

Working Paper No. 2017-12

**MAINSTREAMING PALAYAMANAN IN MUNICIPAL
AGRICULTURE EXTENSION: BASELINE SURVEY RESULTS OF
PAMPLONA, CAMARINES SUR**

Merlyne M. Paunlagui

Center for Strategic Planning and Policy Studies
(formerly Center for Policy and Development Studies)
College of Public Affairs and Development
University of the Philippines Los Baños
College, Laguna 4031
Philippines

Telephone: (63-049) 536-3455

Fax: (63-049) 536-3637

Homepage: <https://cpaf.uplb.edu.ph/>

The CSPPS Working Paper series reports the results of studies by the Center researchers and CPAf faculty, staff and students, which have not been reviewed. These are circulated for the purpose of soliciting comments and suggestions.

The views expressed in the paper are those of the authors and do not necessarily reflect those of CSPPS, the agency with which the authors are affiliated, and the funding agencies, if applicable.

Please send your comments to:

The Director

*Center for Strategic Planning & Policy Studies (formerly CPDS)
College of Public Affairs and Development
University of the Philippines Los Baños
College, Laguna 4031
Philippines
Email: mmpaunlagui@up.edu.ph*

ABSTRACT

This study reports the results of the conducted baseline survey in lowland communities of Pamplona, Camarines Sur. The baseline survey aimed to describe the socio-demographic profile and farming characteristics of the rice farmers in the study areas. A total of 150 farmers from barangays Tambo, Veneracion, Del Rosario, Batang and Tampadong were surveyed. Among the data gathered are socio-demographic profile, biophysical characteristics and other farm-related information.

Results of the survey indicated that majority of the rainfed rice farmers in the study sites were male and married. The average age of the of the farmers is 54 years old while 40% of the farmers have attended or completed elementary school education while 48% were in high school. Rice topped the commodity planted in the study sites followed by vegetable. Surveyed farmers in Pamplona also engaged in animal production with carabao and swine farm animals raised. It was also revealed that aside from farming, other source of income include off-farm and non-farm activities such as working in other farm lands, businesses, and remittances.

Perception of the farmers on climate change was also derived from the survey. Majority of the respondents are aware of climate change and were able to describe dry and wet season and other factors associated with it.

Keywords: *baseline survey, rice farmers, rainfed, Pamplona, Camarines Sur*

Table of Contents

	Page
I. Introduction	1
II. Agricultural production in Camarines Sur	2
III. Results of the Baseline Survey	3
3.1 Socio-demographic characteristics of farmers and their households	3
3.2 House ownership and household utilities	4
3.3 Household assets	6
3.4 Climatic conditions and other farming environment in Pamplona, Camarines Sur	7
3.5 Farming and Farming Related Characteristics	12
3.5.1 Farm assets	12
3.5.2 Number of parcels and farm size	12
3.5.3 Land tenure	13
3.5.4 Crops planted	13
3.5.5 Livestock production	15
3.5.6 Fowl production	17
3.5.7 Aquaculture	18
IV. Summary and Conclusion	18
V. References	19

List of Tables

		Page
Table 1.	Selected socio-demographic characteristics of respondents, Pamplona, Camarines Sur, 2014	4
Table 2.	Household characteristics, Camarines Sur, 2014	5
Table 3.	Percentage of farmers with the following household assets, Pamplona, Camarines Sur, 2014	6
Table 4.	Sources of income, Pamplona, Camarines Sur, 2014	7
Table 5.	Start and end of wet season, Pamplona, Camarines Sur, 2014	8
Table 6.	Farmers' description of wet season, Pamplona, Camarines Sur, 2014	8
Table 7.	Frequency of natural flooding during rainy season, Pamplona, Camarines Sur, 2014	9
Table 8.	Degree farms by respondents are affected by floods, 2014	9
Table 9.	Start month of dry season, Camarines Sur, 2014	9
Table 10.	Farmers' description of dry season in Camarines Sur, 2014	10
Table 11.	Farmer's description of soil condition during dry season, Pamplona, Camarines Sur, 2014	10
Table 12.	Percentage of farmers with soil fertility indicators, Camarines Sur, 2014	10
Table 13.	Soil fertility indicators of farmers, Pamplona, Camarines Sur, 2014	11
Table 14.	Soil conservation practices of respondents, Camarines Sur, 2014	11
Table 15.	Percentage of farmers with the following major farm assets, Pamplona, Camarines Sur, 2014	12
Table 16.	Number of parcels and farm size, Pamplona, Camarines Sur, 2014	12
Table 17.	Average size of farm/holding of respondents, Pamplona, Camarines Sur, 2014	13
Table 18.	Ownership of farm parcel, Pamplona, Camarines Sur, 2014	13
Table 19a.	Crops planted of those with only one farm area, Pamplona, Camarines Sur, 2014	13
Table 19b.	Crops planted of those with two farm areas, Pamplona, Camarines Sur, 2014	14
Table 19c.	Crops planted of those with three farm areas, Pamplona, Camarines Sur, 2014	15
Table 20.	Livestock raised by farmers, Pamplona, Camarines Sur, 2014	16
Table 21.	Information of livestock raised, Camarines Sur, 2014	16
Table 22.	Animal tending practices, Livestock, Pamplona, Camarines Sur, 2014	16
Table 23.	Poultry raised by farmers, Pamplona, Camarines Sur, 2014	17
Table 24.	Average number of poultry raised by farmers, Pamplona, Camarines Sur, 2014	17
Table 25.	Reasons for raising fowls, Camarines Sur, 2014	17
Table 26.	Feeds used for fowls, Pamplona, Camarines Sur, 2014	18
Table 27.	Fowl tending practices, Pamplona, Camarines Sur, 2014	18

List of Figures

	Page
Figure 1. Map of Camarines Sur	2
Figure 2. Volume of production, selected crops, Camarines Sur, 2010 to 2016	3
Figure 3. Area planted to selected crops, Camarines Sur, 2010 to 2016	3
Figure 4. Farmers' perception whether their soil is fertile or no.	11

**MAINSTREAMING PALAYAMANAN IN MUNICIPAL AGRICULTURE
EXTENSION: BASELINE SURVEY RESULTS OF PAMPLONA,
CAMARINES SUR**

Merlyne M. Paunlagui

I. Introduction

The Palayamanan Program of Philippine Rice Research Institute and the Community Participatory Agricultural Research (CPAR) of the Department of Agriculture Bureau of Agricultural Research (DA BAR) are participatory extension approaches that had been proven to be adaptive to local conditions. The success stories of both approaches in the areas of organizing, facilitating learning and improvement of social and economic capital of farmers require that the government focus on ensuring that these kinds of projects reach more localities. Mainstreaming these approaches, however, necessitates multi-stakeholder participation as the success of such relies primarily on the initiative and collaboration among the different development actors. Working on the lessons of the completed Collaborative Research Development and Extension Services (CRDES) which was funded by the DA BAR, continued collaboration in research and extension starts off through joint program analysis and capability building activities. Hence, this project has three major accomplishments: capacity building, developing policy and planning instruments and project implementation of Palayamanan using CPAR approach.

This research and extension proposal works on the premise that improvement of the extension system through sustained collaboration using proven extension programs would lead not only to the strengthening of the extension system through improved capacities of stakeholders, but more importantly, lead to improved productivity and income.

The general objective of this project is to mainstream/institutionalize the Palayamanan in the agricultural extension system, using the CPAR approach. Specifically, the project aimed to:

- a. to determine the crop mix suitability, including marketing, of the Palayamanan program based on community services in selected sites;
- b. to mainstream Palayamanan in the agricultural extension system through Climate Field School;
- c. to conduct capacity building at the municipal level on agricultural development planning; and
- d. to monitor and document the experience of mainstreaming Palayamanan in Masbate and Camarines Sur.

One key activity of the project is the conduct of baseline study to describe the social and demographic and farming characteristics of the households in the study sites. The findings of the baseline study served as inputs to determine the content and approaches of the training on climate field school which was conducted for two cropping seasons in Pamplona, Camarines Sur. The training has contributed to

determining the crop mix suitable in the area and mainstreaming Palayamanan in the extension system of the municipality.

Pamplona, Camarines Sur, a fourth class municipality in the third district of Camarines Sur (Figure 1). It is one of the 37 municipalities/cities of the province (Province of Camarines Sur no date). The municipality is composed of 17 barangays with a total land area of 8,060 hectares. Farming is considered to be the main source of livelihood of the people. The agricultural products include coconut, rice, vegetables and root crops. Albeit, very few, there are also cottage industries, bamboo furniture industry, and agricultural equipment enterprises which manufacture hand tractors, rice threshers, and portable wind blowers.

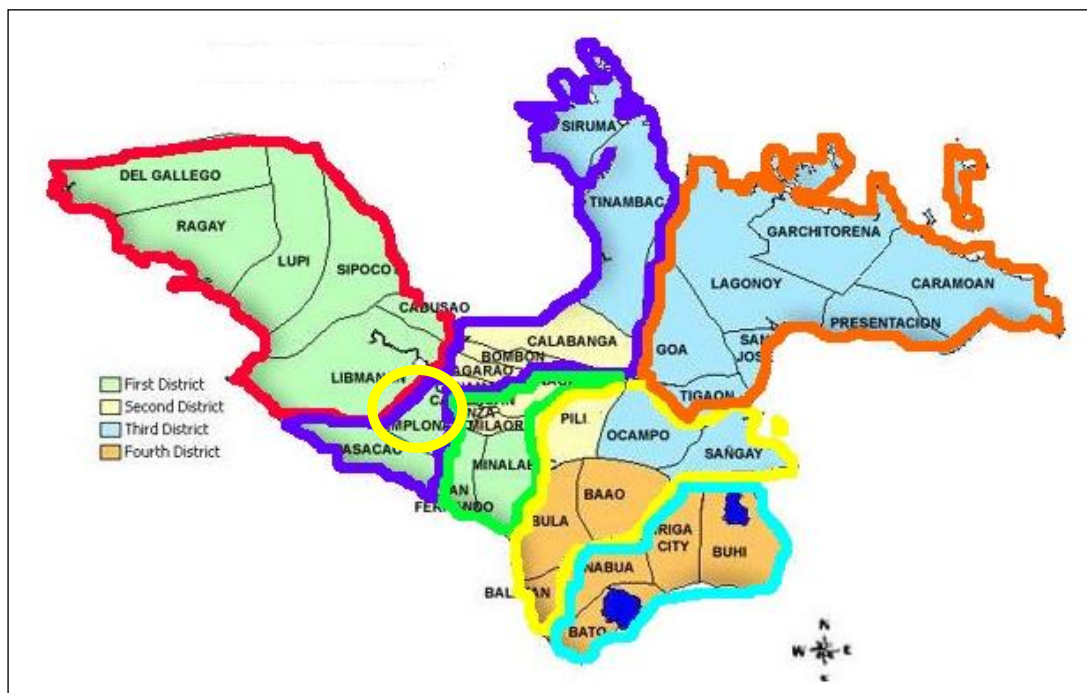


Figure 1. Map of Camarines Sur
Source: Prilles (2007)

Palayamanan Program is designed for upland barangays, thus barangays Veneracion, Tampadong, Batang, Del Rosario, and Tambo were purposive selected for the survey. These barangays also served as project sites or where demo farms were established.

This baseline survey was conducted in February 2015 where 30 farmers from each barangay were interviewed for the baseline survey. The survey gathered information on biophysical characteristics of Pamplona, Camarines Sur, socio-demographic profile, household characteristics, farming practices, and other farm related information.

II. Agricultural Production in Camarines Sur

The economy of Camarines Sur is mostly agriculture-based. 29 of the 37 towns are agricultural. Figure 2 shows coconut and rice are the main crops in

Camarines Sur. From 2010 to 2013, coconut production was higher than rice production. This pattern was reversed from 2014 to 2016.

Coconut production declined from 2014 despite the fact that area devoted to its production remained the same (Figure 3). On the other hand, increase in rice production was mainly due to the increase in area planted to rice. The area planted to rice rose from 316.8 thousand ha in 2010 to 351.1 thousand has from 2010 to 2016.

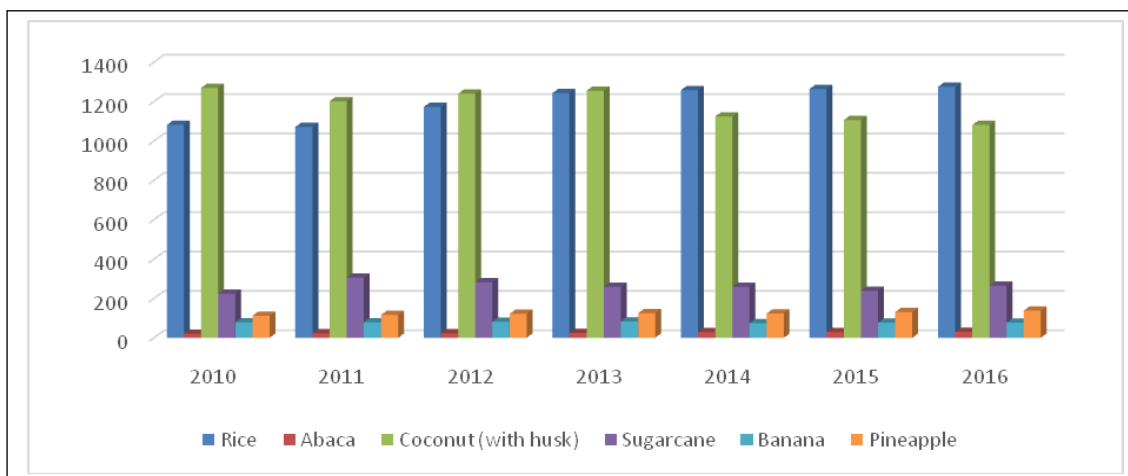


Figure 2. Volume of production, selected crops, Camarines Sur. 2010-2016
Source of basic data: various years

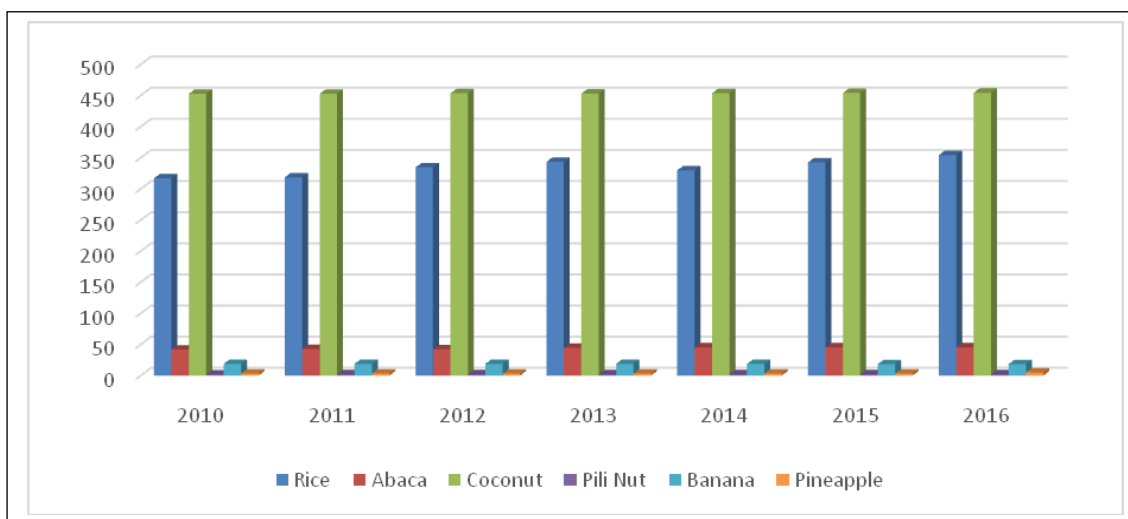


Figure 3. Area planted to selected crops, Camarines Sur: 2010-2016.
Source of basic data: PSA (various years)

III. Results of the Baseline Survey

3.1 Socio-Demographic Characteristics of farmers and their households

Rice farmers in Pamplona, Camarines were male, married and old. Among the farmers interviewed, 92% were male, 86% were married and on average, were 54

years old (Table 1). The average age of farmers is four years younger than the reported average of farmers for the whole country. More than 40% of the farmers have either attended or completed elementary and high school education with 48% and 42%, respectively. The remaining few farmers have either attended college education (4.57%) and vocational school (2.67%).

More than 79% of the farmers belong to nuclear households or living with unmarried children. More than 10% live in extended households or with either married children, grandchildren, in-laws and other relatives. Eight percent of the farmers live by themselves.

Table 1. Selected socio-demographic characteristics of respondents, Pamplona, Camarines Sur, 2014

Item	Pamplona, Camarines Sur (N=150)	
	n	%
Average age (in years)	54 years old	
Gender		
Male	138	92.00
Female	12	8.00
Total	150	100.00
Civil status		
Married	129	86.00
Widowed	12	8.00
Single	7	4.67
Live-in	2	1.33
Total	150	100.00
Educational Attainment		
Elementary	73	48.67
High School	63	42.00
Vocational	4	2.67
College	7	4.67
No Response	3	2.00
Total	150	100.00
Household structure		
Nuclear	119	79.33
Extended	19	12.67
Total	12	8.00
	150	100.00

3.2 House Ownership and Household Utilities

Almost all households own their house, of which 67% were permanent or built with strong materials like concrete walls and galvanized iron roof while 25% were made of semi-permanent materials like wood for walls and galvanized iron roof (Table 2).

Electricity is the source of light for 94% of the respondents. For their drinking water, one third of the respondents get their water from artesian wells while 18% have

piped water in their house. More than 10% get their water from unsafe sources like open well and river.

Wood with 80% is most commonly used for cooking followed by charcoal with 32.67%. Albeit fewer than wood and charcoal, 14% of the respondents use liquefied petroleum gas. Only 3 of the 150 respondents use electricity for cooking their meals.

All farming households have toilet but the most commonly used type is manually-sealed. Only two few have automatically-flushed toilet but there are still four households which use open it.

Table 2. Household characteristics, Pamplona, Camarines Sur, 2014

Item	Camarines Sur (N=150)	
	n	%
House ownership		
Owned	147	98.00
Rent-free	2	1.33
Rent	1	0.67
Total	150	100.00
Type of house		
Permanent	100	66.67
Semi-permanent	38	25.33
Temporary	12	8.00
Total	150	100.00
Lighting		
Electricity	141	94.00
Kerosene	7	4.67
Solar panels	2	1.33
Total	150	100.00
Cooking fuel*		
Wood	120	80.00
Charcoal	49	32.67
Liquefied Petroleum Gas	21	14.00
Electricity	3	2.00
Unspecified	7	4.67
Water system*		
Artesian/pump well	101	67.33
Piped water	27	18.00
Open well	11	7.33
Spring/river	5	3.33
Rain water	2	1.33
Unspecified	7	4.67
Toilet facility		
Manual water-sealed	144	96.00
Open pit	4	2.67
Flush water-sealed	2	1.33
Total	150	100.00

*multiple response

3.3 Household assets

Cellular phone (86%) is the most commonly owned household asset of the farming households closely followed by television (85%) (Table 3). Other popularly owned appliances are electric fan, radio, and digital video disc. The least owned assets include computer, and landline telephone. It is most likely that the sole owner of a handheld radio is an officer of the barangay.

Motorcycle is owned by more than 20 out of 100 respondents. Others possess bicycle (9%) and tricycle (6.67%). Only one farming household has owner jeepney.

Table 3. Percentage of farmers with the following household assets, Pamplona, Camarines Sur, 2014

Assets	Camarines Sur (N=150)	
	n	%
<i>Appliance</i>		
Cellular phone	129	86.00
TV	128	85.33
Electric fan	106	70.67
Radio	89	59.33
VCR/VCD/Component	68	45.33
Refrigerator	42	28.00
Washing machine	24	16.00
Computer	9	6.00
Telephone (landline)	2	1.33
Hand held radio	1	0.67
<i>Vehicle</i>		
Motorcycle	32	21.33
Bicycle	14	9.33
Tricycle	10	6.67
Jeep/Owner	1	0.67

Farming households have several sources of income including farm, off-farm and non-farm sources. Under the farm category, households derive income from planting rice, vegetables, livestock, and fishing. Meanwhile, off-farm income comes from providing labor to other farming households. Non-farm sources are those not related to agriculture like employment in service establishments, pension, remittances, and businesses.

On average, a farming household earned PhP80,405 a year (Table 4). Assuming an average of five members per household, the per capita income is estimated at PhP16,081. This is PhP6,073 lower than the income threshold for the province of Camarines Sur.

Table 4. Sources of income, Pamplona, Camarines Sur, 2014

Income source	Camarines Sur (N=150)		
	n	%	Ave. income (Php)
Farm			
Rice	105	70.00	30, 430.10
Vegetables	35	23.33	38, 873.33
Livestock	25	16.67	16, 334.00
Fishing	2	1.33	10, 000.00
Off-farm	4	2.67	6, 750.00
Non-farm			
Business	15	10.00	93, 793.33
Employment	48	32.00	83, 393.39
Pension	1	0.67	156, 000.00
Foreign Remittances	3	2.00	60, 373.33
Domestic remittances	3	2.00	9, 334.67
Average income per year	133	88.67	80, 405.31

Majority of the farming households are engaged in agricultural production, specifically rice production. Of the 150 farming respondents, 105 are engaged in rice production, 35 in vegetable production, and 25 in livestock production. Among the non-farm sources of income, the highest income comes from pension, business, and employment.

3.4 Climatic Conditions and Other Farming Environment in Pamplona, Camarines Sur

The province of Camarines Sur belongs to Type II climatic condition described as no dry season and heavy rains from December to January and little amount of rain is expected sometime from March to May. There were many answers given by the farmer respondents when the wet season begins and when it ends. However, the most popular response of May (31.22%) coincides with the official record followed closely by the month of June with another one-third of the responses (Table 5). Similarly, the most popular response on the end month of December is again consistent with the published information. There were few responses which are quite off from the official record including the month of October and November as the start of the wet season while it was May, June, and July for the end of the wet season.

Most of the farmers (58%) described “wet season “as continuous rains lasting from weeks to months while only 6.67% claimed that it seldom rains in the province. Almost half of the respondents (44.67%) stated that their farm was once affected by natural flooding during rainy season while only a few (8.67%) said that they were never affected and only 3.33% said that they were always affected by natural flooding. However, almost half of the farmers (50.68%) believed that the flooding from rainy season had very little effect on their farms.

Table 5. Start and end of wet season, Pamplona, Camarines Sur, 2014

Month	Start Month		End Month	
	n	%	n	%
January	3	2.00	8	5.33
February	0	0.00	1	0.67
March	2	1.33	0	0.00
April	3	2.00	0	0.00
May	47	31.33	2	1.33
June	45	30.00	8	5.33
July	36	24.00	13	8.67
August	6	4.00	5	3.33
September	3	2.00	13	8.67
October	4	2.67	10	6.67
November	0	0.00	40	26.67
December	1	0.67	50	33.33
Total	150	100.00	150	100.00

Perhaps, the differences in the response on the start and end month of wet season can be explained by the respondents' own description of wet season. More than half (58%) describe wet season as continuous rains lasting weeks to months (Table 6). The other responses are continuous rains for days (14%) and rains heavily once it starts and rain is sufficient to sustain planting with 10.67% each. Surprisingly, 6.67% of the respondents describe rainy season as it "seldom rains."

Table 6. Farmer's description of wet season, Pamplona, Camarines Sur, 2014

Farmer's description of wet season	Camarines Sur (N=150)	
	n	%
Continuous rains lasting weeks to months	87	58.00
Continuous rains for days	21	14.00
Rains heavily once it starts to rain	16	10.67
Rain is sufficient to sustain planting	16	10.67
Seldom rains	10	6.67

When asked of the frequency that they were affected during rainy season, the responses range from once to always. Forty-four percent of the respondents reported to have been affected once. Another 28% said that they were rarely affected while 8.67% said they were never affected (Table 7). Only five respondents or 3.33% reported to have been always affected by flood.

Table 7. Frequency of natural flooding during rainy season, Pamplona, Camarines Sur, 2014

Description	Camarines Sur (N=150)	
	n	%
Once affected	67	44.67
Rarely affected	42	28.00
Occasionally (if there are heavy storms)	23	15.33
Never	13	8.67
Always	5	3.33

Half of the respondents reported that flooding had very little effect to them while one-third considered themselves to somewhat affected (Table 8). Only six respondents said that flooding affected them to a very great extent while the effect of flooding varies from time to time for four respondents.

Table 8. Degree farms by respondents are affected by floods, Pamplona, Camarines Sur, 2014

Description	Camarines Sur (n=148)	
	n	%
Very little effect	75	50.68
Somewhat affected	50	33.78
Not affected at all	13	8.78
To a very great extent	6	4.05
Varies from time to time	4	2.70

Several months were reported to mark the start of the dry season but the most popular responses are the months of January (45%) and February (33%) (Table 9). Based on the most common responses, dry season ends either in the month of April (44%) or May (37.33%). This means that dry season lasts for four months in a year.

Table 9. Start month of dry season, Camarines Sur, 2014

Month	Start month of dry season		End month of dry season	
	n	%	n	%
January	68	45.33	0	0.00
February	50	33.33	1	0.67
March	15	10.00	9	6.00
April	3	2.00	66	44.00
May	0	0.00	56	37.33
June	2	1.33	9	6.00
July	0	0.00	4	2.67
August	0	0.00	2	1.33
September	0	0.00	1	0.67
November	3	2.00	0	0.00
December	9	6.00	2	1.33

The farmers were also asked of their description of the dry season. For 81.33% of the respondents described dry season as rainless period lasting weeks to months. More than a quarter said that the temperature during dry season is too high with very seldom rains (Table 10). Two respondents said that there are not rain at all during the dry season.

Table 10. Farmers' description of dry season in Camarines Sur, 2014

Farmer's description of dry season	Camarines Sur (N=150)	
	N	%
Rainless period lasting weeks to months	122	81.33
Temperature is too high with very seldom rains	26	17.33
No rain at all; pure drizzles only	2	1.33

During the dry season, 94.00% described soil as too dry for the plant to survive and cracking that needs to be constantly watered (3.33%). Despite the being too dry and cracking, four respondents reported that they can plant but results to low yield (Table 11).

Table 11. Farmer's description of soil condition during dry season, Pamplona, Camarines Sur, 2014

Farmer's description of soil moisture during dry season	Camarines Sur (N=150)	
	n	%
Dry and cracking soil; too dry for plant to survive	141	94.00
Lacks moisture; must be constantly watered	5	3.33
Can still be planted but yield is very low	4	2.67

When asked if they can recognize that soil is fertile, almost a fifth said yes (Table 12). According to 41% of the respondents, the most common indicator that soil is fertile is the dark green color of the leaves and if the plants look healthy followed by dark color of the soil and good harvest even if only small amount of fertilizer is applied (34%) (Table 13). According to Jordan (2014) dark color soil is usually due to the presence of organic matter, so that the darker the surface horizon more organic matter content is assumed. Other responses include presence of earthworms and resistance of plants to diseases.

Table 12. Percentage of farmers with soil fertility indicators, Pamplona, Camarines Sur, 2014

Item	Camarines Sur (N=150)	
	N	%
Yes	29	19.33
No	121	80.67

Table13. Soil fertility indicators of farmers, Pamplona, Camarines Sur, 2014

Indicators	Camarines Sur (n=29)	
	N	%
If the leaves of crops planted are dark green/if the crops planted look healthy, the soil is fertile	12	41.38
If the soil is dark (dark brown preferably to black)	11	37.93
If harvest is good without the need to apply much fertilizer	4	13.79
If the soil has earthworms	1	3.45
If crops planted are resistant to diseases	1	3.45
Total	29	100.00

Seventy-two percent of the farmer respondents perceived that soil in their farm are fertile (Figure 4) because they practice composting (52%), green manuring (13.33%), and use animal manure (11.33%) (Table14). However, one-fifth of the respondents reported to have used inorganic fertilizer only to keep their soil fertile.

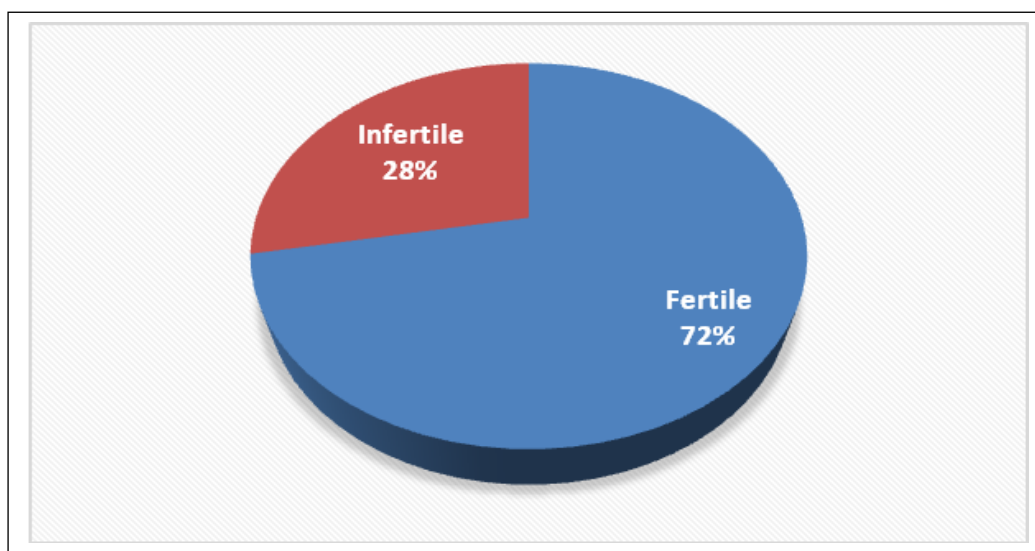


Figure 4. Farmers' perception whether their soil is fertile or no.

Table 14. Soil conservation practices of respondents, Pamplona, Camarines Sur, 2014

Soil conservation practices	Camarines Sur (N=150)	
	n	%
Composting	82	54.67
Use of commercial fertilizer only	31	20.67
Green manuring	20	13.33
Use of animal manure	17	11.33

3.5 Farming and Farming Related Characteristics

3.5.1 Farm assets

Farm assets refer to the equipment, facility and machinery that the farmers own and use on their farms from production to post-production practices. The most common farm assets reported are sprayer (52.67%), plow (43.33%), and harrow (33.33%) (Table 15). The least owned farm assets are corn sheller, 4-wheel tractor, trailer, and solar dryer.

Table 15. Percentage of farmers with the following major farm assets, Pamplona, Camarines Sur, 2014-2015, in percent.

Major Farm Assets	Camarines Sur (N=150)	
	N	%
Sprayer	79	52.67
Plow	65	43.33
Harrow	50	33.33
Hand tractor	36	24.00
Irrigation pump	23	15.33
Thresher	22	14.67
Farm house	19	12.67
Warehouse	9	6.00
Sheller	8	5.33
4W tractor	4	2.67
Trailer	2	1.33
Solar dryer	1	0.67

3.5.2 Number of parcels and farm size

Parcel refers to the number of farm that the farmer owns or operates. In the case of the respondents, the number of parcels range from one to three but 78 out of 100 (Table 16). The average farm size of each parcel is less than a hectare with the first parcel as the largest with an average of 0.98 hectare (Table 17). The third parcel is the lowest with an average of 0.60 hectare. Overall, the average farm size 1.15 hectare. This farm size is lower than the national average of 2.59 hectare (PSA 2015).

Table 16. Number of parcels and farm size, Pamplona, Camarines Sur, 2014

Item	Camarines Sur (N=150)	
	N	%
One parcel of land	118	78.67
Two parcels of land	26	17.33
Three parcels of land	6	4.00

Table 17. Average size of farm/holding of respondents, Pamplona, Camarines Sur, 2014

Item	Camarines Sur (N=150)
Farm area 1	9, 817.42 sq.m. ~ 0.98 ha
Farm area 2	7, 783.97 sq.m. or 0.78 ha
Farm area 3	5, 972.90 sq.m. ~ 0.60ha
Average size of all parcels	11, 545.17 sq.m. ~ 1.15 ha

3.5.3 Land tenure

Regardless of parcel, at least half of them are owned by the farmer-respondents (Table 18). The rest of the parcels are either rented or being operated for free. Worth noting is as the number of parcel increase, the percentage of farmers who operate farm for free increases.

Table 18. Ownership of farm parcel, Pamplona, Camarines Sur, 2014

Ownership Farm Parcel	Camarines Sur		
	Farm 1(n=150)	Farm 2 (n=32)	Farm 3 (n=6)
Owned	67.33	56.25	50.00
Rented	23.33	34.38	33.33
Rent-free (owned by parents and others)	7.33	9.38	16.67
Others (DAR)	2.00	0.00	0.00
Total	100.00	100.00	100.00

3.5.4 Crops planted

Regardless of the number of parcels, rice is the most commonly planted crop of the farmers. Ninety-one percent of the respondents with one parcel of farm/hold are rice farmers (Table 19a). Other crops planted are legumes, coconut, fruit vegetables, and root crops. All farmers with two parcels of farm/holding plant rice. Second parcels are also planted to coconut and various types of vegetables and banana (Table 19b). For farmers owning/operating three parcels, rice is still the main crop. Worth noting is the increase in the percentage of farmers that have coconut and planting legumes, fruit vegetables, leafy vegetables and banana (Table 19c).

Table 19a. Crops planted of those with only one farm area, Pamplona, Camarines Sur, 2014

Crops	Camarines Sur (n=118)	
	n	%
Cereals		
Rice	107	90.68
Corn	2	1.69
Vegetable legumes		
String beans	13	11.02

Crops	Camarines Sur (n=118)	
	n	%
Mungbean	3	2.54
Plantation crops		
Coconut	7	5.93
Fruit vegetables		
Okra	5	4.24
Bitter gourd	4	3.39
Eggplant	3	2.54
Bottle gourd (upo)	3	2.54
Pepper	1	0.85
Tomato	1	0.85
Luffa (patola)	1	0.85
Cucumber	1	0.85
Flower vegetables		
Squash	5	4.24
Fruit trees		
Banana	3	2.54
Root crops		
Cassava	3	2.54
Sweet potato	2	1.69
Taro (gabi)	1	0.85
Leafy vegetables		
Chinese cabbage (pechay)	3	2.54
Fruits		
Pineapple	1	0.85
Lemon	1	0.85
Root and bulb vegetables		
Ginger	1	0.85

**multiple responses*

Table 19b. Crops planted of those with two farm areas, Pamplona, Camarines Sur, 2014

Crops	Camarines Sur (n=26)	
	n	%
Cereals		
Rice	26	100.00
Corn	1	3.85
Plantation crops		
Coconut	9	34.62

Crops	Camarines Sur (n=26)	
	n	%
Fruit vegetables		
Bitter gourd	5	19.23
Eggplant	3	11.54
Okra	1	3.85
Pepper	1	3.85
Vegetable legumes		
String beans	5	19.23
Mungbean	2	7.69
Fruit trees		
Banana	5	19.23
Star apple	1	3.85
Leafy vegetables		
Chinese cabbage (pechay)	1	3.85
Root and bulb vegetable		
Ginger	1	3.85

**multiple responses*

Table 19c. Crops planted of those with three farm areas, Pamplona, Camarines Sur, 2014

Crops	Camarines Sur (n=6)	
	n	%
Cereals		
Rice	5	83.33
Vegetable legumes		
String beans	4	66.67
Plantation crops		
Coconut	2	33.33
Fruit vegetables		
Okra	1	16.67
Eggplant	1	16.67
Cucumber	1	16.67
Leafy vegetables		
Chinese cabbage (pechay)	1	16.67
Fruit trees		
Banana	1	16.67

**multiple responses*

3.5.5 Livestock Production

Farmers are also engaged in livestock production. Carabao tops the list of animals raised because it is used for farm production. Swine raising follows closely being raised by 30% of the farmers (Table 20). Goat raising is far third with only

eight percent of the farmers raising this small ruminant. Farmers raise 3 to 5 head of livestock for several reasons (Table 21). Carabao is solely for use in the farm while swine and goat are for additional income and home consumption. Cattle is raised for additional income only.

Table 20. Livestock raised by farmers, Pamplona, Camarines Sur, 2014

Livestock	Camarines Sur (N=150)	
	n	%
Carabao	55	36.67
Pig	45	30.00
Goat	12	8.00
Cow	11	7.33
Do not raise livestock	58	38.67

*multiple responses

Table 21. Information of livestock raised, Camarines Sur, 2014

Livestock	Camarines Sur (N=150)		
	Number of heads	Reasons for raising	Feeds used
Pig	3 heads	for personal consumption and additional income	rice bran, commercial feeds, corn
Carabao	2 heads	for farm use	Grass
Goat	5 heads	for personal consumption and additional income	Grass
Cow	3 heads	additional income	Grass

Pig, carabao and goat are either confined or tethered. Only cows are either roaming freely or tethered. Majority of the pigs (86.67%) are raised in pig pens while 90% of the carabaos are tethered (Table 22). All the cattle and goats are tethered.

Table 22. Animal tending practices, Livestock, Pamplona, Camarines Sur, 2014

Livestock	Tending Practice	Camarines Sur (N=150)	
		n	%
Pig	Confined	39	86.67
	Tethered	6	13.33
Carabao	Tethered	50	90.91
	Free-range	4	7.27
	Confined	1	1.82
Goat	Tethered	11	100.00

Livestock	Tending Practice	Camarines Sur (N=150)	
		n	%
Cow	Tethered	12	100.00

3.5.6 Fowl Production

More than half of the farmers raise chicken (Table 23) averaging 14 head per farmer (Table 24). Meantime, duck is raised by one-fifth of the farmer respondents with an average of 10 head each. These fowls are predominantly raised for consumption (94%) while 18% reported as additional source of income (Table 25).

Table 23. Poultry raised by farmers, Pamplona, Camarines Sur, 2014

Fowl	Camarines Sur (N=150)	
	n	%
Chicken	89	59.33
Duck	32	21.33
does not raise fowls	59	39.33

**multiple responses*

Table 24. Average number of poultry raised by farmers, Pamplona, Camarines Sur, 2014

Fowl	Camarines Sur (N=150)
Chicken	14 heads
Duck	10 heads

Table 25. Reasons for raising fowls, Camarines Sur, 2014

Fowl	Camarines Sur (n=91)	
	n	%
Personal consumption only	86	94.44
Additional source of income only	17	18.89
Consumption and for another source of income	12	13.33
Leisure	5	5.56

**multiple responses*

Two-thirds of the farmers feed the fowls with rice bran while a little over buy commercial feeds. Seventy-six percent of the farmers let their fowls roam in the backyard while only 15.73% kept their fowls in chicken coop or pen (Table 26). There are also fowls on tether but very few.

Table 26. Feeds used for fowls, Pamplona, Camarines Sur, 2014

Fowl	Camarines Sur (n=91)	
	n	%
rice bran only	57	62.64
commercial feeds only	49	53.85
a mixture of rice bran and commercial feeds	12	13.19
Others	3	3.3

**multiple responses*

Table 27. Fowl tending practices, Pamplona, Camarines Sur, 2014

Fowls	Tending Practice	Camarines Sur	
		n	%
Chicken	Free-range	68	76.40
	Confined	14	15.73
	Tethered	7	7.87
Duck	Free-range	23	71.88
	Tethered	5	15.63
	Confined	4	12.50

**multiple responses*

3.5.7 Aquaculture

Only one farmer owns a fish pond. One-third of the farmers consider integration of farming and fish culture is possible, however, only five practice this. There were no reasons given why these farmers do not adopt the farm fish integration method.

IV. Summary and Conclusion

A baseline survey was conducted in five barangays of Pamplona, Camarines Sur to describe the social demographic and farming characteristics of the households. Thirty farmers from each barangay were interviewed. Among the data gathered are information on biophysical characteristics and other farm related data. Majority of the rice farmers in Pamplona, Camarines Sur were male, married and old. The average age of the farmer interviewed is 54 years old. Forty percent of the farmers have attended or completed elementary school education while 48% were in high school.

Camarines Sur belongs to type II climatic condition which has no dry season and heavy rains from months of December to January. While rains are expected from March to May. Interviewed farmers said that they mostly experiences wet season on June and ends in December.

Majority own and operate an average of 1.15 ha of farm, all are rice farmers and majority plant vegetables, coconut, and banana. Farmers are also engaged in livestock production in which carabao is the top animal raised used for farm production. Chicken is the most commonly raised poultry while there were also a few farmers raising swine and goat.

V. References

Jordan, Antonio. (2014). Soil color never lies. EGU Blogs. Retrieved from <http://blogs.egu.eu/divisions/sss/2014/03/30/soil-color-never-lies/>

Philippine Statistics Authority. (2015). Special report - highlights of the 2012 census of agriculture (2012 CA). Retrieved from <https://psa.gov.ph/content/special-report-highlights-2012-census-agriculture-2012-ca>.

Philippine Statistics Authority. (various years). Countrystat Philippines. Retrieved from <http://countrystat.psa.gov.ph/?cont=10&pageid=1&ma=O80LUAHC>

Prilles, W. (2007). Redistricting Camarines Sur. Retrieved from <http://nagueno.blogspot.com/2007/07/redistricting-camarines-sur-optimally.html>.

Province of Camarines Sur (no date). Profile of Camarines Sur.