T3 (November 04, 2022).

Figure 5. Sweet potato at DSS experimental field: a. T0, b. T1, c. T2, d. T3 (December 23, 2023).

Figure 5. Photo of harvested sweet potato

F. Problems Met and Recommendations

Since they spend most of their time on their farms, not all of the identified farmer cooperators are active and eager to participate in the training. They can't afford to leave their activities, but we were able to persuade them through their Barangay Councilor on Agriculture.

G. Plans and Target for the next year (if continuing program/projects)

Conduct more workshops and trainings on Integrated Nutrient Management (INM) on other farm communities in Baybay City, Leyte. Moreover, provide help on nearby towns including Ormoc and Kananga sugarcane areas in the soil health management program of agricultural lands.