

Conrado, Vilma D. et al.

Working Paper

Evaluation of the impact of agricultural insurance program of the PCIC on agricultural producers in Region 2

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Evaluation of the Impact of Agricultural Insurance Program of the PCIC on Agricultural Producers in Region 2

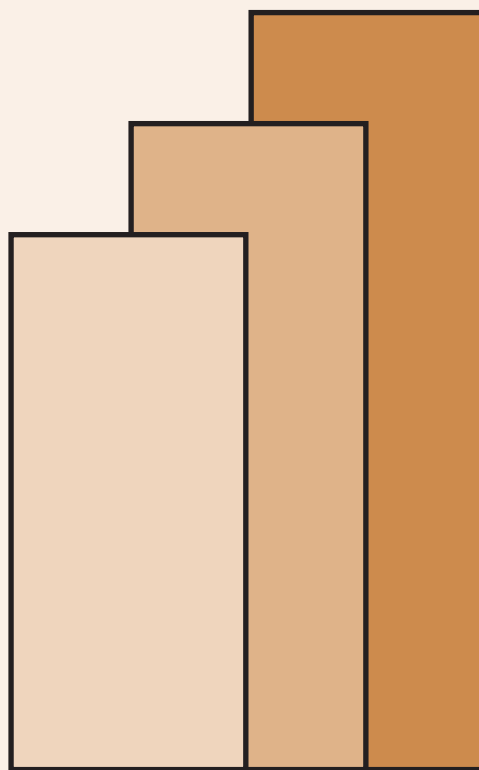
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EVALUATION OF THE IMPACT OF AGRICULTURAL INSURANCE PROGRAM OF THE PHILIPPINE CROP INSURANCE CORPORATION (PCIC) ON AGRICULTURAL PRODUCERS IN REGION 02 (CAGAYAN VALLEY)

Terminal Report
November 30, 2016

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Evaluation of the Impact of Agricultural Insurance Program of the Philippine Crop Insurance Corporation (PCIC) on Agricultural Producers in Region 02 (Cagayan Valley), Philippines

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Jane Umengan, and Nina Klare Paat*

ABSTRACT

This study aimed to evaluate the impact of agricultural insurance of the Philippine Crop Insurance Corporation (PCIC) on corn farmers in the Cagayan Valley Region, Philippines. A total of 500 corn farmers were classified into the following treatments: 250 corn farmers with insurance (118 with indemnity claims and 132 without indemnity claim) randomly taken from PCIC agricultural insurance subscribers for 2014 and 2015 matched with 250 without insurance from the RSBSA list. These treatment groups were further divided according to farm size groups: 0.5 ha and below, greater than 0.5 ha to 1.0 ha and greater than 1.0 ha. Regression analysis was used to determine the demand on agricultural insurance and the t-test was used to test the difference on net farm income on corn production between treatment groups.

The results show that the factors affecting the probability of PCIC insurance availment by corn farmers are farm size, government transfer income, adoption of hybrid variety, land tenure and the distance of farmer to PCIC Office. Farmers with crop insurance tend to have significantly higher adoption rate of hybrid variety than farmers without crop insurance. The larger the farm size, the higher the probability of getting insurance for their corn farms. Corn farmers who do not own the land they farm and those who received higher government transfers tend to have higher probability of getting of getting agricultural insurance.

Farmers with insurance with claim have significantly higher net incomes per hectare than those without insurance. When farmers were not grouped by farm size, farmers with insurance with claims have higher net incomes than farmers with insurance but without indemnity claims in both years 2014 and 2015. Similar result was found in large farms (greater than 1.0 ha) when farmers were grouped according farm size. Therefore, there is significant impact of receiving indemnity claims on the net farm income of farmers in corn production. Hence, it is recommended that policies, programs and efforts of the government and the PCIC be directed towards enhancing the factors that increase the availment of and review of indemnity coverage of agricultural insurance.

Key words: impact evaluation, agricultural insurance, corn production, Cagayan Valley Region – Philippines

INTRODUCTION

The Cagayan Valley Region (Region 2)

Cagayan Valley designated as Region 2 is composed of five provinces, namely: Batanes, Cagayan, Isabela, Nueva Vizcaya and Quirino. Most of the region lies in a large valley in northeastern Luzon, between the Cordilleras and the Sierra Madre mountain ranges. Cagayan River, the country's longest river runs through its center and flows out to Luzon Strait in the north, in the town of Aparri, Cagayan. The Babuyan and Batanes island groups that lie in the Luzon Strait also belong to the region. Cagayan Valley region has a total land area of 2,826,520 hectares, which is the second largest region of the Philippines in terms of land area

The region remains to be an agriculture-based economy and thus, its vulnerability to weaths/shocks and climatic condition affecting agricultural production performance will likely affect the output of the agriculture sector. Palay and corn are the two major agricultural commodities bringing annual recognition to the region in terms of production and contribution to output. Based on 2015 NEDA Annual Report, the volume of production for corn declined by 2.9 percent from 1,875,400 metric tons in 2014 to 1,803,900 metric tons in 2015 for both white and yellow corn. White corn production was only 2.43 percent of total production and the around 97.5 percent was on yellow corn. The decline in the region's corn production was largely due to the effects of drought and typhoon Lando and Nona. Both the area harvested and productivity of corn were affected.

The Gross Regional Domestic Product (GRDP) of Region 2 for CY 2015 at 2000 constant prices grew by 3.7 percent valued at PhP 133.680 Billion. This growth rate slowed down from its 2014 growth rate of 7.2 percent. The slower economic growth rate for CY 2015 was due to negative growth of the agriculture sector which suffered from extreme weather events (i.e. typhoons Egay, Lando, Ineng and Nona) and adverse effect of El Niño. The agriculture sector experienced a negative growth rate (-0.04%) in 2015 which was far below the 5.1 percent growth rate in 2014. The production levels of several crops especially palay and corn declined contributing to the deceleration from 5.3 percent in 2014 to negative 0.1 percent in 2015 of the agriculture and forestry subsector (NEDA, 2016).

The unemployment rate of the region was 3.2 percent in 2015, lower by 0.4 percent from the 2014 unemployment rate. Majority of the employed were engaged in primary, agriculture (54.4 percent), while the rest were services (37.3%) and industry (8.3%) sectors. This implies the big role played by agriculture in terms of employment in the region.

Poverty incidence or the percentage of population living below the poverty threshold in Region 2 also continued to decline gradually from 42.8 percent in 1991 down to 26.8 percent in 2006, 22.1 percent in 2012 and 15.8 percent poverty incidence among population in 2015.

Significance of the project

The Philippine Crop Insurance Corporation (PCIC) was created under Presidential Decree (PD) 1467 on June 11, 1978. Its charter was amended by P.D. 1733 on October 21, 1980 and Republic Act 8175 on December 29, 1995. The principal mandate of PCIC is to provide insurance protection to the country's agricultural producers, particularly the subsistence farmers against (a) crop losses arising from natural calamities such as typhoons, floods, drought, earthquakes and volcanic eruptions as well as plant diseases and pest infestations, and (b) non-crop agricultural asset losses due to perils for which the asset has been insured against.

During the occurrence of natural calamities, agricultural producers incur losses (partial or complete) from their agricultural production is because standing crops/livestock are destroyed. Farmers therefore have the difficulty of providing their needs and to finance the next cropping season. This is chronic and transient poverty exists. Reyes (2013) found that there are considerable movements in and out of poverty among households engaged in agriculture. Among households whose head are engaged in agriculture, 33 percent are never poor, 26 percent are always poor and 41 percent are sometimes poor. Of those who were poor in 2009, 55 percent are chronic poor while the remaining 45 percent are transient poor (poor now but were previously non-poor). This is not surprising given that agriculture is exposed to many risks (Reyes, 2013)

Agricultural insurance is a form of risk management used to hedge against the risk of contingent uncertain loss and a risk management mechanism designed to even out agricultural risk (Estacio & Modero, 2011). The PCIC is implementing regular and special programs to protect agricultural producers against crop losses. Under the regular program, the PCIC provides around 50 percent premium subsidy to its regular clients who are rice and corn farmers while other agricultural producers (HVCC farmers, livestock raisers and fisherfolk) are paying the full amount of insurance premium. Under the special program, the insurance premium is fully subsidized by the national and/or local government. The special programs provided by the national government are the following: the Department of Budget and Management (DBM)-funded Registry System for Basic Sectors in Agriculture (RSBSA); the Rice Crop Insurance for the DA-LBP Sikat Saka Program, the DA-RCISP for farmers participating in the High Yielding Technology Adoption (HYTA) Program, the NIA-Third Cropping and the Weather-Adverse Rice Areas (WARA) which are under the Department of Agriculture; the Agrarian Reform Beneficiaries-Agricultural Insurance Program (ARB-AISP) participating in Agrarian Production Credit Program (APCP) and Credit Assistance Program for Program Development (CAP-PD) under the Department of Agrarian Reform; and the Yolanda Program which is the program for the Typhoon Yolanda-affected farmers and fisherfolk. There are also some local government units (LGUs) that have established partnership with the PCIC in providing premium subsidy to local agricultural producers such as the Cebu Provincial Government, Provincial Government of Negros Occidental, Provincial Government of Davao del Norte and recently the Provincial Government of Isabela in Region 02.

Moreover, borrowing for use in rice and corn farming are further subsidized by lending institutions such as the Land Bank of the Philippines (LBP) and Cooperatives. It is not surprising that the government has poured a huge sum of money for the insurance benefits of farmers especially for rice and corn farmers to protect them from crop losses arising from natural calamities, pests and diseases. In FY 2014 alone, pursuant to GAA, the government

subsidized through the PCIC a sum of P1,183,771 which was used exclusively for the full cost of insurance premiums of subsistence farmers and fisher folks.

Pursuant to FY 2014 General Appropriations Act, the subsidy to the PCIC shall be used exclusively for the full cost of insurance premiums of subsistence farmers and fisherfolk provided that the PCIC shall ensure that the beneficiaries are the subsistence farmers and fisherfolk registered under the Registry System for Basic Sectors in Agriculture (RSBSA) and are not receiving any other subsidy for the foregoing types of insurance from the local government. The number of registered farmers, farm laborers and fishermen is indicated below:

Type	Number
Number of persons who registered as farmers, farm laborers and/or fishermen	692,105
Number of registered farmers only	167,792
Number of registered farm laborers only	294,135
Number of registered farmers and farm laborers	143,319

Based on the report of Reyes region 2 has a low penetration rate with only 19.60 percent for rice and 7.90 percent for corn, although it is the third highest penetration rate among the regions. The number of enrolled farmers for rice and corn in the Cagayan valley Region for October 2014 to March 2015 was 36,481 and 9,907 for rice and corn, respectively.

Rice and corn crop insurance is an insurance extended to farmers against losses in rice and corn crops due to natural calamities as well as plant pests and diseases. The object of the insurance is the standing crop planted on the farm land specified in the insurance application. The insurance typically covers the production inputs as indicated in per farm plan and budget plus an additional amount of cover (at the option of the farmer) of up to maximum of 20 percent hereof to cover portion of the expected yield. The period of coverage is from planting to harvesting. The amount of coverage for rice and corn in Region 02 is as follows:

RICE		CORN	
Variety	Amount of Cover	Variety	Amount of Cover
Inbred		Hybrid varieties	40,000/ha
Commercial production	P 41,000/ha	Open pollinated varieties	28,000/ha
Seed production	50,000/ha		
Hybrid varieties	50,000/ha		

Source: PCIC Region 02

The types of insurance cover are multi-risk and natural disaster. Multi-risk is a comprehensive coverage against crop loss caused by natural disasters as well as pest infestation and plant diseases. Natural disaster is a limited coverage against crop loss caused by natural disasters. The premium rate is variable per region, per season and per risk classification. This shall be shared by the farmer, lending institution and the government as indicated in Table 1.

Table 1. Schedule of Region 02 composite rates and premium sharing (%) of agricultural insurance for rice and corn.

Premium Sharing	CORN		RICE			
	Phase A	Phase B	Wet season			Dry Season (All Prov)
			Cagayan/ CAR	Other Province	Isabela	
<i>Borrowing Farmers</i>						
Multi-Risk Cover						
Farmer	11.31	7.69	4.16	2.78	1.39	1.69
Lender	3.49	2.37	2.78	2.78	2.78	1.13
Government	14.05	9.55	5.37	5.37	5.37	2.18
Total	28.85	19.61	12.31	10.93	9.54	5.00
Natural Disaster Cover						
Farmer	10.73	7.30	3.21	2.14	1.07	1.16
Lender	2.33	1.58	2.14	2.14	2.14	0.77
Government	14.02	9.54	4.29	4.29	4.29	1.54
Total	27.08	18.42	9.64	8.57	7.50	3.47
<i>Self-Financed Farmers</i>						
Multi-Risk Cover						
Farmer	14.80	10.06	6.94	5.56	4.17	2.82
Government	14.05	9.55	5.37	5.37	5.37	2.18
Total	28.85	19.61	12.31	10.93	9.54	5.00
Natural Disaster Cover						
Farmer	13.06	8.88	5.35	4.28	3.21	1.93
Government	14.02	9.54	4.29	4.29	4.29	1.54
Total	27.08	18.42	9.64	8.57	7.50	3.47

Source: PCIC, Region 02.

To be eligible for the crop insurance, (a) the farm must not be part of a riverbed, lakebed, marshland, shoreline or river bank (b) the farm must have an effective irrigation and drainage system (c) The farm must be accessible to regular means of transportation. With the changing physical environment evidently seen in climate change, it is expected that farmers have high risk on their farming endeavors. The crop insurance is an effective way to protect the farmers from such risks by indemnifying their loss due to calamities, insect pests and infestation. With the intention of PCIC to provide insurance protection to the country's agricultural producers and with the several socio-economic factors influencing farming activities, researchers, development advocates and other PCIC stakeholders ask the question as to how PCIC improves the welfare of corn farmers in Cagayan Valley Region.

Objectives

Generally, the project aims to evaluate the impact of the agricultural insurance program of the Philippine Crop Insurance Corporation (PCIC) on corn producers in Region 2 (Cagayan Valley). It covers four provinces of the Cagayan Valley Region namely: Cagayan, Isabela, Nueva Vizcaya and Quirino. Specifically, it aimed to:

- A. determine/measure the following variables of “with insurance” and “without insurance” corn farmers;
 - a) net farm income of the farmer
 - b) net farm revenue of the farmer
 - c) production cost incurred by the farmer
 - d) amount of insurance premium paid by the farmer
 - e) amount of indemnity received by the farmer
 - f) amount of indemnity received
 - g) shocks affecting the farmer (index of production, price and other risks)
- B. determine the characteristics of farmer, his/her farm and household and other factors influencing farm income
- C. determine characteristics of farmer, farmer’s farm and other factors influencing decision to get insurance for corn production;
- D. determine the investment in production activities of “with insurance and “without insurance” corn farmers
- E. determine the amount of production loans and source of credit availed by “with insurance” and “without insurance” corn farmers
- F. determine the contribution of the independent variables to variation in net farm income of “with insurance” and “without insurance” corn farmers
- G. determine the magnitude explained by the different independent variables whether singly or in combination to the variation in net farm income of “with insurance” and “without insurance” corn farmers
- H. determine the willingness to pay agricultural insurance of “with insurance” and “without insurance” corn farmers

METHODOLOGY

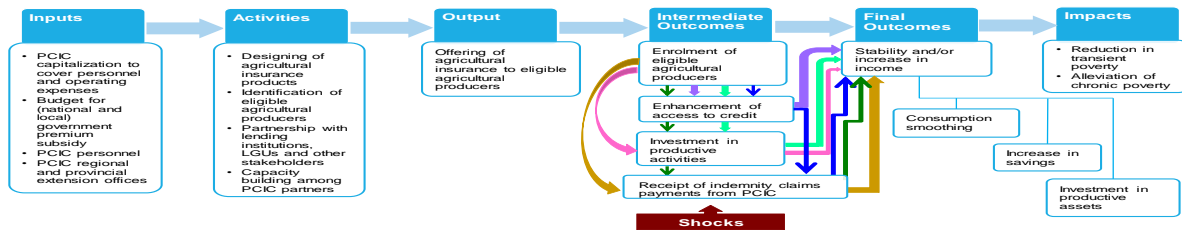
Research Design

This study makes use of the descriptive research design to study the impact of agricultural insurance of the Philippine Crop Insurance Corporation (PCIC) on corn farmers in Cagayan Valley Region (Region 2). It describes the household profile of corn farmers, the household assets, access to physical infrastructures, farm characteristics, cost and net income of corn production, credit availment practices, household income, shocks and coping strategies, risk mitigation strategies, awareness on crop insurance, utilization of indemnity, willingness to pay crop insurance, and the factors related to availment of crop insurance.

Conceptual Framework of the Study

Since the project is a component of a national project on impact evaluation, the framework developed by PIDS (Mina, Impact Evaluation Presentation) for the national level was used as indicated in Figure 1.

Figure 1. Theory of change for the impact evaluation of the agricultural insurance program of the PCIC on farmer's welfare, Cagayan Valley (Region 2).



The theory of change shows that PCIC provides capital budget and personnel through its regional offices and provincial extensions offices in order to carry out the different activities to offer agricultural insurance to eligible agricultural producers. Enrolled farmers who are eligible to agricultural insurance are enhanced in accessing credit and have the capacity to adopt improved technology through higher investment. This is because the farmer is already assured of indemnity in case of shocks that may destroy the agricultural farm causing of no or decrease in the farm income and therefore may be able to recover the farm investment and expenses. With crop insurance, though the farmer's farm is destroyed by shocks such as typhoon and flood, there is stability of income because the decrease in income is compensated by indemnity claim received by the farmer with insurance. Hence transient and chronic poverty is avoided.

Econometric Model

$$y_{it} = \alpha_0 + \alpha_2 * \hat{Ins}_{it} + \alpha_3 * \hat{Ins}_{it} * T + \alpha_4 * Ind_{it} + \alpha_5 * S_{it} + \gamma * X_{it} + \varepsilon_{it}$$

$$\hat{Ins}_{it} = \beta_0 + \beta_1 * T + \beta_2 V_{it} + \beta_3 * (T * V_{it}) + \gamma * Z_{it} + \eta_{it}$$

where :

y_{it} = net farm income of farmer i at time t , the net income from corn production computed as follows:

\hat{Ins}_{it} = 1 if farmer i has an insurance regardless of whether he/she receives an indemnity claim at time t ; 0 otherwise

Ind_{it} = 1 if farmer i has an insurance and received an indemnity claim at time t ; 0 otherwise) amount of cover.

T = 1 if 2014; 0 if 2013

S_{it} = 2 if farmer i was severely affected by shocks (index of production, price and other risks) at time t ; 1 if moderately affected (sample farmers is located in areas where there are claimants); 0 if unaffected) otherwise

X_{it} = vector of characteristics of farmer i , his/her farm and household, and other factors affecting farm income (including access to credit and its instrument) at time t

V_{it} = 2 if farmer i was severely affected by shocks (index of production risks) at time t ; 1 if moderately affected; 0 if unaffected

Z_{it} = vector of characteristics of farmer i , his/her farm and household, and other factors affecting decision of farmer to get insurance (including instruments such as priority areas of the PCIC with no direct impact on the outcome at time t . These factors affecting PCIC insurance availment include: corn variety used, distance from/ to PCIC offices, land tenure, far size and government transfer.

$\alpha, \beta, \lambda, \gamma$ = parameters to be estimated

$\eta_{it}, \varepsilon_{it}$ = error terms

Net farm income: $\pi_i = R_i - (PC_i + pr_i) + ip_i$

Where: π_i = net farm income of farmer i

R_i = total farm revenue of farmer i

PC_i = production cost of production or incurred by farmer i

pr_i = amount of insurance premium paid by farmer i

ip_i = amount of indemnity claims received by farmer i

The premium payment (pr_i) is added to the cost because it is considered as part of the cost of farmer in corn production. Indemnity claim is added to net farm income which is an income transfer of the government to the farmer with insurance in times of calamity.

Sampling Design

The study population is composed of corn farmers included in the RSBSA and located in areas where there are shocks. Samples under Treatment Groups 1 and 2 were selected using simple random sampling. Finding of matched comparison samples was conducted using the following criteria: are devoted to corn, farm location, ARB status, tenurial status and access to irrigation.

Eligible population: corn farmers who were included in the Registry System for Basis Sectors in Agriculture (RSBSA) lists but must be an actual tiller, and were located in the areas where there were farmers with indemnity claims. A total of 500 respondents were taken as shown in Table 2.

Table 2. Total number of respondents by treatment group by farm size, corn farmers, Region 2. 2015.

Treatment Group	FS1 ≤ 0.5	FS2 ≥ 0.5 to 1.0	FS3 ≥ 1.0	Total
With Insurance				
With indemnity claims (T1)	13	37	68	118
Without indemnity claim (T2)	23	34	75	132
Total with insurance	36	71	143	250
Without insurance (T3)	36	76	138	250
Total	72	147	281	500

Treatment groups:

The following are the treatment groups used in the study:

- a. Treatment Group 1: Corn farmers who had crop insurance and receive indemnity claims payment from the PCIC during the reference period. (October 2013-September 2015)
- b. Treatment Group 2: Corn farmers who had crop insurance but did not receive indemnity payment from PCIC and were located in areas where there were claims during the reference period.
- c. Comparison Group: Corn farmers who did not avail of crop insurance but have characteristics as those of treatment samples.

These treatment groups were further divided into sub-groups according to the following farm size groups:

- a) 0.5 ha and below
- b) Greater than 0.5 ha to 1.0 ha
- c) Greater than 1.0 ha

Field Data Collection and Quality Assurance Procedure

A protocol to executives of the provincial LGU heads and the Provincial Agriculturists' Offices then to the Municipal LGU was done before field interviews were conducted. Translation of the questionnaire to local dialect was done. Tablet-based data collection using the system developed by PIDS was done in gathering data. Along with this, data collection issues and challenges including other observations were documented.

To ensure the quality of data gathered during fieldwork, training of data enumerators was first conducted on the use of the survey instrument and how it was administered. A Field Operations Manual was prepared for common understanding about the data collected. The data gathered from the respondent were sent to the PIDS server and downloaded by the project leader for review. Any inconsistencies or errors of data were furthered feedback to the enumerator while he/she is still in the farmers place. The concerned enumerator therefore went back to the area to verify the information.

Estimation procedure

A panel Instrumental Variable (IV) regression, which is a combination of a Difference-in-Difference (DID) and IV was used. Matching was done in selecting the treatment and comparison samples to ensure comparability between treatment groups. DID has been considered as a solution to sample selection bias due to time-invariant unobserved characteristics. IV would provide solution to sample selection bias due to time-varying unobserved characteristics; i.e., would address endogeneity of the treatment variable.

Impact estimation involved the employment of panel regression in estimating the income equation.

RESULTS AND DISCUSSION

Basic Profile and Characteristics of the Households

This section discusses the socio-demographic profile of the respondents in terms of occupation, membership in cooperatives and association for all treatment groups.

Socio-demographic Profile

The profile of corn farmers in terms of socio- demographic variables is shown in Table 3. In all three groups of respondents; with insurance with claims (T1), with insurance without claims (T2) and without insurance (T3), most of the farmers are males and married. The average age of farmers ranges from 47-48 years. Similarly, the average age of household head among three groups is 48. The average age of farmers with and without insurance is the same but male farmers in the without insurance is higher than the farmers with insurance. The average number of years of farming among the three groups ranges from 20-21 years.

The highest educational attainment of corn farmers by treatment group is shown in Table 4. The table reveals that among the three groups of farmers, a large proportion of corn farmers did not finish schooling. Only few and which approximately the same among the farmers of the three treatment groups are college graduates. It is also worthy to note that a large number of farmer respondents in all three groups did not finish elementary grades (40.24 percent). Based on this finding it can be assumed that due to the low level of education among farmers, extension workers may find difficulty in making the farmers understand the details about implementation of the crop insurance program, hence farmers acquired different information about the insurance program. Based on the experience of some enumerators, farmers are not fully knowledgeable about the PCIC program. Some could hardly understand what is premium, what is claim and how much they are entitled to receive or have low level of awareness. Farmers tend to be very aware of their production risks but they may exhibit “cognitive failure,” however, in that they may underestimate the likelihood or severity of catastrophic events (Mahul, 2010).

Occupation of Farmers

The distribution of farmers’ primary occupation (frequency and percentage) is shown in Table 5. It can be gleaned from the table that the primary occupation of the corn farmers is farming with percentage values of 81.72 percent for with insurance farmers with claims, 76.31 percent of with insurance farmers without claims and 80.98 percent for without insurance farmers. This finding is similar for respondents regardless of the farm sizes they are tilling. It is worthy to note that hired farm worker is the next common primary occupation of farmers. This finding is brought about by the fact that since most of the corn farmers live in the rural areas, wherein farming is viewed as a way of life’s sustenance and not a business, this becomes the primary occupation of farmers. Farmers who are hired as farm workers maybe assumed those to be tilling small farmers and have enough time left for other productive endeavors.

Table 3. Average age, sex, civil status and number of years' farming experience of farmer and average age of household member by type of crop, region and treatment, 2016

Region	With Insurance								Without Insurance								Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Number of Respondent																				
Frequency	12	36	66	114	22	32	74	128	34	68	140	242	32	73	138	243	66	141	278	485
Percent																				
Average Age of farmer	46	47	48	48	46	46	48	47	46	47	48	47	44	48	47	47	45	47	48	47
Average age of Household Head	45	49	48	48	47	48	48	48	46	49	48	48	47	48	48	48	46	48	48	48
Sex of Farmer (frequency)																				
Male	10	31	56	97	19	25	59	103	29	56	115	200	27	70	119	216	56	126	234	416
Female	3	6	12	21	4	9	16	29	7	15	28	50	9	6	19	34	16	21	47	84
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Sex of Farmer (percent)																				
Male	76.92	83.78	82.35	82.20	82.61	73.53	78.67	78.03	80.56	78.87	80.42	80.00	75.00	92.11	86.23	86.40	77.78	85.71	83.27	83.20
Female	23.08	16.22	17.65	17.80	17.39	26.47	21.33	21.97	19.44	21.13	19.58	20.00	25.00	7.89	13.77	13.60	22.22	14.29	16.73	16.80
Civil Status of Farmer (frequency)																				
Single		3	1	4	1	1		2	1	4	1	6	4	5	8	17	5	9	9	23
Married	11	31	65	107	19	27	72	118	30	58	137	225	23	64	118	205	53	122	255	430
Widowed	2	1	2	5	2	5	2	9	4	6	4	14	6	6	10	22	10	12	14	36
Divorced/Separated		1		1	1	1		2	1	2	0	3	2	1	1	4	3	3	1	7
Unknown/No answer				0			1	1	0	0	1	1	1		1	2	1	0	2	3
Total	13	36	68	117	23	34	75	132	36	70	143	249	36	76	138	250	72	146	281	499
Civil Status of Farmer (percent)																				
Single		8.33	1.47	3.42	4.35	2.94	0.00	1.52	2.78	5.71	0.70	2.41	11.11	6.58	5.80	6.80	6.94	6.16	3.20	4.61
Married	84.62	86.11	95.59	91.45	82.61	79.41	96.00	89.39	83.33	82.86	95.80	90.36	63.89	84.21	85.51	82.00	73.61	83.56	90.75	86.17
Widowed	15.38	2.78	2.94	4.27	8.70	14.71	2.67	6.82	11.11	8.57	2.80	5.62	16.67	7.89	7.25	8.80	13.89	8.22	4.98	7.21
Divorced/Separated		2.78	0.00	0.85	4.35	2.94	0.00	1.52	2.78	2.86	0.00	1.20	5.56	1.32	0.72	1.60	4.17	2.05	0.36	1.40
Unknown/No answer							1.33	0.76	0.00	0.00	0.70	0.40	2.78	0.00	0.72	0.80	1.39	0.00	0.71	0.60

Table 4. Distribution of highest educational attainment of corn farmer by treatment group, region 2, 2015

Highest Educational Attainment	With Insurance								Without Insurance								Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Highest Educational Attainment (frequency)																				
No grade completed			1	1	1			1	1	0	1	2	1	1	3	5	2	1	4	7
Elementary undergraduate	5	15	24	44	11	12	26	49	16	27	50	93	13	20	45	78	29	47	95	171
Elementary graduate	3	6	13	22	1	5	14	20	4	11	27	42	5	20	21	46	9	31	48	88
High school undergraduate		1		1			1	1	0	1	1	2	1			1	1	1	1	3
High school graduate	1	3	10	14	2	6	11	19	3	9	21	33	8	15	27	50	11	24	48	83
College undergraduate	2	4	6	12	2	5	9	16	4	9	15	28	1	5	8	14	5	14	23	42
College graduate	2	2	4	8	1	1	4	6	3	3	8	14	2	4	10	16	5	7	18	30
Post graduate level															1	1	0	0	1	1
Total	13	31	58	102	18	29	65	112	31	60	123	214	31	65	115	211	62	125	238	425
Highest Educational Attainment (percent)																				
No grade completed	0.00	0.00	1.72	0.98	5.56	0.00	0.00	0.89	3.23	0.00	0.81	0.93	3.23	1.54	2.61	2.37	3.23	0.80	1.68	1.65
Elementary undergraduate	38.46	48.39	41.38	43.14	61.11	41.38	40.00	43.75	51.61	45.00	40.65	43.46	41.94	30.77	39.13	36.97	46.77	37.60	39.92	40.24
Elementary graduate	23.08	19.35	22.41	21.57	5.56	17.24	21.54	17.86	12.90	18.33	21.95	19.63	16.13	30.77	18.26	21.80	14.52	24.80	20.17	20.71
High school undergraduate	0.00	3.23	0.00	0.98	0.00	0.00	1.54	0.89	0.00	1.67	0.81	0.93	3.23	0.00	0.00	0.47	1.61	0.80	0.42	0.71
High school graduate	7.69	9.68	17.24	13.73	11.11	20.69	16.92	16.96	9.68	15.00	17.07	15.42	25.81	23.08	23.48	23.70	17.74	19.20	20.17	19.53
College undergraduate	15.38	12.90	10.34	11.76	11.11	17.24	13.85	14.29	12.90	15.00	12.20	13.08	3.23	7.69	6.96	6.64	8.06	11.20	9.66	9.88
College graduate	15.38	6.45	6.90	7.84	5.56	3.45	6.15	5.36	9.68	5.00	6.50	6.54	6.45	6.15	8.70	7.58	8.06	5.60	7.56	7.06
Post graduate level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.47	0.00	0.00	0.42	0.24
Total																				
Lumped Category (frequency)																				
No grade completed			1	1	1			1	1	0	1	2	1	1	3	5	2	1	4	7
Primary	8	21	37	66	12	17	40	69	20	38	77	135	18	40	66	124	38	78	143	259
Secondary	1	4	10	15	2	6	12	20	3	10	22	35	9	15	27	51	12	25	49	86
Post-secondary/Tertiary	4	12	20	36	8	11	23	42	12	23	43	78	8	20	42	70	20	43	85	148
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Lumped Category (percent)																				
No grade completed	0.00	0.00	1.47	0.85	4.35	0.00	0.00	0.76	2.78	0.00	0.70	0.80	2.78	1.32	2.17	2.00	2.78	0.68	1.42	1.40
Primary	61.54	56.76	54.41	55.93	52.17	50.00	53.33	52.27	55.56	53.52	53.85	54.00	50.00	52.63	47.83	49.60	52.78	53.06	50.89	51.80
Secondary	7.69	10.81	14.71	12.71	8.70	17.65	16.00	15.15	8.33	14.08	15.38	14.00	25.00	19.74	19.57	20.40	16.67	17.01	17.44	17.20
Post-secondary/Tertiary	30.77	32.43	29.41	30.51	34.78	32.35	30.67	31.82	33.33	32.39	30.07	31.20	22.22	26.32	30.43	28.00	27.78	29.25	30.25	29.60

Table 5. Distribution of corn farmers' primary occupation by treatment group, region 2

Region/ Crop	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				FS1	FS2	FS3	All	FS1	FS2	FS3	All
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All								
Primary Occupation (frequency)																				
Farmer	8	19	49	76	17	24	43	84	25	43	92	160	22	48	96	166	47	91	188	326
Hired farm worker		4	3	7	1	2	4	7	1	6	7	14	5	9	4	18	6	15	11	32
Skilled labor	1		1	2					1	0	1	2		2	3	5	1	2	4	7
Unskilled labor	1		2	3	1	3	6	10	2	3	8	13	1	1	5	7	3	4	13	20
Professional employment	1			1			3	3	1	0	3	4	1		2	3	2	0	5	7
Business operator		1		1			4	4	0	1	4	5		1	1	2	0	2	5	7
Domestic helper				0		1		1	0	1	0	1		1		1	0	2	0	2
Others		1		1		1		1	0	2	0	2			2	2	0	2	2	4
None			2	2				0	0	0	2	2	1			1	1	0	2	3
Total	11	25	57	93	19	31	60	110	30	56	117	203	30	62	113	205	60	118	230	408
Primary Occupation (percent)																				
Farmer	72.73	76.00	85.96	81.72	89.47	77.42	71.67	76.36	83.33	76.79	78.63	78.82	73.33	77.42	84.96	80.98	78.33	77.12	81.74	79.90
Hired farm worker		16.00	5.26	7.53	5.26	6.45	6.67	6.36	3.33	10.71	5.98	6.90	16.67	14.52	3.54	8.78	10.00	12.71	4.78	7.84
Skilled labor	9.09		1.75	2.15					3.33		0.85	0.99		3.23	2.65	2.44	1.67	1.69	1.74	1.72
Unskilled labor	9.09		3.51	3.23	5.26	9.68	10.00	9.09	6.67	5.36	6.84	6.40	3.33	1.61	4.42	3.41	5.00	3.39	5.65	4.90
Professional employment	9.09			1.08			5.00	2.73	3.33		2.56	1.97	3.33	0.00	1.77	1.46	3.33	0.00	2.17	1.72
Business operator		4.00		1.08			6.67	3.64	0.00	1.79	3.42	2.46		1.61	0.88	0.98	0.00	1.69	2.17	1.72
Domestic helper						3.23		0.91	0.00	1.79		0.49		1.61	0.00	0.49	0.00	1.69	0.00	0.49
Others		4.00		1.08		3.23		0.91	0.00	3.57		0.99			1.77	0.98	0.00	1.69	0.87	0.98
None			3.51	2.15							1.71	0.99	3.33			0.49	1.67	0.00	0.87	0.74

Primary Occupation

The distribution of farmers' class of worker in his primary occupation is shown in Table 6. Considering the whole population of corn farmers in Region 2, the class of worker the farmers belong is highest (36.54 percent) in working without pay on family operated farm/business. This is followed by being self-employed with no paid employee (22.47 percent) and working for private household (16.54 percent). This trend is the same for farmers without insurance and farmers with insurance with claims. However, many of the farmers are self-employed with no paid employee (30.77 percent) which is the highest and for the with insurance farmers without claims, the highest (48.18 percent) are farmers working without pay on family operated farm/ business. Some are employees in family farm/business (17.27 percent) and still many (16.36 percent) are self-employed with no paid employee. Since farming is considered as a way to earn a living by the farmers, farmers mostly work on their farms even without pay and wait for harvest.

The nature of employment of farmers in their primary occupation is also presented in Table 7. Considering the result for the total population, most of the farmers are permanent/unpaid family worker in their primary occupation (83.95 percent), some are short term or casual workers (10.62 percent) and still few (5.43 percent) are engaged in different jobs on a day to day basis. This distribution follows the same trend for farmers with insurance farmers with claims, for with insurance farmers without claims and for farmers without insurance. However, the farmers with insurance have slightly higher percentage of them (85.07 percent) who have nature of employment as permanent business/unpaid family worker than the without insurance which is 42.8 percent.

Since farming is the primary occupation of almost all farmers, it is by nature that this is their permanent source of livelihood and more often than not, as members of the farm family their work is unpaid. On the other hand those who are employed casual/short term and those who have different jobs on a day to day basis are those who have little farm to till and are capable to accept other jobs.

Secondary Occupation

The secondary occupation of corn farmers in Region 2 is shown in Table 8. Around Fifty five percent (54.76 percent) of the farmers do not have secondary occupation. Around 21.81 percent are engage in farming and 10 percent are hired farm worker as their secondary occupation. It is worthy to note that more than 50 percent do not have secondary occupation. The absence of additional source of income of these farmers may add up to their difficult condition. This indicates that farmer labors are not maximizing especially during off season. In fact most of them get average income from farming. Similar trend is observed when farmers are grouped into with insurance with claims and without claims and without insurance.

There are more farmers in the without insurance who do not have secondary occupation (56.10 percent) than in farmers with insurance (56.10 percent). Among the different farm size groups, there are more farmers in the small farmers (0.5 ha and below) who do not have secondary occupation (48.33 percent) than other two groups of farmers. This may be explained by the fact that since they till small size of farm, they have time for other jobs and less of them have no secondary occupation.

Table 6. Distribution of corn farmers' class of worker of farmer in primary occupation, by treatment group, Region 2

Region/ Crop	With Insurance								Without Insurance								Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Working for private household	4	6	11	21	2	1	5	8	6	7	16	29	1	20	17	38	7	27	33	67
Working for private business	1		1	2				0	1	0	1	2	2	2	2	6	3	2	3	8
Working for government	1			1			4	4	1	0	4	5	1		2	3	2	0	6	8
Self-employed with no paid employee	1	9	18	28	4	5	9	18	5	14	27	46	4	12	29	45	9	26	56	91
Employer in own family related farm/ business	1	4	6	11	2	6	11	19	3	10	17	30	5	7	19	31	8	17	36	61
Working w/ pay on own family operated farm/ business	1	1	3	5	2	3	3	8	3	4	6	13	3	2	4	9	6	6	10	22
Working w/out pay on own family operated farm/ business	2	5	16	23	9	16	28	53	11	21	44	76	13	19	40	72	24	40	84	148
Total	11	25	55	91	19	31	60	110	30	56	115	201	29	62	113	204	59	118	228	405
Percentage																				
Working for private household	36.36	24.00	20.00	23.08	10.53	3.23	8.33	7.27	20.00	12.50	13.91	14.43	3.45	32.26	15.04	18.63	11.86	22.88	14.47	16.54
Working for private business	9.09		1.82	2.20					3.33		0.87	1.00	6.90	3.23	1.77	2.94	5.08	1.69	1.32	1.98
Working for government	9.09			1.10			6.67	3.64	3.33		3.48	2.49	3.45		1.77	1.47	3.39	0.00	2.63	1.98
Self-employed with no paid employee	9.09	36.00	32.73	30.77	21.05	16.13	15.00	16.36	16.67	25.00	23.48	22.89	13.79	19.35	25.66	22.06	15.25	22.03	24.56	22.47
Employer in own family related farm/ business	9.09	16.00	10.91	12.09	10.53	19.35	18.33	17.27	10.00	17.86	14.78	14.93	17.24	11.29	16.81	15.20	13.56	14.41	15.79	15.06
Working w/ pay on own family operated farm/ business	9.09	4.00	5.45	5.49	10.53	9.68	5.00	7.27	10.00	7.14	5.22	6.47	10.34	3.23	3.54	4.41	10.17	5.08	4.39	5.43
Working w/out pay on own family operated farm/ business	18.18	20.00	29.09	25.27	47.37	51.61	46.67	48.18	36.67	37.50	38.26	37.81	44.83	30.65	35.40	35.29	40.68	33.90	36.84	36.54

Farmer (includes fishing and livestock)

Table 7. Percent distribution of nature of employment of farmer in primary occupation by treatment group and by farm size, Region 2, 2016

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Permanent/business/unpaid family worker	9	21	46	76	16	26	53	95	25	47	99	171	22	45	102	169	47	92	201	340
Short-term seasonal or casual	2	3	5	10	2	2	7	11	4	5	12	21	2	12	8	22	6	17	20	43
Different jobs on day-to-day/ week-to-week basis		1	4	5	1	3		4	1	4	4	9	5	5	3	13	6	9	7	22
Not applicable									0	0	0					0	0	0	0	0
Total	11	25	55	91	19	31	60	110	30	56	115	201	29	62	113	204	59	118	228	405
Percentage																				
Permanent/business/unpaid family worker	81.82	84.00	83.64	83.52	84.21	83.87	88.33	86.36	83.33	83.93	86.09	85.07	75.86	72.58	90.27	82.84	79.66	77.97	88.16	83.95
Short-term seasonal or casual	18.18	12.00	9.09	10.99	10.53	6.45	11.67	10.00	13.33	8.93	10.43	10.45	6.90	19.35	7.08	10.78	10.17	14.41	8.77	10.62
Different jobs on day-to-day/ week-to-week basis		4.00	7.27	5.49	5.26	9.68		3.64	3.33	7.14	3.48	4.48	17.24	8.06	2.65	6.37	10.17	7.63	3.07	5.43
Not applicable																				

Table 8. Distribution of secondary (other) occupation of corn farmers by treatment group by farm size, Region 2, 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Secondary Occupation (frequency)																				
Farmer	3	6	10	19	4	8	16	28	7	14	26	47	8	10	24	42	15	24	50	89
Hired farm worker	1	4	6	11	2	2	7	11	3	6	13	22	4	10	5	19	7	16	18	41
Skilled labor	1	2	2	5			2	2	1	2	4	7	1		7	8	2	2	11	15
Unskilled labor	2	1	1	4	1	3	4	8	3	4	5	12	1	3	5	9	4	7	10	21
Professional employment				0			1	1	0	0	1	1	1		1	2	1	0	2	3
Business operator				0			2	2	0	0	2	2	1	1	3	5	1	1	5	7
Others		2	1	3			1	1	0	2	2	4	1		4	5	1	2	6	9
None	4	10	37	51	12	18	27	57	16	28	64	108	13	38	64	115	29	66	128	223
Total	11	25	57	93	19	31	60	110	30	56	117	203	30	62	113	205	60	118	230	408
Percent of Total Farmers	84.62	67.57	83.82	78.81	82.61	91.18	80.00	83.33	83.33	78.87	81.82	81.20	83.33	81.58	81.88	82.00	83.33	80.27	81.85	81.60
Secondary Occupation (percentage)																				
Farmer	27.27	24.00	17.54	20.43	21.05	25.81	26.67	25.45	23.33	25.00	22.22	23.15	26.67	16.13	21.24	20.49	25.00	20.34	21.74	21.81
Hired farm worker	9.09	16.00	10.53	11.83	10.53	6.45	11.67	10.00	10.00	10.71	11.11	10.84	13.33	16.13	4.42	9.27	11.67	13.56	7.83	10.05
Skilled labor	9.09	8.00	3.51	5.38			3.33	1.82	3.33	3.57	3.42	3.45	3.33		6.19	3.90	3.33	1.69	4.78	3.68
Unskilled labor	18.18	4.00	1.75	4.30	5.26	9.68	6.67	7.27	10.00	7.14	4.27	5.91	3.33	4.84	4.42	4.39	6.67	5.93	4.35	5.15
Professional employment							1.67	0.91	0.00	0.00	0.85	0.49	3.33		0.88	0.98	1.67	0.00	0.87	0.74
Business operator							3.33	1.82	0.00	0.00	1.71	0.99	3.33	1.61	2.65	2.44	1.67	0.85	2.17	1.72
Others		8.00	1.75	3.23	0.00	0.00	1.67	0.91	0.00	3.57	1.71	1.97	3.33		3.54	2.44	1.67	1.69	2.61	2.21
None	36.36	40.00	64.91	54.84	63.16	58.06	45.00	51.82	53.33	50.00	54.70	53.20	43.33	61.29	56.64	56.10	48.33	55.93	55.65	54.66

The class of worker of corn farmers in their secondary occupation is shown in Table 9. Considering the total number of respondents, the top three class workers of farmers in their secondary occupations are: working for private household (25.95 percent), working without pay on family operated farm/business (24.32 percent) and self-employed with no paid employee (18.92 percent).

Specifically for those with insurance with claims, the highest number of the farmers are working for private household (35.71 percent), some are self-employed (30.95 percent) and 3rd common class of workers are working in family related endeavor. For farmers without claims, the top three classes of worker in secondary jobs are: working without pay on family operated farm/business (41.51 percent), employee in own family related farm/business (24.53 percent) and working for private household (16.98 percent).

It is worthy to note that in all three groups of farmers, they are engaged in similar kind of class of work whether they had pay or not or whether they are with or without insurance.

The farmers' nature of employment in their secondary occupation is presented in Table 10. It can be gleaned from the table that for the whole farmers' group and for each of the three groups of farmers, it appears that corn farmers are mostly engaged in permanent business/unpaid family worker. This is followed by their indulging in seasonal/casual employment and seeking different jobs day to day. However, farmers without insurance have higher percentage of them with permanent/unpaid family worker (73.91 percent) than few farmers with insurance (71.43 percent).

This finding tells us that there is not much variation on the nature of employment of the different treatment groups on their secondary occupation.

This further implies that corn farmers had limited choices in terms of seeking livelihood. In fact, looking at the total number of responses, only less than 50 percent responded (190/500) to this item and can be assumed that farmers did not have secondary jobs.

It can be inferred that farmers without claims are those whose farm damages were negligible and hence had enough harvest and therefore finance their crop insurance and probably volunteered to buy crop insurance.

Table 9. Distribution of class of worker in secondary (other) occupation of corn farmers by treatment group, Region 2

Region/ Crop	With Claims				Without Claims				With Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Class of worker of farmer in secondary occupation (frequency)																				
Working for private household	2	6	7	15	2		7	9	4	6	14	24	2	9	13	24	6	15	27	48
Working for private business			2	2							2	2	3	1	2	6	3	1	4	8
Working for government				0			1	1	0	0	1	1		1	2	3	0	1	3	4
Self-employed with no paid employee	3	2	8	13		2	1	3	3	4	9	16	4	3	12	19	7	7	21	35
Employer in own family related farm/ business	1	3	1	5	1	6	6	13	2	9	7	18	2	5	8	15	4	14	15	33
Working w/ pay on own family operated farm/ business		1	1	2	1	1	3	5	1	2	4	7	2	1	2	5	3	3	6	12
Working w/out pay on own family operated farm/ business	1	3	1	5	3	4	15	22	4	7	16	27	4	4	10	18	8	11	26	45
Total	7	15	20	42	7	13	33	53	14	28	53	95	17	24	49	90	31	52	102	185
Class of worker of farmer in secondary occupation (percent)																				
Working for private household	28.57	40.00	35.00	35.71	28.57		21.21	16.98	28.57	21.43	26.42	25.26	11.76	37.50	26.53	26.67	19.35	28.85	26.47	25.95
Working for private business			10.00	4.76							3.77	2.11	17.65	4.17	4.08	6.67	9.68	1.92	3.92	4.32
Working for government							3.03	1.89			1.89	1.05	0.00	4.17	4.08	3.33	0.00	1.92	2.94	2.16
Self-employed with no paid employee	42.86	13.33	40.00	30.95		15.38	3.03	5.66	21.43	14.29	16.98	16.84	23.53	12.50	24.49	21.11	22.58	13.46	20.59	18.92
Employer in own family related farm/ business	14.29	20.00	5.00	11.90	14.29	46.15	18.18	24.53	14.29	32.14	13.21	18.95	11.76	20.83	16.33	16.67	12.90	26.92	14.71	17.84
Working w/ pay on own family operated farm/ business		6.67	5.00	4.76	14.29	7.69	9.09	9.43	7.14	7.14	7.55	7.37	11.76	4.17	4.08	5.56	9.68	5.77	5.88	6.49
Working w/out pay on own family operated farm/ business	14.29	20.00	5.00	11.90	42.86	30.77	45.45	41.51	28.57	25.00	30.19	28.42	23.53	16.67	20.41	20.00	25.81	21.15	25.49	24.32

Table 10. Distribution of nature of employment of farmer in secondary occupation by treatment group, Region 2

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Nature of Employment of Farmer in Sec. Occupation (frequency)																				
Permanent/business/unpaid family worker	5	10	13	28	5	12	25	42	10	22	38	70	12	13	43	68	22	35	81	138
Short-term seasonal or casual	2	4	4	10	2	1	8	11	4	5	12	21	4	9	7	20	8	14	19	41
Different jobs on day-to-day/ week-to-week basis			3	3	1	1	1	3	1	1	4	6	1	3		4	2	4	4	10
Not applicable		1		1				0	0	1	0	1						1	0	1
Total	7	15	20	42	8	14	34	56	15	29	54	98	17	25	50	92	32	54	104	190
Nature of Employment of Farmer in Sec. Occupation (Percentage)																				
Permanent/business/unpaid family worker	71.43	66.67	65.00	66.67	62.50	85.71	73.53	75.00	66.67	75.86	70.37	71.43	70.59	52.00	86.00	73.91	68.75	64.81	77.88	72.63
Short-term seasonal or casual	28.57	26.67	20.00	23.81	25.00	7.14	23.53	19.64	26.67	17.24	22.22	21.43	23.53	36.00	14.00	21.74	25.00	25.93	18.27	21.58
Different jobs on day-to-day/ week-to-week basis			15.00	7.14	12.50	7.14	2.94	5.36	6.67	3.45	7.41	6.12	5.88	12.00		4.35	6.25	7.41	3.85	5.26
Not applicable		6.67		2.38						3.45		1.02						1.85	0.00	0.53

Membership in Association/Cooperative

The membership of farmers to associations or cooperative is shown in Table 11. For all treatment groups, only around 10 percent of the farmers are members of associations/cooperatives. Similar result is observed in all treatment groups: those with insurance and with claims (11.97 percent); with insurance but without claims (8.4 percent) and without insurance (9.27 percent). This finding indicates that whether the farmer has insurance or not, has indemnity claim or not does not influence their membership in organization. Farmers however with large farms have the highest percentage of farmers who are member.

Average Family Size and Dependency Ratio

The average family size of the corn farmers in Region 2 is 4.3 (Tale 11). This size is similar to farmers with and without insurance. The proportion of family members who are at least high school graduate in the with insurance is 27 percent and 28 percent for the without insurance group.

On the average the proportion of family members who are salaried workers is 13 percent each in 2014 and 2015. The proportion of family members who are salaried among farmers without insurance is slightly higher (14 percent) than the farmers with insurance (12 percent) in 2014. It can be gleaned from the result that not all household have at least one member who is salaried worker.

Table 11 also shows that the average dependency ratio of the sampled household is 21 percent in 2014 and slightly increases to 22 percent in 2015. This trend is observed to be the same in all treatment groups. This finding implies that for a family of five members, one is dependent.

PhilHealth Membership

The penetration rate of Philhealth membership for the year 2014 and 2015 is shown in Table 12. Among the three groups of farmers, Philhealth penetration rate in 2014 is highest among those with insurance without claims (75.78 percent). This is followed by farmers without insurance (63.79 percent) and farmers with insurance with claims (57.89 percent). This trend is the same for 2015.

Table 11. Distribution of membership of farmer in farmer's associations/cooperatives, average family size, mean proportion of family members who are at least high school graduate, salaried workers and mean dependency ratio by treatment group by farm size, 2014 and 2015, region 2

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims		Without Claims		With and Without Claims		Without Insurance		Without Insurance		Without Insurance		Without Insurance		Without Insurance		Without Insurance		Without Insurance	
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Membership in Farmer's Association/Cooperative-2014 and 2015 (Percent)																				
Yes	2	2	10	14	1	1	9	11	3	3	19	25	3	6	14	23	6	9	33	48
No	11	34	58	103	22	33	65	120	33	67	123	223	32	70	123	225	65	137	246	448
Total	13	36	68	117	23	34	74	131	36	70	142	248	35	76	137	248	71	146	279	496
2014																				
Average family size	4.1	3.9	4.2	4.2	4.6	4.3	4.7	4.6	4.4	4.1	4.4	4.4	4.7	4.3	4.3	4.3	4.5	4.2	4.4	4.3
Proportion of Family Members Who Are At Least High School Graduate	36	27	29	29	22	26	27	26	26	27	28	27	27	27	29	28	27	27	29	28
Proportion of Family Members Who Are Salaried Workers	21	11	11	12	15	11	13	13	17	11	12	12	12	15	13	14	15	13	13	13
Dependency Ratio	31	18	19	20	18	28	20	22	23	23	20	21	29	21	21	22	26	22	20	21
2015																				
Average family size	3.8	3.9	4.2	4.1	4.7	4.3	4.7	4.6	4.4	4.1	4.5	4.4	4.6	4.3	4.4	4.4	4.5	4.2	4.4	4.4
Proportion of Family Members Who Are At Least High School Graduate	44	20	29	28	23	26	27	26	30	23	28	27	26	28	27	27	28	26	28	27
Proportion of Family Members Who Are Salaried Workers	22	10	11	12	16	11	13	13	18	10	12	12	13	16	13	14	16	13	13	13
Dependency Ratio	35	19	21	22	20	28	22	23	25	23	21	22	29	21	21	22	27	22	21	22

gen dep_ratio_2015=(num_depmem2015/household_headcount1)*100

Table 12. Distribution and penetration rate of Philhealth membership by treatment group, 2014 and 2015, region 2

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total household respondent	12	36	66	114	22	32	74	128	34	68	140	242	32	73	138	243	66	141	278	485
2014																				
PhilHealth Membership																				
Frequency																				
HH with no PhilHealth member (#)	3	13	31	47	6	7	18	31	9	20	49	78	11	23	52	86	20	43	101	164
At least one HH member is PhilHealth member	8	23	35	66	16	25	56	97	24	48	91	163	21	50	84	155	45	98	175	318
Penetration Rate of PhilHealth Membership	66.67	63.89	53.03	57.89	72.73	78.13	75.68	75.78	70.59	70.59	65.00	67.36	65.63	68.49	60.87	63.79	68.18	69.50	62.95	65.57
2015																				
PhilHealth Membership																				
Frequency																				
HH with no PhilHealth member (#)	3	14	31	48	5	7	18	30	8	21	49	78	11	23	53	87	19	44	102	165
At least one HH member is PhilHealth member	9	22	35	66	17	25	56	98	26	47	91	164	21	50	85	156	47	97	176	320
Penetration Rate of PhilHealth Membership	75.00	61.11	53.03	57.89	77.27	78.13	75.68	76.56	76.47	69.12	65.00	67.77	65.63	68.49	61.59	64.20	71.21	68.79	63.31	65.98

Note: The figures that will be produced in the next two tables will serve as the denominators for the computation of the percentages required in Tables 20-29 and 31-32.*

Penetration Rate of GSIS/SSS and Private Insurance

The penetration rate of Government Service and Insurance System (GSIS), Social Security System (SSS) and private insurance is presented in Table 13. The penetration rate of GSIS/SSS is 10.52 percent in 2014 and 10.31 percent in 2015. This implies that there are only a few government employees or with regular employees among the household members. In fact, as discussed above, only 13 percent of the households have at least one member who is a salaried worker. GSIS/SSS have a lower penetration rate in the group of farmers with insurance (9.92 percent) than the without insurance group of farmers with 11.11 percent and 10.70 percent in 2014 and 2015 respectively.

In terms of private insurance, there is only 1.03 percent penetration rate in 2014 but this increased to 10.31 percent in 2015. This trend is the same in all treatment groups.

The above findings indicate that even non-PCIC insurance; there is very low subscription of farmers. This indicates that insurance is not a priority of farmers, it is expected that they have to prioritize their basic needs.

Household Beneficiaries of Conditional Cash Transfer

The frequency and percent distribution of households that are beneficiaries of the conditional cash transfer program or the Pantawid Pamilyang Pilipino Program (4Ps) of the government is shown in Table 14. Only 10.52 percent of the households are beneficiaries of the CCT in 2014 and 10.31 percent in 2015. The percentage of beneficiaries of CCT is slightly higher in the group of farmers with insurance (10.74 percent in 2014 and 11.16 percent in 2015) than the farmers without insurance (10.29 percent in 2014 and 9.47 percent in 2015).

The above findings indicate that among the corn farmers in Region 2, there is one-tenth that belongs to the indigent group.

Beneficiaries of other Non-Agricultural Programs

Tables 15 to 19 show the frequency and percent distribution of households who are beneficiaries of other non-agricultural programs. This includes percentage of households who are members or beneficiary of cooperative/mutual aid, supplemental feeding program, cash for work program, health assistance program and education/scholarship program. The tables indicate that the percentage of households who are beneficiaries of these programs is nil – all has less than one percent. This implies that the sampled corn farmers' involvement to any of the non-agricultural programs whether they have crop insurance or not is very low.

Table 13. Frequency and penetration rate of GSIS/SSS and private insurance membership by treatment group by farm size, 2014 and 2015, Region 02

Region/ Crop	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
SSS/GSIS Membership																				
2014																				
Frequency																				
HH w/ no SSS/GSIS membership	11	34	57	102	21	32	63	116	32	66	120	218	30	65	121	216	62	131	241	434
At least one HH member is GSIS/SSS member	1	2	9	12	1		11	12	2	2	20	24	2	8	17	27	3	11	37	51
Penetration Rate of GSIS and/or SSS Membership	8.33	5.56	13.64	10.53	4.55		14.86	9.38	5.88	2.94	14.29	9.92	6.25	10.96	12.32	11.11	4.55	7.80	13.31	10.52
2015																				
Frequency																				
HH w/ no SSS/GSIS membership	12	34	57	103	20	32	63	115	32	66	120	218	30	65	122	217	62	131	242	435
At least one HH member is GSIS/SSS member		2	9	11	2		11	13	2	2	20	24	2	8	16	26	4	10	36	50
Penetration Rate of GSIS and/or SSS Membership		5.56	13.64	9.65	9.09	0.00	14.86	10.16	5.88	2.94	14.29	9.92	6.25	10.96	11.59	10.70	6.06	7.09	12.95	10.31
Private Insurance membership																				
2014																				
Frequency																				
No membership in private insurance	11	36	66	113	22	32	73	127	33	68	139	240	32	72	136	240	65	140	275	480
Member of private insurance	1			1			1	1	1		1	2		1	2	3	1	1	3	5
Penetration Rate of Private Insurance Membership	8.33			0.88			1.35	0.78	2.94		0.71	0.83		1.37	1.45	1.23	1.52	0.71	1.08	1.03
2015																				
Frequency																				
No membership in private insurance	12	34	57	103	20	32	63	115	32	66	120	218	30	65	122	217	62	131	242	435
Member of private insurance		2	9	11	2		11	13	2	2	20	24	2	8	16	26	4	10	36	50
Penetration Rate of Private Insurance Membership		5.56	13.64	9.65	9.09		14.86	10.16	5.88	2.94	14.29	9.92	6.25	10.96	11.59	10.70	6.06	7.09	12.95	10.31

Table 14. Frequency and percentage of households that are beneficiaries of CCT by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
No. of Non-pantawid (CCT) hh member	11	31	61	103	20	29	64	113	31	60	125	216	26	67	125	218	57	127	250	434
No. of Pantawid (CCT) hh member	1	5	5	11	2	3	10	15	3	8	15	26	6	6	13	25	9	14	28	51
Percentage of Households that are CCT Beneficiaries	8.33	13.89	7.58	9.65	9.09	9.38	13.51	11.72	8.82	11.76	10.71	10.74	18.75	8.22	9.42	10.29	13.64	9.93	10.07	10.52
2015																				
No. of Non-pantawid (CCT) hh member	12	31	61	104	19	29	63	111	31	60	124	215	26	67	127	220	57	127	251	435
No. of Pantawid (CCT) hh member		5	5	10	3	3	11	17	3	8	16	27	6	6	11	23	9	14	27	50
Percentage of Households that are CCT Beneficiaries		13.89	7.58	8.77	13.64	9.38	14.86	13.28	8.82	11.76	11.43	11.16	18.75	8.22	7.97	9.47	13.64	9.93	9.71	10.31

Table 15. Frequency and percentage of households with at least one cooperative/mutual aid members by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Insurance												Without Insurance				Total (Pooled)				
	With Claims				Without Claims				With and Without Claims												
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	
2014																					
Frequency																					
Non-Cooperative/Mutual Aid Member	11	36	66	113	22	32	73	127	33	68	139	240	32	73	136	241	65	141	275	481	
Cooperative/Mutual Aid Member	1			1		1		1	1	1		2		2		2	1	3		4	
Percentage of Households with at Least One Cooperative/Mutual Aid Member	8.33			0.88		3.13		0.78	2.94	1.47		0.83		2.74		0.82	1.52	2.13		0.82	
2015																					
Frequency																					
Non-Cooperative/Mutual Aid Member	12	36	66	114	21	32	73	126	33	68	139	240	32	73	138	243	65	141	277	483	
Cooperative/Mutual Aid Member					1	1		2	1	1		2					1	1		2	
Percentage of Households with at Least One Cooperative/Mutual Aid Member					4.55	3.13		1.56	2.94	1.47		0.83					1.52	0.71		0.41	

Table 16. Frequency and percentage of households with members that are beneficiaries of Supplemental Feeding Program by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Supplemental Feeding Programs																				
Non- Beneficiaries of Supplemental Feeding Program	11	36	66	113	22	32	74	128	33	68	140	241	32	73	136	241	65	141	276	482
Beneficiary of Supplemental Feeding Program	1			1					1			1		2		2	1	2	0	3
Percentage of Households with Members that are Beneficiaries of Supplemental Feeding Programs	8.33			0.88					2.94			0.41		2.74		0.82	1.52	1.42		0.62
2015																				
Supplemental Feeding Programs																				
Non- Beneficiaries of Supplemental Feeding Program	12	36	66	114	21	32	74	127	33	68	140	241	32	73	138	243	65	141	278	484
Beneficiary of Supplemental Feeding Program					1			1	1	0	0	1					1	0	0	1
Percentage of Households with Members that are Beneficiaries of Supplemental Feeding Programs					4.55			0.78	2.94			0.41					1.52			0.21

Table 17. Frequency and percentage of households with members that are beneficiaries of cash for work program by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Non-Beneficiary of Cash for Work Program	11	36	66	113	22	32	74	128	33	68	140	241	32	73	136	241	65	141	276	482
Beneficiary of Cash for Work Program	1								1			1		2			1	2	0	3
Percentage of Households with Members that are Beneficiaries of Cash for Work Program	8.33								2.94			0.41		2.74			1.52	1.42		0.62
2015																				
Frequency																				
Non-Beneficiary of Cash for Work Program	12	36	66	114	21	32	74	127	33	68	140	241	32	73	138	243	65	141	278	484
Beneficiary of Cash for Work Program					1			1	1			1					1			1
Percentage of Households with Members that are Beneficiaries of Cash for Work Program					4.55			0.78	2.94			0.41					1.52			0.21

Table 18. Frequency and percentage of households with members that are beneficiaries of Health Assistance Program by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Non-Beneficiary of Health Assistance Program	11	36	66	113	22	32	74	128	33	68	140	241	31	73	136	240	64	141	276	481
Beneficiary of Health Assistance Program	1								1	0	0	1	1	2			2	2	0	4
Percentage of Households with Members that are Beneficiaries of Health Assistance Program	8.33								2.94			0.41	3.13	2.74			3.03	1.42		0.82
2015																				
Frequency																				
Non-Beneficiary of Health Assistance Program	12	36	66	114	21	32	74	127	33	68	140	241	31	73	138	242	64	141	278	483
Beneficiary of Health Assistance Program					1			1	1	0	0	1	1			1	2	0	0	2
Percentage of Households with Members that are Beneficiaries of Health Assistance Program					4.55			0.78	2.94			0.41	3.13			0.41	3.03			0.41

Table 19. Distribution of households with members that are beneficiaries of education/scholarship program by treatment group, 2014 and 2015, Region 02

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Non-Beneficiary of Education/Scholarship Programs	11	36	66	113	22	32	74	128	33	68	140	241	32	73	136	241	65	141	276	482
Beneficiary Education/Scholarship Programs	1			1					1			1		2		2	1	2		3
Percentage of Households with Members that are Beneficiaries Education/Scholarship Programs	8.33			0.88					2.94			0.41		2.74		0.82	1.52	1.42		0.62
2015																				
Frequency																				
Non-Beneficiary of Education/Scholarship Programs	12	36	66	114	21	32	74	127	33	68	140	241	32	73	138	243	65	141	278	484
Beneficiary Education/Scholarship Programs					1			1	1	0	0	1					1	0	0	1
Percentage of Households with Members that are Beneficiaries Education/Scholarship Programs					4.55			0.78	2.94			0.41					1.52			0.21

Households that Receive Any Agricultural Support Assistance

Table 20 shows the percentage of households that receives any agricultural support assistance. These agricultural support assistance include subsidy or free seeds for crop production, fertilizer, pesticides, livestock dispersal, government credit, agricultural insurance and livelihood training program. Such programs are usually provided by the government to farmers in order to support their agricultural production activities. The result shows that less than one percent of the corn farmer households received or a beneficiary of any of the programs mentioned, either with insurance or without insurance or without crop insurance group. It is worthy to note that the government should improve its penetration rate to these farmers especially that they are affected with shocks.

Beneficiaries of disaster relief and rehabilitation

The percentage of households with members that are beneficiaries of disaster relief and rehabilitation assistance program by the treatment group and farm size in 2014 and 2015 is presented in table 21. The result shows that there is only 0.62 percent (2014) and decreased to 0.21 percent (2015) of the corn farmers households with embers that are beneficiaries of disaster relief and rehabilitation program. The same result is observed for the group of farmers with and without insurance in both years. These imply that the corn farmers have to be provided with more assistance especially that corn production is a risky enterprise.

Agricultural Support Assistance

Table 22 shows the distribution of households with at least one member receiving agricultural support assistance for the cropping years 2014 and 2015 by treatment groups. The results show that in general the penetration rate of agricultural assistance to corn farmers in region 2 is only 1.03 percent in 2014 and 0.62 percent in 2015 for all treatment groups. The farmers without insurance have higher percentage of households with at least one member receiving agricultural support assistance is higher (1.65 percent) than the group of farmers with insurance (0.41 percent), the same result is observed in 2015. This result suggests that more assistance to farmers should be provided.

Household Receiving Non- Agricultural Benefit Assistance

Table 23 shows the percentage of households with at least one member receiving non-agricultural benefit assistance for cropping years 2014-2015. In 2014, the table shows that 70.31 percent of the households with at least one member receiving non-agricultural assistance. The same percentage is observed in 2015. The respondents with crop insurance have higher percentage of households with at least one member receiving non-agricultural benefit assistance (71.49 percent) than the group of farmers without insurance (69.14 percent). Among the two groups of with insurance, those farmers without claims have higher percentage (78.91 percent) than those farmers with claims.

The findings imply for non-agricultural assistance program, majority are benefited or receive assistance.

Table 20. Summary of percentage of households that received any agricultural support assistance, by treatment Group, 2014 and 2015

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Subsidized/ free seeds for crop production	7.14			0.88					2.78			0.41	3.03	2.90		1.24	2.90	1.47		0.83
Subsidized/ free fertilizer for crop production	7.14			0.88					2.78			0.41		4.29		1.24	1.45	2.19		0.83
Subsidized/ free pesticides for crop production	7.14			0.88					2.78			0.41		2.90		0.83	1.45	1.47		0.62
Livestock dispersal program	7.14			0.88					2.78			0.41		2.90		0.83	1.45	1.47		0.62
Government credit program	8.33			0.88					2.94			0.41		2.67		0.82	1.52	1.40		0.62
Subsidized/free agricultural insurance program	8.33			0.88					2.94			0.41			1.45	0.82	1.52		0.72	0.62
Free livelihood/skills training program	8.33			0.88					2.94			0.41			1.45	0.82	1.52		0.72	0.62
2015																				
Subsidized/ free seeds for crop production					4.55			0.78					3.03			0.41	2.90			0.41
Subsidized/ free fertilizer for crop production					4.76			0.79	2.86			0.41	0.00	1.49	0.00	0.41	1.47	0.75	0.00	0.41
Subsidized/ free pesticides for crop production					4.76			0.79	2.86			0.41					1.47			0.21
Livestock dispersal program	6.67			0.87					2.78			0.41					1.45			0.21
Government credit program					4.55			0.78	2.94			0.41					1.52	0.00	0.00	0.21
Subsidized/free agricultural insurance program					4.55			0.78	2.94			0.41					1.52	0.00	0.00	0.21
Free livelihood/skills training program					4.55			0.78	2.94			0.41					1.52	0.00	0.00	0.21

Table 21. Percentage of households with members that are beneficiaries of disaster relief and rehabilitation, by treatment group, 2014 and 2015

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Non-Beneficiary of Disaster Relief and Rehabilitation program	11	36	66	113	22	32	74	128	33	68	140	241	32	73	136	241	65	141	276	482
Beneficiary of Disaster Relief and Rehabilitation program	1			1					1	0	0	1			2	2	1	0	2	3
Total	12	36	66	114	22	32	74	128	34	68	140	242	32	73	138	243	66	141	278	485
Percentage of Households with Members that are Beneficiaries of Disaster Relief and Rehabilitation Programs	8.33			0.88					2.94			0.41			1.45	0.82	1.52		0.72	0.62
2015																				
Frequency																				
Non-Beneficiary of Disaster Relief and Rehabilitation program	12	36	66	114	21	32	74	127	33	68	140	241	32	73	138	243	65	141	278	484
Beneficiary of Disaster Relief and Rehabilitation program					1			1	1	0	0	1					1	0	0	1
Total	12	36	66	114	22	32	74	128	34	68	140	242	32	73	138	243	66	141	278	485
Percentage of Households with Members that are Beneficiaries of Disaster Relief and Rehabilitation Programs					4.55			0.78	2.94			0.41					1.52			0.21

Table 22. Distribution of households with at least one member receiving agricultural support assistance, treatment group, 2014 and 2015*/

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
No. of HH with no Member Receiving Agricultural Support Assistance	11	36	66	113	22	32	74	128	33	68	140	241	31	73	135	239	64	141	275	480
No. of HH with at least one Member Receiving Agricultural Support Assistance	1			1					1			1	1		3	4	2	0	3	5
Percentage of Households With At Least One Member Receiving Agricultural Support Assistance	8.33			0.88					2.94			0.41	3.13		2.17	1.65	3.03		1.08	1.03
2015																				
No. of HH with no Member Receiving Agricultural Support Assistance	12	36	66	114	21	32	74	127	33	68	140	241	31	73	137	241	64	141	277	482
No. of HH with at least one Member Receiving Agricultural Support Assistance					1			1	1			1	1		1	2	2	0	1	3
Percentage of Households With At Least One Member Receiving Agricultural Support Assistance					4.55			0.78	2.94			0.41	3.13		0.72	0.82	3.03		0.36	0.62

Note: This set of programs includes only agriculture support assistance/programs as well as disaster relief and rehabilitation programs.

Table 23. Distribution of households with and no household members receiving non-agricultural benefit assistance by treatment group, 2014 and 2015*

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Number of HH with No Households Member Receiving Non-Agricultural Benefit Assistance	3	12	27	42	6	6	15	27	9	18	42	69	9	20	46	75	18	38	88	144
Number of HH With at least one Households Member Receiving Non-Agricultural Benefit Assistance	9	24	39	72	16	26	59	101	25	50	98	173	23	53	92	168	48	103	190	341
Percentage of HH with at least one Households Member Receiving Non-Agricultural Benefit Assistance	75.00	66.67	59.09	63.16	72.73	81.25	79.73	78.91	73.53	73.53	70.00	71.49	71.88	72.60	66.67	69.14	72.73	73.05	68.35	70.31
2015																				
Number of HH with No Households Member Receiving Non-Agricultural Benefit Assistance	3	13	27	43	5	6	15	26	8	19	42	69	9	20	46	75	17	39	88	144
Number of HH With at least one Households Member Receiving Non-Agricultural Benefit Assistance	9	23	39	71	17	26	59	102	26	49	98	173	23	53	92	168	49	102	190	341
Percentage of HH with at least one Households Member Receiving Non-Agricultural Benefit Assistance	75.00	63.89	59.09	62.28	77.27	81.25	79.73	79.69	76.47	72.06	70.00	71.49	71.88	72.60	66.67	69.14	74.24	72.34	68.35	70.31

Note: This set of programs excludes those tagged as agriculture support assistance/programs and those disaster relief and rehabilitation programs.*

Housing and Household Productive Assets

The difference in socio-economic status of farming households can be measured in terms of various indicators such as housing characteristics, household assets and access to basic amenities like electricity and sanitary toilet facility, can have a significant effect on their risk-coping ability or is managing their operations and their income. Hence the housing and household productive assets of corn farmers were gathered.

Type of Housing and Housing Materials

With regards to the type of housing of corn farmers in Cagayan Valley region in Table 24, about 56.4 percent of them have non-makeshift housing while 43.6 percent of them have makeshift housing. Non-makeshift housing refers to permanent structures that are strong enough to withstand disasters. The farmers' house was assessed based on housing materials of outer wall, roof and existing floor area. The detailed results in terms of construction materials of outer wall, roof and floor area are shown in Tables 25a and 25b, grouped by farm size and treatments. The results reveal that out of 500 farmers surveyed, the 43.6 percent or 218 farmers have homes vulnerable to disaster.

Based on outer wall and roofing materials of their houses, with insurance without claims farmers are the least vulnerable to typhoon disaster since majority of them uses permanent materials; this is being followed by with insurance with claims farmers that uses mixed but predominantly permanent materials; and without insurance farmers are the most vulnerable to typhoon disaster since majority of them uses light materials ($T3 > T1 > T2$).

Average floor area of houses of the corn farmers in Region 2 is 59 square meter, with insurance with claims farmers having 67 square meter while with insurance with claims and without insurance farmers having the same average floor area of 59 square meter. There were variations of floor area by farm size and no trend was observed.

Tenurial Status of House and Lot

Tables 26a and 26b present the frequency and percent distribution of the tenurial status household of farmers, respectively. Findings reveal that 93.29 percent of them are considered non-squatters while there are 6.71 percent of them are squatters. The term squatters mean that they built houses on a lot that they do not own either with or without consent of the land owners.

Details on the tenurial status of farmers' house and lot show that majority or 87.2 percent of them are home-and-lot owners. There are few cases of farmers who own the house but rent the lot (3.8 percent), rent lot for free and with consent (3.6 percent), rent a house-and-lot for free (3.0 percent) and so on as shown in the table.

It is also important to note that 97.6 percent of the corn farmers had stayed more than two years in their respective residents. It can be inferred from the above results that farmers have long been staying in their residents and therefore they are already acquainted with the environment of their farm the risk that they experience due to calamity.

Table 24. Percent distribution of type of housing and type of building of houses of corn farmers, by treatment group by size, region 2, 2015

	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Type of Housing																				
Makeshift Housing	3	15	24	42	14	15	27	56	17	30	51	98	22	44	54	120	39	74	105	218
Non makeshift housing	10	22	44	76	9	19	48	76	19	41	92	152	14	32	84	130	33	73	176	282
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Type of Building of Houses																				
Single House	13	35	65	113	23	33	72	128	38	67	136	241	34	76	135	245	74	137	275	486
Duplex		2	2	4			3	3		2	5	7	2		3	5	2	2	8	12
Apartment/accesoria/ condominium/townhouse																				
Commercial/industrial/ agricultural building/ house																				
Other housing unit (e.g. boat, cave) specify _____			1	1		1		1		1	1	2						1	1	2
TOTAL	13	37	68	118	23	34	75	132	38	70	142	250	36	76	138	250	76	140	284	500
Percent																				
Type of Housing																				
Makeshift Housing	23.08	40.54	35.29	35.59	60.87	44.12	36.00	42.42	47.22	42.25	35.66	39.20	61.11	57.89	39.13	48.00	54.17	50.34	37.37	43.60
Non makeshift housing	76.92	59.46	64.71	64.41	39.13	55.88	64.00	57.58	52.78	57.75	64.34	60.80	38.89	42.11	60.87	52.00	45.83	49.66	62.63	56.40
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Type of Building of Houses																				
Single House	100.00	94.59	95.59	95.76	100.00	97.06	96.00	96.97	100.00	95.71	95.77	96.40	94.44	100.00	97.83	98.00	97.37	97.86	96.83	97.20
Duplex		5.41	2.94	3.39			4.00	2.27		2.86	3.52	2.80	5.56		2.17	2.00	2.63	1.43	2.82	2.40
Apartment/accesoria/ condominium/townhouse																				
Commercial/industrial/ agricultural building/ house																				
Other housing unit (e.g. boat, cave) specify _____			1.47	0.85		2.94		0.76		1.43	0.70	0.80						0.71	0.35	0.40
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 25a. Frequency distribution of construction material of outer wall, roof and floor area of house of corn farmers by treatment group and farm size, region 2. 2015

	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Construction Material of Outer Wall of House																				
Light Materials	2	12	12	26	11	13	20	44	13	25	32	70	19	31	42	92	32	56	74	162
Permanent Materials	5	6	19	30	6	12	34	52	11	18	53	82	11	17	42	70	22	35	95	152
Mixed but predominantly permanent materials	5	16	26	47	3	7	15	25	8	23	41	72	4	16	47	67	12	39	88	139
Mixed but predominantly light materials	1	3	11	15	3	2	6	11	4	5	17	26	2	12	7	21	6	17	24	47
TOTAL	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Construction Material of Roof (House)																				
Light Materials	2	11	10	23	11	11	16	38	13	22	26	61	16	28	34	78	29	50	60	139
Permanent Materials	5	7	21	33	7	15	35	57	12	22	56	90	13	22	50	85	25	44	106	175
Mixed but predominantly permanent materials	5	16	26	47	3	6	19	28	8	22	45	75	4	15	44	63	12	37	89	138
Mixed but predominantly light materials	1	3	11	15	2	2	5	9	3	5	16	24	3	11	10	24	6	16	26	48
TOTAL	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Average Floor Area of Housing Unit	93	45	74	67	42	53	67	59					59	53	55	55	59	51	63	59

Table 25b. Percent distribution of construction material of outer wall, roof and floor area of house of corn farmers by treatment group, and farm size region 2, year 2015.

	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Construction Material of Outer Wall of House																				
Light Materials	15.38	32.43	17.65	22.03	47.83	38.24	26.67	33.33	36.11	35.21	22.38	28.00	52.78	40.79	30.43	36.80	44.44	38.10	26.33	32.40
Permanent Materials	38.46	16.22	27.94	25.42	26.09	35.29	45.33	39.39	30.56	25.35	37.06	32.80	30.56	22.37	30.43	28.00	30.56	23.81	33.81	30.40
Mixed but predominantly permanent materials	38.46	43.24	38.24	39.83	13.04	20.59	20.00	18.94	22.22	32.39	28.67	28.80	11.11	21.05	34.06	26.80	16.67	26.53	31.32	27.80
Mixed but predominantly light materials	7.69	8.11	16.18	12.71	13.04	5.88	8.00	8.33	11.11	7.04	11.89	10.40	5.56	15.79	5.07	8.40	8.33	11.56	8.54	9.40
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Construction Material of Roof (House)																				
Light Materials	15.38	29.73	14.71	19.49	47.83	32.35	21.33	28.79	36.11	30.99	18.18	24.40	44.44	36.84	24.64	31.20	40.28	34.01	21.35	27.80
Permanent Materials	38.46	18.92	30.88	27.97	30.43	44.12	46.67	43.18	33.33	30.99	39.16	36.00	36.11	28.95	36.23	34.00	34.72	29.93	37.72	35.00
Mixed but predominantly permanent materials	38.46	43.24	38.24	39.83	13.04	17.65	25.33	21.21	22.22	30.99	31.47	30.00	11.11	19.74	31.88	25.20	16.67	25.17	31.67	27.60
Mixed but predominantly light materials	7.69	8.11	16.18	12.71	8.70	5.88	6.67	6.82	8.33	7.04	11.19	9.60	8.33	14.47	7.25	9.60	8.33	10.88	9.25	9.60
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 26a. Frequency distribution of tenurial status (squatter/ nonsquatter) of house and lot of corn farmers, by treatment group and farm size, region 2, year 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Tenure Status of Farmer																				
Squatter		3	7	10		1	10	11	0	4	17	21		4	8	12		8	25	33
Nonsquatter	13	34	60	107	23	32	62	117	36	66	122	224	36	72	127	235	72	138	249	459
Total	13	37	67	117	23	33	72	128	36	70	139	245	36	76	135	247	72	146	274	492
Tenurial Status of House and Lot																				
Owner, owner like possession of house and lot	11	31	57	99	21	32	57	110	32	63	114	209	35	67	125	227	67	130	239	436
Rent House including lot	1			1			1	1	1		1	2		1		1	1	1	1	3
Own house, rent lot	1	3	3	7	2		3	5	3	3	6	12	1	4	2	7	4	7	8	19
Own house, rent free lot with consent of owner		2	4	6		1	5	6		3	9	12		2	4	6		5	13	18
Own house, rent free lot w/out consent of owner							1	1			1	1							1	1
Rent free house and lot with consent of owner		1	3	4			5	5		1	8	9		2	4	6		3	12	15
Rent free house and lot w/out consent of owner																				
Other tenure status			1	1		1	3	4		1	4	5			3	3		1	7	8
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Percentage of Households Living in Present Address for Two Years and More (Tab 46)	12	36	67	115	23	34	75	132	35	70	142	247	35	72	134	241	70	142	276	488

Table 26b. Percentage distribution of tenurial status (squatter/ nonsquatter) of house and lot of farmers, by treatment group and farm size, region 2, year 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Tenure Status of Farmer																				
Squatter		8.11	10.45	8.55		3.03	13.89	8.59		5.71	12.23	8.57		5.26	5.93	4.86		5.48	9.12	6.71
Nonsquatter	100.00	91.89	89.55	91.45	100.00	96.97	86.11	91.41	100.00	94.29	87.77	91.43	100.00	94.74	94.07	95.14	100.00	94.52	90.88	93.29
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tenurial Status of House and Lot																				
Owner, owner like possession of house and lot	84.62	83.78	83.82	83.90	91.30	94.12	76.00	83.33	88.89	88.73	79.72	83.60	97.22	88.16	90.58	90.80	93.06	88.44	85.05	87.20
Rent House including lot	7.69			0.85			1.33	0.76	2.78		0.70	0.80		1.32		0.40	1.39	0.68	0.36	0.60
Own house, rent lot	7.69	8.11	4.41	5.93	8.70		4.00	3.79	8.33	4.23	4.20	4.80	2.78	5.26	1.45	2.80	5.56	4.76	2.85	3.80
Own house, rent free lot with consent of owner		5.41	5.88	5.08		2.94	6.67	4.55		4.23	6.29	4.80		2.63	2.90	2.40		3.40	4.63	3.60
Own house, rent free lot w/out consent of owner							1.33	0.76			0.70	0.40							0.36	0.20
Rent free house and lot with consent of owner		2.70	4.41	3.39			6.67	3.79		1.41	5.59	3.60		2.63	2.90	2.40		2.04	4.27	3.00
Rent free house and lot w/out consent of owner																				
Other tenure status			1.47	0.85		2.94	4.00	3.03		1.41	2.80	2.00			2.17	1.20		0.68	2.49	1.60
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Percentage of Households Living in Present Address for Two Years and More (Tab 46)																				
	92.31	97.30	98.53	97.46	100.00	100.00	100.00	100.00	97.22	98.59	99.30	98.80	97.22	94.74	97.10	96.40	97.22	96.60	98.22	97.60

Electricity and Drinking Water Supply

Tables 27a to 27b show that out of the 500 pooled corn farmers, about 94.4 percent have electricity at home while 5.6 percent (or 28 farmers) has no electricity. The availability of electricity is dependent on the power grid stations in the area and proximity of residents to electrical lines. It is important to note that the largest account of no electricity could be found among without insurance farmers (7.6 percent), followed by with insurance without claims farmers (5.3 percent) and least are the with insurance with claims farmers (1.69 percent), respectively (T3>T2>T1).

With regards to the source of drinking water at home, almost all of the farmers regardless of farm size and treatment group have safe water source (93.29 percent). There are 6.71 percent or 30 farmers whose water supply is not safe. The safeness of water source is dependent on the absence of contaminants in the water supply, sterile container and careful transport.

Majority of the farmers have protected dug well (67.6 percent) as their main source of water supply regardless of their farm size and treatment. A small percentage of the farmers are distributed to have community water system piped into dwelling (9.2 percent), other sources of water supply, purified water refilling station or bottled water (5.2 percent), public tap/standpipe (4.4 percent), community water system piped into yard/plot (3.2 percent), and others from tanker/truck/peddler, protected spring, unprotected spring, unprotected dug well and rainwater collection.

These results indicate that corn farmers can have several type of source of drinking water supply depending on their environment and capacity.

Table 16a also shows that the average distance of drinking water from source to house is around 96 meters. Those farmers with large farms (greater than one hectare) have further source of drinking water supply than those with insurance corn farmers.

Household Toilet Facilities

Table 28 shows that almost all the farmer respondents, regardless of farm size and treatment group, have sanitary toilet with a total percentage of 90.6 percent. Only a few, 9.4 percent of them make use of unsanitary toilet facilities. Sanitary condition is related to availability of water, isolation of human septage to the environment and housing infrastructure of toilet facility.

As to the type of toilet facility in household, 54.4 percent make use of flush/pour flush to septic tank regardless of their treatment group. There were 27.6 percent who make use of pit latrine with slab, 9.0 percent make use of pit latrine without slab, while 8.6 percent make use of flush/pour flush to elsewhere. There was only 0.2 percent who still makes use of hanging toilet/latrine, and pail/bucket system.

The type of toilet facility of farmers also depend on the type of water source. if the water system is not piped into dwelling, it may be difficult to maintain cleanliness of flush toilet septic tank. This indicates that still a number of the farmers have to improve their toilet facilities into a more sanitary type of toilet.

Table 27a. Frequency distribution of the availability of electricity in houses, source of drinking water, main source of water supply and average distance of drinking water from source to household of corn farmers, (frequency), by treatment group, by farm size region 2, year 2015.

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Availability of electricity in Houses																				
Yes	13	36	67	116	21	32	72	125	34	68	139	241	30	69	132	231	64	137	271	472
No		1	1	2	2	2	3	7	2	3	4	9	6	7	6	19	8	10	10	28
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Source of Drinking Water at Home																				
Unsafe water source		2	2	4	2	1	5	8	2	3	7	12	5	4	9	18	7	7	16	30
Safe water source	10	33	56	99	19	31	62	112	29	64	118	211	27	66	113	206	56	130	231	417
Total	10	35	58	103	21	32	67	120	31	67	125	223	32	70	122	224	63	137	247	447
Main Source of Water Supply For Drinking																				
Community water system piped into dwelling		7	9	16	1	3	3	7	1	10	12	23	2	6	15	23	3	16	27	46
Community water system piped into yard/ plot			2	2	1		2	3	1		4	5	1	2	8	11	2	2	12	16
Public tap/ standpipe	1	2	2	5	3	2	1	6	4	4	3	11		4	7	11	4	8	10	22
Tubewell/ borehole																				
Protected dug well	9	24	45	78	14	25	55	94	23	49	100	172	25	55	86	166	48	104	186	338
Unprotected dug well		2		2	1		2	3	1	2	2	5	3	2		5	4	4	2	10
Protected spring					1	1	3	5	1	1	3	5		1	5	6	1	2	8	11
Unprotected spring							1	1			1	1	1		1	2	1		2	3
Rainwater collection																				
Purified water refilling station/ bottled water	1	1	8	10	1	1	4	6	2	2	12	16	2	1	7	10	4	3	19	26
Tanker/ truck/ peddler																				
Surface water (river/ dam/ lake/ pond/ stream/ canal/ irrigation)																				
Others, please specify	2	1	2	5	1	1	4	6	3	2	6	11	2	5	9	16	5	7	15	27
TOTAL	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Average Distance of Drinking Water																				
Source of Drinking Water at Home	7.3	92	209	150	141	105	22	64					14	33	137	88	53	64	124	96

Table 27b. Percent distribution of the availability of electricity in houses, source of drinking water, main source of water supply and average distance of drinking water from source to household of corn farmers, (frequency), by treatment group, by farm size region 2, year 2015.

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Availability of electricity in Houses																				
Yes	100.00	97.30	98.53	98.31	91.30	94.12	96.00	94.70	94.44	95.77	97.20	96.40	83.33	90.79	95.65	92.40	88.89	93.20	96.44	94.40
No		2.70	1.47	1.69	8.70	5.88	4.00	5.30	5.56	4.23	2.80	3.60	16.67	9.21	4.35	7.60	11.11	6.80	3.56	5.60
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Source of Drinking Water at Home																				
Unsafe water source		5.71	3.45	3.88	9.52	3.13	7.46	6.67	6.45	4.48	5.60	5.38	15.63	5.71	7.38	8.04	11.11	5.11	6.48	6.71
Safe water source	100.00	94.29	96.55	96.12	90.48	96.88	92.54	93.33	93.55	95.52	94.40	94.62	84.38	94.29	92.62	91.96	88.89	94.89	93.52	93.29
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Main Source of Water Supply For Drinking																				
Community water system piped into dwelling		18.92	13.24	13.56	4.35	8.82	4.00	5.30	2.78	14.08	8.39	9.20	5.56	7.89	10.87	9.20	4.17	10.88	9.61	9.20
Community water system piped into yard/ plot			2.94	1.69	4.35		2.67	2.27	2.78		2.80	2.00	2.78	2.63	5.80	4.40	2.78	1.36	4.27	3.20
Public tap/ standpipe	7.69	5.41	2.94	4.24	13.04	5.88	1.33	4.55	11.11	5.63	2.10	4.40		5.26	5.07	4.40	5.56	5.44	3.56	4.40
Tubewell/ borehole																				
Protected dug well	69.23	64.86	66.18	66.10	60.87	73.53	73.33	71.21	63.89	69.01	69.93	68.80	69.44	72.37	62.32	66.40	66.67	70.75	66.19	67.60
Unprotected dug well		5.41		1.69	4.35		2.67	2.27	2.78	2.82	1.40	2.00	8.33	2.63		2.00	5.56	2.72	0.71	2.00
Protected spring					4.35	2.94	4.00	3.79	2.78	1.41	2.10	2.00		1.32	3.62	2.40	1.39	1.36	2.85	2.20
Unprotected spring							1.33	0.76			0.70	0.40	2.78		0.72	0.80	1.39		0.71	0.60
Rainwater collection																				
Purified water refilling station/ bottled water	7.69	2.70	11.76	8.47	4.35	2.94	5.33	4.55	5.56	2.82	8.39	6.40	5.56	1.32	5.07	4.00	5.56	2.04	6.76	5.20
Tanker/ truck/ peddler																				
Surface water (river/ dam/ lake/ pond/ stream/ canal/ irrigation)						2.94		0.76		1.41		0.40						0.68		0.20
Others, please specify	15.38	2.70	2.94	4.24	4.35	2.94	5.33	4.55	8.33	2.82	4.20	4.40	5.56	6.58	6.52	6.40	6.94	4.76	5.34	5.40
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 28. Household toilet facilities of farmers, by region/ crop and treatment group by treatment group, by farm size of corn farmers in region 2, year 2015.

Region/ Crop	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Toilet facilities -frequency																				
Unsanitary toilet	1	1	1	3	1	6	7	14	2	7	8	17	6	9	15	30	8	16	23	47
Sanitary toilet	12	36	67	115	22	28	68	118	34	64	135	233	30	67	123	220	64	131	258	453
TOTAL	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Toilet facilities-percent																				
Unsanitary toilet	7.69	2.70	1.47	2.54	4.35	17.65	9.33	10.61	5.56	9.86	5.59	6.80	16.67	11.84	10.87	12.00	11.11	10.88	8.19	9.40
Sanitary toilet	92.31	97.30	98.53	97.46	95.65	82.35	90.67	89.39	94.44	90.14	94.41	93.20	83.33	88.16	89.13	88.00	88.89	89.12	91.81	90.60
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Type of Toilet Facility in Household																				
-FREQUENCY																				
Flush/ pour flush to piped sewer system																				
Flush/ pour flush to septic tank	8	25	35	68	12	17	41	70	20	42	76	138	13	41	80	134	33	83	156	272
Flush/ pour flush to pit latrine																				
Flush/ pour flush to elsewhere	3	4	12	19		1	2	3	3	5	14	22	5	6	10	21	8	11	24	43
Pit latrine with slab	1	7	20	28	10	10	25	45	11	17	45	73	12	20	33	65	23	37	78	138
Pit latrine w/out slab/ open	1	1	1	3	1	6	7	14	2	7	8	17	5	9	14	28	7	16	22	45
Composting toilet																				
Hanging toilet/ hanging latrine															1				1	1
Pail system/ bucket													1				1			1
No facilities/ bush/ field																				
Others, specify																				
TOTAL	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	248	72	147	281	500
Type of Toilet Facility in Household																				
-PERCENT																				
Flush/ pour flush to piped sewer system																				
Flush/ pour flush to septic tank	61.54	67.57	51.47	57.63	52.17	50.00	54.67	53.03	55.56	59.15	53.15	55.20	36.11	53.95	57.97	54.03	45.83	56.46	55.52	54.40
Flush/ pour flush to pit latrine																				
Flush/ pour flush to elsewhere	23.08	10.81	17.65	16.10		2.94	2.67	2.27	8.33	7.04	9.79	8.80	13.89	7.89	7.25	8.47	11.11	7.48	8.54	8.60
Pit latrine with slab	7.69	18.92	29.41	23.73	43.48	29.41	33.33	34.09	30.56	23.94	31.47	29.20	33.33	26.32	23.91	26.21	31.94	25.17	27.76	27.60
Pit latrine w/out slab/ open	7.69	2.70	1.47	2.54	4.35	17.65	9.33	10.61	5.56	9.86	5.59	6.80	13.89	11.84	10.14	11.29	9.72	10.88	7.83	9.00
Composting toilet																				
Hanging toilet/ hanging latrine															0.72				0.36	0.20
Pail system/ bucket													2.78				1.39			0.20
No facilities/ bush/ field																				
Others, specify																				
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Access to Physical Infrastructure, Economic Support and Agricultural Services

The availability and usage of agricultural physical infrastructure and agricultural support services are discussed in this section. The presence of these facilities can affect the agricultural households' ability to recover from shocks if not to prevent the extent of damage due to shocks.

Awareness of Facilities in the Barangay

The farmer-respondents were asked about their awareness of facilities found in their communities. Results in Table 29a and 29b show that majority of them are aware of the presence of drying facilities in their barangay. Specifically, around 77.8 percent are aware of the presence of traditional sun-drying pavement followed by flatbed dryer (21.4 percent), mechanical dryer (10.8 percent) and other dryers (1.8 percent). The absence of drying facilities may prompt farmers to sell products with high moisture content (skin dry) even at low price; It was observed that the most common drying facility available is the solar drying pavement. This maybe the reason why majority of the farmers are aware of this facility.

On post-harvest facilities, the pooled farmers are more aware of the presence of thresher (58.0 percent) than the other facilities like corn sheller (34.2 percent), single pass mill (32.8 percent), sheller (30.8 percent), and corn mill (26.0 percent). There are also harvester-thresher (18.4 percent), feed mill (13.2 percent) and multi-pass rice mill (11.2 percent) which are emerging agricultural technologies.

On storage facilities, the highest percentage of awareness is on the presence of private communal warehouse (26.2 percent) followed by government warehouse (15.4 percent), in-house storage (14.6 percent) and communal storage (13.2 percent). The absence or lack of support of some agriculture support facilities especially storage and warehouses might worsen the plight of corn farmers.

The farmers are also aware of the presence of agricultural product market with 42.4 percent of the total respondents. As to the presence of dealers on farm inputs, their awareness is high such as the presence of fertilizer dealer (48.8 percent), seeds dealer (45.4 percent), pesticide dealer (44.6 percent), and feeds dealer (40.6 percent).

It can also be noted that majority (53.6 percent) the farmers are much aware on the presence of agricultural enterprise development and training provided by the government with 53.6 percent of total respondents.

On the presence of financial institutions, banks got the highest percentage (44.2 percent) followed by cooperatives (43.6 percent), microfinance institutions (37.6 percent) and credit associations (30.8 percent).

Table 29a. Awareness of facilities in the barangay, region 2-cagayan valley, by treatment group, 2014 and 2015 (frequency)

Facility	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Traditional sun-drying pavement	8	23	48	79	20	29	63	112	28	52	111	191	29	60	109	198	57	112	220	389
Flatbed dryer	3	8	14	25	4	4	24	32	7	12	38	57	11	11	28	50	18	23	66	107
Mechanical dryer		1	6	7		5	15	20		6	21	27	6	4	17	27	6	10	38	54
Other dryer		2	2	4			2	2		2	4	6		2	1	3		4	5	9
Thresher	5	19	44	68	14	21	37	72	19	40	81	140	24	45	81	150	43	85	162	290
Harvester-thresher	2	4	8	14	2	9	23	34	4	13	31	48	6	12	26	44	10	25	57	92
Sheller	2	8	20	30	6	12	24	42	8	20	44	72	16	21	45	82	24	41	89	154
Corn sheller	3	9	27	39	7	11	27	45	10	20	54	84	15	22	50	87	25	42	104	171
Single-pass rice mill	3	8	19	30	9	13	25	47	12	21	44	77	12	26	49	87	24	47	93	164
Multi-pass rice mill		1	4	5	3	5	8	16	3	6	12	21	7	8	20	35	10	14	32	56
Corn mill	4	6	13	23	5	9	21	35	9	15	34	58	11	17	44	72	20	32	78	130
Feed mill	1	4	4	9	3	6	14	23	4	10	18	32	7	6	21	34	11	16	39	66
Others													1			1	1			1
In-house storage		3	6	9	2	8	13	23	2	11	19	32	8	8	25	41	10	19	44	73
Communal storage	1	3	3	7	2	6	15	23	3	9	18	30	8	8	20	36	11	17	38	66
Government warehouse	1	3	6	10	2	7	18	27	3	10	24	37	9	8	23	40	12	18	47	77
Private commercial warehouse	2	5	12	19	5	10	27	42	7	15	39	61	13	16	41	70	20	31	80	131
Other warehouse		1	1	2	1	1	4	6	1	2	5	8	1	1	8	10	2	3	13	18
Agricultural produce market	4	6	23	33	14	17	33	64	18	23	56	97	18	35	62	115	36	58	118	212
Fertilizer dealer	6	10	33	49	11	12	44	67	17	22	77	116	20	31	77	128	37	53	154	244
Pesticide dealer	6	9	28	43	11	11	44	66	17	20	72	109	19	28	67	114	36	48	139	223
Seeds dealer	5	8	28	41	10	12	42	64	15	20	70	105	20	29	73	122	35	49	143	227
Feeds dealer	3	9	33	45	7	9	38	54	10	18	71	99	16	25	63	104	26	43	134	203
Agriculture and enterprise development/trainings	3	18	26	47	13	24	46	83	16	42	72	130	22	44	72	138	38	86	144	268
Banks	5	9	23	37	10	18	39	67	15	27	62	104	20	28	69	117	35	55	131	221
Cooperatives	3	7	31	41	12	21	36	69	15	28	67	110	20	29	59	108	35	57	126	218
Microfinance institutions	3	10	20	33	7	13	39	59	10	23	59	92	15	23	58	96	25	46	117	188
Credit associations	2	4	16	22	7	13	26	46	9	17	42	68	18	25	43	86	27	42	85	154

Table 29b. Awareness of facilities in the barangay, region 2-cagayan valley, by treatment group, 2014 and 2015 (in percent)

Facility	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Traditional sun-drying																				
pavement	61.54	62.16	70.59	66.95	86.96	67.44	84.00	84.85	77.78	73.24	77.62	76.40	80.56	78.95	78.99	79.20	79.17	76.19	78.29	77.80
Flatbed dryer	23.08	21.62	20.59	21.19	17.39	9.30	32.00	24.24	19.44	16.90	26.57	22.80	30.56	14.47	20.29	20.00	25.00	15.65	23.49	21.40
Mechanical dryer		2.70	8.82	5.93		11.63	20.00	15.15		8.45	14.69	10.80	16.67	5.26	12.32	10.80	8.33	6.80	13.52	10.80
Other dryer		5.41	2.94	3.39			2.67	1.52		2.82	2.80	2.40		2.63	0.72	1.20		2.72	1.78	1.80
Thresher	38.46	51.35	64.71	57.63	60.87	48.84	49.33	54.55	52.78	56.34	56.64	56.00	66.67	59.21	58.70	60.00	59.72	57.82	57.65	58.00
Harvester-thresher	15.38	10.81	11.76	11.86	8.70	20.93	30.67	25.76	11.11	18.31	21.68	19.20	16.67	15.79	18.84	17.60	13.89	17.01	20.28	18.40
Sheller	15.38	21.62	29.41	25.42	26.09	27.91	32.00	31.82	22.22	28.17	30.77	28.80	44.44	27.63	32.61	32.80	33.33	27.89	31.67	30.80
Corn sheller	23.08	24.32	39.71	33.05	30.43	25.58	36.00	34.09	27.78	28.17	37.76	33.60	41.67	28.95	36.23	34.80	34.72	28.57	37.01	34.20
Single-pass rice mill	23.08	21.62	27.94	25.42	39.13	30.23	33.33	35.61	33.33	29.58	30.77	30.80	33.33	34.21	35.51	34.80	33.33	31.97	33.10	32.80
Multi-pass rice mill		2.70	5.88	4.24	13.04	11.63	10.67	12.12	8.33	8.45	8.39	8.40	19.44	10.53	14.49	14.00	13.89	9.52	11.39	11.20
Corn mill	30.77	16.22	19.12	19.49	21.74	20.93	28.00	26.52	25.00	21.13	23.78	23.20	30.56	22.37	31.88	28.80	27.78	21.77	27.76	26.00
Feed mill	7.69	10.81	5.88	7.63	13.04	13.95	18.67	17.42	11.11	14.08	12.59	12.80	19.44	7.89	15.22	13.60	15.28	10.88	13.88	13.20
Others													2.78			0.40	1.39			0.20
In-house storage		8.11	8.82	7.63	8.70	18.60	17.33	17.42	5.56	15.49	13.29	12.80	22.22	10.53	18.12	16.40	13.89	12.93	15.66	14.60
Communal storage	7.69	8.11	4.41	5.93	8.70	13.95	20.00	17.42	8.33	12.68	12.59	12.00	22.22	10.53	14.49	14.40	15.28	11.56	13.52	13.20
Government warehouse	7.69	8.11	8.82	8.47	8.70	16.28	24.00	20.45	8.33	14.08	16.78	14.80	25.00	10.53	16.67	16.00	16.67	12.24	16.73	15.40
Private commercial																				
warehouse	15.38	13.51	17.65	16.10	21.74	23.26	36.00	31.82	19.44	21.13	27.27	24.40	36.11	21.05	29.71	28.00	27.78	21.09	28.47	26.20
Other warehouse		2.70	1.47	1.69	4.35	2.33	5.33	4.55	2.78	2.82	3.50	3.20	2.78	1.32	5.80	4.00	2.78	2.04	4.63	3.60
Agricultural produce market	30.77	16.22	33.82	27.97	60.87	39.53	44.00	48.48	50.00	32.39	39.16	38.80	50.00	46.05	44.93	46.00	50.00	39.46	41.99	42.40
Fertilizer dealer	46.15	27.03	48.53	41.53	47.83	27.91	58.67	50.76	47.22	30.99	53.85	46.40	55.56	40.79	55.80	51.20	51.39	36.05	54.80	48.80
Pesticide dealer	46.15	24.32	41.18	36.44	47.83	25.58	58.67	50.00	47.22	28.17	50.35	43.60	52.78	36.84	48.55	45.60	50.00	32.65	49.47	44.60
Seeds dealer	38.46	21.62	41.18	34.75	43.48	27.91	56.00	48.48	41.67	28.17	48.95	42.00	55.56	38.16	52.90	48.80	48.61	33.33	50.89	45.40
Feeds dealer	23.08	24.32	48.53	38.14	30.43	20.93	50.67	40.91	27.78	25.35	49.65	39.60	44.44	32.89	45.65	41.60	36.11	29.25	47.69	40.60
Agriculture and enterprise																				
development/trainings	23.08	48.65	38.24	39.83	56.52	55.81	61.33	62.88	44.44	59.15	50.35	52.00	61.11	57.89	52.17	55.20	52.78	58.50	51.25	53.60
Banks	38.46	24.32	33.82	31.36	43.48	41.86	52.00	50.76	41.67	38.03	43.36	41.60	55.56	36.84	50.00	46.80	48.61	37.41	46.62	44.20
Cooperatives	23.08	18.92	45.59	34.75	52.17	48.84	48.00	52.27	41.67	39.44	46.85	44.00	55.56	38.16	42.75	43.20	48.61	38.78	44.84	43.60
Microfinance institutions	23.08	27.03	29.41	27.97	30.43	30.23	52.00	44.70	27.78	32.39	41.26	36.80	41.67	30.26	42.03	38.40	34.72	31.29	41.64	37.60
Credit associations	15.38	10.81	23.53	18.64	30.43	30.23	34.67	34.85	25.00	23.94	29.37	27.20	50.00	32.89	31.16	34.40	37.50	28.57	30.25	30.80

Availment of Facilities in the Barangay

While the farmer-respondents are aware of the presence of facilities in their communities, they were asked about their extent of availment of these facilities. The results are shown in Table 30a and 30b for the frequency and percent distribution for cropping years 2014 respectively and Tables 31a and 31b for cropping year 2015.

Findings show that 47.2 percent of the farmers avail the traditional sun-drying pavement. There are only few farmers who availed flatbed dryer (3.4 percent), mechanical dryer (0.6 percent) and other dryers (1.0 percent). The trend shows a slight increase in users of flatbed and mechanical dryers which are emerging technologies from 2014 and 2015. The unavailability of drying facilities in the communities due to limited capacity and multiple farmer users may prompt farmers to sell products immediately after harvest even at low prices or even the corn grains are not yet fully dried up to the desired moisture content. During dry season planting which are harvested during rainy/wet season. Cemented roads are also use for drying corn. It can be inferred from the finding that drying facilities is still lacking for farmers use. Those with insurance with claims has the least percentage (35.59 percent) who availed of the drying pavement facility while those with insurance without claims has 57.58 percent

On post-harvest facilities, the farmers availed more of corn thresher (42.8 percent), corn sheller (20.6 percent) and single pass rice mill (16.6 percent to 16.8 percent) in their communities. Other facilities like sheller (15.6 percent) and corn mill (5.6 to 5.8 percent) was also being used. Emerging technologies such as harvester-thresher (3.8 to 4.0 percent), multi-pass rice mill (1.4 percent) and feed mill (0.8 to 1.2 percent) are also being utilized by few farmers. From 2014 to 2015, trend shows a slight increase in farmer users of single pass rice mill, corn mill, harvester-thresher and feed mill.

On storage facilities, only few farmers utilized existing facilities in their communities. Table 30b shows that the percentage of farmers who availed in-house storage is 1 percent, community's storage facilities (0.2 percent), government warehouse (0.2 percent) and private commercial warehouse (3.2 percent). The absence or lack of support of some agriculture support facilities especially storage and warehouses might worsen the plight of corn farmers. It can be noted that from 2014 to 2015, there is a slight increase in availing/use of in-house storage, decrease availment of communal warehouse, and no availment of government warehouse. The use of storage facilities is dependent on the proximity and availability of drying facilities. When there are no drying facilities even if there are storage facilities in the community, the farmers opt to sell as fresh harvest at lower price. Added issues of availing storage facilities is the storage cost, problem of pest and security. Likewise, famers do not generally store their corn but sell immediately after drying when desired moisture (MC) is attained or even without attaining the appropriate MC during rainy season this then commands a lower price of the corn sold.

The low availment of facilities in the barangay is also attributed to low level of awareness among corn farmers. Although majority of these facilities are free of charge, there is a demand-side issue of usage, especially when farmers plant and harvest at the time attributing to reservation problems.

Table 30a. Frequency distribution of availment of facilities in the barangay, by treatment group and farm size, region 2-cagayan valley

Facility	With Claims				With Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
					Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Traditional sun-drying pavement	4	14	24	42	14	22	40	76	18	36	64	118	17	36	65	118	35	72	129	236
Flatbed dryer	1	1	3	5	1	1	5	7	2	2	8	12	1	2	2	5	3	4	10	17
Mechanical dryer						1	1	2		1	1	2		1	1	2		2	1	3
Other dryer			1	1			2	2			3	3		1	1	2		1	4	5
Thresher	5	16	36	57	11	18	25	54	16	34	61	111	15	34	54	103	31	68	115	214
Harvester-thresher	1	2	4	7	1	2	5	8	2	4	9	15		1	3	4	2	5	12	19
Sheller	2	4	13	19	4	4	8	16	6	8	21	35	5	13	25	43	11	21	46	78
Corn sheller	3	5	18	26	6	4	16	26	9	9	34	52	5	15	31	51	14	24	65	103
Single-pass rice mill	2	6	8	16	6	9	12	27	8	15	20	43	5	15	20	40	13	30	40	83
Multi-pass rice mill			2	2		3	3	3		3	2	5			2	2		3	4	7
Corn mill	3	1	4	8	1	2	5	8	4	3	9	16	2	3	7	12	6	6	16	28
Feed mill					1	1	1	3	1	1	1	3	1			1	2	1	1	4
Others																				
In-house storage			2	2			2	2			4	4	1			1	1		4	5
Communal storage			1	1							1	1							1	1
Government warehouse					1			1	1			1					1			1
Private commercial warehouse	1		1	2	1		6	7	2		7	9	2	2	3	7	4	2	10	16
Other warehouse																				
Agricultural produce market	3	3	15	21	9	11	18	38	12	14	33	59	11	20	39	70	23	34	72	129
Fertilizer dealer	4	4	25	33	8	11	36	55	12	15	61	88	17	25	56	98	29	40	117	186
Pesticide dealer	4	6	21	31	8	8	34	50	12	14	55	81	10	24	51	85	22	38	106	166
Seeds dealer	3	6	21	30	8	9	33	50	11	15	54	80	16	25	59	100	27	40	113	180
Feeds dealer	2	3	14	19	2	3	16	21	4	6	30	40	4	4	21	29	8	10	51	69
Agriculture and enterprise development/trainings	2	15	23	40	10	19	34	63	12	34	57	103	12	29	44	85	24	63	101	188
Banks			2	2		1	3	4		1	5	6	1	2	6	9	1	3	11	15
Cooperatives			4	4		3	8	11		3	12	15		2	2	4		5	14	19
Microfinance institutions	1	1	4	6		2	6	8	1	3	10	14		1	6	7	1	4	16	21
Credit associations		1	2	3			3	3		1	5	6			2	2		1	7	8

Table 30b. Availment of Facilities in the Barangay, Region 2-Cagayan Valley, By Treatment Group, 2014 and 2015 (In Percent)

Facility	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Traditional sun-drying																				
pavement	30.77	37.84	35.29	35.59	60.87	51.16	53.33	57.58	50.00	50.70	44.76	47.20	47.22	47.37	47.10	47.20	48.61	48.98	45.91	47.20
Flatbed dryer	7.69	2.70	4.41	4.24	4.35	2.33	6.67	5.30	5.56	2.82	5.59	4.80	2.78	2.63	1.45	2.00	4.17	2.72	3.56	3.40
Mechanical dryer						2.33	1.33	1.52		1.41	0.70	0.80		1.32		0.40		1.36	0.36	0.60
Other dryer			1.47	0.85			2.67	1.52			2.10	1.20		1.32	0.72	0.80		0.68	1.42	1.00
Thresher	38.46	43.24	52.94	48.31	47.83	41.86	33.33	40.91	44.44	47.89	42.66	44.40	41.67	44.74	39.13	41.20	43.06	46.26	40.93	42.80
Harvester-thresher	7.69	5.41	5.88	5.93	4.35	4.65	6.67	6.06	5.56	5.63	6.29	6.00		1.32	2.17	1.60	2.78	3.40	4.27	3.80
Sheller	15.38	10.81	19.12	16.10	17.39	9.30	10.67	12.12	16.67	11.27	14.69	14.00	13.89	17.11	18.12	17.20	15.28	14.29	16.37	15.60
Corn sheller	23.08	13.51	26.47	22.03	26.09	9.30	21.33	19.70	25.00	12.68	23.78	20.80	13.89	19.74	22.46	20.40	19.44	16.33	23.13	20.60
Single-pass rice mill	15.38	16.22	11.76	13.56	26.09	20.93	16.00	20.45	22.22	21.13	13.99	17.20	13.89	19.74	14.49	16.00	18.06	20.41	14.23	16.60
Multi-pass rice mill			2.94	1.69		6.98		2.27		4.23	1.40	2.00			1.45	0.80		2.04	1.42	1.40
Corn mill	23.08	2.70	5.88	6.78	4.35	4.65	6.67	6.06	11.11	4.23	6.29	6.40	5.56	3.95	5.07	4.80	8.33	4.08	5.69	5.60
Feed mill					4.35	2.33	1.33	2.27	2.78	1.41	0.70	1.20	2.78			0.40	2.78	0.68	0.36	0.80
Others																				
In-house storage			2.94	1.69			2.67	1.52			2.80	1.60	2.78			0.40	1.39		1.42	1.00
Communal storage			1.47	0.85							0.70	0.40						0.36	0.20	
Government warehouse					4.35			0.76	2.78			0.40					1.39			0.20
Private commercial warehouse	7.69		1.47	1.69	4.35		8.00	5.30	5.56		4.90	3.60	5.56	2.63	2.17	2.80	5.56	1.36	3.56	3.20
Other warehouse																				
Agricultural produce market	23.08	8.11	22.06	17.80	39.13	25.58	24.00	28.79	33.33	19.72	23.08	23.60	30.56	26.32	28.26	28.00	31.94	23.13	25.62	25.80
Fertilizer dealer	30.77	10.81	36.76	27.97	34.78	25.58	48.00	41.67	33.33	21.13	42.66	35.20	47.22	32.89	40.58	39.20	40.28	27.21	41.64	37.20
Pesticide dealer	30.77	16.22	30.88	26.27	34.78	18.60	45.33	37.88	33.33	19.72	38.46	32.40	27.78	31.58	36.96	34.00	30.56	25.85	37.72	33.20
Seeds dealer	23.08	16.22	30.88	25.42	34.78	20.93	44.00	37.88	30.56	21.13	37.76	32.00	44.44	32.89	42.75	40.00	37.50	27.21	40.21	36.00
Feeds dealer	15.38	8.11	20.59	16.10	8.70	6.98	21.33	15.91	11.11	8.45	20.98	16.00	11.11	5.26	15.22	11.60	11.11	6.80	18.15	13.80
Agriculture and enterprise development/trainings	15.38	40.54	33.82	33.90	43.48	44.19	45.33	47.73	33.33	47.89	39.86	41.20	33.33	38.16	31.88	34.00	33.33	42.86	35.94	37.60
Banks			2.94	1.69		2.33	4.00	3.03		1.41	3.50	2.40	2.78	2.63	4.35	3.60	1.39	2.04	3.91	3.00
Cooperatives			5.88	3.39		6.98	10.67	8.33		4.23	8.39	6.00		2.63	1.45	1.60		3.40	4.98	3.80
Microfinance institutions	7.69	2.70	5.88	5.08		4.65	8.00	6.06	2.78	4.23	6.99	5.60		1.32	4.35	2.80	1.39	2.72	5.69	4.20
Credit associations		2.70	2.94	2.54			4.00	2.27		1.41	3.50	2.40			1.45	0.80		0.68	2.49	1.60

Table 31a. Availment of Facilities in the Barangay, Region 2-Cagayan Valley, By Treatment Group, 2014 and 2015 (In Percent)

Facility	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2015																				
Traditional sun-drying																				
pavement	30.77	37.84	39.71	38.14	69.57	51.16	52.00	58.33	55.56	50.70	46.15	48.80	47.22	42.11	48.55	46.40	51.39	46.26	47.33	47.60
Flatbed dryer	7.69	2.70	5.88	5.08	4.35	2.33	6.67	5.30	5.56	2.82	6.29	5.20	2.78	2.63	1.45	2.00	4.17	2.72	3.91	3.60
Mechanical dryer						2.33	2.67	2.27			1.41	1.40		2.63	0.72	1.20		2.04	1.07	1.20
Other dryer			1.47	0.85			2.67	1.52			2.10	1.20		1.32	0.72	0.80		0.68	1.42	1.00
Thresher	30.77	43.24	52.94	47.46	47.83	39.53	34.67	40.91	41.67	46.48	43.36	44.00	44.44	46.05	38.41	41.60	43.06	46.26	40.93	42.80
Harvester-thresher	7.69	5.41	5.88	5.93	4.35	4.65	6.67	6.06	5.56	5.63	6.29	6.00		1.32	2.90	2.00	2.78	3.40	4.63	4.00
Sheller	15.38	8.11	19.12	15.25	17.39	9.30	12.00	12.88	16.67	9.86	15.38	14.00	16.67	14.47	18.84	17.20	16.67	12.24	17.08	15.60
Corn sheller	23.08	13.51	27.94	22.88	21.74	9.30	21.33	18.94	22.22	12.68	24.48	20.80	13.89	19.74	22.46	20.40	18.06	16.33	23.49	20.60
Single-pass rice mill	15.38	16.22	10.29	12.71	26.09	20.93	17.33	21.21	22.22	21.13	13.99	17.20	13.89	19.74	15.22	16.40	18.06	20.41	14.59	16.80
Multi-pass rice mill			2.94	1.69		6.98		2.27		4.23	1.40	2.00			1.45	0.80		2.04	1.42	1.40
Corn mill	23.08	2.70	7.35	7.63	4.35	4.65	6.67	6.06	11.11	4.23	6.99	6.80	5.56	3.95	5.07	4.80	8.33	4.08	6.05	5.80
Feed mill			1.47	0.85	4.35	2.33	2.67	3.03	2.78	1.41	2.10	2.00	2.78			0.40	2.78	0.68	1.07	1.20
Others																				
In-house storage			1.47	0.85			4.00	2.27			2.80	1.60	2.78		0.72	0.80	1.39		1.78	1.20
Communal storage			1.47	0.85							0.70	0.40							0.36	0.20
Government warehouse																				
Private commercial warehouse	7.69			0.85	4.35		8.00	5.30	5.56		4.20	3.20	5.56	2.63	2.17	2.80	5.56	1.36	3.20	3.00
Other warehouse																				
Agricultural produce market	23.08	8.11	22.06	17.80	34.78	23.26	22.67	26.52	30.56	18.31	22.38	22.40	30.56	27.63	28.99	28.80	30.56	23.13	25.62	25.60
Fertilizer dealer	30.77	13.51	36.76	28.81	34.78	25.58	48.00	41.67	33.33	22.54	42.66	35.60	47.22	31.58	39.13	38.00	40.28	27.21	40.93	36.80
Pesticide dealer	30.77	16.22	30.88	26.27	34.78	18.60	45.33	37.88	33.33	19.72	38.46	32.40	27.78	31.58	36.96	34.00	30.56	25.85	37.72	33.20
Seeds dealer	30.77	16.22	33.82	27.97	30.43	20.93	44.00	37.12	30.56	21.13	39.16	32.80	44.44	32.89	44.20	40.80	37.50	27.21	41.64	36.80
Feeds dealer	15.38	8.11	19.12	15.25	8.70	6.98	21.33	15.91	11.11	8.45	20.28	15.60	11.11	6.58	16.67	12.80	11.11	7.48	18.51	14.20
Agriculture and enterprise development/trainings	15.38	40.54	30.88	32.20	43.48	41.86	48.00	48.48	33.33	46.48	39.86	40.80	38.89	35.53	30.43	33.20	36.11	40.82	35.23	37.00
Banks			2.94	1.69		4.65	2.67	3.03		2.82	2.80	2.40	2.78	2.63	4.35	3.60	1.39	2.72	3.56	3.00
Cooperatives			5.88	3.39		6.98	14.67	10.61		4.23	10.49	7.20		2.63	4.35	3.20		3.40	7.47	5.20
Microfinance institutions	7.69	2.70	7.35	5.93			8.00	4.55	2.78	1.41	7.69	5.20		2.63	3.62	2.80	1.39	2.04	5.69	4.00
Credit associations		2.70	2.94	2.54		2.33	4.00	3.03		2.82	3.50	2.80	2.78	1.32	2.17	2.00	1.39	2.04	2.85	2.40

Table 31b. Availment of Facilities in the Barangay, Region 2-Cagayan Valley, By Treatment Group, 2015 (Frequency)

Facility	With Insurance								Without Insurance				Without Insurance								Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2015																								
Traditional sun-drying pavement	4	14	27	45	16	22	39	77	20	36	66	122	17	32	67	116	37	68	133	238				
Flatbed dryer	1	1	4	6	1	1	5	7	2	2	9	13	1	2	2	5	3	4	11	18				
Mechanical dryer						1	2	3		1	2	3		2	1	3		3	3	6				
Other dryer			1	1			2	2			3	3		1	1	2		1	4	5				
Thresher	4	16	36	56	11	17	26	54	15	33	62	110	16	35	53	104	31	68	115	214				
Harvester-thresher	1	2	4	7	1	2	5	8	2	4	9	15		1	4	5	2	5	13	20				
Sheller	2	3	13	18	4	4	9	17	6	7	22	35	6	11	26	43	12	18	48	78				
Corn sheller	3	5	19	27	5	4	16	25	8	9	35	52	5	15	31	51	13	24	66	103				
Single-pass rice mill	2	6	7	15	6	9	13	28	8	15	20	43	5	15	21	41	13	30	41	84				
Multi-pass rice mill			2	2		3	3	3		3	2	5			2	2		3	4	7				
Corn mill	3	1	5	9	1	2	5	8	4	3	10	17	2	3	7	12	6	6	17	29				
Feed mill			1	1	1	1	2	4	1	1	3	5	1			1	2	1	3	6				
Others																								
In-house storage			1	1			3	3			4	4	1		1	2	1		5	6				
Communal storage			1	1							1	1							1	1				
Government warehouse																								
Private commercial warehouse	1			1	1		6	7	2		6	8	2	2	3	7	4	2	9	15				
Other warehouse																								
Agricultural produce market	3	3	15	21	8	10	17	35	11	13	32	56	11	21	40	72	22	34	72	128				
Fertilizer dealer	4	5	25	34	8	11	36	55	12	16	61	89	17	24	54	95	29	40	115	184				
Pesticide dealer	4	6	21	31	8	8	34	50	12	14	55	81	10	24	51	85	22	38	106	166				
Seeds dealer	4	6	23	33	7	9	33	49	11	15	56	82	16	25	61	102	27	40	117	184				
Feeds dealer	2	3	13	18	2	3	16	21	4	6	29	39	4	5	23	32	8	11	52	71				
Agriculture and enterprise development/trainings	2	15	21	38	10	18	36	64	12	33	57	102	14	27	42	83	26	60	99	185				
Banks			2	2		2	2	4		2	4	6	1	2	6	9	1	4	10	15				
Cooperatives			4	4		3	11	14		3	15	18		2	6	8		5	21	26				
Microfinance institutions	1	1	5	7			6	6	1	1	11	13		2	5	7	1	3	16	20				
Credit associations		1	2	3		1	3	4		2	5	7	1	1	3	5	1	3	8	12				

The farmers of all treatment groups also availed of the agricultural product market (25.8 to 25.6 percent). As to the availment of farm inputs, they contact fertilizer dealer (37.2 to 36.8 percent), seeds dealer (36.8 to 36.0 percent), pesticide dealer (33.2 percent), and feeds dealer (14.2 to 13.8 percent). From 2014 to 2015, there was decrease in availment of agricultural product market and different farm inputs except pesticide which remain constant. This is attributed to decrease in farming activities of some corn farmers who even stop planting corn due to drought or sudden flood in 2015.

Many of the farmers availed of the agricultural and enterprise development and trainings available in the barangay with 37.6 percent in 2014 and 37.0 percent in 2015. It can be inferred from this finding that majority of the farmers did not avail of agricultural and enterprise development and training.

On the availment of funds, farmers transacts most in cooperatives (4.5 percent) than in micro finance institutions (4.1 percent), and banks (3.0 percent) and credit associations (2.0 percent). For the cropping year 2014 to 2015, there is increase in lending in cooperatives and credit associations (due to improved financial programs or lower interest rate), decrease lending in microfinance institutions (due to farmer's outstanding balance and higher interest rate). Lending in banks remains constant.

Farm Characteristics, Production and Income

This section provides a discussion on the farm characteristics. Farm characteristics are describe though as to number of parcels, location of farms with reference, topography, cropping and irrigation system, corn variety planted, and insurance coverage. The cost of production and net income is also described.

Number of Parcels and Area Planted

Table 32 presents the total and average number of parcels cultivated by farmers in Region 2 for cropping years 2014 and 2015 by treatment groups and farm size. Parcel here means one contiguous piece of land under one form of tenure without regard to land use. Contiguous means that the piece of land is not separated by natural or man-made boundaries like roads, river, etc. that are not part of the holding. The 500 respondents planted corn in a total of 1,284 parcels for the two cropping years. The total number of parcels regardless of the type of crop is 1,341 parcels. This indicates that farmers planted more than one parcel of land for corn. In fact the average number of parcels per farmer is 1.8 parcels. The household with insurance planted an average of 1.9 parcels, a little bit higher than their counter part without insurance with 1.7 parcels. The findings also indicate that the area planted with corn by farmers with small farm size (FS1) have fewer number of parcels (1.1 parcels) while those farmers with large farms (FS3) have more number of parcels (2.1) planted with corn.

Table 32. Total and average number of parcels cultivated by farmers by treatment group and farm size, 2014 and 2015, region 2.

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total Number of Parcels																				
Regardless of type of crop	16	66	327	409	29	46	230	305	45	112	557	714	42	109	450	601	87	221	1007	1315
Only parcels with information,																				
regardless of type of crop	16	68	329	413	29	47	232	308	45	115	561	721	43	113	464	620	88	228	1025	1341
Parcels planted w/ crop of																				
interest	16	64	316	396	29	44	218	291	45	108	534	687	42	109	425	576	87	217	959	1263
Crop of interest with information	16	66	317	399	29	45	220	294	45	111	537	693	43	113	435	591	88	224	972	1284
Average Number of Parcel per Farmer																				
Regardless of type of crop	1.1	1.4	2.5	2.1	1.2	1.2	1.9	1.7	1.15	1.3	2.2	1.9	1.1	1.3	2.1	1.7	1.1	1.3	2.1	1.8
Only parcels with information,																				
regardless of type of crop	1.1	1.5	2.5	2.1	1.2	1.2	2	1.7	1.15	1.4	2.3	1.9	1.1	1.3	2.1	1.8	1.1	1.3	2.2	1.9
Parcels planted w/ crop of																				
interest	1.1	1.4	2.5	2.1	1.2	1.2	1.9	1.7	1.15	1.3	2.2	1.9	1.1	1.3	2	1.7	1.1	1.3	2.1	1.8
Crop of interest with information	1.1	1.5	2.5	2.1	1.2	1.2	1.9	1.7	1.15	1.4	2.2	1.9	1.1	1.3	2	1.7	1.1	1.3	2.1	1.8

In terms of the physical area planted with corn, the average area planted in Cagayan Valley Region is 1.9 hectares per household equivalent to 1.1 hectares per parcel (Table 33). The average physical area planted with corn per household with crop insurance was 1.95 hectares and 1.8 ha for the without insurance. The farmers with insurance with claim have the largest average area planted with corn which is 2.1 hectare per farm. The respondent with 0.5 and below (FS1), >0.5-1.0 (FS2), and <1.0 (FS3) the physical area planted with corn is 0.45 ha, 0.91 and 2.5 ha, respectively. Given the large area planted with corn, which is around two hectares, the effect to farmer would be large if the farms are damage with natural calamities.

Location of Corn Farms

Tables 34a and 34b present the frequency and percent distribution, respectively, the location of farms of farmers with respect to home address. Majority of the respondents have farms located within the same barangay where they live with 86.86 percent of the household respondents or 91.14 percent of the total number of parcels. There are more households from the “without insurance” whose farms are located within the same barangay where they live with 88.76 percent than the “with insurance” with 85.08 percent. There are only 5.43 percent whose farms are located in different areas. These results indicate that the respondents do not spend much travel time to and from house to their farm. Likewise, supervision of their farms would be easier since they do not travel long distance to go to their farms hence, transportation cost is not high.

Topography of Corn Farm

The topography of farm land is also a factor as to type of farming system and management to be used in agricultural production. Table 35 and 36 shows the topography of farms planted to corn at the parcel level and household level, respectively. Of all parcels planted with corn, 42.14 percent are on broad plains and 42.57 percent are hilly/rolling lands (Table 35). River flood plain is an area that is prone to flooding due to a river or stream overflowing its banks while hilly or rolling parcels are those that are not flat but are characterized by gently rolling hills continuing for a long distance. Broad plain on the other hand are relatively broad flat land. The topography of the land can also be a factor of shock. The topography of the remaining 15.29 percent are in river/flood plain – which are mostly along the Cagayan Valley River. There is a higher percentage of farm parcels of the respondents without insurance that are located in hilly lands with 45.27 percent than those with insurance which is 40.06 percent. At the household level, still the highest are farms located in rolling/hilly with 38.29 percent followed by farms located in broad plain. There are farmers whose farms are located in different topography as indicated in table 25. Those located in river/flood plain are prone to flood during wet season while those hilly/rolling farms are prone to drought especially during dry season and during heavy down pour of rain which may cause erosion. The result indicate that since the corn farmers are located in areas located in areas prone to flood and I hilly areas may require more insurance coverage of their corns.

Table 33. Total and average physical area planted to main crop, by treatment group and farm size by cropping season, Cagayan Valley Region, 2014 and 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total physical area planted																				
Regardless of crop type; only parcels with info; parcel-level	6.3	35	160	201.3	10	31	171	212	16.3	66	331	413.3	16	67	310	393	33	133	641	807
Parcels planted with crops of interest; parcel-level	6.3	35	157	198.3	10	31	162	203	16.3	66	319	401.3	16	67	297	380	34	133	616	783
Regardless of crop type; only parcels with info; HH-level	7	44	356	407	11	34	298	343	18	78	654	750	17	77	546	640	36	155	1200	1391
Parcels planted with crops of interest; HH-level	7	43	347	397	11	33	276	320	18	76	623	717	17	77	507	601	35	153	1130	1318
Average Physical Area Planted																				
Regardless of crop type; only parcels with info; parcel-level	0.45	0.77	1.2	1	0.41	0.82	1.4	1.2	0.43	0.80	1.3	1.1	0.42	0.77	1.4	1.1	0.42	0.78	1.4	1.1
Parcels planted with crops of interest; parcel-level	0.45	0.78	1.2	1.1	0.41	0.83	1.4	1.2	0.43	0.81	1.3	1.15	0.42	0.77	1.4	1.1	0.42	0.78	1.4	1.1
Regardless of crop type; only parcels with info; HH-level	0.48	0.95	2.7	2.1	0.45	0.91	2.5	1.9	0.465	0.93	2.6	2	0.45	0.88	2.5	1.9	0.45	0.91	2.6	1.9
Parcels planted with crops of interest; HH-level	0.48	0.96	2.7	2.1	0.45	0.9	2.4	1.8	0.465	0.93	2.55	1.95	0.45	0.88	2.4	1.8	0.45	0.91	2.5	1.9

Table 34a. Frequency distribution of farm parcel location of farmers with respect to home address, by treatment group, and farm size, Cagayan Valley Region. CY 2014-2015

Location	With Insurance												Without Insurance (T3)				Total (Pooled)			
	With Claims (T1)				Without Claims (T2)				With and Without Claims (T1 & T2)				FS1	FS2	FS3	All	FS1	FS2	FS3	All
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All								
Frequency																				
Regardless of crop type, parcel-level																				
Within the same barangay	12	44	116	172	24	36	102	162	36	80	218	334	36	79	202	317	72	159	420	651
Different barangay, same municipality	4	2	14	20	1	1	15	17	5	3	29	37	6	18	24	24	5	9	47	61
Different municipality, same province	0	0	1	1	0	1	1	2	0	1	2	3	0	2	1	3	0	3	3	6
Total	16	46	131	193	25	38	118	181	41	84	249	374	36	87	221	344	77	171	470	718
Parcels planted with corn, parcel-level																				
Within the same barangay	12	43	113	168	24	35	98	157	36	78	211	325	36	79	198	313	72	157	409	638
Different barangay, same municipality	2	2	15	19	1	1	14	16	3	3	29	35	2	6	14	22	5	9	43	57
Different municipality, same province						1	1	2	0	1	1	2		2	1	3	0	3	2	5
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Regardless of crop type; HH-level																				
Within the same barangay	12	44	106	162	24	35	96	155	36	79	202	317	36	76	192	304	72	155	394	621
Different barangay, same municipality	2	2	7	11	1		8	9	3	2	15	20	2	3	9	14	5	5	24	34
Different municipality, same province						1	1	2	0	1	1	2		2		2		3	1	4
Parcels are located in different areas			20	20		2	13	15	0	2	33	35		6	18	24		8	51	59
Total	14	46	133	193	25	38	118	181	39	84	251	374	38	87	219	344	77	171	470	718
Parcels planted with corn, HH-level																				
Within the same barangay	12	43	103	158	24	34	92	150	36	77	195	308	36	76	188	300	72	153	383	608
Different barangay, same municipality	2	2	6	10	1		8	9	3	2	14	19	2	3	7	12	5	5	21	31
Different municipality, same province			19	19		1	1	2	0	1	20	21		2		2	0	3	20	23
Parcels are located in different areas						2	12	14	0	2	12	14		6	18	24	0	8	30	38
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700

Table 34b. Percent distribution of parcel location of farmers with respect to home address, by farm size and treatment group

Location	With Insurance																Total (Pooled)			
	With Claims (T1)				Without Claims (T2)				With and Without Claims (T1 & T2)				Without Insurance (T3)							
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Regardless of crop type, parcel level																				
Within the same barangay	75.00	95.65	88.55	89.12	96.00	94.74	86.44	89.50	87.80	95.24	87.55	89.30	100.00	90.80	91.40	92.15	93.51	92.98	89.36	90.67
Different barangay, same municipality	25.00	4.35	10.69	10.36	4.00	2.63	12.71	9.39	12.20	3.57	11.65	9.89		6.90	8.14	6.98	6.49	5.26	10.00	8.50
Different municipality, same province			0.76	0.52		2.63	0.85	1.10		1.19	0.80	0.80		2.30	0.45	0.87	0.00	1.75	0.64	0.84
Parcels planted with corn, parcel-level																				
Within the same barangay	85.71	95.56	88.28	89.84	96.00	94.59	86.73	89.71	92.31	95.12	87.55	89.78	94.74	90.80	92.96	92.60	93.51	92.90	90.09	91.14
Different barangay, same municipality	14.29	4.44	11.72	10.16	4.00	2.70	12.39	9.14	7.69	3.66	12.03	9.67	5.26	6.90	6.57	6.51	6.49	5.33	9.47	8.14
Different municipality, same province						2.70	0.88	1.14		1.22	0.41	0.55		2.30	0.47	0.89	0.00	1.78	0.44	0.71
Regardless of crop type; HH-level																				
Within the same barangay	85.71	95.65	79.70	83.94	96.00	92.11	81.36	85.64	92.31	94.05	80.48	84.76	94.74	87.36	87.67	88.37	93.51	90.64	83.83	86.49
Different barangay, same municipality	14.29	4.35	5.26	5.70	4.00	0.00	6.78	4.97	7.69	2.38	5.98	5.35	5.26	3.45	4.11	4.07	6.49	2.92	5.11	4.74
Different municipality, same province						2.63	0.85	1.10		1.19	0.40	0.53		2.30		0.58		1.75	0.21	0.56
Parcels are located in different areas			15.04	10.36		5.26	11.02	8.29		2.38	13.15	9.36		6.90	8.22	6.98		4.68	10.85	8.22
Parcels planted with corn, HH-level																				
Within the same barangay	85.71	95.56	80.47	84.49	96.00	91.89	81.42	85.71	92.31	93.90	80.91	85.08	94.74	87.36	88.26	88.76	93.51	90.53	84.36	86.86
Different barangay, same municipality	14.29	4.44	4.69	5.35	4.00	0.00	7.08	5.14	7.69	2.44	5.81	5.25	5.26	3.45	3.29	3.55	6.49	2.96	4.63	4.43
Different municipality, same province			14.84	10.16		2.70	0.88	1.14		1.22	8.30	5.80		2.30		0.59		1.78	4.41	3.29
Parcels are located in different areas						5.41	10.62	8.00		2.44	4.98	3.87		6.90	8.45	7.10		4.73	6.61	5.43

Table 35. Farm topography of farm parcel, by farm size (parcel level) and by treatment group, Cagayan Valley Region, 2014 and 2015, region 2.

Region/ Crop	With Claims				FS 1	With Insurance Without Claims			With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All		FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Regardless of crop type; parcel level*																				
River/flood plain	2	10	17	29	5	7	15	27	7	17	32	56	4	21	28	53	11	38	60	109
Broad plain	7	13	77	97	11	10	47	68	18	23	124	165	15	32	89	136	33	55	213	301
Hilly/rolling	5	23	39	67	9	21	56	86	14	44	95	153	19	34	102	155	33	78	197	308
Total	14	46	133	193	25	38	118	181	39	84	251	374	38	87	219	344	77	171	470	718
Parcels planted with corn; parcel level																				
River/flood plain	2	9	16	27	5	7	15	27	7	16	31	54	4	21	28	53	11	37	59	107
Broad plain	7	13	75	95	11	10	47	68	18	23	122	163	15	32	85	132	33	55	207	295
Hilly/rolling	5	23	37	65	9	20	51	80	14	43	88	145	19	34	100	153	33	77	188	298
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
Regardless of crop type; parcel level*																				
River/flood plain	14.286	21.739	12.782	15.026	20	18.421	12.712	14.917	17.949	20.238	12.749	14.973	10.526	24.138	12.785	15.407	14.286	22.222	12.766	15.181
Broad plain	50	28.261	57.895	50.259	44	26.316	39.831	37.569	46.154	27.381	49.402	44.118	39.474	36.782	40.639	39.535	42.857	32.164	45.319	41.922
Hilly/rolling	35.714	50	29.323	34.715	36	55.263	47.458	47.514	35.897	52.381	37.849	40.909	50	39.08	46.575	45.058	42.857	45.614	41.915	42.897
Parcels planted with corn; parcel level																				
River/flood plain	14.286	20	12.5	14.439	20	18.919	13.274	15.429	17.949	19.512	12.863	14.917	10.526	24.138	13.146	15.68	14.286	21.893	12.996	15.286
Broad plain	50	28.889	58.594	50.802	44	27.027	41.593	38.857	46.154	28.049	50.622	45.028	39.474	36.782	39.906	39.053	42.857	32.544	45.595	42.143
Hilly/rolling	35.714	51.111	28.906	34.759	36	54.054	45.133	45.714	35.897	52.439	36.515	40.055	50	39.08	46.948	45.266	42.857	45.562	41.41	42.571

Table 36. Farm topography at household level, by treatment group and farm size and (household level), Cagayan Valley Region, CY 2014 and 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Regardless of crop type, household level																				
River/flood plain	2	10	9	21	4	7	10	21	6	17	19	42	4	20	24	48	10	37	43	90
Broad plain	7	13	63	83	10	9	34	53	17	22	97	136	14	29	75	118	31	51	172	254
Hilly/rolling	5	23	34	62	9	20	49	78	14	43	83	140	18	32	88	138	32	75	171	278
River/flood plain & broad plain			15	15	2		10	12	2	0	25	27		2	5	7	2	2	30	34
River/flood plain & hilly/rolling			3	3					0	0	3	3			2	2	0	0	5	5
Broad plain & hilly/rolling			9	9		2	15	17	0	2	24	26	2	4	25	31	2	6	49	57
Total	14	46	133	193	25	38	118	181	39	84	251	374	38	87	219	344	77	171	470	718
Parcels planted with corn; Household Level																				
River/flood plain	2	9	9	20	4	7	10	21	6	16	19	41	4	20	24	48	10	36	43	89
Broad plain	7	13	61	81	10	9	34	53	17	22	95	134	14	29	73	116	31	51	168	250
Hilly/rolling	5	23	32	60	9	19	44	72	14	42	76	132	18	32	86	136	32	74	162	268
River/flood plain & broad plain			14	14	2		10	12	2	0	24	26		2	5	7	2	2	29	33
River/flood plain & hilly/rolling			3	3					0	0	3	3			2	2	0	0	5	5
Broad plain & hilly/rolling			9	9		2	15	17	0	2	24	26	2	4	23	29	2	6	47	55
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
Regardless of crop type, household level																				
River/flood plain	14.29	21.74	6.77	10.88	16.00	18.42	8.47	11.60	15.38	20.24	7.57	11.23	10.53	22.99	10.96	13.95	12.99	21.64	9.15	12.53
Broad plain	50.00	28.26	47.37	43.01	40.00	23.68	28.81	29.28	43.59	26.19	38.65	36.36	36.84	33.33	34.25	34.30	40.26	29.82	36.60	35.38
Hilly/rolling	35.71	50.00	25.56	32.12	36.00	52.63	41.53	43.09	35.90	51.19	33.07	37.43	47.37	36.78	40.18	40.12	41.56	43.86	36.38	38.72
River/flood plain & broad plain			11.28	7.77	8.00		8.47	6.63	5.13		9.96	7.22	0.00	2.30	2.28	2.03	2.60	1.17	6.38	4.74
River/flood plain & hilly/rolling			2.26	1.55							1.20	0.80	0.00	0.00	0.91	0.58			1.06	0.70
Broad plain & hilly/rolling			6.77	4.66		5.26	12.71	9.39	0.00	2.38	9.56	6.95	5.26	4.60	11.42	9.01	2.60	3.51	10.43	7.94
Parcels planted with corn; Household Level																				
River/flood plain	14.29	20.00	7.03	10.70	16.00	18.92	8.85	12.00	15.38	19.51	7.88	11.33	10.53	22.99	11.27	14.20	12.99	21.30	9.47	12.71
Broad plain	50.00	28.89	47.66	43.32	40.00	24.32	30.09	30.29	43.59	26.83	39.42	37.02	36.84	33.33	34.27	34.32	40.26	30.18	37.00	35.71
Hilly/rolling	35.71	51.11	25.00	32.09	36.00	51.35	38.94	41.14	35.90	51.22	31.54	36.46	47.37	36.78	40.38	40.24	41.56	43.79	35.68	38.29
River/flood plain & broad plain			10.94	7.49	8.00		8.85	6.86	5.13		9.96	7.18		2.30	2.35	2.07	2.60	1.18	6.39	4.71
River/flood plain & hilly/rolling			2.34	1.60							1.24	0.83			0.94	0.59			1.10	0.71
Broad plain & hilly/rolling			7.03	4.81		5.41	13.27	9.71		2.44	9.96	7.18	5.26	4.60	10.80	8.58	2.60	3.55	10.35	7.86

Note: Denominator for percentage counts must be total number of farmers

Cropping and irrigation system

The distribution of cropping system used by farmers by parcel is presented in Table 37. Cropping system means the crop production activity of a farm. It comprises all cropping patterns grown on the farm and their interaction with farm resources, other household enterprises and physical, biological and sociological factors on environments (IRRI 1978 as cited in the enumerators manual used in this study prepared by PIDS). The results shows that the prevalent cropping system used by farmers in their corn farm is mono-cropping with 97.86 percent of the total parcels with corn with 2.14 percent practiced intercropping. Monocropping is the growing of a single crop in the same field every cropping while intercropping is the growing of two or more crops planted in an arrangements that result in the crops competing with one another in the same field. Of the parcels planted to corn, 97.43 percent of the farmer respondents practiced monocropping, 1.86 percent practiced intercropping and 0.71 percent for both monocropping and intercropping (Table 38). This result further indicates that the lands are devoted primarily for corn and planted with corn every cropping season. Management therefore is easier since there is only one crop being supervised in each parcel as against if there are different crops planted. However control of pest and diseases maybe more difficult since there is only one specie as host plant of pest and diseases.

Table 39 shows that the distribution of irrigation system used by farmers by farm size and treatment group at parcel level of analysis. Almost all of the parcels planted to corn are rainfed farms with 97.71 percent, the remaining two percent had either national, communal or individual irrigation system. At the household level, 98 percent of the farmers' households have rainfed farms while only 0.43 had combination of rainfed and irrigated farm (Table 40).

Generally, farmers in Region 2 do not irrigate their corn farms. Irrigation system, either national or communal, is located in rice farms.

Land Tenure

The tenure status of farms by parcel and farmer level is presented in Tables 41 and 42. Tenure is the right under which a farm parcel/holding is held or operated. A holding may be operated under a single or more than one tenure. As such, the tenure of each parcel is presented in Table 42. Of the total number of corn parcels, 52.86 percent are fully owned by the respondents while 41.57 percent are tenanted and the remaining six percent are either rented, leased or with certificate of land stewardship. Fully owned refers to the land operated with title of ownership in the name of the holder and consequently, the right to determine the nature and extent of the use of the land. This means that for corn lands, almost one-half of the farm parcels are still not owned by the tillers/farmers themselves. Among the treatment groups, corn parcels of farmers with insurance had slightly higher percentage of fully own parcels (50.78 percent) than the other two treatments groups with 49.72 percent for the with insurance without claims and 50.27 percent for the with insurance with claims. However, at the household level (Table 31), the without insurance respondents had the highest percentage with fully owned farms (51.45 percent). Those with insurance with claims are 41.45 percent and those without claims has 42.54 percent. Land tenure is also assumed to be a factor of enrolling into crop insurance.

Table 37. Cropping system used by parcel, by farm size and treatment group, parcel level, 2014 and 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Regardless of crop type; only parcels with info; parcel-level																				
Monocropping	14	46	129	189	25	37	117	179	39	83	246	368	37	84	214	335	76	167	460	703
Intercropping			4	4		1	1	2			5	5	1	3	5	9	1	4	10	15
Both monocropping & intercropping																				
Total	14	46	133	193	25	38	118	181	39	83	251	373	38	87	219	344	77	171	470	718
Parcels planted corn; parcel level*																				
Monocropping	14	45	124	183	25	36	112	173	39	81	236	356	37	84	208	329	76	165	444	685
Intercropping			4	4		1	1	2	0	1	5	6	1	3	5	9	1	4	10	15
Both monocropping & intercropping									0	0	0	0					0	0	0	0
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
Cropping system used by parcel																				
Monocropping	100.00	100.00	96.99	97.93	100.00	97.37	99.15	98.90	100.00	100.00	98.01	98.66	97.37	96.55	97.72	97.38	98.70	97.66	97.87	97.91
Intercropping	0.00	0.00	3.01	2.07	0.00	2.63	0.85	1.10	0.00	0.00	1.99	1.34	2.63	3.45	2.28	2.62	1.30	2.34	2.13	2.09
Both monocropping & intercropping																				
Cropping System used by farmer																				
Monocropping	100.00	100.00	96.88	97.86	100.00	97.30	99.12	98.86	100.00	98.78	97.93	98.34	97.37	96.55	97.65	97.34	98.70	97.63	97.80	97.86
Intercropping	0.00	0.00	3.13	2.14	0.00	2.70	0.88	1.14	0.00	1.22	2.07	1.66	2.63	3.45	2.35	2.66	1.30	2.37	2.20	2.14
Both monocropping & intercropping																				

Table 38. Cropping system used by parcel, by farm size and treatment group, household level, 2014 and 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Regardless of crop type; Household level*																				
Monocropping	14	46	129	189	25	36	115	176	39	82	244	365	37	84	214	335	76	166	458	700
Intercropping			4	4					0	0	4	4	1	3	5	9	1	3	9	13
Both						2	3	5	0	2	3	5					0	2	3	5
Total	14	46	133	193	25	38	118	181	39	84	251	374	38	87	219	344	77	171	470	718
Parcels planted with corn; Household level																				
Monocropping	14	45	124	183	25	35	110	170	39	80	234	353	37	84	208	329	76	164	442	682
Intercropping			4	4					0	0	4	4	1	3	5	9	1	3	9	13
Both						2	3		0	2	3	5					0	2	3	5
Total	14	45	128	187	25	37	113	170	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
Regardless of crop type; Household level*																				
Monocropping	100.00	100.00	96.99	97.93	100.00	94.74	97.46	97.24	100.00	97.62	97.21	97.59	97.37	96.55	97.72	97.38	98.70	97.08	97.45	97.49
Intercropping			3.01	2.07							1.59	1.07	2.63	3.45	2.28	2.62	1.30	1.75	1.91	1.81
Both						5.26	2.54	2.76	0.00	2.38	1.20	1.34					1.17	0.64	0.70	
Parcels planted with corn; Household level																				
Monocropping	100.00	100.00	96.88	97.86	100.00	94.59	97.35	100.00	100.00	97.56	97.10	97.51	97.37	96.55	97.65	97.34	98.70	97.04	97.36	97.43
Intercropping			3.13	2.14							1.66	1.10	2.63	3.45	2.35	2.66	1.30	1.78	1.98	1.86
Both						5.41	2.65			2.44	1.24	1.38					1.18	0.66	0.71	

Note: Denominator for percentage counts must be the total number of parcels

Table 39. Irrigation system used by parcel level, by treatment group, by farm size, Cagayan Valley Region

Irrigation System	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
All parcels regardless of crop																				
National		1		1				0		1	0	1	1		2	3	1	1	2	4
Communal				0			1	1		0	1	1		1	1	2	0	1	2	3
Individual				0			1	1		0	1	1			2	2	0	0	3	3
Other Irrigation System				0			2	2		0	2	2			4	4	0	0	6	6
None/ Rainfed	14	45	133	192	25	37	109	171	39	82	242	363	37	86	210	333	76	168	452	696
Total	14	46	133	193	25	37	113	175	39	83	246	368	38	87	219	344	77	170	465	712
Corn Parcels-parcel level																				
National		1		1				0		1	0	1	1		2	3	1	1	2	4
Communal				0			1	1		0	1	1		1	1	2	0	1	2	3
Individual				0			1	1		0	1	1			2	2	0	0	3	3
Other Irrigation System				0			2	2		0	2	2			4	4	0	0	6	6
None/ Rainfed	14	44	128	186	25	37	109	171	39	81	237	357	37	86	204	327	76	167	441	684
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
All parcels/By Parcel-parcel level																				
National		2.17		0.52						1.20		0.27	2.63		0.91	0.87	1.30	0.59	0.43	0.56
Communal							0.88	0.57			0.41	0.27		1.15	0.46	0.58		0.59	0.43	0.42
Individual							0.88	0.57			0.41	0.27			0.91	0.58			0.65	0.42
Other Irrigation System							1.77	1.14			0.81	0.54			1.83	1.16			1.29	0.84
None/ Rainfed	100.00	97.83	100.00	99.48	100.00	100.00	96.46	97.71	100.00	98.80	98.37	98.64	97.37	98.85	95.89	96.80	98.70	98.82	97.20	97.75
Corn Parcels-parcel level																				
National		2.22		0.53						1.22		0.28	2.63		0.94	0.89	1.30	0.59	0.44	0.57
Communal							0.88	0.57			0.41	0.28		1.15	0.47	0.59		0.59	0.44	0.43
Individual							0.88	0.57			0.41	0.28			0.94	0.59			0.66	0.43
Other Irrigation System							1.77	1.14			0.83	0.55			1.88	1.18			1.32	0.86
None/ Rainfed	100.00	97.78	100.00	99.47	100.00	100.00	96.46	97.71	100.00	98.78	98.34	98.62	97.37	98.85	95.77	96.75	98.70	98.82	97.14	97.71

Note: Denominator for percentage counts must be total number of farmers

Table 40. Irrigation system used at household level by parcel and by farm size and treatment group, household level, Cagayan Valley Region

Irrigation System	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
All parcels/By Parcel-household level																				
National		1		1					0	1	0	1	1		2	3	1	1	2	4
Communal				0					0	0	0	0		1	1	2	0	1	1	2
Other Irrigation System				0					0	0	0	0			4	4	0	0	4	4
None/ Rainfed	14	45	133	192	25	38	112	175	39	83	245	367	37	86	208	331	76	169	453	698
Combination of irrigation systems							3	3	0	0	3	3				0	0	0	3	3
Total	14	46	133	193	25	38	115	178	39	84	248	371	38	87	215	340	77	171	463	711
Corn Parcels-household level																				
National		1		1						1	0	1	1		2	3	1	1	2	4
Communal														1	1	2		1	1	2
Other Irrigation System															4	4		0	4	4
None/ Rainfed	14	44	128	186	25	37	107	169	39	81	235	355	37	86	202	325	76	167	437	680
Combination of irrigation systems							3	3	0	0	3	3				0	0	0	3	3
Total	14	45	128	187	25	37	110	172	39	82	238	359	38	87	209	334	77	169	447	693
Percent																				
All parcels/By Parcel-household level																				
National		2.17		0.52						1.19	0.00	0.27	2.63		0.93	0.88	1.30	0.58	0.43	0.56
Communal														1.15	0.47	0.59		0.58	0.22	0.28
Other Irrigation System														0.00	1.86	1.18			0.86	0.56
None/ Rainfed	100.00	97.83	100.00	99.48	100.00	100.00	97.39	98.31	100.00	98.81	98.79	98.92	97.37	98.85	96.74	97.35	98.70	98.83	97.84	98.17
Combination of irrigation systems							2.61	1.69			1.21	0.81							0.65	0.42
Corn Parcels-household level																				
National		2.22		0.53						1.22		0.28	2.63		0.96	0.90	1.30	0.59	0.45	0.58
Communal														1.15	0.48	0.60		0.59	0.22	0.29
Other Irrigation System															1.91	1.20			0.89	0.58
None/ Rainfed	100.00	97.78	100.00	99.47	100.00	100.00	97.27	98.26	100.00	98.78	98.74	98.89	97.37	98.85	96.65	97.31	98.70	98.82	97.76	98.12
Combination of irrigation systems							2.73	1.74			1.26	0.84							0.67	0.43

Note: Denominator for percentage counts must be total number of parcels

Table 41. Distribution of tenurial status by farm parcel, farm size and treatment group, parcel level Region 2

Region/ Crop	With Claims				Without Claims				With Insurance With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
All Parcels regardless of crop type																				
Fully owned	6	19	73	98	15	23	52	90	21	42	125	188	30	50	113	193	51	92	238	381
Tenanted	8	26	54	88	9	12	54	75	17	38	108	163	8	35	91	134	25	73	199	297
Rented/leased			3	3		1	6	7	0	1	9	10		1	5	6	0	2	14	16
Held under certificate of land ownership/CLOA			1	1			3	3	0	0	4	4			5	5	0	0	9	9
Others, specify		1	2	3	1	2	3	6	1	3	5	9		1	5	6	1	4	10	15
Total	14	46	133	193	25	38	118	181	39	84	251	374	38	87	219	344	77	171	470	718
Corn parcels by Farmer - parcel level																				
Fully owned	6	19	70	95	15	22	51	88	21	41	121	183	30	50	107	187	51	91	228	370
Tenanted	8	25	52	85	9	12	51	72	17	37	103	157	8	35	91	134	25	72	194	291
Rented/leased			3	3		1	6	7	0	1	9	10		1	5	6	0	2	14	16
Held under certificate of land ownership/CLOA			1	1			2	2	0	0	3	3			5	5	0	0	8	8
Others, specify		1	2	3	1	2	3	6	1	3	5	9		1	5	6	1	4	10	15
Total	14	45	128	187	25	37	113	175	39	82	241	362	38	87	213	338	77	169	454	700
Percent																				
All Parcels regardless of crop –parcel level																				
Fully owned	42.8	41.3	54.8	50.7	60.0	60.5		49.7	53.8	50.0	49.8	50.2	78.9	57.4	51.6	56.1	66.2	53.8	50.6	53.0
	6	0	9	8	0	3	44.07	2	5	0	0	7	5	7	0	0	3	0	4	6
Tenanted	57.1	56.5	40.6	45.6	36.0	31.5		41.4	43.5	45.2	43.0	43.5	21.0	40.2	41.5	38.9	32.4	42.6	42.3	41.3
	4	2	0	0	0	8	45.76	4	9	4	3	8	5	3	5	5	7	9	4	6
Rented/leased	0.00	0.00	2.26	1.55	0.00	2.63	5.08	3.87	0.00	1.19	3.59	2.67	0.00	1.15	2.28	1.74	0.00	1.17	2.98	2.23
Held under certificate of land ownership/CLOA	0.00	0.00	0.75	0.52	0.00	0.00	2.54	1.66	0.00	0.00	1.59	1.07	0.00	0.00	2.28	1.45	0.00	0.00	1.91	1.25
Others, specify	0.00	2.17	1.50	1.55	4.00	5.26	2.54	3.31	2.56	3.57	1.99	2.41	0.00	1.15	2.28	1.74	1.30	2.34	2.13	2.09
Corn parcels by Farmer - parcel level																				
Fully owned	42.8	42.2	54.6	50.8	60.0	59.4		50.2	53.8	50.0	50.2	50.5	78.9	57.4	50.2	55.3	66.2	53.8	50.2	52.8
	6	2	9	0	0	6	45.13	9	5	0	1	5	5	7	3	3	3	5	2	6
Tenanted	57.1	55.5	40.6	45.4	36.0	32.4		41.1	43.5	45.1	42.7	43.3	21.0	40.2	42.7	39.6	32.4	42.6	42.7	41.5
	4	6	3	5	0	3	45.13	4	9	2	4	7	5	3	2	4	7	0	3	7
Rented/leased	0.00	0.00	2.34	1.60	0.00	2.70	5.31	4.00	0.00	1.22	3.73	2.76	0.00	1.15	2.35	1.78	0.00	1.18	3.08	2.29
Held under certificate of land ownership/CLOA	0.00	0.00	0.78	0.53	0.00	0.00	1.77	1.14	0.00	0.00	1.24	0.83	0.00	0.00	2.35	1.48	0.00	0.00	1.76	1.14
Others, specify	0.00	2.22	1.56	1.60	4.00	5.41	2.65	3.43	2.56	3.66	2.07	2.49	0.00	1.15	2.35	1.78	1.30	2.37	2.20	2.14

Table 42. Distribution of tenorial status by farmer, farm size and treatment group, household level, Region 2

Region/ Crop	With Claims				Without Claims				With Insurance With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
All Parcels regardless of crop household level																				
Fully owned	6	19	55	80	15	22	40	77	21	41	95	157	30	49	98	177	51	90	193	334
Tenanted	8	25	36	69	9	11	42	62	17	36	78	131	8	33	76	117	25	69	154	248
Rented/leased			3	3		1	3	4	0	1	6	7		1	3	4	0	2	9	11
Held under certificate of land ownership/CLOA				0			2	2	0	0	2	2			2	2	0	0	4	4
Others, specify				0	1	2	3	6	1	2	3	6			5	5	1	2	8	11
Tenanted/rented/leased															2	2	0	0	2	2
Total	14	44	94	152	25	36	90	151	39	80	184	303	38	83	186	307	77	163	370	610
Corn parcels by Farmer - household level																				
Fully owned	6	19	54	79	15	21	39	75	21	40	93	154	30	49	93	172	51	89	186	326
Tenanted	8	25	34	67	9	11	41	61	17	36	75	128	8	33	76	117	25	69	151	245
Rented/leased			3	3		1	3	4	0	1	6	7		1	3	4	0	2	9	11
Held under certificate of land ownership/CLOA				0			1	1	0	0	1	1			2	2	0	0	3	3
Others, specify				0	1	2	3	6	1	2	3	6			5	5	1	2	8	11
Tenanted/rented/leased															2	2	0	0	2	2
Total	14	44	91	149	25	35	87	147	39	79	178	296	38	83	181	302	77	162	359	598
Percent																				
All Parcels regardless of crop parcel-household level																				
Fully owned	42.86	41.30	41.35	41.45	60.00	57.89	33.90	42.54	53.85	48.81	37.85	41.98	78.95	56.32	44.75	51.45	66.23	52.63	41.06	46.52
Tenanted	57.14	54.35	27.07	35.75	36.00	28.95	35.59	34.25	43.59	42.86	31.08	35.03	21.05	37.93	34.70	34.01	32.47	40.35	32.77	34.54
Rented/leased			2.26	1.55		2.63	2.54	2.21		1.19	2.39	1.87		1.15	1.37	1.16		1.17	1.91	1.53
Held under certificate of land ownership/CLOA							1.69	1.10			0.80	0.53			0.91	0.58			0.85	0.56
Others, specify					4.00	5.26	2.54	3.31	2.56	2.38	1.20	1.60			2.28	1.45	1.30	1.17	1.70	1.53
Tenanted/rented/leased															0.91	0.58			0.43	0.28
Corn parcels - household level																				
Fully owned	42.86	42.22	42.19	42.25	60.00	56.76	34.51	42.86	53.85	48.78	38.59	42.54	78.95	56.32	43.66	50.89	66.23	52.66	40.97	46.57
Tenanted	57.14	55.56	26.56	35.83	36.00	29.73	36.28	34.86	43.59	43.90	31.12	35.36	21.05	37.93	35.68	34.62	32.47	40.83	33.26	35.00
Rented/leased			2.34	1.60		2.70	2.65	2.29	0.00	1.22	2.49	1.93		1.15	1.41	1.18		1.18	1.98	1.57
Held under certificate of land ownership/CLOA							0.88	0.57			0.41	0.28			0.94	0.59			0.66	0.43
Others, specify					4.00	5.41	2.65	3.43	2.56	2.44	1.24	1.66			2.35	1.48	1.30	1.18	1.76	1.57
Tenanted/rented/leased															0.94	0.59			0.44	0.29

Note: Denominator for percentage count is the total number of parcels

Corn Variety Planted

Farmers in Region 2 are mostly planting the hybrid corn variety with around 96 percent in both cropping years, 2014 and 2015 and only around four percent are using the open pollinated varieties (Table 43). There is a higher percentage of the farmers with insurance using hybrid variety (96.67 percent) than those famers without insurance with 94.59 percent. The three farm size studied, Farmers with small farm size (FS1) had lowest percentage of farmers using hybrid variety with 88.51 in cropping year 2014 and 88.89 for the cropping year 2015 (Table 44). This maybe because small farms prefer the open pollinated mostly white/glutinous corn so that they can even sell as green corn or for home consumption.

Table 43. Distribution of Crops Planted, By year, Region 2

Table 43. Distribution of Crops Planted, By year, Region 2			
Facility	Year		Total
	2014	2015	
Frequency			
Hybrid Corn Variety	1,265	1,279	2,544
Open Pollinated Corn Variety	56	58	114
Total	1,321	1,337	2,658
Percent			
Hybrid Corn Variety	95.76	95.66	95.71
Open Pollinated Corn Variety	4.239	4.338	4.289

Table 44 further shows the distribution of corn variety planted by farmers by treatment group and farm size. Result shows that in 2014, there are more percentage of the farm parcels with insurance who planted hybrid variety with 96.62 percent than the without insurance with 94.84 percent. This finding is not far from the data of the Philippine Statistics Authority wherein hybrid/yellow corn accounts for 95.36 percent in 2014 and 95.72 percent in (PSA, 2016) of the total area planted with corn in Region 2 for CY 2015.

Table 44. Corn varieties planted, by treatment group, by cropping season, Region 2, 2014 and 2015

Region/ Crop	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Hybrid variety	18	83	233	334	41	70	213	324	59	153	446	658	72	151	384	607	131	304	830	1265
Non-hybrid variety	6		6	12	6	1	4	11	12	1	10	23	5	10	18	33	17	11	28	56
Total	24	83	239	346	47	71	217	335	71	154	456	681	77	161	402	640	148	315	858	1321
Percent																				
Hybrid variety	75.00	100.00	97.49	96.53	87.23	98.59	98.16	96.72	83.10	99.35	97.81	96.62	93.51	93.79	95.52	94.84	88.51	96.51	96.74	95.76
Non-hybrid variety	25.00	0.00	2.51	3.47	12.77	1.41	1.84	3.28	16.90	0.65	2.19	3.38	6.49	6.21	4.48	5.16	11.49	3.49	3.26	4.24
2015																				
Frequency																				
Hybrid variety	24	84	239	347	38	71	211	320	155	152	443	665	66	159	387	612	128	314	837	1279
Non-hybrid variety	6		6	12	7		4	11	0	152	443	665	3	12	20	35	16	12	30	58
Total	30	84	245	359	45	71	215	331	175	304	886	1330	69	171	407	647	144	326	867	1337
Percent																				
Hybrid variety	80.00	100.00	97.55	96.66	84.44	100.00	98.14	96.68	82.67	50.00	50.00	50.00	95.65	92.98	95.09	94.59	88.89	96.32	96.54	95.66
Non-hybrid variety	20.00	0.00	2.45	3.34	15.56	0.00	1.86	3.32	17.33	50.00	50.00	50.00	4.35	7.02	4.91	5.41	11.11	3.68	3.46	4.34

Insurance Coverage

The farmer has insurance coverage if the farmer has a crop insurance of his corn farm in 2014, 2015 or both periods. Table 45 shows the number of parcels covered and not covered by crop insurance for 2014 and 2015. Cropping season includes the first cropping with start date of planting can be in the last quarter of 2013 and second cropping can end on the last quarter of 2014 for cropping year 2014. First and second cropping is also included in 2015. Out of the total parcels planted to corn in 2014, only 20.74 percent has agricultural insurance cover and 20.19 percent in 2015. There are farmers though that although they were identified as without insurance, they claimed that their parcels of land were insured with around five percent.

In terms of farm size, farms with greater than one hectare (FS3) has the highest percentage of parcels covered with crop insurance for both cropping years 2014 and 2015 with 22.38 percent and 21.91 percent, respectively. The farmers of FS2 (> 0.5 ha to 1.0 ha) have the lowest percentage of parcels covered with insurance with 16.51 percent in 2014 and 15.95 percent in 2015. Comparing both years, there was a slight increase of parcels covered from 2014 to 2015 in the with insurance without claims respondents groups while the other two treatment groups, the parcels covered with insurance decreased in 2015.

The findings imply that farmers with more than one parcel did not enrol their entire corn farm parcel to crop insurance. It maybe because some of the farmers have insurance subsidy from LGU and the requirement is that the corn farm area insured should not be more than one hectare.

The physical area covered and not covered by crop insurance for 2014 and 2015 is presented in Table 46. For all farms, 15.33 percent of the total farm area is covered by crop insurance in 2014 and increased to 19 percent in 2015. Although the percent of total number of parcels covered by crop insurance decreased from 2014 to 2015 as indicated above, the area covered with insurance increased in 2015. This indicates that farm owners were more receptive to assure their farms with crop insurance in 2014 and these maybe the farmers with larger farms.

The total number of farmers with agricultural insurance in at least one farm parcel for 2014 and 2015 as shown in Table 47. The table shows that in 2014, there are 28.8 percent of the farmers enrolled in crop insurance in at least one parcel and 28.2 percent in 2015. There are 6.4 percent and 7.60 percent of the farmers identified as without insurance but found out to have enrolled their farms in CY 2014 and 2015.

Type of Agricultural Insurance Cover

For those with agricultural insurance, almost one half of the respondents (48.44 percent) in 2014 did not know the type of their agricultural insurance cover and 41.80 percent in 2015 as indicated in Table 48. The highest type of agricultural insurance was from DAR with 19.53 percent in 2014 and 18.03 percent in 2015. Agricultural insurance cover of RSBSA is 17.19 percent in 2014 and 16.39 percent in 2015.

It is possible that the farmer doesn't know the type of agricultural insurance cover especially if the enrolling farmer is a borrowing farmer and farmers borrowing as a group, the farmers may not know it unless the lending conduit explains to the enrolled farmer clearly.

Table 45. Parcels covered/not covered by crop insurance, by cropping season, and treatment group, 2014 and 2015, Region 2

Cropping Season and Year	With Insurance				Without Insurance				Total (Pooled)			
	With Claims		Without Claims		With and Without Claims		Without Insurance		Total (Pooled)		Total (Pooled)	
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014												
Frequency												
Not Covered	13	58	137	208	32	49	150	231	45	107	287	439
Covered	11	25	102	138	15	22	67	104	26	47	169	242
Total	24	83	239	346	47	71	217	335	71	154	456	681
Percent												
Not Covered	54.17	69.88	57.32	60.12	68.09	69.01	69.12	68.96	63.38	69.48	62.94	64.46
Covered	45.83	30.12	42.68	39.88	31.91	30.99	30.88	31.04	36.62	30.52	37.06	35.54
2015												
Frequency												
Not Covered	21	58	149	228	29	49	145	223	50	107	294	451
Covered	9	26	96	131	16	22	70	108	25	48	166	239
Total	30	84	245	359	45	71	215	331	75	155	460	690
Percent												
Not Covered	70.00	69.05	60.82	63.51	64.44	69.01	67.44	67.37	66.67	69.03	63.91	65.36
Covered	30.00	30.95	39.18	36.49	35.56	30.99	32.56	32.63	33.33	30.97	36.09	34.64

Table 46. Total physical area covered and not covered by crop insurance, by year and treatment group, 2014 and 2015, Region 2

Region/ Crop	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Not Covered		3.00	10.15	13.15	0.50	1.00	9.10	10.60	0.50	4.00	19.25	23.75		0.50	4.00	4.50	0.50	4.50	23.25	28.25
Covered	2.50	13.75	66.55	82.80	2.75	8.40	50.10	61.25	5.25	22.15	116.65	144.05	0.75	1.35	9.91	12.01	6.00	23.50	126.56	156.06
Total	2.50	16.75	76.70	95.95	3.25	9.40	59.20	71.85	5.75	26.15	135.90	167.80	0.75	1.85	13.91	16.51	6.50	28.00	149.81	184.31
Percent																				
Not Covered		17.91	13.23	13.71	15.38	10.64	15.37	14.75	8.70	15.30	14.16	14.15		27.03	28.76	27.26	7.69	16.07	15.52	15.33
Covered	100.00	82.09	86.77	86.29	84.62	89.36	84.63	85.25	91.30	84.70	85.84	85.85	100.00	72.97	71.24	72.74	92.31	83.93	84.48	84.67
2015																				
Frequency																				
Not Covered	0.50	2.50	10.05	13.05		1.13	11.25	12.38	0.50	3.63	21.30	25.43			11.00	11.00	0.50	3.63	32.30	36.43
Covered	2.00	11.35	68.05	81.40	3.87	9.27	51.75	64.89	5.87	20.62	119.80	149.29	0.75	0.70	7.24	8.69	6.62	21.32	127.04	154.98
Total	2.50	13.85	78.10	94.45	3.87	10.40	63.00	77.27	6.37	24.25	141.10	171.72	0.75	0.70	18.24	19.69	7.12	24.95	159.34	191.41
Percent																				
Not Covered	20.00	18.05	12.87	13.82		10.87	17.86	16.02	7.85	14.97	15.10	14.81			60.31	55.87	7.02	14.55	20.27	19.03
Covered	80.00	81.95	87.13	86.18	100.00	89.13	82.14	83.98	92.15	85.03	84.90	85.19	100.00	100.00	39.69	44.13	92.98	85.45	79.73	80.97

Table 47. Total number of farmers with agricultural insurance in at least one farm parcel, average amount cover per farmer by treatment group, 2014 - 2015 Region 2.

Region/ Crop	With Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total number of respondents	13	37	68	118	23	34	75	132	36	71	143	250
Number of Farmers with agricultural insurance in at least one farm parcel												
2014	6	18	43	67	9	14	38	61	15	32	81	128
2015	5	18	40	63	9	13	37	59	14	31	77	122
Total	11	36	83	130	18	27	75	120	29	63	158	250
Percent of Respondents												
2014	46.15	48.65	63.24	56.78	39.13	41.18	50.67	46.21	41.67	45.07	56.64	51.20
2015	38.46	48.65	58.82	53.39	39.13	38.24	49.33	44.70	38.89	43.66	53.85	48.80
Average Amount of Insurance Cover per Farmer, 2014	3625	3373	5396	4567								

Table 48. Type of agricultural insurance cover by region/crop, and treatment group and farm size, 2014 and 2015

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014												
Frequency												
DAR		4	7	11	3	6	5	14	3	10	12	25
DA Sikat Saka		3	7	10		3	2	5	0	6	9	15
NIA Third Cropping		1		1				0	0	1	0	1
RSBSA	1	2	3	6	3	4	9	16	4	6	12	22
LGU		1		1	1			1	1	1	0	2
Don't know	5	7	25	37	2	1	22	25	7	8	47	62
Total	6	18	42	66	9	14	38	61	15	32	80	127
Percent												
DAR		22.22	16.28	16.42	33.33	42.86	13.16	22.95	20.00	31.25	14.81	19.53
DA Sikat Saka		16.67	16.28	14.93		21.43	5.26	8.20		18.75	11.11	11.72
NIA Third Cropping		5.56		1.49						3.13		0.78
RSBSA	16.67	11.11	6.98	8.96	33.33	28.57	23.68	26.23	26.67	18.75	14.81	17.19
LGU		5.56		1.49	11.11	0.00	0.00	1.64	6.67	3.13	0.00	1.56
Don't know	83.33	38.89	58.14	55.22	22.22	7.14	57.89	40.98	46.67	25.00	58.02	48.44
2015												
Frequency												
DAR		4	5	9	3	5	5	13	3	9	10	22
DA Sikat Saka		3	9	12	1	1	4	6	1	4	13	18
NIA Third Cropping		1		1				0	0	1	0	1
RSBSA	1	2	3	6	2	5	7	14	3	7	10	20
LGU		2	1	3	1	1	5	7	1	3	6	10
Don't know	4	6	22	32	2	1	16	19	6	7	38	51
Total	5	18	40	63	9	13	37	59	14	31	77	122
Percent												
DAR		22.22	12.50	14.29	33.33	38.46	13.51	22.03	21.43	29.03	12.99	18.03
DA Sikat Saka		16.67	22.50	19.05	11.11	7.69	10.81	10.17	7.14	12.90	16.88	14.75
NIA Third Cropping		5.56	0.00	1.59						3.23		0.82
RSBSA	20.00	11.11	7.50	9.52	22.22	38.46	18.92	23.73	21.43	22.58	12.99	16.39
LGU		11.11	2.50	4.76	11.11	7.69	13.51	11.86	7.14	9.68	7.79	8.20
Don't know	80.00	33.33	55.00	50.79	22.22	7.69	43.24	32.20	42.86	22.58	49.35	41.80

Indemnity Claim and Cause of Loss

Indemnity is the actual amount paid to the farmers based on the claims documented he/she submitted and the claim adjuster's on validation. Table 49 shows that in 2014 there were 23.73 percent of the total respondents of Treatment 1 (with insurance, with indemnity claim) claimed to have received indemnity claim which is equivalent to 11.60 percent of those "with insurance". Almost the same percentage is observed in 2015.

Table 50 further shows the cause of loss connected to indemnity by treatment groups. The major cause of loss connected to indemnity claim received in 2014 was typhoon and flood which was reported by 48.28 percent of the respondent with indemnity claims and declined to 36.67 percent in 2015. Drought is another cause of loss connected to indemnity claim received with 17.24 percent in 2014 and 26.67 percent in 2015.

The average amount of indemnity claim per farmer by type of cover as shown in Table 51 was P1,084 in 2014 and P1,723 in 2015. Those cover by NIA Third Cropping had the highest amount of indemnity claim which was P4,500 per farmer. Those covered by DA Sikat Saka had an average indemnity claim of P2,950 in 2014 and P3,156 in 2015.

The indemnity claim is assured based on the stage of cultivation at the time of loss and the percentage of yield loss. It is considered total loss if loss is 90 percent and above; partial loss is loss is more than 10 percent and below 90 percent, and no loss if loss is 10 percent or less.

There were farmers 21.60 percent the total respondents or 43.20 percent of those respondents with insurance who experience crop damage but did not received indemnity claim (Table 52). The reasons of farmers who experienced crop damage but did not receive claim are did not file for claim (12.96 percent), did not reach cut-off date for filing of notice of loss (3.70 percent, assessed damage was below ten percent (2.78 percent) and others.

Table 49. Number of farmers with indemnity claims in at least one farm parcel and average amount of indemnity claim by treatment group, 2014, 2015, Region 2.

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total number of farmers with indemnity claims																				
2014	1	10	17	28		1		1	1	11	17	29			1	1	1	11	18	30
2015	1	11	17	29		1		1	1	12	17	30		1	1	2	1	13	18	32
Both Years	2	21	34	57		2		2	2	23	34	59		1	2	3	2	24	36	62
Percent of total respondents																				
2014	7.69	27.03	25.00	23.73		2.94		0.76	2.78	15.49	11.89	11.60		0.00	0.72	0.40	1.39	7.48	6.41	6.00
2015	7.69	29.73	25.00	24.58		2.94		0.76	2.78	16.90	11.89	12.00		1.32	0.72	0.80	1.39	8.84	6.41	6.40
Average Amount of Indemnity per Farmer (peso)																				
2014	333.3	823.2	1706.0	1283.0				45.8	114.3	511.9	792.1	616.1								
2015	307.7	799.0	2631.0	1794.0		181.8		56.2	114.3	508.0	1242.0	873.9								
Average	320.0	810.8	2176.0	1544.0		181.8		46.0	114.3	510.0	1018.0	746.1								

Table 50. Frequency and Percent Distribution, Cause of Loss Connected to Indemnity and by Farmer and Treatment Group, 2014 and 2015, Region 2.

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014												
Frequency												
Typhoon, flood			3	10			1			0	4	14
Drought, not enough water		1	2	2						1	2	5
Total		1	5	12		0	1			1	6	19
Percent of farmers with indemnity claims												
Typhoon, flood			30.00	58.82			100.00				36.36	48.28
Drought, not enough water		100.00	20.00	11.76						100.00	18.18	17.24
Total (with response)		100.00	50.00	70.59			100.00			100.00	54.55	65.52
2015												
Frequency												
Typhoon, flood			4	6			1		1	0	5	11
Drought, not enough water		1	3	4					0	1	3	8
Others				1					0	0	0	1
Total		1	7	11			1		1	1	8	20
Percent of farmers with indemnity claims												
Typhoon, flood			0	36.36			100		100	0	41.67	36.67
Drought, not enough water		100	27.27	23.53						100	25	26.67
Others				5.882						0	5.882	3.333
Total (with response)		100	63.64	64.71			100		100	100	66.67	66.67

percent based on number of farmers with indemnity claims (Table 90)

Table 51. Average Amount of Indemnity per Farmer, by Type of Insurance Program and Treatment Group, 2014 and 2015, Region 2.

Region/ Crop	With Claims				With Insurance Without Claims				With and Without Claims			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014												
DAR		2600.0	3136.0	2941.0	0.0	0.0	0.0	0.0	0.0	1040.0	1829.0	1294.0
DA Sikat Saka		3933.0	4636.0	4425.0		0.0	0.0	0.0		1967.0	3606.0	2950.0
DA WARA												
NIA Third Cropping		4500.0		4500.0						4500.0		4500.0
RSBSA	4000.0	1056.0	14833.0	8435.0	0.0	1500.0	0.0	375.0	1000.0	1352.0	3708.0	2573.0
LGU		0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4000.0	1601.0	2355.0	1966.0		428.6		98.4	266.7	1088.0	1236.0	1084.0
2015												
DAR		2550.0	6580.0	4789.0	0.0	0.0	0.0	0.0		1133.0	3290.0	1959.0
DA Sikat Saka		1317.0	8867.0	6979.0	0.0	0.0	0.0	0.0	0.0	987.5	6138.0	4653.0
DA WARA												
NIA Third Cropping		4500.0		4500.0						4500.0		4500.0
RSBSA	4000.0	1056.0	17000.0	9519.0	0.0	1200.0	0.0	428.6	1333.0	1159.0	5100.0	3156.0
LGU		4400.0	7000.0	5267.0	0.0	0.0	0.0	0.0	0.0	2933.0	1167.0	1580.0
Don't know	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	800.0	1642.0	4268.0	3242.0		461.5		101.7	285.7	1147.0	2217.0	1723.0

Table 52. Number and reasons of Farmers who Experienced Crop Damage But Did Not Receive Claim by Treatment Group

Region/ Crop	With Insurance				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Number of Farmers who Experienced Crop Damage But Did Not Receive Claim					16	27	65	108	16	27	65	108
Percent of Farmers who Experienced Crop Damage But Did Not Receive Claim					69.57	79.41	86.67	81.82	44.44	38.03	45.45	43.20
Reasons for not receiving any claim												
Frequency												
Did not file for claim					2	4	8	14	2	4	8	14
Assessed damage was below ten percent/too small						1	2	3	0	1	2	3
Did not reach cut-off date for filing of notice of loss/claim for indemnity						2	2	4	0	2	2	4
Claim was disapproved due to lacking documents					1		1	2	1	0	1	2
Adjuster did not visit the farm after submitting claim documents							1	1	0	0	1	1
Others					13	20	51	84	13	20	51	84
Total					16	27	65	108	16	27	65	108
Percent												
Did not file for claim					12.50	14.81	12.31	12.96	12.50	14.81	12.31	12.96
Assessed damage was below ten percent/too small					0.00	3.70	3.08	2.78	0.00	3.70	3.08	2.78
Did not reach cut-off date for filing of notice of loss/claim for indemnity					0.00	7.41	3.08	3.70	0.00	7.41	3.08	3.70
Claim was disapproved due to lacking documents					6.25	0.00	1.54	1.85	6.25	0.00	1.54	1.85
Adjuster did not visit the farm after submitting claim documents					0.00	0.00	1.54	0.93	0.00	0.00	1.54	0.93
Others					81.25	74.07	78.46	77.78	81.25	74.07	78.46	77.78

Cost of Production

The average cost of production per farmer is presented in Table 53. Cost of production includes both cash and non-cash cost for seeds, fertilizer, pesticides, labor, machine and animal rental, marketing cost and other production cost incurred by the farmer. The table shows that the average cost of production for all farmers is P107,196 in crop year 2013-2014 and P106,738 in crop year 2014-2015. One crop year include two cropping seasons. With the average farm size of 1.9 hectares per farmer, this indicates that the average cost of production per hectare was around P56,000/ha per crop year. The highest expenditure was on seeds (31,685) followed by labor with P28,217, fertilizer (28,025). Seeds expenditure was around P32,000 per farmer per crop year equivalent to around P16,500/ha per crop year or P8,250/ha per cropping season. The high cost of seeds maybe due to several times of planting due to flood. In flood plains, there were cropping seasons the farmer has to repeat planting if the first planting at early stage of corn plant is destroyed due to flood.

It can be seen from the table that farmers with insurance with claims has the highest production cost with an average of P121,729 per farmer among the treatment groups. This is followed by farmers with insurance without claims with P102,805 and P101,637 for the without insurance. This can be explained by the average farm size, that is those with insurance with claims have an average farm size of 2,1 hectare, where areas the other two treatment groups have smaller size with an average of 1.8 hectare each. Likewise, those with insurance have higher production cost because they are able to buy all the inputs required in their farms with the assurance that they can claim indemnity should their farms be damaged.

The total cost of production for crop year 2015 was slightly lower than in 2014 with an average of P106,738 per farmer. Again, the highest production cost was on seeds with P31,582 per farmer.

Income

The gross income per farmer for crop year 2013-2014 was P140,085 and P129,511 in CY2014-2015 (Table 54). The decrease in gross income from 2014 to 2015 can be explained by the decrease in production. This decrease in production in 2015 was experience in the region as explained above. The region experienced more shocks in 2015 than in 2014.

Among the treatment groups in crop year 2014, farmers with insurance with claims as expected has the highest gross income (P162,228). This was followed by farmers with insurance without claims with P138,904 and the least are the farmers without insurance (P128,732) per farmers. Similar trend is also in cropping year 2015.

As to net income, the average is P33,298 for all farmers in 2014. Net income is computed as total revenue less production cost and amount of premium plus indemnity payment. The net income of FS1 is P-14,482 followed by farmers with farm size >0.5 to ≤1.0 with P14,457 and large farms is P48,424. This trend is also observed in 2015.

Table 53. Average cost of production per farmer by treatment group, region 2 (Cagayan Valley-Corn), cy 2013-2014 and CY 2014-2015

Cost Items	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
CY 2013-2014																				
Average																				
farmsize/farm	0.48	0.96	2.7	2.1	0.45	0.9	2.4	1.8	0.46	0.93	1.55	1.95	0.45	0.88	2.4	1.8	0.45	0.91	2.5	1.9
Total Cost of Seeds	6941	18303	45961	36620	7043	16331	40039	30385	7009	17394	43143	33553	8159	14497	39912	29698	7607	15913	41629	31685
Total Cost of Fertilizer	6671	14993	39039	31025	7495	12544	29778	22999	7216	13864	34632	27077	42232	11943	33351	29034	25434	12882	34032	28025
Total Cost of																				
Pesticides	1032	2363	6098	4851	1239	2457	4828	3822	1169	2406	5494	4345	1342	2044	4678	3614	1259	2221	5111	3991
Total Cost of Labor	6908	13428	38285	30145	8340	15137	43628	32639	7856	14216	40827	31372	7620	13913	32547	24860	7733	14061	36948	28217
Total Cost of																				
Machine/ Animal																				
Rental	2767	6050	12225	10088	2304	2424	9474	6974	2461	4378	10916	8556	1949	3353	9816	7244	2194	3854	10401	7920
Aggregate Marketing																				
Costs	3116	2298	5926	4861	1447	1201	3849	2951	2011	1793	4938	3921	2609	2266	4936	3984	2322	2034	4937	3952
Other Production																				
Costs	1125	1279	5436	4139	1109	844	4170	3035	1114	1078	4833	3596	1189	1392	4314	3203	1153	1239	4590	3406
Total Cost	28560	58714	152970	121729	28977	50938	135766	102805	28836	55129	144783	112420	65100	49408	129554	101637	47702	52204	137648	107196
CY 2014-2015																				
Total Cost of Seeds	10930	17072	44546	35308	6980	17514	41733	31813	8560	17274	43231	33632	7648	15732	38825	29397	8123	16465	41163	31582
Total Cost of Fertilizer	7744	14301	38362	30173	7331	14050	31132	24232	7496	14186	34982	27323	5734	13209	32836	24759	6652	13674	33975	26082
Total Cost of																				
Pesticides	1693	2205	6097	4819	1380	2527	5211	4114	1505	2353	5683	4481	1331	2162	4736	3692	1421	2253	5238	4099
Total Cost of Labor	8475	13448	36065	28468	7908	17533	55956	41182	8135	15319	45362	34567	6883	13538	31388	24057	7535	14385	38802	29481
Total Cost of																				
Machine/ Animal																				
Rental	3820	4894	11955	9623	2480	3250	9068	6924	3016	4141	10605	8328	1659	3696	9186	6932	2366	3907	9939	7653
Aggregate Marketing																				
Costs	8727	2112	6622	5742	1509	1180	4269	3231	4396	1685	5522	4538	2020	2562	5024	4053	3258	2145	5288	4303
Other Production																				
Costs	2420	1088	6138	4645	1036	1204	4493	3318	1589	1141	5369	4008	954	1788	3914	3036	1285	1480	4686	3538
Total Cost	43809	55120	149785	118778	28624	57258	151862	114814	34697	56099	150754	116877	26229	52687	125909	95926	30640	54309	139091	106738

Table 54. Average production and disposal, average net income per farmer by treatment group, Region 2- (Cagayan Valley, Corn) 2014 and 2015

Yield Utilization	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Total harvest/area planted(yield?)	105	133	126	126	132	112	124	123	123	123	125	125	132	123	116	120	128	123	121	122
Expected harvest/area planted	195	200	190	193	200	180	189	188	198	191	189	191	208	188	181	186	203	189	186	189
Total used for home consumption	1.5	1	0.025	0.36	0.51	0.11	0.35	0.32	0.85	0.6	0.18	0.34	0.23	0.22	0.51	0.41	0.53	0.41	0.34	0.37
Total Sold	44	122	315	250	55	103	275	208	51	114	296	229	56	99	262	196	54	106	280	213
Total used to pay lease rental	1.3	4.6	7.3	6.2	1.4	1.8	16	11	1.4	3.8	11	8.6	0.65	2.8	8.5	6.1	0.99	3.2	10	7.4
Total used to pay harvester	1.4	0.31	13	8.9	0.47	0	5.8	3.8	0.79	0.17	9.3	6.4	0.3	1.1	6.7	4.5	0.53	0.66	8.1	5.5
Total used to pay thresher	0	0.14	1.2	0.84	0	0	0	0	0	0.078	0.61	0.43	0.14	0.27	0.41	0.34	0.074	0.17	0.52	0.39
Total used to pay sheller	0	0	0.008	0.006	0	0	0	0	0	0	0.004	0.003	0	0.099	0.16	0.12	0	0.051	0.076	0.061
Total used as irrigation payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total set aside as seeds	0	0.29	0.21	0.21	0	0.11	0.29	0.21	0	0.21	0.25	0.21	0.026	0	0.33	0.21	0.014	0.1	0.29	0.21
Selling price per cavan	564	612	729	689	627	569	919	804	605	592	819	746	589	602	597	597	597	597	715	674
Gross Income	27522	79163	204602	162228	34909	63240	186185	138904	32412	71822	195837	150754	33872	61333	173895	128732	33172	66461	185557	140085
Total Cost of Production	28560	58714	152969	121729	28976	50938	135765	102805	28835	55129	144782	112420	65101	49407	129554	101637	47703	52204	137647	107196
Net Income	-704	21415	53412	41983	5920	12461	50419	36131	3681	17287	51988	39104	-31229	11926	44382	27120	-14482	14547	48424	33298
2015																				
Total harvest/area planted(yield?)	184	121	114	121	124	116	113	115	148	118	113	118	129	126	113	118	139	122	113	118
Expected harvest/area planted	248	187	184	190	201	187	189	190	220	187	186	190	199	192	176	183	209	190	181	186
Total used for home consumption	1	0.33	1.9	1.5	0.27	0.14	1.2	0.85	0.56	0.25	1.6	1.2	0.043	0.87	1.1	0.91	0.31	0.57	1.4	1.1
Total Sold	81	114	275	221	53	97	240	184	64	106	259	203	54	106	253	193	59	106	256	198
Total used to pay lease rental	2.1	3.1	7	5.6	1.1	6.1	18	13	1.5	4.4	12	9.3	0.2	2.3	8.9	6.2	0.89	3.3	11	7.8
Total used to pay harvester	6.1	0.26	9.2	6.9	0.4	0.056	6.5	4.3	2.7	0.17	8	5.6	0.058	1.2	4.7	3.3	1.4	0.7	6.4	4.5
Total used to pay thresher	0.13	0.12	1.8	1.3	0	0.17	0.037	0.06	0.053	0.14	0.97	0.68	0.058	0.37	0.48	0.4	0.056	0.26	0.74	0.55
Total used to pay sheller	0.4	0.012	0.008	0.042	0	0	0.074	0.048	0.16	0.007	0.039	0.045	0	0.14	0.14	0.13	0.083	0.077	0.088	0.085
Total used as irrigation payment	0	0	0	0	0	0	0.17	0.11	0	0	0.078	0.052	0	0	0	0	0	0	0.042	0.027
Total set aside as seeds	0	0.26	0.041	0.089	0	0.056	0.23	0.16	0	0.17	0.13	0.12	0	0	0.17	0.11	0	0.08	0.15	0.12
Selling price per cavan	614	605	611	610	656	594	620	619	639	600	615	614	573	608	707	667	607	604	658	640
Gross Income	41178	73485	181798	144827	32541	62208	167105	126310	35996	68319	175027	135944	32015	65843	161883	122650	34088	67020	168856	129511
Total Cost of Production	43810	55120	149785	118779	28622	57258	151861	114841	34697	56099	150755	116877	26229	52687	125909	95926	30639	54309	139091	106738
Net Income	-2365	19221	34746	28012	3910	5115	15049	11404	1400	12760	25540	20045	5786	13199	36081	26803	3502	12990	30488	23315

Credit Availment Practices

Availment of Agricultural Loans

The farmers were asked on the availment of agricultural loan per cropping season for the two cropping years 2014 and 2015 and the results are presented in Tables 55a and 55b.

For cropping year 2014, there are only 41.20 percent of the farmers who availed agricultural loans during the first cropping season and only 38.4 percent for the second cropping season. There is a decrease in availment of agricultural loan from first to second cropping season due to stricter financial policy on remaining outstanding balance, and possible savings that no longer need for financial assistance on the succeeding plantation. For both cropping season in 2014, availment of agricultural loans was noted at 39.8 percent for 2014.

For both cropping season for cropping year 2014, the following trend in the availment of credit is observed. 47.03 percent for farmers with insurance with claims, 41.29 percent for farmers with insurance without claims, and 35.60 percent for farmers without insurance. Comparing the two cropping seasons, there was a decreasing trend from first to second cropping season in 2014 for all treatment groups in terms of the percent of farmers availing credit. The opposite is observed in 2015 where is an increasing trend in the percent availment of credit from first cropping to second cropping.

For cropping year 2015, there are only 42.0 percent of the farmers who availed agricultural during the first cropping season and only 43.2 percent for second cropping season. There is a slight increase in the percent availment of agricultural loan from first to second cropping season. This is attributed to expansion/reaching out of agricultural insurance program to more corn farmers and recognition to its importance in crop production. Availment of agricultural loans was at 42.6 percent of the farmers for 2015.

There were more farmers of the with insurance with claim who availed loan in 2015 (51.27 percent) than the other two treatment groups; 42.80 percent for the with insurance without claims and 38.40 percent for the without insurance. This can be explained by their experience of the insurance cover. Lending institutions can also facilitate the enrolment of farmers to crop insurance. Hence, more farmers with insurance availed credit than the without insurance.

Table 55a. Frequency distribution of corn farmers that availed of agricultural loans by cropping season, by treatment group, Cagayan Valley, CY 2014-2015

Cropping Season/availment	With Insurance								Without Insurance				Without Insurance							
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
1st Cropping Season-2013-2014																				
Yes	6	15	36	57	7	14	34	55	13	29	70	112	11	27	56	94	24	56	126	206
No	7	22	32	61	16	20	41	77	23	42	73	138	25	49	82	156	48	91	155	294
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
2nd Cropping Season-2013-2014																				
Yes	5	16	33	54	7	12	35	54	12	28	68	108	11	24	49	84	23	52	117	192
No	8	21	35	64	16	22	40	78	24	43	75	142	25	52	89	166	49	95	164	308
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
2013-2014 Total																				
Yes	11	31	69	111	14	26	69	109	25	57	138	220	22	51	105	178	47	108	243	398
No	15	43	67	125	32	42	81	155	47	85	148	280	50	101	171	322	97	186	319	602
Total	26	74	136	236	46	68	150	264	72	142	286	500	72	152	276	500	144	294	562	1000
1st Cropping Season-2014-2015																				
Yes	4	17	39	60	6	17	33	56	10	34	72	116	11	30	53	94	21	64	125	210
No	9	20	29	58	17	17	42	76	26	37	71	134	25	46	85	156	51	83	156	290
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
2nd Cropping Season-2014-2015																				
Yes	5	17	39	61	6	14	37	57	11	31	76	118	11	25	62	98	22	56	138	216
No	8	20	29	57	17	20	38	75	25	40	67	132	25	51	76	152	50	91	143	284
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
2014-2015 Total																				
Yes	9	34	78	121	12	31	70	113	21	65	148	234	22	55	115	192	43	120	263	426
No	17	40	58	115	34	37	80	151	51	77	138	266	50	97	161	308	101	174	299	574
Total	26	74	136	236	46	68	150	264	72	142	286	500	72	152	276	500	144	294	562	1000

Table 55b. Percent distribution of Corn Farmers that Availed of Agricultural Loans by Cropping Season, By Treatment Group, Cagayan Valley, CY 2014-2015

Cropping season availment	With Insurance				Without Insurance				Without Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
1st Cropping Season-2013-2014																				
Yes	46.15	40.54	52.94	48.31	30.43	41.18	45.33	41.67	36.11	40.85	48.95	44.80	30.56	35.53	40.58	37.60	33.33	38.10	44.84	41.20
No	53.85	59.46	47.06	51.69	69.57	58.82	54.67	58.33	63.89	59.15	51.05	55.20	69.44	64.47	59.42	62.40	66.67	61.90	55.16	58.80
2nd Cropping Season-2013-2014																				
Yes	38.46	43.24	48.53	45.76	30.43	35.29	46.67	40.91	33.33	39.44	47.55	43.20	30.56	31.58	35.51	33.60	31.94	35.37	41.64	38.40
No	61.54	56.76	51.47	54.24	69.57	64.71	53.33	59.09	66.67	60.56	52.45	56.80	69.44	68.42	64.49	66.40	68.06	64.63	58.36	61.60
2013-2014 Total																				
Yes	42.31	41.89	50.74	47.03	30.43	38.24	46.00	41.29	34.72	40.14	48.25	44.00	30.56	33.55	38.04	35.60	32.64	36.73	43.24	39.80
No	57.69	58.11	49.26	52.97	69.57	61.76	54.00	58.71	65.28	59.86	51.75	56.00	69.44	66.45	61.96	64.40	67.36	63.27	56.76	60.20
1st Cropping Season-2014-2015																				
Yes	30.77	45.95	57.35	50.85	26.09	50.00	44.00	42.42	27.78	47.89	50.35	46.40	30.56	39.47	38.41	37.60	29.17	43.54	44.48	42.00
No	69.23	54.05	42.65	49.15	73.91	50.00	56.00	57.58	72.22	52.11	49.65	53.60	69.44	60.53	61.59	62.40	70.83	56.46	55.52	58.00
2nd Cropping Season-2014-2015																				
Yes	38.46	45.95	57.35	51.69	26.09	41.18	49.33	43.18	30.56	43.66	53.15	47.20	30.56	32.89	44.93	39.20	30.56	38.10	49.11	43.20
No	61.54	54.05	42.65	48.31	73.91	58.82	50.67	56.82	69.44	56.34	46.85	52.80	69.44	67.11	55.07	60.80	69.44	61.90	50.89	56.80
2014-2015 Total																				
Yes	34.62	45.95	57.35	51.27	26.09	45.59	46.67	42.80	29.17	45.77	51.75	46.80	30.56	36.18	41.67	38.40	29.86	40.82	46.80	42.60
No	65.38	54.05	42.65	48.73	73.91	54.41	53.33	57.20	70.83	54.23	48.25	53.20	69.44	63.82	58.33	61.60	70.14	59.18	53.20	57.40

Loans Type of Creditor

Table 56 shows the frequency and percent distribution of loans of corn farmers by type of creditor in Cagayan Valley region (Region 2) for calendar years 2014 and 2015.

Results show that for cropping year 2014, 398 corn farmers or 79.6 percent of the total farmers availed agricultural loans. Majority of them (65.20 percent) get their loan from private person money lenders. For the other types of creditor, below 10 percent of the farmers borrowed from them, private institution money lenders (5.8 percent), cooperatives (4.8 percent), relatives and friends (2.0 percent), and banks (1.8 percent).

In cropping year 2015, 426 corn farmers or 85.2 percent of the total farmers availed agricultural loans. Majority of them get their loan from private person money lenders (67.8 percent), other creditors are private institution money lenders (8.2 percent), cooperatives (5.4 percent), banks (2.2 percent), and relatives and friends (1.6 percent), respectively.

It is noted that there are no borrowers from landowners, non-government organizations (NGOs), Multi-purpose financial institutions (MFIs), and input suppliers. It can be observed that there are more farmers who availed loans in 2015 (426 farmers) than in 2014 (398 farmers).

Among treatment groups, in cropping year 2014, there is smaller percent of the without insurance farmers who availed loans with 35.6 percent as compared to with insurance with claims farmers with 47.03 percent, and with insurance without claims farmers at 41.29 percent. In cropping year 2015, same trend was observed with lesser from the without insurance farmers availing loans at 38.4 percent as compared to with insurance with claims farmers at 51.27 percent, and with insurance without claims farmers at 42.80 percent, respectively.

In general, corn farmers with insurance (T1 and T2) tend to get loans due to the assurance of indemnity in case of crop damage from disasters than that of corn farmers without insurance. However, corn farmers with crop insurance with claims (T1) tend to get more loans than that of corn farmers with crop insurance but without claims (T2).

Furthermore, it can be observed that corn farmers with bigger farm size tend to loan more. Thus, the bigger the farm size being damage by natural calamities, the greater the chance a corn farmer will avail any loans.

Table 56. Type of credit of Loans by Corn Farmers by treatment group in Region 2 (Cagayan Valley), years 2014 and 2015

Type of Creditor	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
2014																				
Cooperatives			7	7		2	5	7	0	2	12	14		4	6	10	0	6	18	24
Banks		1	3	4			2	2	0	1	5	6		1	2	3	0	2	7	9
Private moneylenders (institutions)		4	2	6		5	7	12	0	9	9	18		4	7	11	0	13	16	29
Private moneylenders (persons)	10	26	57	93	14	18	54	86	24	44	111	179	19	42	86	147	43	86	197	326
Relatives/friends	1			1		1	1	2	1	1	1	3	3		4	7	4	1	5	10
Total	11	31	69	111	14	26	69	109	25	57	138	220	22	51	105	178	47	108	243	398
2015																				
Cooperatives			8	8		3	6	9	0	3	14	17		4	6	10	0	7	20	27
Banks		1	5	6		1	1	2	0	2	6	8			3	3	0	2	9	11
Private moneylenders (institutions)		8	8	16		9	4	13	0	17	12	29	1	3	8	12	1	20	20	41
Private moneylenders (persons)	9	25	57	91	12	17	58	87	21	42	115	178	20	45	96	161	41	87	211	339
Relatives/friends				0		1	1	2	0	1	1	2	1	3	2	6	1	4	3	8
Total	9	34	78	121	12	31	70	113	21	65	148	234	22	55	115	192	43	120	263	426
Percent																				
2014																				
Cooperatives			10.29	5.93		5.88	6.67	5.30		2.82	8.39	5.60		5.26	4.35	4.00		4.08	6.41	4.80
Banks		2.70	4.41	3.39		0.00	2.67	1.52		1.41	3.50	2.40		1.32	1.45	1.20		1.36	2.49	1.80
Private moneylenders (institutions)		10.81	2.94	5.08		14.71	9.33	9.09		12.68	6.29	7.20		5.26	5.07	4.40		8.84	5.69	5.80
Private moneylenders (persons)	76.92	70.27	83.82	78.81	60.87	52.94	72.00	65.15	66.67	61.97	77.62	71.60	52.78	55.26	62.32	58.80	59.72	58.50	70.11	65.20
Relatives/friends	7.69			0.85		2.94	1.33	1.52	2.78	1.41	0.70	1.20	8.33		2.90	2.80	5.56	0.68	1.78	2.00
2015																				
Cooperatives		0.00	11.76	6.78		8.82	8.00	6.82		4.23	9.79	6.80		5.26	4.35	4.00		4.76	7.12	5.40
Banks		2.70	7.35	5.08		2.94	1.33	1.52		2.82	4.20	3.20			2.17	1.20		1.36	3.20	2.20
Private moneylenders (institutions)		21.62	11.76	13.56		26.47	5.33	9.85		23.94	8.39	11.60	2.78	3.95	5.80	4.80	1.39	13.61	7.12	8.20
Private moneylenders (persons)	69.23	67.57	83.82	77.12	52.17	50.00	77.33	65.91	58.33	59.15	80.42	71.20	55.56	59.21	69.57	64.40	56.94	59.18	75.09	67.80
Relatives/friends						2.94	1.33	1.52	0.00	1.41	0.70	0.80	2.78	3.95	1.45	2.40	1.39	2.72	1.07	1.60

Note: One farmer can have more than one loan/creditor per year

Loans By Type of Creditor

Creditors are categorized as formal and informal creditors. Formal creditors include established financial institutions such as cooperatives, banks and private moneylenders while informal creditors refer to private persons either moneylenders, friends or relatives.

Table 57 shows that for corn farmers who availed of credit during the two cropping years (2014 and 2015), almost all of those with insurance (T1 and T2 farmers) resorted to informal creditors (80 percent in 2014 and 83.60 percent in 2015). Similarly those without insurance (T3 farmers) resorted to the informal creditors, 66 percent and 71.60 percent for cropping years 2014 and 2015 respectively. Findings may be explained by the reason that from formal creditors/institutions generally there are too many paper requirements for borrowing from the formal sector compared to the informal creditors.

Average Loan Amount, Loan Proceeds, Interest Amount and Loan Term

The average loan amount, loan proceeds and interest amount are presented in Table 58. The table shows that the average amount of loan of farmers is ₱36,364 from formal credit source and ₱33,685 from informal source in crop year 2014., This finding shows that although there are more farmers who borrowed from informal source, the average loan amount of loan is bigger from formal source than from the informal source. The same trend is observed in 2015.

For crop year 2014, the farmers with insurance with claim who availed of loans from formal creditors, the average loan amount is PhP 51,364.00, PhP30,556.00 for farmers with insurance without claims and P27692 for farmers without insurance. The average loan amount of the with insurance from formal credit (P42,000) is higher than from informal source (P34,830), however the reverse is observe among farmers without insurance. The amount of loan from formal creditor is lower (P27,694) than from formal credit source (P32,298). The same trend is observed in 2015. Informal creditors offer lower amount of loan than formal creditors. The higher amount from formal creditor than informal creditor among the with insurance can be reasoned out that those farmers with insurance are enrolled in insurance through their lending institution conduit of PCIC which are considered as formal creditors.

For respondents without insurance (T3 farmers), the average loan amount from formal creditor source is PhP27,692.00 and loan proceeds has an average of PhP26,885.00 in 2014. The average amount barrowed in 2015 is higher than in 2014 amounting P36,538.

The average loan in 2014 is only around 73.62 percent of the loan proceeds ₱26,771/₱36,364). This is lower than the average loan proceeds from informal source which is 90.39 percent of loan amount (₱30,448/₱33,685). This maybe because farmers who borrowed from formal sector have still outstanding unpaid balance which is deduct from their loan amount.

In terms of interest, the informal sector charged higher interest rate which is 11 percent than the formal source which is 4.7 percent. This is observed in both cropping year. Despite of the higher interest from informal creditor majority of the farmers still prefer to barrow from them because they are nearer to their place, not too many paper requirement and no collateral. This trend is also observed in all treatment groups for both years.

Table 57. Frequency and percent distribution of loans by type of creditor (formal/ informal) and treatment group, 2014 and 2015, region 2

Year/Type of Creditor	With Insurance				Without Insurance				Without Insurance				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Formal		1	10	11		2	7	9	0	3	17	20		5	8	13		8	25	33
Informal	11	30	59	100	14	24	62	100	25	54	121	200	22	46	97	165	47	100	218	365
Total	11	31	69	111	14	26	69	109	25	57	138	220	22	51	105	178	47	108	243	398
Percent																				
Formal	0.00	2.70	14.71	9.32	0.00	5.88	9.33	6.82	0.00	4.23	11.89	8.00	0.00	6.58	5.80	5.20	0.00	5.44	8.90	6.60
Informal	84.62	81.08	86.76	84.75	60.87	70.59	82.67	75.76	69.44	76.06	84.62	80.00	61.11	60.53	70.29	66.00	65.28	68.03	77.58	73.00
2015																				
Frequency																				
Formal		1	13	14		4	7	11		5	20	25		4	9	13	0	9	29	38
Informal	9	33	65	107	12	27	63	102	21	60	128	209	22	51	106	179	43	111	234	388
Total	9	34	78	121	12	31	70	113	21	65	148	234	22	55	115	192	43	120	263	426
Percent																				
Formal	0.00	2.70	19.12	11.86	0.00	11.76	9.33	8.33	0.00	7.04	13.99	10.00	0.00	5.26	6.52	5.20	0.00	6.12	10.32	7.60
Informal	69.23	89.19	95.59	90.68	52.17	79.41	84.00	77.27	58.33	84.51	89.51	83.60	61.11	67.11	76.81	71.60	59.72	75.51	83.27	77.60

Table 58. Average loan amount, loan proceeds, interest by type of creditor and treatment group, 2014 and 2015, Region 2.

Type of Creditor/Loan Characteristics	With Insurance												Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Formal Credit																				
Loan Amount		50000	51500	51364		5000	37857	30556		20000	45882	42000		22000	31250	27692		21250	41200	36364
Loan Proceeds		50000	30514	32285		5000	24114	19867		20000	27879	26697		22000	29938	26885		21250	28538	26771
Interest Amount		3	2.9	2.9		4	10	8.7		3.7	5.8	5.5		4.2	3.1	3.5		4	5	4.7
Informal Credit																				
Loan Amount	16029	22771	44669	34949	13690	23718	43128	34711	14719	23192	44179	34830	11307	18453	43623	32298	13122	21012	43932	33685
Loan Proceeds	14666	19454	39779	30919	12318	20365	40479	31709	13351	19859	40138	31314	8414	16601	40226	29398	11040	18360	40177	30448
Interest Amount	5.1	12	9.7	10	16	15	12	13	11	13	11	12	9	11	11	10	10	12	11	11
2015																				
Formal Credit																				
Loan Amount		6180	53615	50227		18750	36541	30072		16236	47640	41359		15000	46111	36538		15687	47165	39710
Loan Proceeds		6000	27165	25653		3625	24399	16845		4100	26197	21777		15000	33556	27846		8944	28480	23853
Interest Amount		3	4.2	4.1		4.8	4.3	4.5		4.4	4.2	4.2		4.5	3.3	3.7		4.4	3.9	4.1
Informal Credit																				
Loan Amount	13902	21081	46322	35810	12996	22175	45701	35626	13384	21573	46016	35720	9950	15662	43631	31522	11627	18857	44936	33784
Loan Proceeds	13902	17832	40677	31379	11705	19439	42540	32797	12646	18555	41594	32071	8014	14957	39416	28588	10276	16902	40607	30464
Interest Amount	4.6	12	8.9	9.4	18	15	12	13	12	13	10	11	11	9.6	9.5	9.7	11	11	9.9	11

Table 58 further shows that there were no loans taken by farmers with farm size of .5 hectare and below (FS1) in all treatment groups. It can be inferred from the result therefore that small farms tend to borrow less because of the small capital requirement of their farm. Furthermore, as to loans borrowed, the larger the farm size, the higher is the loan availed. For informal creditors the farmer regardless of treatment group, smaller farm size (FS1) have smaller loan amount

As to loan term, for the informal source majority of the farmers with a loan term of 4-6 months, 72.4 percent in 2014 and 77 percent in 2015. This implies that loans are paid in time with the cropping season. Similar trend is observed in all treatment groups for both years.

Collateral Requirements

Table 60 presents the collateral requirements of corn farmers in availing loans for two (2) cropping years. For both groups of with insurance farmers (with or without claims) and without insurance farmers, the table reveals that no collateral is required from majority of borrowers by lending institution/individual. However it should be noted that for borrowing farmers the application for insurance, it is first submitted to lending conduit before the application for insurance cover is approved.

Loans Requiring Co-Borrowers

Table 61 presents the distribution of farmer respondents in terms of loan requirements for loan availment during cropping years 2014 and 2015. In 2014, only 4.77 percent of the borrowers were required of agricultural insurance and 4.02 percent were required of co-borrower by their creditor. For farmers-respondents with insurance without claims 8.26 percent of them were required a co-borrower while 5.50 percent were required of agricultural insurance. This finding is similar for creditors' loan requirement in 2015.

It is worthy to note that only few related creditors require agricultural insurance and co-borrower among borrowers. However, a large number of corn farmers were able to avail of loans despite absence of agricultural insurance. Farmers' availment of loan despite absence of agricultural insurance can therefore be attributed to some other requirements such as higher interest rates, credit-marketing tie-up or other payment schemes.

Table 59a. Frequency distribution loan term by type of creditor and treatment group, Region 2, 2014 and 2015

Loan Term/Type of Creditor		With Insurance																Without Insurance				Total (Pooled)			
		With Claims				Without Claims				With and Without Claims															
		FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																									
2014																									
Formal																									
4 months				2	2		2	1	3		2	3	5		4	5	9	0	6	8	14				
6 months			1	8	9			6	6		1	14	15		1	3	4	0	2	17	19				
Informal Credit																									
4 months		9	17	39	65	8	11	29	48	17	28	68	113	3	25	38	66	20	53	106	179				
6 months		2	13	20	35	6	13	33	52	8	26	53	87	19	21	56	96	27	47	109	183				
1 year (12 months)																1	1	0	0	1	1				
More than 1 year																2	2	0	0	2	2				
2015																									
Formal																									
4 months				3	3		2	1	3		2	4	6		4	5	9	0	6	9	15				
6 months				10	10		1	6	7		1	16	17			4	4	0	1	20	21				
1 year (12 months)							1		1		1		1					0	1	0	1				
More than 1 year			1		1						1		1					0	1	0	1				
Informal Credit																									
4 months		9	18	40	67	6	15	32	53	15	33	72	120	7	30	49	86	22	63	121	206				
6 months			15	25	40	6	12	31	49	6	27	56	89	15	20	55	90	21	47	111	179				
1 year (12 months)																									
More than 1 year															1	2	3	0	1	2	3				

Table 59b. Percent distribution of Loan Term By Type of Creditor and Treatment Group, Region 2, 2014 and 2015

Loan Term/Type of Creditor	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Percent																				
2014																				
Formal																				
4 months			2.94	1.69		5.88	1.33	2.27		2.82	2.10	2.00	0.00	5.26	3.62	3.60	0.00	4.08	2.85	2.80
6 months		2.703	11.8	7.63			8.00	4.55		1.41	9.79	6.00	0.00	1.32	2.17	1.60	0.00	1.36	6.05	3.80
Informal Credit																				
4 months	69.23	45.95	57.4	55.1	34.78	32.35	38.67	36.36	47.22	39.44	47.55	45.20	8.33	32.89	27.54	26.40	27.78	36.05	37.72	35.80
6 months	15.38	35.14	29.4	29.7	26.09	38.24	44.00	39.39	22.22	36.62	37.06	34.80	52.78	27.63	40.58	38.40	37.50	31.97	38.79	36.60
1 year (12 months)															0.72	0.40			0.36	0.20
More than 1 year															1.45	0.80			0.71	0.40
2015																				
Formal																				
4 months			4.41	2.54		5.88	1.33	2.27		2.82	2.80	2.40		5.26	3.62	3.60		4.08	3.20	3.00
6 months			14.7	8.47		2.94	8.00	5.30		1.41	11.19	6.80			2.90	1.60		0.68	7.12	4.20
1 year (12 months)						2.94		0.76		1.41		0.40						0.68		0.20
More than 1 year		2.703		0.85						1.41		0.40						0.68		0.20
Informal Credit																				
4 months	69.23	48.65	58.8	56.8	26.09	44.12	42.67	40.15	41.67	46.48	50.35	48.00	19.44	39.47	35.51	34.40	30.56	42.86	43.06	41.20
6 months		40.54	36.8	33.9	26.09	35.29	41.33	37.12	16.67	38.03	39.16	35.60	41.67	26.32	39.86	36.00	29.17	31.97	39.50	35.80
1 year (12 months)																				
More than 1 year														1.32	1.45	1.20	0.00	0.68	0.71	0.60

Note: Loan term can be averaged after getting the frequency distribution of those with loan terms more than 12 month

Table 60. Distribution of loans by collateral requirements and treatment group, 2014 and 2015, region 2

Year/Collateral Requirements	With Insurance												Without Insurance				Total (Pooled)			
	FS1	With Claims		All	Without Claims		All	With and Without Claims		All	FS1	FS2	FS3	All	FS1	FS2	FS3	All		
2014																				
Frequency																				
Land	2		3	5		4	4	2		7	9		2	2	4	2	2	9	13	
House														2	2	0	0	2	2	
Appliances																0	0	0	0	
Vehicles																0	0	0	0	
None	9	31	66	106	14	26	65	105	23	57	131	211	22	49	101	172	45	106	232	383
Percent of barrower																				
Land	18.18		4.35	4.50		5.80	3.67	8.00		5.07	4.09		3.92	1.90	2.25	4.26	1.85	3.70	3.27	
House														1.90	1.12	0.00	0.00	0.82	0.50	
Appliances																				
Vehicles																				
None	81.82	100.00	95.65	95.50	100.00	100.00	94.20	96.33	92.00	100.00	94.93	95.91	100.00	96.08	96.19	96.63	95.74	98.15	95.47	96.23
2015																				
Frequency																				
Land	2	1	4	7		2	5	7	2	3	9	14		3	4	7	2	6	13	21
House															2	2	0	0	2	2
Appliances			1	1							1	1			1	1	0	0	2	2
Vehicles															1	1	0	0	1	1
None	7	33	73	113	12	29	65	106	19	62	138	219	22	52	107	181	41	114	245	400
Percent of barrower																				
Land	22.22	2.94	5.13	5.78	0.00	6.45	7.14	6.19	9.52	4.62	6.08	5.98		5.45	3.48	3.65	4.65	5.0	4.94	4.93
House															1.74	1.04	0.00	0.00	0.76	0.50
Appliances			1.78	0.83							0.68	0.43			0.87	2	0.00	0.00	0.76	0.50
Vehicles															0.87	2	0.00	0.00	0.38	0.25
None	77.78	97.05	93.59	93.39	100	93.55	92.86	93.81	90.48	95.38	93.24	93.59	100.00	94.54	93.04	94.27	95.35	95.0	93.16	93.90

Table 61. Distribution of loans requiring co-borrowers and agricultural insurance by treatment group region 2, 2014 and 2015

Crop, Region, Year	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Requires co-borrower/ guarantor			3	3		2	7	9	0	2	10	12		4	4	0	2	14	16	
Requires agricultural insurance	3	2	5		2	4	6	0	5	6	11		1	7	8	0	6	13	19	
Percent																				
Requires co-borrower/ guarantor			4.35	2.70		7.69	10.14	8.26	0.00	3.51	7.25	5.45	0.00	0.00	3.81	2.25	0.00	1.85	5.76	4.02
Requires agricultural insurance	9.68	2.90	4.50		7.69	5.80	5.50	0.00	8.77	4.35	5.00	0.00	1.96	6.67	4.49	0.00	5.56	5.35	4.77	
2015																				
Frequency																				
Requires co-borrower/ guarantor			5	5		4	7	11	0	4	12	16		1	1	2		5	13	18
Requires agricultural insurance	3	6	9		1	5	6	0	4	11	15			7	7		4	18	22	
Percent																				
Requires co-borrower/ guarantor			7.25	4.50		15.38	10.14	10.09		7.02	8.70	7.27		1.96	0.95	1.12		4.63	5.35	4.52
Requires agricultural insurance	9.68	8.70	8.11		3.85	7.25	5.50		7.02	7.97	6.82			6.67	3.93		3.70	7.41	5.53	

Loans Not Paid on Time and Reason for Nonpayment

Table 62 presents the distribution of respondents who were not able to pay their loans on time and the reasons of failure to pay in 2014 cropping year. It is revealed in the table that in 2014 there are 29.15 percent of the borrowers who were not able to pay their loans on time. For corn farmers with insurance with claims, 27.00 percent are not able to pay their loans on time, large percentage for large farms (FS3). For farmers with insurance without claims 33.94 percent did not pay them loans on time and 27.53 percent of the farmers without insurance were not able to pay their loans on time. Approximately the same percentages of farmers without insurance and availed of loans were not able to pay their loans on time. The findings indicate further that there is higher percentage of farmers with insurance who were not able to pay their loan on time (30.45 percent) than the without insurance (27.53 percent). This may be due to the higher amount of loan of farmers with insurance than farmers without insurance. Further farmers with insurance expect indemnity claim to be used to pay their loans but in the end the assessed value of indemnity is not enough or may have not receive claim to pay their loan. Similarly, the granting of insurance by PCIC whether farmers have insurance claim or not does not also guarantee farmer's ability to pay on time. The same trend is also observed in 2015 (Table 63)

For years 2014 and 2015, the main cause of non-payment of loan is the poor harvest of farmers due to typhoons (68.97 percent) and occurrence of pests and diseases (12.93 percent). Similar trend is also observed in 2015 with lesser percentage of farmers who were not able to pay their loans on time (23.87 percent) as presented in Table 63. The highest percentage of farmers who were not able to pay their loans on time are the farmers with insurance without claim with 28.44 percent of the farmers. The major reason for not being able to pay their loans on time is due to poor harvest or crop failure due to typhoon with 82.11 percent of the farmers. This reason is highest among farmers with crop insurance with claim (92.31 percent). This finding indicates that farmers expect their indemnity claims from their insurance to pay their loans.

Loan Utilization.

The utilization of loans of corn farmers in 2014 is shown in table 53. It can be seen from the table that in 2014 most of the farmers with insurance whether with or without claims (99.55 percent) utilized their loan proceeds for farm production inputs. This finding is true for all the three groups of respondents. Likewise most farmers without insurance utilized their loan proceeds to buy farm production inputs. A few of the farmers spent loan proceeds for farm improvement (8.79 percent) for household consumption (14.57 percent) and farm improvement (8.79 percent).

Table 65 presents the loan utilization mode of corn farmers in 2015. It can be gleaned from the table that for all the three treatment groups 99.77 percent utilized their loan proceeds for farm production inputs. For farmers with insurance, all of them utilized their loan for farm production inputs. It can be inferred from the above finding that farmers avail loans for their crop production. Hence, if farmers' crop are destroyed by calamities, the farmers have difficulty of paying their loans and/or with borrow again for the next planting season in order to buy the input requirements. This indicates the importance of agricultural insurance to farmers.

Table 62. Distribution of loans not paid on time and reason for non-payment by treatment group by farm size, 2014, region 2.

Reason for Nonpayment	With Insurance																Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All				
2014																								
Loans not paid on time																								
Frequency	2	8	20	30	4	9	24	37	6	17	44	67	4	13	32	49	10	30	76	116				
Percent	18.18	25.81	28.99	27.03	28.57	34.62	34.78	33.94	24.00	29.82	31.88	30.45	18.18	25.49	30.48	27.53	21.28	27.78	31.28	29.15				
Reasons for Nonpayment (Frequency)																								
Poor harvest/ crop failure due to typhoon	2	7	16	25	2	8	16	26	4	15	32	51	1	10	18	29	5	25	50	80				
Poor harvest/ crop failure due to pests and diseases	1	1	4	6	2		3	5	3	1	7	11		1	3	4	3	2	10	15				
Illness in the family																								
Loan payment used to pay for educational expenses																								
Others, specify		2	5	7		2	10	12	0	4	15	19	3	4	16	23	3	8	31	42				
Total																								
Reasons for Nonpayment (Percent)																								
Poor harvest/ crop failure due to typhoon	100.00	87.50	80.00	83.33	50.00	88.89	66.67	70.27	66.67	88.24	72.73	76.12	25.00	76.92	56.25	59.18	50.00	83.33	65.79	68.97				
Poor harvest/ crop failure due to pests and diseases	50.00	12.50	20.00	20.00	50.00	0.00	12.50	13.51	50.00	5.88	15.91	16.42	0.00	7.69	9.38	8.16	30.00	6.67	13.16	12.93				
Illness in the family																								
Loan payment used to pay for educational expenses																								
Others, specify	0.00	25.00	25.00	23.33	0.00	22.22	41.67	32.43	0.00	23.53	34.09	28.36	75.00	30.77	50.00	46.94	30.00	26.67	40.79	36.21				

Table 63. Distribution of loans not paid on time and reason for nonpayment by cropping season and treatment group, 2015, region 2.

Reason for Nonpayment	With Insurance								Without Insurance								Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2015																				
Loans not paid on time																				
Frequency	2	9	15	26	3	8	20	31	5	17	35	57	4	14	20	38	9	31	55	95
Percent	18.18	29.03	21.74	23.42	21.43	30.77	28.99	28.44	20.00	29.82	25.36	25.91	18.18	27.45	19.05	21.35	19.15	28.70	22.63	23.87
reasons for Nonpayment (Frequency)																				
Poor harvest/ crop failure due to typhoon	2	7	15	24	2	7	14	23	4	14	29	47	4	12	15	31	8	26	44	78
Poor harvest/ crop failure due to pests and diseases		1	1	2	1		3	4	1	1	4	6	1	2	1	4	2	3	5	10
Illness in the family		1		1		1		1	0	2	0	2				0	0	2	0	2
Loan payment used to pay for educational expenses						1		1	1		0	1			2	2	0	1	2	3
Others, specify		2	2	4	1	2	6	9	1	4	8	13		3	7	10	1	7	15	23
Total																				
reasons for Nonpayment (Percent)																				
Poor harvest/ crop failure due to typhoon	100.00	77.78	100.00	92.31	66.67	87.50	70.00	74.19	80.00	82.35	82.86	82.46	100.00	85.71	75.00	81.58	88.89	83.87	80.00	82.11
Poor harvest/ crop failure due to pests and diseases		11.11	6.67	7.69	33.33		15.00	12.90	20.00	5.88	11.43	10.53	25.00	14.29	5.00	10.53	22.22	9.68	9.09	10.53
Illness in the family		11.11		3.85		12.50		3.23		11.76		3.51						6.45	0.00	2.11
Loan payment used to pay for educational expenses						12.50		3.23	20.00			1.75			10.00	5.26		3.23	3.64	3.16
Others, specify		22.22	13.33	15.38	33.33	25.00	30.00	29.03	20.00	23.53	22.86	22.81	0.00	21.43	35.00	26.32	11.11	22.58	27.27	24.21

Table 64. Distribution of loans availed in 2014 by utilization and treatment group, region 2.

Cropping Season/ Loan Utilization	With Insurance								Without Insurance								Total (Pooled)			
	FS1	With Claims FS2	FS3	All	FS1	Without Claims FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Frequency																				
Farm production (inputs)	11	31	68	110	14	26	69	109	25	57	137	219	22	50	104	176	47	107	241	395
Farm improvements (purchase of machinery, etc.)	1	2	8	11		2	7	9	1	4	15	20	2	1	12	15	3	5	27	35
Household Consumption		5	9	14	3	3	11	17	3	8	20	31	4	8	15	27	7	16	35	58
Medical and health expenses								0	0	0	0				2	2			2	2
Education			4	4			1	1	0	0	5	5					0	0	5	5
Business investments (non-farm)																				
House construction/ repair																				
Purchase of land																				
Purchase of vehicle																				
Others			2	2			1	1	0	0	3	3			1	1	0	0	4	4
Total	12	38	91	141	17	31	89	137	29	69	180	278	28	59	134	221	57	128	314	499
Percent																				
Farm production (inputs)	100.00	100.00	98.55	99.10	100.00	100.00	100.00	100.00	100.00	100.00	99.28	99.55	100.00	98.04	99.05	98.88	100.00	99.07	99.18	99.25
Farm improvements (purchase of machinery, etc.)	9.09	6.45	11.59	9.91	0.00	7.69	10.14	8.26	4.00	7.02	10.87	9.09	9.09	1.96	11.43	8.43	6.38	4.63	11.11	8.79
Household Consumption		16.13	13.04	12.61	21.43	11.54	15.94	15.60	12.00	14.04	14.49	14.09	18.18	15.69	14.29	15.17	14.89	14.81	14.40	14.57
Medical and health expenses															1.90	1.12			0.82	0.50
Education			5.80	3.60			1.45	0.92			3.62	2.27							2.06	1.26
Business investments (non-farm)																				
House construction/ repair																				
Purchase of land																				
Purchase of vehicle																				
Others			2.90	1.80			1.45	0.92			2.17	1.36			0.95	0.56			1.65	1.01

Table 65. Distribution of loans availed in 2015 by utilization and treatment group, region 2.

Loan Utilization	With Claims				With Insurance Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2015																				
Frequency																				
Farm production (inputs)	9	34	78	121	12	31	70	113	21	65	148	234	21	55	115	191	42	120	263	425
Farm improvements (purchase of machinery, etc.)		3	10	13		3	11	14		6	21	27	1	1	14	16	1	7	35	43
Household Consumption		2	14	16	1	2	3	6	1	4	17	22	1	7	14	22	2	11	31	44
Medical and health expenses			2	2							2	2			2	2	0	0	4	4
Education			3	3			1	1			4	4	1			1	1	0	4	5
Business investments (non-farm)																				
House construction/ repair																				
Purchase of land																				
Purchase of vehicle																				
Others			1	1			1	1			2	2							2	2
Percent																				
Farm production (inputs)	100.00	100.00	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	95.45	100.00	100.00	99.48	97.67	100.00	100.00	99.77
Farm improvements (purchase of machinery, etc.)		8.82	12.82	10.74	0.00	9.68	15.71	12.39	0.00	9.23	14.19	11.54	4.55	1.82	12.17	8.33	2.33	5.83	13.31	10.09
Household Consumption		5.88	17.95	13.22	8.33	6.45	4.29	5.31	4.76	6.15	11.49	9.40	4.55	12.73	12.17	11.46	4.65	9.17	11.79	10.33
Medical and health expenses			2.56	1.65							1.35	0.85			1.74	1.04			1.52	0.94
Education			3.85	2.48			1.43	0.88			2.70	1.71	4.55			0.52	2.33		1.52	1.17
Business investments (non-farm)																				
House construction/ repair																				
Purchase of land																				
Purchase of vehicle																				
Others			1.28	0.83			1.43	0.88			1.35	0.85							0.76	0.47

Reason for Non-availment of Loans

Table 66 shows the distribution of farmers who did not avail loans and their reasons for non-availment of loans by treatment group. There are 58.20 percent of the farmers who did not avail loan during the study period. There are more farmers without insurance (62.40 percent) who did not avail loans (62.40 percent) than farmers with insurance (54.0 percent). This shows that crop insurance is not a pre-requisite for farmers to avail credit. The first reason for corn farmers for non-availment of loan is that they cannot afford to borrow (39.52 percent), followed by high rates of interest (12.71 percent), no need, the farmers has enough capital (12.03 percent) and they don't want to borrow (8.25 percent). Borrowing from financial institution requires collateral; hence, they don't borrow because they got no collateral to offer with 1.72 percent. The major reason of farmers indicates that they cannot take the risk to make use of their harvest to pay their loans especially if their farms are damaged. The without insurance farmers have higher percentage who reasoned out that they cannot afford to barrow with 46.15 percent and 31.85 percent of the with insurance farmers.

Disapproved Loan and Reason for Non Approval

Table 67 shows the distribution of farmer that applied for loan but was disapproved and the reason for non-approval of the loan by treatment group. Of the total respondents that applied for loan, there were 29 corn farmers or 5.20 percent who applied for loan and was disapproved. A higher percentage is observed among farmers with insurance (7.60 percent) than farmers without insurance (4.0 percent). As to reasons for the non-approval of loans, there were 9 corn farmers or 1.80 percent mentioned that they cannot provide collateral. Other reasons indicated are they already have too many loans (1.60 percent), cannot provide pertinent documents for the loan (0.40 percent) and others.

Where Farmers Save

Table 68 shows that almost all the corn farmers (89.33 percent) save their money in their own house or do not save. There were 9.20 percent of the total respondents who save their money in banks, 1.0 percent save in Microfinance Institution/NGO while 0.80 percent saves in Cooperatives.

It can be inferred from the findings that farmers either with or without insurance do not have yet the saving attitude. This may be because at harvest time, their income are used to pay their loans and or used to purchase inputs for the succeeding cropping season.

Table 66. Frequency and percent distribution on reason for non-availment of loans during the past two years, by treatment group, region 2.

Reason for Nonavailment of Loan	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Did not avail of loans	7	22	32	61	16	19	39	74	23	41	71	135	25	48	83	156	48	89	154	291
Reasons for Nonavailment of Loan																				
No need, has enough capital		2	3	5	2	3	3	8	2	5	6	13	2	7	13	22	4	12	19	35
Cannot afford to borrow	2	5	8	15	9	6	13	28	11	11	21	43	14	28	30	72	25	39	51	115
No collateral to offer						1	1	2		1	1	2		2	1	3	0	3	2	5
No access to credit							2	2		0	2	2	1	2	5	8	1	2	7	10
High interest rates	2	7	8	17	1		6	7	3	7	14	24	1	5	7	13	3	13	21	37
Do not want to borrow	2	1	1	4	1	3	3	7	3	4	4	11		5	8	13	3	9	12	24
Others, please specify _____	3		2	5	1	2	5	8	4	2	7	13	4	1	10	15	7	4	17	28
Percent																				
Did not avail of loans	53.85	59.46	47.06	51.69	69.57	55.88	52.00	56.06	63.89	57.75	49.65	54.00	69.44	63.16	60.14	62.40	66.67	60.54	54.80	58.20
Reason for Nonavailment of Loan																				
No need, has enough capital		9.09	9.38	8.20	12.50	15.79	7.69	10.81	8.70	12.20	8.45	9.63	8.00	14.58	15.66	14.10	8.33	13.48	12.34	12.03
Cannot afford to borrow	28.57	22.73	25.00	24.59	56.25	31.58	33.33	37.84	47.83	26.83	29.58	31.85	56.00	58.33	36.14	46.15	52.08	43.82	33.12	39.52
No collateral to offer						5.26	2.56	2.70		2.44	1.41	1.48	0.00	4.17	1.20	1.92	0.00	3.37	1.30	1.72
No access to credit							5.13	2.70			2.82	1.48	4.00	4.17	6.02	5.13	2.08	2.25	4.55	3.44
High interest rates	28.57	31.82	25.00	27.87	6.25		15.38	9.46	13.04	17.07	19.72	17.78	4.00	10.42	8.43	8.33	6.25	14.61	13.64	12.71
Do not want to borrow	28.57	4.55	3.13	6.56	6.25	15.79	7.69	9.46	13.04	9.76	5.63	8.15	0.00	10.42	9.64	8.33	6.25	10.11	7.79	8.25
Others, please specify _____	42.86	0.00	6.25	8.20	6.25	10.53	12.82	10.81	17.39	4.88	9.86	9.63	16.00	2.08	12.05	9.62	14.58	4.49	11.04	9.62

Table 57. Distribution of farmers that applied for a loan for the past two years and was disapproved and reason for non-approval by treatment group, region 2.

Reason for Non Approval	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
With Disapproved Loan	1		8	9		4	6	10	1	4	14	19	1	5	4	10	2	9	18	29
<i>Reason for Non-approval:</i>																				
Do not have collateral/ or impaired collateral			2	2		1	1	2	0	1	3	4		3	2	5	0	4	5	9
Cannot provide pertinent documents for the loan (e.g. TIN, tax declaration, etc.)	1			1			1	1	1	0	1	2				0	1	0	1	2
Already has too many loans			5	5			2	2	0	0	7	7	1			1	1	0	7	8
Has unpaid loans to other creditors			1	1		2	1	3	0	2	2	4		1		1	0	3	2	5
Others			1	1		1	2	3	0	1	3	4		1	2	3	0	2	5	7
Percent																				
With Disapproved Loan	7.69	0.00	11.76	7.63		11.76	8.00	7.58	2.78	5.63	9.79	7.60	2.78	6.58	2.90	4.00	2.78	6.12	6.41	5.80
<i>Reason for Non-approval:</i>																				
Do not have collateral/ or impaired collateral			2.94	1.69		2.94	1.33	1.52	0.00	1.41	2.10	1.60	0.00	3.95	1.45	2.00	0.00	2.72	1.78	1.80
Cannot provide pertinent documents for the loan (e.g. TIN, tax declaration, etc.)	7.69		0.00	0.85			1.33	0.76	2.78	0.00	0.70	0.80	0.00			0.00	1.39	0.00	0.36	0.40
Already has too many loans			7.35	4.24			2.67	1.52		0.00	4.90	2.80	2.78			0.40	1.39	0.00	2.49	1.60
Has unpaid loans to other creditors			1.47	0.85		5.88	1.33	2.27		2.82	1.40	1.60		1.32	0.00	0.40	0.00	2.04	0.71	1.00
Others			1.47	0.85		2.94	2.67	2.27		1.41	2.10	1.60		1.32	1.45	1.20	0.00	1.36	1.78	1.40

Table 68. Frequency and percent distribution of farmers as to where they save by treatment group, 2014 and 2015, region 2

Type of Saving Institution		With Insurance																Without Insurance				Total (Pooled)			
		With Claims				Without Claims				With and Without Claims															
		FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All				
Frequency																									
Bank			5	12	17			2	8	10			0	7	20	27		1	3	15	19	1	10	35	46
Government Financial Institution					0				1	1			0	0	1	1				0	0	0	0	1	1
Cooperative					1				1	1			0	0	2	2				2	2	0	0	4	4
Microfinance Institution/ NGO																									
Others			1	1	2				2	2			0	1	3	4				1	1	0	1	4	5
Total		13	36	61	110	23	34	66	123	36	70	127	233	35	74	129	238	71	144	256	471				
		13	42	75	130	23	36	78	137	36	78	153	267	36	77	147	260	72	155	300	527				
Percent																									
Bank			13.51	17.65	14.41			5.88	10.67	7.58			9.86	13.99	10.80	2.78	3.95	10.87	7.60	1.39	6.80	12.46	9.20		
Government Financial Institution									1.33	0.76			0.70	0.40									0.36	0.20	
Cooperative					1.47	0.85			1.33	0.76			1.40	0.80			1.45	0.80					1.42	0.80	
Microfinance Institution/ NGO																									
Others			2.70	1.47	1.69			2.67	1.52		1.41	2.10	1.60			0.72	0.40		0.68	1.42	1.00				
		100.00	97.30	89.71	93.22	100.00	100.00	88.00	93.18	100.00	98.59	88.81	93.20	97.22	97.37	93.48	95.20	98.61	97.96	91.10	94.20				

Household Income and Other Receipts

Average Household Income

Table 69a and 69b shows the average household income by source for CY 2014 and 2015, respectively. Table 58a shows that in 2014 the highest mean source of income of corn farmers is from salaries and wages from employment amounting to P120,007 per annum followed by income from family sustenance activities with P96,693. These results indicate that although farming is the major source of income, the mean is low compared to the other sources of income. The findings further reveal that other members of the households are employed with regular wages than farming. Likewise, corn farming households also get their income from other family sustenance activities other than corn farming. Entrepreneurial activities on livestock and poultry raising ranks third (P83,019) in terms of mean source of income. The average income from other forms of assistance from abroad is P50,001 per year. This indicates that members of the households or relatives work abroad and provide assistance to their relatives left in the country. Other sources of income include the net share of crops produced, aquaculture products harvested or livestock and poultry raised by households (P46,250), wholesale, retail trade, repair of motor vehicles and motorcycles (P44,667), construction (P30,575) crop production (P25,710), cash receipts, support relief and other form of assistance (P18,986), rentals received from non-agricultural lands, building and other properties (P8,000) and entrepreneurial activities from forestry and hunting (P3,800).

The above findings indicate that corn farming households do not depend on corn production only but also have other source of income.

Table 69 b shows that in 2015, the sources of income is similar to that of 2014 with a slight difference on the mean income from these sources.

Percentage of Household Income Derived from Major Sources

Table 70 shows that 82 percent of the household income was derived from the major crop which is corn. Only 6.7 percent was derived from non-farm wage income, 4 percent from non-crop agricultural commodities and 2.8 percent from other non-farm income while 1.6 percent was derived from remittance income. A portion of government transfer (non-agricultural-related/non-credit) income comprised 0.62 percent and only 0.8 percent came from non-farm entrepreneurial income. This indicates that almost all of the income of corn farmers comes from the production of major crop which is corn. This further imply that the sampled farmers' households depend from corn production for their sustenance.

In 2015 a slight difference is observed on the percentage share of different source. It can be inferred from the above findings that though the corn farming households have different sources of income, bulk of their income still come from corn production.

Table 69a. Average household income of corn farmers in region 2 by type of source and treatment group, 2014

Income Source	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Crop Production	-704	16967	40022	28454	5980	13134	42653	28778	5980	13134	42653	28778	-20600	12350	40247	22780	-8827	13680	40854	25710
Salaries and Wages from Employment	95100	155000	120571	127645	100000	85000	91236	91236	100000	85000	91236	91695	119933	156364	107714	127342	112744	147188	106809	120007
Net Shares of Crops, Fruits, and Vegetables Produced, Aquaculture Products Harvested or Livestock and Poultry Raised by Other Households			50000	50000			20000	20000			20000	20000		34000	52125	48500		34000	48700	46250
Family Sustenance Activities	369000	23100	54033	135186	193800	64500	50000	89575	193800	64500	50000	89575		14550	20000	16367	310600	27960	47017	96693
Cash Receipts, Gifts, Support, Relief, and Other Forms of Assistance from Abroad	8500	10500	4000	8375	280000	60000	20000	120000	280000	60000	20000	120000		11500	64403	44565	144250	19250	49431	50001
Cash Receipts, Support, Assistance and Relief from Domestic Sources			1000	1000	28400		46250	40300	28400		46250	40300		3000	5000	3667	28400	3000	24625	18986
Rentals Received from Non-Agricultural Lands, Buildings, Spaces, and Other Properties							8000	8000			8000	8000							8000	8000
Interest and Dividends from Investment/s																				
Pension and Retirement, Workmen's Compensation and Social Security Benefits																				
Entrepreneurial Activities- Livestock and Poultry Raising		4125	1827	2746										9900	557500	283700		6050	140745	83019
Entrepreneurial Activities- Fishing																				
Entrepreneurial Activities- Forestry and Hunting			3800	3800															3800	3800
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles			60000	60000									24000		50000	37000	24000		55000	44667
Manufacturing																				
Community, Social, Recreational, and Personal Services																				
Transportation, Storage, and Communication Services																				
Mining and Quarrying																				
Construction		60000		60000			37800	37800			37800	37800		30000	9500	19750		45000	23650	34325
Entrepreneurial Activities Not Elsewhere Classified (Including Electricity, Gas and Water; Financial, Insurance, Real Estate, and Business Services)																				
Other Receipts																				

Table 69b. Average household income of corn farmers in region 2 by type of source and treatment group, 2015

Income Source	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2015																				
Crop Production	-133	18844	37274	27203	4128	6023	17858	12530	4128	6023	17858	12530	4853	14486	39157	26894	3683	13672	32964	23172
Salaries and Wages from Employment	110800	155000	118375	125662	102500	87250	95667	95423	102500	87250	95667	95423	129933	163545	130750	140917	120620	152406	118900	127970
Net Shares of Crops, Fruits, and Vegetables Produced, Aquaculture Products Harvested or Livestock and Poultry Raised by Other Households																				
Family Sustenance Activities	429375	25290	50000	50000	198800	64500	20000	94433	198800	64500	20000	94433		58000	44250	45778		58000	44400	45636
Cash Receipts, Gifts, Support, Relief, and Other Forms of Assistance from Abroad	13500	47000	43000	40083	158000	60000	20000	99000	158000	60000	20000	99000		19333	117667	93083	109833	32625	66182	59932
Cash Receipts, Support, Assistance and Relief from Domestic Sources			24500	24500	29801		36283	34663	29801		36283	34663		4250	5000	4500	29801	4250	27142	22350
Rentals Received from Non-Agricultural Lands, Buildings, Spaces, and Other Properties							10000	10000			10000	10000							10000	10000
Interest and Dividends from Investment/s																				
Pension and Retirement, Workmen's Compensation and Social Security Benefits																				
Entrepreneurial Activities- Livestock and Poultry Raising		-2500	10500	6167		338000	338000				338000	338000			236450	236450		-2500	194983	166771
Entrepreneurial Activities- Fishing																				
Entrepreneurial Activities- Forestry and Hunting			4300	4300															4300	4300
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles			60000	60000										24000	60000	42000	24000		60000	48000
Manufacturing																				
Community, Social, Recreational, and Personal Services																				
Transportation, Storage, and Communication Services																				
Mining and Quarrying																				
Construction		60000		60000		22800	22800				22800	22800		30000	9500	19750		45000	16150	30575
Entrepreneurial Activities Not Elsewhere Classified (Including Electricity, Gas and Water; Financial, Insurance, Real Estate, and Business Services																				
Other Receipts																				
Total																				

Table 70. Average percentage of household income derived from different sources, by type of crop, region and treatment Group, 2014 and 2015

Source of Household Income	With Insurance												Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
2014																				
Major Crop	92	84	86	86	88	93	91	91	89	88	89	89	84	48	89	76	86	67	89	82
Other Crops (not major crop)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-crop agricultural commodities	0	0.95	1.2	1	0	0	0	0	0	0.5	0.56	0.46	0	24	0.59	7.6	0	13	0.58	4
Non-farm wage income	7.1	7	8.1	7.6	4.4	4.1	2.6	3.3	5.3	5.6	5.1	5.3	13	13	4	8	9.2	9.4	4.6	6.7
Non-farm entrepreneurial income	0	1.8	1.5	1.5	0	0	0.27	0.16	0	0.96	0.84	0.76	0.5	2.2	0.18	0.84	0.25	1.6	0.52	0.8
Remittance income	0.64	6.3	0.73	2.5	2.8	2.6	0.079	1.2	2.1	4.6	0.38	1.8	0	1.6	1.8	1.5	1	3.1	1.1	1.6
Government transfer (non-agriculture-related/non-credit) income	0	0	0	0	5.1	0	2.5	2.3	3.4	0	1.3	1.2	0	0	0	0	1.7	0	0.67	0.62
Other non-farm income	0	0	0.77	0.44	0	0	2.8	1.6	0	0	1.9	1.1	0	9.5	2.9	4.5	0	4.9	2.4	2.8
2015																				
Major Crop	83	84	82	83	84	93	89	89	84	88	86	86	80	84	84	84	82	86	85	85
Other Crops (not major crop)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-crop agricultural commodities	0	0.41	-2.2	-1.2	0	0	1.3	0.73	0	0.22	-0.39	-0.16	0	0	0.84	-.47	0	0.1	0.21	0.15
Non-farm wage income	16	6.5	9.4	9.3	4.9	5.4	4.3	4.7	9.2	6	6.7	6.8	13	13	8.8	11	11	9.5	7.7	8.7
Non-farm entrepreneurial income	0	2.7	1	1.4	0	0	0.12	0.071	0	1.4	0.55	0.71	0.5	2.3	0.14	0.87	0.25	1.9	0.35	0.79
Remittance income	0.98	6.8	1.8	3.3	6.4	2.1	0.1	1.7	4.4	4.6	0.89	2.4	0	1	2.4	1.6	2.2	2.7	1.6	2
Government transfer (non-agriculture-related/non-credit) income	0	0	0	0	4.4	0	1.7	1.7	2.7	0	0.92	0.91	0	0	0	0	1.4	0	0.47	0.46
Other non-farm income	0	0	3	1.7	0.15	0	1.9	1.1	0.095	0	2.4	1.4	0	-0.25	1.8	0.94	0.048	-0.13	2.1	1.2

Shocks and Coping Strategies

The shocks are classified into natural disasters and manmade disasters experienced by farmers during the last two years (October 2013 to September 2015) that caused difficulty/problem that affected the household. The farmer-respondents were asked to identify the shocks then ranked the two most significant shocks in both category as the most severe and the second most severe. This section also presents the average decline in household income due to damage of property or assets and increase in expenses due to shocks, average monetary impact due to shocks experienced by farmers, recovery status and recovery period from shocks; food related, coping strategies on the most severe and second most severe under natural and manmade disasters (food related, non-food related, health related and education related and savings, assets and credits).

Shocks Experienced

Table 60a to 60d shows the frequency and percent distribution of significant shocks experienced by farmers during the past two years, 2014 and 2015. These shocks are classified as natural and man-made disasters. The shocks included as natural are typhoon, flood, drought, landslide, storm surge and pest infestation. The man-made shocks on the other hand include increase in food prices, increase in fuel prices, serious accident of family member, death of family member, financial crisis and political instability. The respondents were asked only of the two most severe shocks. The table indicates further classified the degree of shocks whether most severe or second most severe. The table shows that the most severe natural disaster shock experienced by the farmers is drought with 53 percent followed by typhoon with 36 percent of the total respondents. In terms of the second most severe shock, the highest is drought which was experienced by 29.8 percent of the total respondents followed again by flood with 26 percent of the total respondents experienced it.

There were 50.85 percent of the farmers with insurance with claims who experienced drought as the most severe shocks, 50 percent for the without claims and 56.40 percent of the without insurance. It is noted that 56.4 percent of the without insurance experienced drought, higher than the with insurance without claim with 50.40 percent. These suggest that the farmers should therefore be all the more encouraged to get insurance coverage for their crop.

As to the manmade shocks, the highest most severe, although very few experienced it, is financial crisis with 2.8 percent followed by increased food prices. The highest second most severe is the serious accident of a family member with 7.6 percent.

The findings above indicate that the farmers are more affected by natural disasters than man-made/economic disasters. The agricultural insurance is concern of the damage cause by natural disaster.

Average Decline in Household Income due to Natural Disasters

Table 72 shows the average decline in household income as a result of the shocks experienced by farmers by treatment group. Among the natural disasters and most severe natural disasters, pest infestation caused the biggest decline in household income of corn

farmers with an estimated amount of P38,015 income loss. It is interesting to note that farmers without insurance and small farms (FS1) of those with insurance farmers did not report any decrease in income due to pest infestation. The most affected in terms of decrease in income due to pest infestation are the large farms. This may be explained by the time constraint of the farmer to monitor the large farm area. The integrated pest management requires the farmer's time to monitor the farm closely in order to prevent the occurrence of pest and diseases above the threshold level before the application of pesticides or insecticides. Second in rank among the most severe shocks is drought with P31,187 decline in household income among corn farmers. The third in rank is flood with P26,444 decline in income among corn farmers. There is no decline in household income noted on other natural disasters such as earthquake, volcanic eruption, wildfire, and epidemic or disease outbreak since these shocks were not experienced by the corn farmers.

Under man-made disasters, death of the family member was noted to caused P30,000 decline in income which ranks first. Second in rank is political instability with income loss of P20,000.

Table 71a. Frequency Distribution of Significant Shocks (natural disasters) Experienced During the Past Two Years by Corn Farmers in Region II, By Treatment Group

Type of Shock	With Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total number of respondents	13	37	68	118	23	34	75	132	36	71	143	250
Natural Disasters												
a. Typhoon												
Most Severe	3	13	25	41	10	15	27	52	13	28	52	93
Second Most Severe	2	6	20	28	3	11	24	38	5	17	44	66
b. Flood												
Most Severe	1	3	6	10	1	1	6	8	2	4	12	18
Second Most Severe	2	4	4	10		5	2	7	2	9	6	17
c. Drought												
Most Severe	7	17	36	60	8	20	38	66	15	37	74	126
Second Most Severe	3	11	18	32	6	11	26	43	9	22	44	75
f. Landslide												
Most Severe									1			1
Second Most Severe												
g. Tsunami/ Storm Surge												
Most Severe	1			1					1			1
Second Most Severe												
j. Pest infestation												
Most Severe		1	1	2			2	2		1	3	4
Second Most Severe			2	2			3	3		0	5	5
Manmade Disasters												
l. Increase in food prices												
Most Severe			1	1		1	4	5		1	5	6
Second Most Severe			1	1			1	1		0	2	2
m. Increase in fuel prices												
Most Severe							1	1		0	1	1
Second Most Severe			1	1		1	3	4		1	4	5
n. Serious accident of family member												
Most Severe												
Second Most Severe					3	11	24	38	3	11	24	38
o. Death of family member												
Most Severe		2		2	1			1	1	2	0	3
Second Most Severe			2	2					0	0	2	2
q. Financial crisis												
Most Severe	1		4	5	1		3	4	2	0	7	9
Second Most Severe				0					0	0	0	0
s. Political instability												
Most Severe											1	1
Second Most Severe											0	0
Total	20	57	121	198	33	76	164	273	53	133	285	471

Table 71b. Percent Distribution of Significant Shocks (natural disasters) Experienced During the Past Two Years by Corn Farmers in Region II, By Treatment Group

Type of Shock	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disasters																				
a. Typhoon																				
Most Severe	23.08	35.14	36.76	34.75	43.48	44.12	36.00	39.39	36.11	39.44	36.36	37.20	38.89	32.89	34.78	34.80	37.50	36.05	35.59	36.00
Second Most Severe	15.38	16.22	29.41	23.73	13.04	32.35	32.00	28.79	13.89	23.94	30.77	26.40	22.22	27.63	25.36	25.60	18.06	25.85	28.11	26.00
b. Flood																				
Most Severe	7.69	8.11	8.82	8.47	4.35	2.94	8.00	6.06	5.56	5.63	8.39	7.20	2.78	9.21	5.80	6.40	4.17	7.48	7.12	6.80
Second Most Severe	15.38	10.81	5.88	8.47	0.00	14.71	2.67	5.30	5.56	12.68	4.20	6.80	11.11	10.53	3.62	6.80	8.33	11.56	3.91	6.80
c. Drought																				
Most Severe	53.85	45.95	52.94	50.85	34.78	58.82	50.67	50.00	41.67	52.11	51.75	50.40	47.22	59.21	57.25	56.40	44.44	55.78	54.45	53.40
Second Most Severe	23.08	29.73	26.47	27.12	26.09	32.35	34.67	32.58	25.00	30.99	30.77	30.00	27.78	28.95	30.43	29.60	26.39	29.93	30.60	29.80
f. Landslide																				
Most Severe													2.78			0.40	1.39			0.20
Second Most Severe																				
g. Tsunami/ Storm Surge																				
Most Severe	7.69			0.85					2.78			0.40					1.39			0.20
Second Most Severe																				
j. Pest infestation																				
Most Severe		2.70	1.47	1.69			2.67	1.52		1.41	2.10	1.60					0.68	1.07	0.80	
Second Most Severe			2.94	1.69			4.00	2.27			3.50	2.00						1.78	1.00	
Manmade Disasters																				
i. Increase in food prices																				
Most Severe			1.47	0.85		2.94	5.33	3.79		1.41	3.50	2.40		1.32	2.90	2.00		1.36	3.20	2.20
Second Most Severe			1.47	0.85			1.33	0.76			1.40	0.80							0.71	0.40
m. Increase in fuel prices																				
Most Severe							1.33	0.76			0.70	0.40							0.36	0.20
Second Most Severe			1.47	0.85		2.94	4.00	3.03		1.41	2.80	2.00			1.45	0.80		0.68	2.14	1.40
n. Serious accident of family member																				
Most Severe																				
Second Most Severe					13.04	32.35	32.00	28.79	8.33	15.49	16.78	15.20					4.17	7.48	8.54	7.60
o. Death of family member																				
Most Severe		5.41		1.69	4.35			0.76	2.78	2.82	0.00	1.20					1.39	1.36		0.60
Second Most Severe			2.94	1.69							1.40	0.80							0.71	0.40
q. Financial crisis																				
Most Severe	7.69	0.00	5.88	4.24	4.35		4.00	3.03	5.56		4.90	3.60	2.78	1.32	2.17	2.00	4.17	0.68	3.56	2.80
Second Most Severe													2.78	2.63	2.17	2.40	1.39	1.36	1.07	1.20
s. Political instability																				
Most Severe															0.72	0.40	0.00	0.00	0.36	0.20
Second Most Severe																				

Table 71c. Frequency Distribution of Significant Shocks (manmade disasters) Experienced During the Past Two Years by Corn Farmers in Region II, By Treatment

Type of Shock	With Insurance																Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Manmade Disasters																								
l. Increase in food prices																								
Most Severe			1	1		1	4	5		1	5	6		1	4	5	0	2	9	11				
Second Most Severe			1	1			1	1		0	2	2				0	0	0	2	2				
m. Increase in fuel prices																								
Most Severe							1	1		0	1	1							1	1				
Second Most Severe			1	1		1	3	4		1	4	5			2	2	0	1	6	7				
n. Serious accident of family member																								
Most Severe																	0	3	11	24	38			
Second Most Severe					3	11	24	38	3	11	24	38					0	3	11	24	38			
o. Death of family member																								
Most Severe		2		2	1			1	1	2	0	3					0	1	2	0	3			
Second Most Severe			2	2					0	0	2	2					0	0	0	2	2			
q. Financial crisis																								
Most Severe	1		4	5	1		3	4	2	0	7	9	1	1	3	5	3	1	10	14				
Second Most Severe				0					0	0	0	0	1	2	3	6	1	2	3	6				
s. Political instability																								
Most Severe															1	1	0	0	1	1				
Second Most Severe																0	0	0	0	0				
Total	20	57	121	198	33	76	164	273	53	133	285	471	57	132	230	419	110	265	515	890				

Table 71d. Percent Distribution of Significant Shocks (manmade disasters) Experienced During the Past Two Years by Corn Farmers in Region II, By Treatment

Type of Shock	With Insurance																Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total number of respondents	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500				
Manmade Disasters																								
l. Increase in food prices																								
Most Severe	0	0	1.47	0.85	0	2.94	5.33	3.79	0	1.41	3.50	2.4	0	1.32	2.90	2	0	1.36	3.20	2.2				
Second Most Severe	0	0	1.47	0.85	0	0	1.33	0.76	0	0	1.40	0.8	0	0	0	0	0	0	0.71	0.4				
m. Increase in fuel prices																								
Most Severe	0	0	0	0	0	0	1.33	0.76	0	0	0.70	0.4	0	0	0	0	0	0	0.36	0.2				
Second Most Severe	0	0	1.47	0.85	0	2.94	4	3.03	0	1.41	2.80	2	0	0	1.45	0.8	0	0.68	2.14	1.4				
n. Serious accident of family member																								
Most Severe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Second Most Severe	0	0	0	0	13.04	32.35	32	28.79	8.33	15.49	16.78	15.2	0	0	0	0	4.17	7.48	8.54	7.6				
o. Death of family member																								
Most Severe	0	5.41	0	1.69	4.35	0	0	0.76	2.78	2.82	0	1.2	0	0	0	0	1.39	1.36	0	0.6				
Second Most Severe	0	0	2.94	1.69	0	0	0	0	0	0	1.40	0.8	0	0	0	0	0	0	0.71	0.4				
q. Financial crisis																								
Most Severe	7.69	0.00	5.88	4.24	4.35	0.00	4.00	3.03	5.56	0.00	4.90	3.60	2.78	1.32	2.17	2.00	4.17	0.68	3.56	2.80				
Second Most Severe	0	0	0	0	0	0	0	0	0	0	0	0	2.78	2.63	2.17	2.4	1.39	1.36	1.07	1.2				
s. Political instability																								
Most Severe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.72	0.4	0	0	0.36	0.2				
Second Most Severe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total																								

Table 72. Average decline in household income (including job loss), by shock experienced and treatment group, Region 2- Cagayan Valley

Shocks Experienced	With Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disasters												
a. Typhoon												
Most Severe	18000	15636	22385	20023	12778	22767	32117	25703	14083	19750	27454	23259
Second Most Severe	10250	30000	23787	23940	15000	25570	34683	31058	12625	27047	29868	28073
b. Flood												
Most Severe	2500	38347	1870	17593	26000	50000	45000	42200	14250	41260	23435	27846
Second Most Severe	1750	6625	9536	6512		10500	34067	20600	1750	8563	21801	12676
c. Drought												
Most Severe	5369	25433	34065	28166	12334	23417	42023	33079	9083	24333	38265	30786
Second Most Severe	13050	20004	17625	18233	13000	30455	36203	31495	13013	25229	29406	26265
g. Tsunami/ Storm Surge	1000			1000					1000			1000
Most Severe												
Second Most Severe												
j. Pest infestation												
Most Severe		5000	20000	12500		63530	63530		5000	49020	38015	
Second Most Severe			71000	71000		41333	41333			48750	48750	
l. Increase in food prices												
Most Severe			5000	5000		500	500			2750	2750	
Second Most Severe			5000	5000		6000	6000			5500	5500	
m. Increase in fuel prices												
Most Severe						5000	5000			5000	5000	
Second Most Severe			5000	5000		5667	5667			5500	5500	
o. Death of family member												
Most Severe		30000		30000					30000		30000	
Second Most Severe					10000			10000	10000			10000
q. Financial crisis												
Most Severe	15000		40000	35000	4000		12500	9667	9500		30833	25500
Second Most Severe										5000	8333	7000
s. Political instability										5000	3000	17667
Most Severe											20000	20000
Second Most Severe												

Average Decline in Household Income due to Damage to Property or Assets.

Household income also declines if there is damage of property or assets due to natural or man-made (socio-economic) disasters especially those assets that are directly used in corn production. Table 73 shows the decline in household income due to damage of property or assets caused by shocks. It is shown in table 73 that among the most severe natural shocks, the highest decline in income is P25,063 due to damage properties caused by drought. Damage of properties and assets may be related to income from animals/livestock wherein during drought, the outputs of pasture lands are vulnerable to drought thereby decreasing foods for farm animals. Farmers then are force to sell their animals even if desired weight or age is not yet attained. If even work or farm animals are sold, then it reduces farmers' capacity to plow their farm. The damage of property/asests due to drough resulting to decline in income is higher among farmers with insurance (P31,395) than farmers without insurance (P18,683.00)

No account was noted on other natural disasters such as earthquake, volcanic eruption, landslide, storm surges, wildfire, and epidemic or disease outbreak. Thus, drought, typhoon and flood are considered the highest risks among natural disasters that causes damage to properties or assets of corn farmers in Cagayan Valley region. Typhoon and flood also damaged property or asset causing a decline in income by P16,721 and P19, 694 respectively.

Average Decline in Household Income Due to Increase in Expenses

Table 74 shows the average decline in household income due to increase in expenses cause by shocks experienced by farmers.

Based on the experienced of corn farmers, the highest decline in average household income due to increase in expenses caused by man-made disaster (death of a family) is P50,000. Second in rank is financial crisis at P16,416. Third in rank is increase in food prices at P13,617. Fourth in rank is the increase in fuel prices at P8,9127. Other man-made disasters did not cause any increase in expenses of household corn farmers.

Among the most severe natural disasters the highest decline in household income due to increase in expenses among corn farmers with P10,187 which is caused by flood. This is true in most cases when transportation accessibility is affected by flooding, thereby causing transportation cost to increase declining supply of different commodities and therefore prices go up. Second to flood is drought with P8,263 decline in income as a result of increase in expenses. Drought and pest infestation hinders the production of commodities especially food and raw materials requiring cost of production to increase. This can also be explained by the fact that due to drought, the supply of agricultural commodities decline due to low production causing prices to increase.

Third in rank is pest infestation with P14,833 income loss. Lastly, typhoon with P12,133 income loss due to increase in expenses. It can be noted that the Philippines ranked 3rd in natural disaster (UN Disaster Report 2013) with an average of 22 typhoons annually. Prior to typhoon disaster, local people tend to stock food resources for future days. Furthermore, after typhoon food and other resources tend to be more expensive due to scarcity of supply resources.

Table 73. Average decline in household income due to damage of property or assets, by shock experienced and treatment group, Region 2- Cagayan Valley

Shocks Experienced	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disasters																				
a. Typhoon																				
Most Severe	15000	17376	14770	15599	7667	3750	19222	13188	9500	11320	16879	14393	5000	12300	27315	19825	8000	11810	21119	16721
Second																				
Most Severe	6000	6500	10500	8000			46571	46571	6000	6500	38556	30500	10500	4000	10857	8692	9000	4833	26438	19160
b. Flood																				
Most Severe		35000	21847	27108			22140	22140		35000	21964	25689		10000	16550	12700		26667	19558	19694
Second																				
Most Severe		13500		13500		10000	50	3367		12333	50	7420						12333	33	6183
c. Drought																				
Most Severe	7750	26175	42400	31217	2500	11500	46244	32550	5125	19886	44707	31935	11850	9600	22512	18683	8488	15600	32304	25063
Second																				
Most Severe		15000	25650	22100			18338	18338		15000	20775	19950	2500		20000	7500	2500	7500	20664	16215

Table 74. Average decline in household income due to increase in expenses, by shock experienced and treatment group, Region 2- Cagayan Valley, 2014-2015

Shocks Experienced	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disasters																				
a. Typhoon																				
Most Severe	8250	2440	6889	5669	4200	5167	4400	4571	5357	3927	5579	5046	3167	3400	8128	5584	4346	3652	6744	5304
Second Most Severe	10500	10000	3250	6286	3000	1000	8571	6500	8000	4000	6636	6412	6500	4833	8800	7222	7400	4556	7667	6829
b. Flood																				
Most Severe	5000	17500	60	10015	5000	20000		12500	5000	18333	60	10843	5000		10500	9400	5000	18333	8412	10187
Second Most Severe	5000	10000	30000	15000		5167		5167	5000	6375	30000	10083	4000	2395	100000	18930	4500	4385	65000	14507
c. Drought																				
Most Severe	3750	6500	6500	5950	6000	4400	13182	9737	5100	5333	11400	8431	5250	6000	10675	8136	5167	5760	11005	8263
Second Most Severe	2000	21083	7724	13041	3100	7200	7125	6613	2733	14773	7405	9716	3786	5333	9485	7144	3470	10525	8510	8347
j. Pest infestation																				
Most Severe			3000	3000			10000	10000			6500	6500							6500	6500
Second Most Severe			10000	10000			7500	7500			8333	8333							8333	8333
Man made disasters																				
l. Increase in food prices																				
Most Severe							15000	15000			15000	15000		3000	6250	5600		3000	8000	7167
Second Most Severe			2000	2000			10000	10000			6000	6000							6000	6000
m. Increase in fuel prices																				
Most Severe							5000	5000			5000	5000							5000	5000
Second Most Severe			2000	2000			2833	2833			2625	2625			6500	6500			3917	3917
o. Death of family member																				
Most Severe		50000		50000						50000		50000						50000		50000
Second Most Severe					1000			1000	1000			1000					1000			1000
q. Financial crisis																				
Most Severe			3000	3000	2000		4000	3000	2000		3333	3000	1500		5000	3250	1750		3750	3083
Second Most Severe													5000		17500	13333	5000		17500	13333

Average Monetary Impact of Shocks Experienced By Farmers

Table 75 shows the average monetary impact of shock to corn farmers in Region 02 by treatment group. These shocks are classified into most severe and second most severe. For the natural disasters among the most severe, pest infestation has the highest average monetary impact with P41,265. Although this shock has no monetary impact to groups of farmers without insurance. This maybe the reason these farmers do not subscribe to crop insurance. The second highest monetary impact among the most severe natural disaster shocks is due to drought with P36,811. This is the highest among farmers with insurance without claims with P41,784 while the without insurance is P35,428. Flood also accounted for P32,603 in terms of monetary impact. The impact to farmers without insurance is higher with P33,093 than the with insurance (T1 and T2) with P32,168. It can be inferred from the findings that the monetary impact of drought and pest infestation is higher in group of farmers with insurance than the farmers without insurance. Typhoon and flood had higher monetary impact to farmers without insurance than those with insurance.

For the man-made disasters, death of a family member had the greatest monetary impact with P55,000. This highest monetary impact is experienced by farmers with insurance with claims. Financial crisis has also monetary impact to corn farmers with P18,393.

The above findings reveal that the common shocks that have monetary impact on corn farmers in Region 2 are pest infestation, drought and flood.

Recovery Status and Recovery Period from Shock

The recovery status of corn farmers from shocks either not at all, partially and completely and their recovery period is shown in table 76. There are 30.05 percent who are not able to recover at all, 49.30 percent partially recovered and there are 20.66 percent of the farmers who completely recovered. There is a slighter higher percentage who completely recovered among the group of farmers without insurance (21.24 percent) than the with insurance treatment group (20.09 percent). Among the farmers with insurance group, there is a higher percentage of farmers without claims who have not recovered at all (36.17 percent) than farmers with claims (26.77 percent). Among the farmers with insurance large farms (FS3) have higher complete recovery rate (25.29 percent) than the smaller farmers.

From the above results, it is revealed that during the two cropping years, there are still corn farmers who are not able to recover at all from the shocks they experienced at the time of data gathering. Almost one-half of the farmers partially recovered from the shocks. It can be inferred that farmers on the severity of shocks make the experience harder to recover from. There is a tendency that poorer households have lower pace to recover from the shocks. The smaller farms (FS1 & FS2) have lesser percentage who are able to completely recover from the shock they experience.

Majority of the farmers (62.09 percent) recovered from shocks for a period of more than one year (Table 76) and only 23.36 percent recovered for less than a year. Farmers of small farm (FS1) have the highest percentage who recovered for more than one year with 69.16 percent. The percentage of farmers with insurance and without insurance who have recovery period of more than one year slightly differ with 62.12 percent and 62.05 percent, respectively. However, for the without insurance without claims the farmers recovered from the shock longer with 73.19 percent for more than a year while that with insurance, only 48.99 percent took more than a year recovery period.

Table 75. Average monetary impact of shock, by shock experienced and treatment group, Region 2- Cagayan Valley

Shocks Experienced	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disasters																				
a. Typhoon																				
Most Severe	28500	23391	28182	26369	15900	25833	37775	30124	18808	24235	33163	28468	8111	25614	41221	31408	13261	24885	37031	29889
Second Most Severe	23750	28833	27798	27730	11000	23427	50766	39713	16100	25335	40326	34629	22919	21181	26857	24502	20296	23039	34359	29644
b. Flood																				
Most Severe	7500	61680	17702	29875	31000	70000	29880	35035	19250	63760	23791	32168	20000	21511	44863	33093	19500	36875	32220	32603
Second Most Severe	4250	15875	14652	13061		15500	46150	24257	4250	15667	25151	17671	18275	9869	1E+05	52489	13600	12939	81014	35080
c. Drought																				
Most Severe	7226	30129	42017	34590	15209	24400	56528	41784	11483	27032	49469	38358	20047	22522	46089	35428	16033	24557	47724	36811
Second Most Severe	9333	30604	21930	23731	14033	33727	41216	35507	12467	32165	33326	30483	10450	24836	38087	30413	11405	28501	35651	30448
g. Tsunami/ Storm Surge	1000			1000													1000			1000
Most Severe									1000			1000								
j. Pest infestation																				
Most Severe		5000	23000	14000			68530	68530		5000	53353	41265					5000	53353	41265	
Second Most Severe			40500	40500			46333	46333			44000	44000							44000	44000
Manmade Disasters																				
k. Increase in Food Prices																				
Most Severe			5000	5000			3875	3875			4100	3417		8000	17000	15200		4000	9833	8773
Second Most Severe			7000	7000			16000	16000			11500	11500							11500	11500
m. Increase in fuel prices																				
Most Severe							10000	10000			10000	10000							10000	10000
Second Most Severe			7000	7000			8500	6375			8125	6500			12000	12000			9417	8071
o. Death of family member																				
Most Severe		55000		55000	11000			11000		55000		55000					55000			55000
Second Most Severe									11000			3667				11000				3667
q. Financial crisis																				
Most Severe	15000		41500	36200	6000		9667	8750	10500		27857	24000	6500	5000	10000	8300	9167	5000	22500	18393
Second Most Severe													10000	3000	29333	17333	10000	3000	29333	17333
s. Political instability																				
Most Severe															20000	20000			20000	20000
Second Most Severe																				

Table 76. Recovery status and recovery period from shock, by treatment group, Region 2 (Cagayan Valley)

Shocks Experienced		With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
		FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																					
Recovery Status																					
Not at all		8	23	22	53	12	31	42	85	20	54	64	138	17	42	59	118	37	96	123	256
Partially		6	26	47	79	15	30	84	129	21	56	131	208	30	65	117	212	51	121	248	420
Completely		6	8	52	66	3	4	14	21	9	12	66	87	10	25	54	89	19	37	120	176
Sub-total		20	57	121	198	30	65	140	235	50	122	261	433	57	132	230	419	107	254	491	852
Recovery Period																					
Less than a year		9	11	45	65	3	3	24	30	12	14	69	95	11	34	59	104	23	48	128	199
One year		2	12	22	36	1	6	26	33	3	18	48	69	7	17	31	55	10	35	79	124
More than one year		9	34	54	97	26	56	90	172	35	90	144	269	39	81	140	260	74	171	284	529
Sub-total		20	57	121	198	30	65	140	235	50	122	261	433	57	132	230	419	107	254	491	852
Percent																					
Recovery Status																					
Not at all		40.00	40.35	18.18	26.77	40.00	47.69	30.00	36.17	40.00	44.26	24.52	31.87	29.82	31.82	25.65	28.16	34.58	37.80	25.05	30.05
Partially		30.00	45.61	38.84	39.90	50.00	46.15	60.00	54.89	42.00	45.90	50.19	48.04	52.63	49.24	50.87	50.60	47.66	47.64	50.51	49.30
Completely		30.00	14.04	42.98	33.33	10.00	6.15	10.00	8.94	18.00	9.84	25.29	20.09	17.54	18.94	23.48	21.24	17.76	14.57	24.44	20.66
Recovery Period																					
Less than a year		45.00	19.30	37.19	32.83	10.00	4.62	17.14	12.77	24.00	11.48	26.44	21.94	19.30	25.76	25.65	24.82	21.50	18.90	26.07	23.36
One year		10.00	21.05	18.18	18.18	3.33	9.23	18.57	14.04	6.00	14.75	18.39	15.94	12.28	12.88	13.48	13.13	9.35	13.78	16.09	14.55
More than one year		45.00	59.65	44.63	48.99	86.67	86.15	64.29	73.19	70.00	73.77	55.17	62.12	68.42	61.36	60.87	62.05	69.16	67.32	57.84	62.09

It can be inferred from the findings that the farmers with insurance with claims recover earlier from shocks because of the indemnity claims they received.

Food Related Coping Strategies

Table 77a and 77b shows the food related coping strategy for most severe and second most severe shocks of corn farmers in Cagayan Valley Region.

For the most severe natural disaster, the highest percentage of coping strategy of farmers is they relied more on own produce (49.0 percent). Other food related coping strategies include shifted to cheaper food items (47.0 percent), ate less preferred food (41.0 percent). 38 percent reduced their buying consumption, 37.4 percent corn farmers consumed staple food only, 27.60 percent corn farmers bought food on credit, 26.60 percent (133) corn farmers ate more ready-to-cook food like noodles while, 20 percent corn farmers lessened the frequency of dining out.

For the second most severe natural disaster, there were changes as compared to their coping strategy for the most severe natural disaster. The table shows that 21 percent (105) of the corn farmers shifted to cheaper food items while 20.20 percent corn farmers relied more on own produce. It could be gleaned from the table that corn farmers who ate less preferred food, consumed staple food only and reduce portion of their buying consumption are very close in percentages. There was only one percent of the (5) corn farmers who relied on school feeding.

It could be gleaned from the table that the common strategy used whether it be on most severe or second most severe disaster, food related coping strategy are shifted to cheaper food items, ate less prepared food, relied on own produce and the least strategy is relying on school feeding. This shows that farmers have self-discipline and self-control when they encounter such disaster. This finding further imply that in case of disaster, food intake is lessened and therefore hunger is experienced hence health is affected.

Food Related for Man-Made Disaster

Table 78a and 78b shows that as to most severe man-made disaster the highest percentage coping strategy of corn farmers are to eat less preferred food, and relies more on own produce although only few reponse (1.8 percent). There were 1.6 percent reduced portion of their buying consumption and ate some ready-to-cook food. Only 1.4 percent shifted to cheaper food items, one percent of the corn farmers bought food on credit, bought cooked food, consumed staple food only and skipped meals while others are less than one percent.

For the second most severe man-made disaster, less than one percent of the corn farmers for each of the following coping strategies: shifted to cheaper food items, ate less preferred food, consumed staple food only, reduced portion of buying consumptions and skipped meals relied more on own produced, bought cooked food, ate more ready-to-cook food, lessened the frequency of dining out, relied on school feeding and bought on credit.

It is observed from the result that as to the coping strategy on food related man-made disaster on the most severe, the distribution of the corn farmers were close to each other, except for lessened the frequency of dining out and relied on school feeding.

Table 77a. Coping strategy (food related) for most severe shocks (natural disaster) experienced, by treatment group, Region 2 (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims		Without Claims		With Claims		Without Claims		With and Without Claims		Without Claims		Without Insurance		Without Insurance		Total (Pooled)		Total (Pooled)	
	FS 1	FS 2	FS 3	All	FS 1	FS 2	FS 3	All	FS 1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
NATURAL DISASTER																				
Most Severe																				
Shifted to cheaper food items	4	16	23	43	16	20	33	69	20	36	56	112	22	42	59	123	42	78	115	235
Ate less preferred food	3	13	20	36	14	17	31	62	17	30	51	98	20	35	52	107	37	65	103	205
Relied more on own produce	6	17	23	46	15	21	36	72	21	38	59	118	22	43	62	127	43	81	121	245
Consumed staple food only	2	9	18	29	10	18	28	56	12	27	46	85	19	35	48	102	31	62	94	187
Reduced portions	3	11	17	31	11	18	26	55	14	29	43	86	20	35	49	104	34	64	92	190
Skipped meals	3	5	4	12	5	5	8	18					6	13	10	29	14	23	22	59
Bought cooked food	3	4	7	14	6	7	11	24	9	11	18	38	10	12	18	40	19	23	36	78
Ate more ready-to-cook food (i.e. noodles)	5	7	12	24	8	12	19	39	13	19	31	63	15	24	31	70	28	43	62	133
Lessened the frequency of dining out	2	5	8	15	6	10	17	33	8	15	25	48	11	17	24	52	19	32	49	100
Relied on school feeding			1	1	1	1	4	6	1	1	5	7	5	4	3	12	6	5	8	19
Bought food on credit	3	7	13	23	8	12	24	44	11	19	37	67	12	29	30	71	23	48	67	138
Second Most Severe																				
Shifted to cheaper food items	1	8	7	16	5	9	18	32	6	14	23	43	9	22	26	57	15	39	51	105
Ate less preferred food	1	7	7	15	5	7	16	28	6	17	25	48	9	19	23	51	15	33	46	94
Relied more on own produce	1	7	6	14	5	9	18	32		4	6	10	9	21	25	55	15	37	49	101
Consumed staple food only	1	5	7	13	5	9	15	29	6	14	22	42	9	19	21	49	15	33	43	91
Reduced portions	1	5	7	13	5	9	12	26	6	14	19	39	9	19	23	51	15	33	42	90
Skipped meals		3	1	4		1	5	6					2	4		6	2	8	6	16
Bought cooked food		1		1		1	3	4		2	3	5	4	3	5	12	4	5	8	17
Ate more ready-to-cook food (i.e. noodles)	1	3	1	5	2	2	8	12	3	5	9	17	7	9	12	28	10	14	21	45
Lessened the frequency of dining out		3		3		2	5	7		5	5	10	3	3	5	11	3	8	10	21
Relied on school feeding			1	1			2	2			3	3	2			2	2	0	3	5
Bought food on credit		2	1	3		2	9	11		4	10	14	3	8	6	17	3	12	16	31

Table 77b. Coping strategy (food related) for most severe shocks (natural disaster) experienced, by treatment group, Region II (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
NATURAL DISASTER																				
Most Severe																				
Shifted to cheaper food items	30.77	43.24	33.82	36.44	69.57	58.82	44.00	52.27	55.56	50.70	39.16	44.80	61.11	55.26	42.75	49.20	58.33	53.06	40.93	47.00
Ate less preferred food	23.08	35.14	29.41	30.51	60.87	50.00	41.33	46.97	47.22	42.25	35.66	39.20	55.56	46.05	37.68	42.80	51.39	44.22	36.65	41.00
Relied more on own produce	46.15	45.95	33.82	38.98	65.22	61.76	48.00	54.55	58.33	53.52	41.26	47.20	61.11	56.58	44.93	50.80	59.72	55.10	43.06	49.00
Consumed staple food only	15.38	24.32	26.47	24.58	43.48	52.94	37.33	42.42	33.33	38.03	32.17	34.00	52.78	46.05	34.78	40.80	43.06	42.18	33.45	37.40
Reduced portions	23.08	29.73	25.00	26.27	47.83	52.94	34.67	41.67	38.89	40.85	30.07	34.40	55.56	46.05	35.51	41.60	47.22	43.54	32.74	38.00
Skipped meals	23.08	13.51	5.88	10.17	21.74	14.71	10.67	13.64	0.00	0.00	0.00	0.00	16.67	17.11	7.25	11.60	19.44	15.65	7.83	11.80
Bought cooked food	23.08	10.81	10.29	11.86	26.09	20.59	14.67	18.18	25.00	15.49	12.59	15.20	27.78	15.79	13.04	16.00	26.39	15.65	12.81	15.60
Ate more ready-to-cook food (i.e. noodles)	38.46	18.92	17.65	20.34	34.78	35.29	25.33	29.55	36.11	26.76	21.68	25.20	41.67	31.58	22.46	28.00	38.89	29.25	22.06	26.60
Lessened the frequency of dining out	15.38	13.51	11.76	12.71	26.09	29.41	22.67	25.00	22.22	21.13	17.48	19.20	30.56	22.37	17.39	20.80	26.39	21.77	17.44	20.00
Relied on school feeding	0.00	0.00	1.47	0.85	4.35	2.94	5.33	4.55	2.78	1.41	3.50	2.80	13.89	5.26	2.17	4.80	8.33	3.40	2.85	3.80
Bought food on credit	23.08	18.92	19.12	19.49	34.78	35.29	32.00	33.33	30.56	26.76	25.87	26.80	33.33	38.16	21.74	28.40	31.94	32.65	23.84	27.60
Second Most Severe																				
Shifted to cheaper food items	7.69	21.62	10.29	13.56	21.74	26.47	24.00	24.24	16.67	19.72	16.08	17.20	25.00	28.95	18.84	22.80	20.83	26.53	18.15	21.00
Ate less preferred food	7.69	18.92	10.29	12.71	21.74	20.59	21.33	21.21	16.67	23.94	17.48	19.20	25.00	25.00	16.67	20.40	20.83	22.45	16.37	18.80
Relied more on own produce	7.69	18.92	8.82	11.86	21.74	26.47	24.00	24.24	0.00	5.63	4.20	4.00	25.00	27.63	18.12	22.00	20.83	25.17	17.44	20.20
Consumed staple food only	7.69	13.51	10.29	11.02	21.74	26.47	20.00	21.97	16.67	19.72	15.38	16.80	25.00	25.00	15.22	19.60	20.83	22.45	15.30	18.20
Reduced portions	7.69	13.51	10.29	11.02	21.74	26.47	16.00	19.70	16.67	19.72	13.29	15.60	25.00	25.00	16.67	20.40	20.83	22.45	14.95	18.00
Skipped meals	0.00	8.11	1.47	3.39	0.00	2.94	6.67	4.55	0.00	0.00	0.00	0.00	5.56	5.26	0.00	2.40	2.78	5.44	2.14	3.20
Bought cooked food	0.00	2.70	0.00	0.85	0.00	2.94	4.00	3.03	0.00	2.82	2.10	2.00	11.11	3.95	3.62	4.80	5.56	3.40	2.85	3.40
Ate more ready-to-cook food (i.e. noodles)	7.69	8.11	1.47	4.24	8.70	5.88	10.67	9.09	8.33	7.04	6.29	6.80	19.44	11.84	8.70	11.20	13.89	9.52	7.47	9.00
Lessened the frequency of dining out	0.00	8.11	0.00	2.54	0.00	5.88	6.67	5.30	0.00	7.04	3.50	4.00	8.33	3.95	3.62	4.40	4.17	5.44	3.56	4.20
Relied on school feeding	0.00	0.00	1.47	0.85	0.00	0.00	2.67	1.52	0.00	0.00	2.10	1.20	5.56	0.00	0.00	0.80	2.78	0.00	1.07	1.00
Bought food on credit	0.00	5.41	1.47	2.54	0.00	5.88	12.00	8.33	0.00	5.63	6.99	5.60	8.33	10.53	4.35	6.80	4.17	8.16	5.69	6.20

Table 78a. Coping strategy (food related) for most severe shocks (man-made disaster) natural disaster) experienced, by treatment group, Region 2 (Cagayan Valley)

Coping Strategy	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
MAN MADE DISASTER																				
Most Severe																				
Shifted to cheaper food items							3	3			3	3		2	2	4		2	5	7
Ate less preferred food							3	3			3	3		2	4	6		2	7	9
Relied more on own produce							3	3			3	3		2	4	6		2	7	9
Consumed staple food only							4	3			3	3			1	1		0	5	5
Reduced portions			1				3	4			4	4		1	3	4		1	7	8
Skipped meals		1		1			3	3		1	3	4			1	1		1	4	5
Bought cooked food							2	2			2	2			3	3		0	5	5
Ate more ready-to-cook food (i.e. noodles)		1		1			3	3		1	3	4		1	3	4		2	6	8
Lessened the frequency of dining out							1	1			1	1			3	3		0	4	4
Relied on school feeding							1	1			1	1			1	1		0	2	2
Bought food on credit							2	2			2	2		1	2	3		1	4	5
Second Most Severe																				
Shifted to cheaper food items					1			1	1			1			1	1	1		1	2
Ate less preferred food					1			1	1			1			1	1	1		1	2
Relied more on own produce															1	1			1	1
Consumed staple food only					1			1	1			1			1	1	1		1	2
Reduced portions					1			1	1			1			1	1	1		1	2
Skipped meals					1			1	1			1			1	1	1		1	2
Bought cooked food															1	1			1	1
Ate more ready-to-cook food (i.e. noodles)															1	1			1	1
Lessened the frequency of dining out															1	1			1	1
Relied on school feeding															1	1			1	1
Bought food on credit															1	1			1	1

Table 78b. Coping strategy (food related) for most severe shocks (man made disaster) natural disaster) experienced, by treatment group, Region II (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
MAN MADE DISASTER																				
Most Severe																				
Shifted to cheaper food items						4.00	2.27				2.10	1.20		2.63	1.45	1.60		1.36	1.78	1.40
Ate less preferred food						4.00	2.27				2.10	1.20		2.63	2.90	2.40		1.36	2.49	1.80
Relied more on own produce						4.00	2.27				2.10	1.20		2.63	2.90	2.40		1.36	2.49	1.80
Consumed staple food only						5.33	2.27				2.10	1.20			0.72	0.40			1.78	1.00
Reduced portions				1.47		4.00	3.03				2.80	1.60		1.32	2.17	1.60		0.68	2.49	1.60
Skipped meals		2.70		0.85		4.00	2.27		1.41		2.10	1.60			0.72	0.40		0.68	1.42	1.00
Bought cooked food						2.67	1.52				1.40	0.80			2.17	1.20			1.78	1.00
Ate more ready-to-cook food (i.e. noodles)		2.70		0.85		4.00	2.27		1.41		2.10	1.60		1.32	2.17	1.60		1.36	2.14	1.60
Lessened the frequency of dining out						1.33	0.76				0.70	0.40			2.17	1.20			1.42	0.80
Relied on school feeding						1.33	0.76				0.70	0.40			0.72	0.40			0.71	0.40
Bought food on credit						2.67	1.52				1.40	0.80		1.32	1.45	1.20		0.68	1.42	1.00
Second Most Severe																				
Shifted to cheaper food items					4.35		0.76	2.78			0.40				0.72	0.40	1.39		0.36	0.40
Ate less preferred food					4.35		0.76	2.78			0.40				0.72	0.40	1.39		0.36	0.40
Relied more on own produce															0.72	0.40	0.00		0.36	0.20
Consumed staple food only					4.35		0.76	2.78			0.40				0.72	0.40	1.39		0.36	0.40
Reduced portions					4.35		0.76	2.78			0.40				0.72	0.40	1.39		0.36	0.40
Skipped meals					4.35		0.76	2.78			0.40				0.72	0.40	1.39		0.36	0.40
Bought cooked food															0.72	0.40			0.36	0.20
Ate more ready-to-cook food (i.e. noodles)															0.72	0.40			0.36	0.20
Lessened the frequency of dining out															0.72	0.40			0.36	0.20
Relied on school feeding															0.72	0.40			0.36	0.20
Bought food on credit															0.72	0.40			0.36	0.20

Non-Food Related Coping Strategies to Shocks

Tables 79a and 79b show the frequency and percentage distribution, respectively the non-food related coping strategy of respondents on disasters. The tables show that the highest coping strategy for most severe natural disaster shocks among corn farmers in Cagayan Valley Region is that they resorted to the limited use of electricity with 37.20 percent. There were 26.80 percent of the corn farmers who shifted to cheaper fuel source and 26.60 percent of them shifted to cheaper means of transportation, 24.60 percent bought second hand items, 22 percent resorted to limited use of cooking fuel, 19.80 percent conserved or had limited the use of water and 8.6 percent shifted to residential unit with cheaper rent.

As to the second most severe natural disaster, 13.40 percent of the corn farmers resorted to buying second-hand item, 11.40 percent limited the use of electricity and 11.20 percent shifted to cheaper means of transportation. Other coping strategies include stopped/postponed consuming products (14.40 percent), limited use of cooking fuel (6.80 percent).

It is observed that the corn farmers' coping strategy for both most severe and second most severe have similar trends. The findings imply that the corn farmers have been economizing on their consumption on fuel, water and electricity in times of disasters.

For the coping strategy on the most severe man-made disaster, one percent (5) corn farmers have to limit their use of electricity, 0.40 percent shifted to cheaper means of transportation.

On the second most severe disaster, the corn farmers coping strategy were distributed evenly at 0.20 percent each who shifted to cheaper means of transportation, shifted to cheaper fuel sources, limited use of cooking fuel, bought second-hand items and stopped/postponed consuming products/services.

Coping Strategy (Education)

Tables 80a and 80b show the education coping strategies of corn farmers in Cagayan Valley Region for the most severe and second most severe natural and man-made shocks they experienced.

For the most severe natural disaster shocks, it is observed that there were 80 farmers or 16 who shifted buying school supplies for their children followed by reducing allowance for children in school. Other education related coping strategies to most severe shocks including transferred their children from private to public schools, children in school who skipped classes (40.40 percent), postponed enrolment of children in school (3.60 percent) and have to withdraw children from school (2.80 percent).

For the education on the second most severe on natural disaster, 7.2 percent (36) of the corn farmers shifted to cheaper school supplies, 5.2 percent (26) corn farmers have reduced allowance for children in school, 1.2 percent (6) corn farmers have transferred their children from school. There were .80 percent (4) of the corn farmers postponed enrollment of children in school, .40 percent (2) have children in school who skipped classes.

Table 79a. Coping strategy (non -food) for most severe shocks experienced, by treatment group, Region 2 (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Shifted to cheaper means of transportation	4	7	13	24	9	9	17	35	13	16	30	59	12	25	37	74	25	41	67	133
Shifted to cheaper fuel sources	3	6	13	22	11	11	14	36	14	17	27	58	12	23	41	76	26	40	68	134
Limited use of cooking fuel	4	8	11	23	9	8	12	29	13	16	23	52	12	15	31	58	25	31	54	110
Limited use of electricity	5	11	18	34	11	15	30	56	16	26	48	90	18	35	43	96	34	61	91	186
Limited use of water	3	7	7	17	6	8	18	32	9	15	25	49	12	14	24	50	21	29	49	99
Shifted to residential unit with cheaper rent	2		3	5	4	2	8	14	6	2	11	19	8	4	12	24	14	6	23	43
Bought second-hand items	3	7	11	21	10	11	16	37	13	18	27	58	12	19	34	65	25	37	61	123
Stopped/ postponed consuming products/ services	1	5	6	12	6	9	20	35	7	14	26	47	11	23	32	66	18	37	58	113
Second Most Severe																				
Shifted to cheaper means of transportation	2	2	4	8	3	6	11	20	5	8	15	28	4	11	13	28	9	19	28	56
Shifted to cheaper fuel sources	1	3	4	8	2	6	8	16	3	9	12	24	4	9	16	29	7	18	28	53
Limited use of cooking fuel	2	4	1	7	1	3	6	10	3	7	7	17	5	3	9	17	8	10	16	34
Limited use of electricity		6	1	7	2	5	12	19	2	11	13	26	8	12	11	31	10	23	24	57
Limited use of water		4		4		3	9	12	0	7	9	16	5	4	5	14	5	11	14	30
Shifted to residential unit with cheaper rent			1	1		1	6	7	0	1	7	8	3	2	1	6	3	3	8	14
Bought second-hand items	1	3	5	9	4	8	11	23	5	11	16	32	8	11	16	36	13	22	32	67
Stopped/ postponed consuming products/ services		3	1	4	1	4	9	14	1	7	10	18	7	9	8	24	8	16	18	42
Man Made Disaster																				
Most Severe																				
Shifted to cheaper means of transportation							1	1			1	1			1	1			2	2
Shifted to cheaper fuel sources															1	1			1	1
Limited use of cooking fuel															1	1			1	1
Limited use of electricity		1		1			1	1		1	1	2		1	2	3		2	3	5
Limited use of water															1	1			1	1
Shifted to residential unit with cheaper rent																				
Bought second-hand items							1	1			1	1			1	1			2	2
Stopped/ postponed consuming products/ services							2	2			2	2							2	2
Second Most Severe																				
Shifted to cheaper means of transportation					1			1	1			1				1				1
Shifted to cheaper fuel sources					1			1	1			1				1				1
Limited use of cooking fuel					1			1	1			1				1				1
Bought second-hand items					1			1	1			1				1				1
Stopped/ postponed consuming products/ services																				

Table 79b. Coping strategy (non -food) for most severe shocks experienced, by treatment group, Region II (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Shifted to cheaper means of transportation	30.77	18.92	19.12	20.34	39.13	26.47	22.67	26.52	36.11	22.54	20.98	23.60	33.33	32.89	26.81	29.60	34.72	27.89	23.84	26.60
Shifted to cheaper fuel sources	23.08	16.22	19.12	18.64	47.83	32.35	18.67	27.27	38.89	23.94	18.88	23.20	33.33	30.26	29.71	30.40	36.11	27.21	24.20	26.80
Limited use of cooking fuel	30.77	21.62	16.18	19.49	39.13	23.53	16.00	21.97	36.11	22.54	16.08	20.80	33.33	19.74	22.46	23.20	34.72	21.09	19.22	22.00
Limited use of electricity	38.46	29.73	26.47	28.81	47.83	44.12	40.00	42.42	44.44	36.62	33.57	36.00	50.00	46.05	31.16	38.40	47.22	41.50	32.38	37.20
Limited use of water	23.08	18.92	10.29	14.41	26.09	23.53	24.00	24.24	25.00	21.13	17.48	19.60	33.33	18.42	17.39	20.00	29.17	19.73	17.44	19.80
Shifted to residential unit with cheaper rent	15.38		4.41	4.24	17.39	5.88	10.67	10.61	16.67	2.82	7.69	7.60	22.22	5.26	8.70	9.60	19.44	4.08	8.19	8.60
Bought second-hand items	23.08	18.92	16.18	17.80	43.48	32.35	21.33	28.03	36.11	25.35	18.88	23.20	33.33	25.00	24.64	26.00	34.72	25.17	21.71	24.60
Stopped/ postponed consuming products/ services	7.69	13.51	8.82	10.17	26.09	26.47	26.67	26.52	19.44	19.72	18.18	18.80	30.56	30.26	23.19	26.40	25.00	25.17	20.64	22.60
Second Most Severe																				
Shifted to cheaper means of transportation	15.38	5.41	5.88	6.78	13.04	17.65	14.67	15.15	13.89	11.27	10.49	11.20	11.11	14.47	9.42	11.20	12.50	12.93	9.96	11.20
Shifted to cheaper fuel sources	7.69	8.11	5.88	6.78	8.70	17.65	10.67	12.12	8.33	12.68	8.39	9.60	11.11	11.84	11.59	11.60	9.72	12.24	9.96	10.60
Limited use of cooking fuel	15.38	10.81	1.47	5.93	4.35	8.82	8.00	7.58	8.33	9.86	4.90	6.80	13.89	3.95	6.52	6.80	11.11	6.80	5.69	6.80
Limited use of electricity		16.22	1.47	5.93	8.70	14.71	16.00	14.39	5.56	15.49	9.09	10.40	22.22	15.79	7.97	12.40	13.89	15.65	8.54	11.40
Limited use of water		10.81		3.39		8.82	12.00	9.09	0.00	9.86	6.29	6.40	13.89	5.26	3.62	5.60	6.94	7.48	4.98	6.00
Shifted to residential unit with cheaper rent			1.47	0.85		2.94	8.00	5.30	0.00	1.41	4.90	3.20	8.33	2.63	0.72	2.40	4.17	2.04	2.85	2.80
Bought second-hand items	7.69	8.11	7.35	7.63	17.39	23.53	14.67	17.42	13.89	15.49	11.19	12.80	22.22	14.47	11.59	14.40	18.06	14.97	11.39	13.40
Stopped/ postponed consuming products/ services		8.11	1.47	3.39	4.35	11.76	12.00	10.61	2.78	9.86	6.99	7.20	19.44	11.84	5.80	9.60	11.11	10.88	6.41	8.40
Man Made Disaster																				
Most Severe																				
Shifted to cheaper means of transportation							1.33	0.76			0.70	0.40			0.72	0.40			0.71	0.40
Shifted to cheaper fuel sources															0.72	0.40			0.36	0.20
Limited use of cooking fuel															0.72	0.40			0.36	0.20
Limited use of electricity		2.70		0.85			1.33	0.76		1.41	0.70	0.80		1.32	1.45	1.20		1.36	1.07	1.00
Limited use of water															0.72	0.40			0.36	0.20
Shifted to residential unit with cheaper rent																				
Bought second-hand items							1.33	0.76			0.70	0.40			0.72	0.40			0.71	0.40
Stopped/ postponed consuming products/ services							2.67	1.52			1.40	0.80							0.71	0.40
Second Most Severe																				
Shifted to cheaper means of transportation					4.35			0.76	2.78			0.40					1.39			0.20
Shifted to cheaper fuel sources					4.35			0.76	2.78			0.40					1.39			0.20
Limited use of cooking fuel					4.35			0.76	2.78			0.40					1.39			0.20
Bought second-hand items					4.35			0.76	2.78			0.40					1.39			0.20
Stopped/ postponed consuming products/ services																				

Table 80a. Coping strategy (education) for most severe shocks experienced, by treatment group, Region 2 (Cagayan Valley)

Coping Strategy	With Insurance																Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																								
Most Severe																								
Transferred children from private to public school	3		3	6	2	1	3	6	5	1	6	12	5	1	6	12	10	2	12	24				
Transferred children to another private school with cheaper tuition							6	6		1	6	7		1	6	7		2	12	14				
Withdrew children from school	1		1	2			5	7		3	6	9		3	6	9		6	12	18				
Postponed enrollment of children in school		1	1	2		2	5	7																
Children in school skipped classes	1	2	1	4		2	5	7	1	4	6	11	1	4	6	11	2	8	12	22				
Shifted to cheaper school supplies	3	6	9	18	7	6	9	22	10	12	18	40	10	12	18	40	20	24	36	80				
Reduced allowance for children in school	1	6	6	13	2	8	13	23	3	14	19	36	3	14	19	36	6	28	38	72				
Second Most Severe																								
Transferred children from private to public school							3	3	0	0	3	3	0	0	3	3	0	0	6	6				
Transferred children to another private school with cheaper tuition							0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Withdrew children from school					1		2	3	1	0	2	3	1	0	2	3	2	0	4	6				
Postponed enrollment of children in school					1		1	2	1	0	1	2	1	0	1	2	2	0	2	4				
Children in school skipped classes		1		1			0	0	1	0	1	1	0	1	0	1	0	2	0	2				
Shifted to cheaper school supplies	1	2	2	5	2	5	6	13	3	7	8	18	3	7	8	18	6	14	16	36				
Reduced allowance for children in school		2	1	3		3	7	10	0	5	8	13	0	5	8	13	0	10	16	26				
Man Made Disaster																								
Most Severe																								
Shifted to cheaper school supplies							1	1	0	0	1	1	0	0	1	1	0	0	2	2				
Reduced allowance for children in school							2	2	0	0	2	2	0	0	2	2	0	0	4	4				
Second Most Severe																								
Children in school skipped classes							0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Shifted to cheaper school supplies							0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced allowance for children in school							0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Table 80b. Coping strategy (education) for most severe shocks experienced, by treatment group, Region II (Cagayan Valley)

Table 6.6. Coping Strategy (Education) for Most Severe Shock Experienced, by Treatment Group, Region II (Cagayan Valley)																				
Coping Strategy	With Insurance								Without Insurance								Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Transferred children from private to public school	23.08	0.00	4.41	5.08	8.70	2.94	4.00	4.55	13.89	1.41	4.20	4.80	13.89	1.32	4.35	4.80	13.89	1.36	4.27	4.80
Transferred children to another private school with cheaper tuition																				
Withdrew children from school		2.70		0.85			8.00	4.55	0.00	1.41	4.20	2.80		1.32	4.35	2.80		1.36	4.27	2.80
Postponed enrollment of children in school		2.70	1.47	1.69		5.88	6.67	5.30	0.00	4.23	4.20	3.60		3.95	4.35	3.60		4.08	4.27	3.60
Children in school skipped classes	7.69	5.41	1.47	3.39		5.88	6.67	5.30	2.78	5.63	4.20	4.40	2.78	5.26	4.35	4.40	2.78	5.44	4.27	4.40
Shifted to cheaper school supplies	23.08	16.22	13.24	15.25	30.43	17.65	12.00	16.67	27.78	16.90	12.59	16.00	27.78	15.79	13.04	16.00	27.78	16.33	12.81	16.00
Reduced allowance for children in school	7.69	16.22	8.82	11.02	8.70	23.53	17.33	17.42	8.33	19.72	13.29	14.40	8.33	18.42	13.77	14.40	8.33	19.05	13.52	14.40
Second Most Severe																				
Transferred children from private to public school							4.00	2.27			2.10	1.20			2.17	1.20			2.14	1.20
Transferred children to another private school with cheaper tuition																				
Withdrew children from school					4.35		2.67	2.27	2.78		1.40	1.20	2.78		1.45	1.20	2.78		1.42	1.20
Postponed enrollment of children in school					4.35		1.33	1.52	2.78		0.70	0.80	2.78		0.72	0.80	2.78		0.71	0.80
Children in school skipped classes		2.70		0.85						1.41		0.40		1.32		0.40		1.36		0.40
Shifted to cheaper school supplies	7.69	5.41	2.94	4.24	8.70	14.71	8.00	9.85	8.33	9.86	5.59	7.20	8.33	9.21	5.80	7.20	8.33	9.52	5.69	7.20
Reduced allowance for children in school		5.41	1.47	2.54		8.82	9.33	7.58		7.04	5.59	5.20		6.58	5.80	5.20		6.80	5.69	5.20
Man Made Disaster																				
Most Severe																				
Shifted to cheaper school supplies							1.33	0.76			0.70	0.40			0.72	0.40			0.71	0.40
Reduced allowance for children in school							2.67	1.52			1.40	0.80			1.45	0.80			1.42	0.80
Second Most Severe																				
Children in school skipped classes																				
Shifted to cheaper school supplies																				
Reduced allowance for children in school																				

It could be gleaned from the table that the coping strategies for most severe and second most severe natural disaster have the same trends except for the least strategy. On the most severe the least coping strategy is the withdrawal of children in school while on the second most severe, the least strategy is the children in school skipped classes.

For the most severe man-made disaster, 0.80 percent of the corn farmers resorted to reduced allowance for their children in school while 0.40 percent shifted to cheaper school supplies.

These observations imply that in times of disaster, because the corn farmers value education, they don't let their children stop from school as their coping strategy but more on changing the provision of school supplies and allowance of the children.

Health Related Coping Strategy for Shocks

Tables 81a and 81b shows that the health related coping strategies for shocks among corn farmers have the same sequencing for both most severe and second most severe disaster. The highest percentage health related coping strategy of corn farmers is the shifting to generic and cheaper drugs with 43.60 percent of the respondents. This trend is the same for all the treatment groups. Shifted to cheaper alternative medicine, shifted to self-medication, reduced used of health products/services and the least strategy adopted was the shifting to government health centers and hospitals.

To the health-related coping strategy of the farmers for the most severe man-made disaster, there were 1.20 percent resorted to use of generic and cheaper drugs, shifted to cheaper alternative medicine and self-medication as well as the shifting to government health centers and hospitals. The rest is the less than one percent.

For the coping strategy on the second most severe man-made disaster are: shifted to generic and cheaper drugs, shifted to cheaper alternative medicine, shifted to self-medication and shifted to government health centers and hospitals with 1.20 percent each. There were 0.80 percent each of the corn farmers who reduced the use of health products/services and stopped or postponed seeking treatment or medication.

It is observed from the above findings that the corn farmers value health however, in times of disaster they resort to remedies like making use of generic and cheaper medicines, self-medication and the least strategy used in the most severe and second most severe natural disaster is shifted to government health center/hospitals.

The trend of the above findings is the same for the with and without insurance.

Coping Strategy (Savings, Assets and Credits)

Tables 82a and 82b shows the frequency and percentage distraction of the savings, assets, credit related, coping strategies to most severe and second most severe shocks experienced by farmers. Table shows that the common coping strategy for the most severe shocks experienced by farmers in Cagayan Valley Region is the spending or used of savings with 41.00 percent. This seems that one of their reasons for savings is to answer for emergencies or in times of financial difficulties like calamities.

Table 81a. Coping strategy (health) for most severe shocks experienced, by treatment group by farm size, Region 2 (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Shifted to government health centers and hospitals	3	6	9	18	6	7	14	27	9	13	23	45	7	15	24	46	16	28	47	91
Stopped or postponed seeking treatment or medication	3	6	8	17	4	6	18	28	7	12	26	45	9	21	25	55	16	33	51	100
Reduced use of health products/ services	3	8	10	21	6	10	16	32	9	18	26	53	10	23	27	60	19	41	53	113
Shifted to self-medication	4	10	15	29	10	14	22	46	14	24	37	75	11	23	35	69	25	47	72	144
Shifted to cheaper alternative medicine	4	12	14	30	12	18	26	56	16	30	40	86	12	29	46	87	28	59	86	173
Shifted to generic and cheaper drugs	5	14	18	37	14	21	31	66	19	35	49	104	17	38	55	110	36	73	104	213
Second Most Severe																				
Shifted to government health centers and hospitals	1	3	1	5		2	7	9	1	5	8	14	1	5	4	10	2	10	12	24
Stopped or postponed seeking treatment or medication		3	1	4		2	8	10		5	9	14	2	5	4	11	2	10	13	25
Reduced use of health products/ services		3	1	4		2	7	9		5	8	13	3	5	4	12	3	10	12	25
Shifted to self-medication		4	1	5		3	11	14		7	12	19	3	5	7	15	3	12	19	34
Shifted to cheaper alternative medicine		4	1	5	1	4	15	20	1	8	16	25	3	8	10	21	4	16	26	46
Shifted to generic and cheaper drugs	1	5	5	11	3	8	16	27	4	13	21	38	3	13	17	33	7	26	38	71
Man Made Disaster																				
Most Severe																				
Shifted to government health centers and hospitals							2	2			2	2		1	3	4		1	5	6
Stopped or postponed seeking treatment or medication							2	2			2	2		1	1	2		1	3	4
Reduced use of health products/ services							2	2			2	2		1	1	2		1	3	4
Shifted to self-medication							2	2			2	2		1	3	4		1	5	6
Shifted to cheaper alternative medicine							2	2			2	2		1	3	4		1	5	6
Shifted to generic and cheaper drugs							2	2			2	2		1	3	4		1	5	6
Second Most Severe																				
Shifted to government health centers and hospitals															2	2			2	2
Stopped or postponed seeking treatment or medication															1	1			1	1
Reduced use of health products/ services															1	1			1	1
Shifted to self-medication															2	2			2	2
Shifted to cheaper alternative medicine															2	2			2	2
Shifted to generic and cheaper drugs					1			1	1			1			2	2	1		2	3

Table 81b. Coping strategy (health) for most severe shocks experienced, by treatment group, Region II (Cagayan Valley)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Shifted to government health centers and hospitals	23.08	16.22	13.24	15.25	26.09	20.59	18.67	20.45	25.00	18.31	16.08	18.00	19.44	19.74	17.39	18.40	22.22	19.05	16.73	18.20
Stopped or postponed seeking treatment or medication	23.08	16.22	11.76	14.41	17.39	17.65	24.00	21.21	19.44	16.90	18.18	18.00	25.00	27.63	18.12	22.00	22.22	22.45	18.15	20.00
Reduced use of health products/ services	23.08	21.62	14.71	17.80	26.09	29.41	21.33	24.24	25.00	25.35	18.18	21.20	27.78	30.26	19.57	24.00	26.39	27.89	18.86	22.60
Shifted to self-medication	30.77	27.03	22.06	24.58	43.48	41.18	29.33	34.85	38.89	33.80	25.87	30.00	30.56	30.26	25.36	27.60	34.72	31.97	25.62	28.80
Shifted to cheaper alternative medicine	30.77	32.43	20.59	25.42	52.17	52.94	34.67	42.42	44.44	42.25	27.97	34.40	33.33	38.16	33.33	34.80	38.89	40.14	30.60	34.60
Shifted to generic and cheaper drugs	38.46	37.84	26.47	31.36	60.87	61.76	41.33	50.00	52.78	49.30	34.27	41.60	47.22	50.00	39.86	44.00	50.00	49.66	37.01	42.60
Second Most Severe																				
Shifted to government health centers and hospitals	7.69	8.11	1.47	4.24		5.88	9.33	6.82	2.78	7.04	5.59	5.60	2.78	6.58	2.90	4.00	2.78	6.80	4.27	4.80
Stopped or postponed seeking treatment or medication		8.11	1.47	3.39		5.88	10.67	7.58		7.04	6.29	5.60	5.56	6.58	2.90	4.40	2.78	6.80	4.63	5.00
Reduced use of health products/ services		8.11	1.47	3.39		5.88	9.33	6.82		7.04	5.59	5.20	8.33	6.58	2.90	4.80	4.17	6.80	4.27	5.00
Shifted to self-medication		10.81	1.47	4.24		8.82	14.67	10.61		9.86	8.39	7.60	8.33	6.58	5.07	6.00	4.17	8.16	6.76	6.80
Shifted to cheaper alternative medicine		10.81	1.47	4.24	4.35	11.76	20.00	15.15	2.78	11.27	11.19	10.00	8.33	10.53	7.25	8.40	5.56	10.88	9.25	9.20
Shifted to generic and cheaper drugs	7.69	13.51	7.35	9.32	13.04	23.53	21.33	20.45	11.11	18.31	14.69	15.20	8.33	17.11	12.32	13.20	9.72	17.69	13.52	14.20
Man Made Disaster																				
Most Severe																				
Shifted to government health centers and hospitals							2.67	1.52			1.40	0.80		1.32	2.17	1.60		0.68	1.78	1.20
Stopped or postponed seeking treatment or medication							2.67	1.52			1.40	0.80		1.32	0.72	0.80		0.68	1.07	0.80
Reduced use of health products/ services							2.67	1.52			1.40	0.80		1.32	0.72	0.80		0.68	1.07	0.80
Shifted to self-medication							2.67	1.52			1.40	0.80		1.32	2.17	1.60		0.68	1.78	1.20
Shifted to cheaper alternative medicine							2.67	1.52			1.40	0.80		1.32	2.17	1.60		0.68	1.78	1.20
Shifted to generic and cheaper drugs							2.67	1.52			1.40	0.80		1.32	2.17	1.60		0.68	1.78	1.20
Second Most Severe																				
Shifted to government health centers and hospitals															1.45	0.80			0.71	0.40
Stopped or postponed seeking treatment or medication															0.72	0.40			0.36	0.20
Reduced use of health products/ services															0.72	0.40			0.36	0.20
Shifted to self-medication															1.45	0.80			0.71	0.40
Shifted to cheaper alternative medicine															1.45	0.80			0.71	0.40
Shifted to generic and cheaper drugs					4.35				0.76	2.78			0.40		1.45	0.80	1.39		0.71	0.60

Table 82a. Coping strategy (savings, assets and credit) for most severe shocks experienced, by treatment group, Region 2-Cagayan Valley

Coping Strategy	With Insurance				Without Insurance				With and Without Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Spent savings	4	11	20	35	8	22	32	62	12	33	52	97	17	33	58	108	29	66	110	205
Pawned assets			1	1	1	1	4	6	1	1	5	7		1	3	4	1	2	8	11
House			1	1			1	1			1	1							1	1
Agricultural land			1	1	1		3	4	1		4	5		1	1	2	1	1	5	7
Jewelry						1		1		1		1						1		1
Mobile phone																				
Others															2	2			2	2
Sold assets	1		3	4	1	1	2	4	2	1	5	8	2		1	3	4	1	6	11
House			1	1							1	1							1	1
Agricultural land			2	2			1	1			3	3	1			1	1		3	4
Poultry																				
Livestock					1	1		2	1	1		2					1	1		2
Jewelry	1			1					1			1					1			1
Mobile phone																				
Others							1	1			1	1	1		1	2	1		2	3
Borrowed money	3	13	18	34	9	15	29	53	12	28	47	87	16	33	55	104	28	61	102	191
Private bank		1		1			1	1		1	1	2	1	1		2	1	2	1	4
Government bank			1	1							1	1			2	2			3	3
Friend		1	1	2		2	2	4		3	3	6		1	4	5		4	7	11
Neighbor	1	1	2	4	3	1	3	7	4	2	5	11	2	2	2	6	6	4	7	17
Relative	1	5	10	16	5	9	16	30	6	14	26	46	11	24	36	71	17	38	62	117
Cooperative			1	1		2	4	6		2	5	7		1	5	6		3	10	13
Loan shark (5-6)			1	1							1	1							1	1
Others	1	5	2	8	1	1	3	5	2	6	5	13	2	4	6	12	4	10	11	25
Second Most Severe																				
Spent savings	2	6	5	13	3	8	14	25	5	14	19	38	6	13	18	37	11	27	37	75
Pawned assets			1	1	1	1		2	1	1	1	3		1		1	1	2	1	4
House																				
Agricultural land			1	1	1			1	1		1	2		1		1	1	1	1	3
Jewelry						1		1		1		1					1			1
Mobile phone																				
Others																				
Sold assets			2	2							2	2	1			1	1		2	3
House																				
Agricultural land			2	2							2	2							2	2
Others													1			1	1			1
Borrowed money	1	6	1	8	1	3	9	13	2	9	10	21	4	8	15	27	6	17	25	48

Coping Strategy	With Insurance				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Private bank												
Government bank												
Friend		1		1						1	1	2
Neighbor							1	1		1	1	2
Relative	1	3		5	1	1	6	8	2	4	6	12
Cooperative						2	1	3		2	1	3
Loan shark (5-6)			1	1							1	1
Others		2		2			1	1		2	1	3
Man Made Disaster												
Most Severe												
Spent savings		1		1			3	3		1	1	2
Borrowed money	1		1	2			2	2		1	2	3
Private bank												
Government bank												
Friend							1	1				1
Neighbor												
Relative							1	1				1
Cooperative											1	1
Others			2							1	1	2
Second Most Severe												
Spent savings					1			1	1			1
Pawned assets					1			1	1			1
House												
Agricultural land					1			1	1			1
Poultry												
Others												
Borrowed money											1	1
Cooperative											1	1

Table 82b. Coping strategy (savings, assets and credit) for most severe shocks experienced, by treatment group, Region II-Cagayan Valley

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Spent savings	30.77	29.73	29.41	29.66	34.78	64.71	42.67	46.97	33.33	46.48	36.36	38.8	47.22	43.42	42.029	43.2	40.28	44.9	39.15	41
Pawned assets			1.47	0.85	4.35	2.94	5.33	4.55	2.78	1.41	3.50	2.80		1.32	2.17	1.60	1.39	1.36	2.85	2.20
House			1.47	0.85			1.33	0.76			0.70	0.40							0.36	0.20
Agricultural land			1.47	0.85	4.35		4.00	3.03	2.78		2.80	2.00		1.32	0.72	0.80	1.39	0.68	1.78	1.40
Jewelry						2.94		0.76		1.41		0.40						0.68		0.20
Mobile phone															1.45	0.80			0.71	0.40
Others															0.72	1.20	5.56	0.68	2.14	2.20
Sold assets	7.69		4.41	3.39	4.35	2.94	2.67	3.03	5.56	1.41	3.50	3.20	5.56		0.72	1.20	5.56	0.68	2.14	2.20
House			1.47	0.85							0.70	0.40	0.00						0.36	0.20
Agricultural land			2.94	1.69			1.33	0.76			2.10	1.20	2.78			0.40	1.39		1.07	0.80
Poultry																	0.00			
Livestock					4.35	2.94		1.52	2.78	1.41		0.80					1.39	0.68		0.40
Jewelry	7.69			0.85					2.78			0.40					1.39			0.20
Mobile phone																				
Others							1.33	0.76			0.70	0.40	2.78		0.72	0.80	1.39		0.71	0.60
Borrowed money	23.08	35.14	26.47	28.81	39.13	44.12	38.67	40.15	33.33	39.44	32.87	34.80	44.44	43.42	39.86	41.60	38.89	41.50	36.30	38.20
Private bank		2.70		0.85			1.33	0.76		1.41	0.70	0.80	2.78	1.32	0.00	0.80	1.39	1.36	0.36	0.80
Government bank			1.47	0.85							0.70	0.40			1.45	0.80			1.07	0.60
Friend		2.70	1.47	1.69		5.88	2.67	3.03		4.23	2.10	2.40		1.32	2.90	2.00		2.72	2.49	2.20
Neighbor	7.69	2.70	2.94	3.39	13.04	2.94	4.00	5.30	11.11	2.82	3.50	4.40	5.56	2.63	1.45	2.40	8.33	2.72	2.49	3.40
Relative	7.69	13.51	14.71	13.56	21.74	26.47	21.33	22.73	16.67	19.72	18.18	18.40	30.56	31.58	26.09	28.40	23.61	25.85	22.06	23.40
Cooperative			1.47	0.85		5.88	5.33	4.55		2.82	3.50	2.80		1.32	3.62	2.40		2.04	3.56	2.60
Loan shark (5-6)			1.47	0.85							0.70	0.40							0.36	0.20
Others	7.69	13.51	2.94	6.78	4.35	2.94	4.00	3.79	5.56	8.45	3.50	5.20	5.56	5.26	4.35	4.80	5.56	6.80	3.91	5.00
Second Most Severe																				
Spent savings	15.38	16.22	7.35	11.02	13.04	23.53	18.67	18.94	13.89	19.72	13.29	15.20	16.67	17.11	13.04	14.80	15.28	18.37	13.17	15.00
Pawned assets			1.47	0.85	4.35	2.94		1.52	2.78	1.41	0.70	1.20	0.00	1.32		0.40	1.39	1.36	0.36	0.80
House																				
Agricultural land			1.47	0.85	4.35			0.76	2.78		0.70	0.80		1.32		0.40	1.39	0.68	0.36	0.60
Jewelry						2.94		0.76		1.41		0.40						0.68		0.20
Mobile phone																				
Others																				
Sold assets			2.94	1.69							1.40	0.80	2.78			0.40	1.39		0.71	0.60
House																				
Agricultural land			2.94	1.69							1.40	0.80							0.71	0.40
Others													2.78		0.40	1.39				0.20
Borrowed money	7.69	16.22	1.47	6.78	4.35	8.82	12.00	9.85	5.56	12.68	6.99	8.40	11.11	10.53	10.87	10.80	8.33	11.56	8.90	9.60

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Private bank																				
Government bank																			0.36	0.20
Friend		2.70		0.85						1.41		0.40		1.32	0.72	0.80		1.36	0.36	0.60
Neighbor							1.33	0.76			0.70	0.40		1.32		0.40		0.68	0.36	0.40
Relative	7.69	8.11		4.24	4.35	2.94	8.00	6.06	5.56	5.63	4.20	4.80	11.11	6.58	5.07	6.40	8.33	6.12	4.63	5.60
Cooperative						5.88	1.33	2.27		2.82	0.70	1.20		1.32	2.90	2.00		2.04	1.78	1.60
Loan shark (5-6)			1.47	0.85							0.70	0.40							0.36	0.20
Others		5.41		1.69			1.33	0.76		2.82	0.70	1.20			2.17	1.20		1.36	1.42	1.20
Man Made Disaster																				
Most Severe																				
Spent savings		2.70		0.85			4.00	2.27		1.41	2.10	1.60		1.32	0.72	0.80		1.36	1.42	1.20
Borrowed money	7.69		1.47	1.69			2.67	1.52			1.40	0.80		1.32	1.45	1.20		0.68	1.42	1.00
Private bank																				
Government bank																				
Friend							1.33	0.76			0.70	0.40							0.36	0.20
Neighbor																				
Relative							1.33	0.76			0.70	0.40							0.36	0.20
Cooperative															0.72	0.40			0.36	0.20
Others				1.69										1.32	0.72	0.80			0.36	0.20
Second Most Severe																				
Spent savings					4.35			0.76	2.78			0.40					1.39			0.20
Pawned assets					4.35			0.76	2.78			0.40					1.39			0.20
House					0.00			0.00	0.00			0.00								
Agricultural land					4.35			0.76	2.78			0.40					1.39			0.20
Poultry																				
Others																				
Borrowed money															0.72	0.40			0.36	0.20
Cooperative															0.72	0.40			0.36	0.20

The second coping strategy is to borrow money (38.20) from different sources but more from relatives and the least is to sell assets with only 2.20 percent. The same trend is observed in all treatment groups, with and without insurance. These findings indicate that coping strategies in times of disaster is the same. Although there is a higher percentage of the with insurance group (41.60 percent) and the least is the farmers group with insurance with claims (28.21 percent).

There were only 2.20 percent of the farmers who pawned asset as their coping strategy on the shocks they experienced. This indicates that farmers treasure their assets like land and thus it is difficult for them to let it go since this is the source of their livelihood. This can also be explained by the fact that almost one-half of the respondents do not own the land they are tilling.

It can also be gleaned from the above findings that farmers do not practice borrowing from credit sources that require collaterals like assets.

For the coping strategies on the second most severe disaster, the same trend is observed as above: use/spent on savings, pawned assets, sold assets, and borrow money.

For the second most severe on man-made disaster, Table 82b shows that only 1.20 percent and below practiced spend savings, pawn or sell assets and borrow money as their coping strategy.

Coping Strategy (Receipt Assistance) for Shocks Experienced

Tables 83a and 83b show the receipt of assistance as coping strategy for most severe and second most severe natural and manmade shocks experienced by corn farmers in Cagayan Valley. The highest coping strategy for the most severe natural disaster is the receipt of assistance from the government with 29 percent followed by financial support from relatives with 3.20 percent. It is observed that this trend is the same for all treatment groups.

For the second most severe natural disaster, the trend is the same as that for the most severe but lower number of responses as follows: received assistance from the government (9.6 percent), receipt of financial support from relatives (0.6percent) and others. Only material support from relatives and financial support from friends and neighbors for the coping strategies for man-made shocks.

Since there are only few experience, man-made disaster, there are four corn farmers who responded as to their coping strategy which are: received assistance from the government and another two corn farmers received financial support from relatives. In general, whatever is the form of shocks, it definitely affects corn farmers' household. But financial assistance and material support is being extended to them by government, private sectors, neighborhood, friends and relatives- all part of Filipino community.

Above findings indicate that corn farmers receive assistance from the government during natural disaster.

Table 83a. Coping strategy (receipt of assistance) for most severe shocks experienced, by treatment group, Region 2 - Cagayan Valley

Coping Strategy	With Insurance																Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims															
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																								
Most Severe																								
Received financial support from relatives		3	1	4	1	1	3	5	1	4	4	9		5	2	7	1	9	6	16				
Received other material support from relatives		2	2	4	1			1	1	2	2	5		3	1	4	1	5	3	9				
Received financial support from friends/ neighbors		1		1	1		1	2	1	1	1	3		1	2	3	1	2	3	6				
Received other material support from friends/neighbors		2	1	3	1			1	1	2	1	4		1	1	2	1	3	2	6				
Received assistance from the government	2	9	11	22	8	13	25	46	10	22	36	68	11	28	38	77	21	50	74	145				
Received assistance from the private sector		1	3	4			2	2		1	5	6	1	1	1	3	1	2	6	9				
Second Most Severe																								
Received financial support from relatives		2		2		1	1	2		3	1	4		3	1	4		6	2	8				
Received other material support from relatives			1	1	1			1			1	1		2		2		2	1	3				
Received financial support from friends/ neighbors														2		2		2		2				
Received other material support from friends/neighbors									1			1		3	1	4	1	3	1	5				
Received assistance from the government	1	4	1	6	1	4	10	15	2	8	11	21	4	9	14	27	6	17	25	48				
Received assistance from the private sector			1	1		1	1	2		1	2	3						1	2	3				
Man Made Disaster																								
Most Severe																								
Received financial support from relatives											2	2												
Received other material support from relatives																								
Received financial support from friends/ neighbors																								
Received other material support from friends/neighbors																								
Received assistance from the government							2	2			2	2								2				2
Received assistance from the private sector																								

Table 83b. Percent distribution of coping strategy (receipt of assistance) for most severe shocks experienced, by treatment group, Region II- Cagayan Valley

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Received financial support from relatives		8.11	1.47	3.39	4.35	2.94	4.00	3.79	2.78	5.63	2.80	3.60		6.58	1.45	2.80	1.39	6.12	2.14	3.20
Received other material support from relatives		5.41	2.94	3.39	4.35		0.00	0.76	2.78	2.82	1.40	2.00		3.95	0.72	1.60	1.39	3.40	1.07	1.80
Received financial support from friends/ neighbors		2.70		0.85	4.35		1.33	1.52	2.78	1.41	0.70	1.20		1.32	1.45	1.20	1.39	1.36	1.07	1.20
Received other material support from friends/neighbors		5.41	1.47	2.54	4.35	0.00	0.00	0.76	2.78	2.82	0.70	1.60		1.32	0.72	0.80	1.39	2.04	0.71	1.20
Received assistance from the government	15.38	24.32	16.18	18.64	34.78	38.24	33.33	34.85	27.78	30.99	25.17	27.20	30.56	36.84	27.54	30.80	29.17	34.01	26.33	29.00
Received assistance from the private sector		2.70	4.41	3.39		0.00	2.67	1.52	0.00	1.41	3.50	2.40	2.78	1.32	0.72	1.20	1.39	1.36	2.14	1.80
Second Most Severe																				
Received financial support from relatives		5.41	0.00	1.69		2.94	1.33	1.52	0.00	4.23	0.70	1.60		3.95	0.72	1.60		4.08	0.71	1.60
Received other material support from relatives		0.00	1.47	0.85	4.35			0.76			0.70	0.40		2.63	0.00	0.80		1.36	0.36	0.60
Received financial support from friends/ neighbors											0.00	0.00		2.63	0.00	0.80		1.36	0.00	0.40
Received other material support from friends/neighbors									2.78		0.00	0.40		3.95	0.72	1.60	1.39	2.04	0.36	1.00
Received assistance from the government	7.69	10.81	1.47	5.08	4.35	11.76	13.33	11.36	5.56	11.27	7.69	8.40	11.11	11.84	10.14	10.80	8.33	11.56	8.90	9.60
Received assistance from the private sector	0.00	0.00	1.47	0.85	0.00	2.94	1.33	1.52	0.00	1.41	1.40	1.20	0.00	0.00	0.00	0.00	0.00	0.68	0.71	0.60
Man Made Disaster																				
Most Severe																				
Received financial support from relatives											1.40	0.80								
Received other material support from relatives																				
Received financial support from friends/ neighbors																				
Received other material support from friends/neighbors																				
Received assistance from the government							2.67	1.52			1.40	0.80							0.71	0.40
Received assistance from the private sector																				

Coping Strategy (Additional Sources of Income)

Tables 84a and 84b show the frequency and percentage distribution of coping strategy for both natural and man-made shocks among corn farmers in Cagayan Valley Region. For the most severe natural disaster, 38 (7.6 percent) corn farmers have household member who worked for more than one paid job; 15 (3.0 percent) sought additional job; and 11 (2.2 percent) have household member engaged in entrepreneurial activity as additional job. There are few who have household member previously not working went to work, household member took on lower skilled job, household member sought employment overseas and engaged in hazardous job.

For the second most severe natural disaster, the highest is that household member of the farmers worked more than one paid job, there were less than five percent responded for other coping strategies.

Comparing with other coping strategies, it is observed that there is lower percentage on finding additional source of income than the other strategies. This maybe because the occurrence of disasters is not long term and finding additional source of income may take longer

Other coping strategies such as demographic Natural-related are shown in table 85. For the most severe natural disaster, 80 corn farmers worked overtime as their coping strategy, followed by 30 corn farmers adapted by means of members from other households moved in to cut expenses while. For the second most severe shock, working overtime is the highest percent of response as coping strategy.

For the most severe, man-made disaster, there is one corn farmer who worked overtime and another one corn farmer who transferred to temporary housing or evacuation center.

Current Condition Compare to Two Years Ago

The farmers were asked to compare the present quality of life (at time of the interview) to how it was two years ago (October 2013). The results are presented in table 86. Majority 63.60% of the corn farmers claimed that the quality of their life is the same as two years ago, 12.60 percent claimed is better now and 23.80 percent claimed it is worse now. This shows that with the various coping strategy used by corn farmers, they also vary in their current conditions as compared to two years ago. It could be gleaned that at least majority claimed that they have the same conditions as before than better now and worse now.

Table 84a. Coping strategy (additional sources of income) for most severe shocks experienced, by treatment group, Region 2 (Cagayan)

Coping Strategy	With Insurance																Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance							
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Household member sought additional job						1	4	5		1	4	5	1	5	4	10	1	6	8	15
Household member worked more than one paid job	1			1	4	3	5	12	4	4	5	13	5	8	12	25	9	12	17	38
Household member engaged in entrepreneurial activity as additional job	2	1	3				3	3		2	4	6	1	1	3	5	1	3	7	11
Household member previously not working went to work	1			1			1	1		1	1	2	1	2	3	5	1	3	1	5
Household member sought employment overseas			1	1							1	1			2	2			3	3
Household member took on lower skilled job	2			2	1			1	1	2		3			2	2	1	2	2	5
Household member engaged in hazardous job	1			1						1		1						1		1
Second Most Severe																				
Household member sought additional job	1			1			2	3	1	1	2	4	1	4	2	7	2	5	4	11
Household member worked more than one paid job					3	5	3	11	3	5	3	11	1	7	7	15	4	12	10	26
Household member engaged in entrepreneurial activity as additional job							2	2			2	2			1	1			3	3
Household member previously not working went to work							1	1			1	1							1	1
Household member sought employment overseas														1		1		1		1
Household member took on lower skilled job	1			1						1		1			1	1		1	1	2
Household member engaged in hazardous job																				
Man Made Disaster																				
Second Most Severe																				
Household member sought additional job																				
Household member worked more than one paid job					1			1	1			1					1			1

Table 84b. Coping strategy (additional sources of income) for most severe shocks experienced, by treatment group, Region II (Cagayan)

Coping Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Household member sought additional job		0.00	0.00	0.00	0.00	2.94	5.33	3.79	0.00	1.41	2.80	2.00	2.78	6.58	2.90	4.00	1.39	4.08	2.85	3.00
Household member worked more than one paid job	2.70	0.00	0.85	17.39	8.82	6.67	9.09	11.11	5.63	3.50	5.20	13.89	10.53	8.70	10.00	12.50	8.16	6.05	7.60	
Household member engaged in entrepreneurial activity as additional job	5.41	1.47	2.54			4.00	2.27	0.00	2.82	2.80	2.40	2.78	1.32	2.17	2.00	1.39	2.04	2.49	2.20	
Household member previously not working went to work	2.70	0.00	0.85			1.33	0.76	0.00	1.41	0.70	0.80	2.78	2.63	2.17	2.00	1.39	2.04	0.36	1.00	
Household member sought employment overseas	0.00	1.47	0.85			0.00	0.00	0.00	0.00	0.70	0.40	0.00	0.00	1.45	0.80	0.00	0.00	1.07	0.60	
Household member took on lower skilled job	5.41		1.69	4.35		0.00	0.76	2.78	2.82	0.00	1.20	0.00	0.00	1.45	0.80	1.39	1.36	0.71	1.00	
Household member engaged in hazardous job	2.70		0.85	0.00		0.00	0.00	0.00	1.41	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.20	
Second Most Severe																				
Household member sought additional job	2.70		0.85	4.35		2.67	2.27	2.78	1.41	1.40	1.60	2.78	5.26	1.45	2.80	2.78	3.40	1.42	2.20	
Household member worked more than one paid job				13.04	14.71	4.00	8.33	8.33	7.04	2.10	4.40	2.78	9.21	5.07	6.00	5.56	8.16	3.56	5.20	
Household member engaged in entrepreneurial activity as additional job						2.67	1.52	0.00	0.00	1.40	0.80	0.00	0.00	0.72	0.40	0.00	0.00	1.07	0.60	
Household member previously not working went to work						1.33	0.76	0.00	0.00	0.70	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.20	
Household member sought employment overseas														1.32	0.00	0.40	0.00	0.68	0.00	0.20
Household member took on lower skilled job	2.70		0.85						1.41	0.00	0.40	0.00	0.00	0.72	0.40	0.00	0.68	0.36	0.40	
Household member engaged in hazardous job																				
Man Made Disaster																				
Second Most Severe																				
Household member sought additional job					4.35			0.76	2.78	0.00	0.00	0.40	0.00	0.00	0.00	0.00	1.39	0.00	0.00	0.20
Household member worked more than one paid job																				

Table 85. Coping strategy (demographic and other coping strategies) for most severe shocks experienced, by treatment group, Region 2 Cagayan Valley

Coping Strategy	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Natural Disaster																				
Most Severe																				
Members from other households moved in (to cut expenses)	2	3	1	6	2	1	11	14	4	4	12	20	3	2	5	10	7	6	17	30
Members moved away							2	2			2	2			2	2			4	4
Postponed childbearing	1			1	1		1	2	2		1	3			3	3	2		4	6
Transferred to temporary housing/ evacuation center		1	1	2		1		1		2	1	3			1	1		2	2	4
Spent less time for recreation		1		1		3	7	10		4	7	11		6	5	11		10	12	22
Worked overtime	3	6	3	12	6	9	17	32	9	15	20	44	7	11	18	36	16	26	38	80
Second Most Severe																				
Members from other households moved in (to cut expenses)		1		1			1	1		1	1	2		1	1	2		2	2	4
Members moved away							2	2			2	2			1	1			3	3
Postponed childbearing																				
Transferred to temporary housing/ evacuation center							1	1			1	1							1	1
Spent less time for recreation							2	2			2	2		3	1	4		3	3	6
Worked overtime	1	3	1	5	3	6	5	14	4	9	6	19	1	9	11	21	5	18	17	40
Man Made Disaster																				
Most Severe																				
Transferred to temporary housing/ evacuation center							1	1			1	1							1	1
Spent less time for recreation																				
Worked overtime							1	1			1	1							1	1
Second Most Severe																				
Worked overtime					1			1	1			1					1			1

Table 86. Current condition compared to two years ago, by type of crop, region, and treatment group

Coping Strategy	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims				FS1	FS2	FS3	All	FS1	FS2	FS3	All
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All								
Frequency																				
Better now	8	16	40	64	4	8	40	52	12	24	80	116	16	40	80	136	28	64	160	252
Same as before	36	100	196	332	60	88	184	332	96	188	380	664	72	176	360	608	168	364	740	1272
Worse now	8	32	36	76	28	40	76	144	36	72	112	220	56	88	112	256	92	160	224	476
Total	52	148	272	472	92	136	300	528	144	284	572	1000	144	304	552	1000	288	588	1124	2000
Percent																				
Better now	15.38	10.81	14.71	13.56	4.35	5.88	13.33	9.85	8.33	8.45	13.99	11.60	11.11	13.16	14.49	13.60	9.72	10.88	14.23	12.60
Same as before	69.23	67.57	72.06	70.34	65.22	64.71	61.33	62.88	66.67	66.20	66.43	66.40	50.00	57.89	65.22	60.80	58.33	61.90	65.84	63.60
Worse now	15.38	21.62	13.24	16.10	30.43	29.41	25.33	27.27	25.00	25.35	19.58	22.00	38.89	28.95	20.29	25.60	31.94	27.21	19.93	23.80

Risk Mitigation Strategies in Crop Production

Table 87a and 87b shows the risk mitigation strategies in crop production in two cropping seasons of the different groups of corn farmers in Region 2. For both dry season and wet season, the different groups of corn farmers adopt earlier or later planting date as their number one risk mitigation strategy with 38 percent. This is the same for all treatment groups.

This particular strategy is common practice by farmers whose farm is located within the flood plains where during the rainy season there is risk of flooding. Farmers plant earlier if they think there is not much rains and flood to come, so that at the growing stage of corn plants, they are not in time with the start of dry season or where there is little rain already and this usually starts during the month of February. Thus, planting is October to November. However, flood usually comes during October-November, if corn fields are flooded, planting is postponed to December – January. This is practice in both seasons. Main planting is done which is usually the start of rain so that at harvest time, around September there is no much rain yet and drying of corn grains would be easier. If there is no rain yet during May, planting is postponed until June. This is risky also because harvesting in October is in time with the rainy season.

Thou farmers adopt delaying or advancing planting date as a practical or feasible mitigation strategy, farmers find it not always useful because of seasonal change in Cagayan Valley region other than the fact that corn crop could not withstand too much heat and excessive water.

The least risk mitigation strategies adopted by the corn farmers for both seasons are crop rotation and crop diversification.

Table 87a. Risk mitigation strategies in crop production, by type of season and treatment group, region 2 cagayan valley (frequency)

Risk Mitigation Strategy	Frequency																			
	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Number of respondents	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Frequency																				
Dry Season																				
Adopting an earlier/later planting date	2	12	21	35	11	21	30	62	13	33	51	97	15	32	46	93	28	65	97	190
Use of varieties with high resilience, high temperature tolerance, resistance to salinity, drought and floods	2		3	5	1	1	5	7	3	1	8	12	4	3	8	15	7	4	16	27
Use of site specific nutrient mngt.	1		2	3	1	1	4	6	2	1	6	9	1	1	2	4	3	2	8	13
Alteration of farm mngt. practices	2		5	7	3		4	7	5	0	9	14	2	5	9	16	7	5	18	30
Crop rotation				0				0	0	0	0	0			1	1	0	0	1	1
Integrated pest management	1	1	1	3	1	1	6	8	2	2	7	11	1		2	3	3	2	9	14
Crop diversification	1			1			2	2	1	0	2	3			3	3	1	0	5	6
Others, please specify								0	0	0	0	0			1	1	0	0	1	1
Total	9	13	32	54	17	24	51	92	26	37	83	146	23	41	72	136	49	78	155	282
Wet Season																				
Adopting an earlier/later planting date	4	12	22	38	12	21	28	61	16	33	50	99	17	34	51	102	33	67	101	201
Use of varieties with high resilience, high temperature tolerance, resistance to salinity, drought and floods				0		1	2	3		1	2	3		1	2	3	0	2	4	6
Use of site specific nutrient mngt.	2		2	4	1	1	3	5	3	1	5	9	2	4	5	11	5	5	10	20
Alteration of farm mngt. practices	2		5	7	3		5	8	5		10	15	4	5	7	16	9	5	17	31
Crop rotation				0			2	2			2	2			1	1	0	0	3	3
Integrated pest management	1	1	2	4	1	1	3	5	2	2	5	9	1		3	4	3	2	8	13
Crop diversification	1			1					1			1			3	3	1	0	3	4
Others, please specify				0											1	1	0	0	1	1
Total	10	13	31	54	17	24	43	84	27	37	74	138	24	44	73	141	51	81	147	279

Table 87b. Risk mitigation strategies in crop production, by type of season and treatment group, Region 2 Cagayan Valley (Percentage)

Risk Mitigation Strategy	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Number of respondents	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Percent																				
Dry Season																				
Adopting an earlier/later planting date	15.38	32.43	30.88	29.66	47.83	61.76	40.00	46.97	36.11	46.48	35.66	38.80	41.67	42.11	33.33	37.20	38.89	44.22	34.52	38.00
Use of varieties with high resilience, high temperature tolerance, resistance to salinity, drought and floods	15.38		4.41	4.24	4.35	2.94	6.67	5.30	8.33	1.41	5.59	4.80	11.11	3.95	5.80	6.00	9.72	2.72	5.69	5.40
Use of site specific nutrient mngt.	7.69		2.94	2.54	4.35	2.94	5.33	4.55	5.56	1.41	4.20	3.60	2.78	1.32	1.45	1.60	4.17	1.36	2.85	2.60
Alteration of farm mngt. practices	15.38		7.35	5.93	13.04		5.33	5.30	13.89		6.29	5.60	5.56	6.58	6.52	6.40	9.72	3.40	6.41	6.00
Crop rotation															0.72	0.40			0.36	0.20
Integrated pest management	7.69	2.70	1.47	2.54	4.35	2.94	8.00	6.06	5.56	2.82	4.90	4.40	2.78		1.45	1.20	4.17	1.36	3.20	2.80
Crop diversification	7.69			0.85			2.67	1.52	2.78		1.40	1.20			2.17	1.20	1.39		1.78	1.20
Others, please specify															0.72	0.40			0.36	0.20
Wet Season																				
Adopting an earlier/later planting date	30.77	32.43	32.35	32.20	52.17	61.76	37.33	46.21	44.44	46.48	34.97	39.60	47.22	44.74	36.96	40.80	45.83	45.58	35.94	40.20
Use of varieties with high resilience, high temperature tolerance, resistance to salinity, drought and floods							2.94	2.67	2.27		1.40	1.20		1.32	1.45	1.20		1.36	1.42	1.20
Use of site specific nutrient mngt.	15.38		2.94	3.39	4.35	2.94	4.00	3.79	8.33		3.50	3.60	5.56	5.26	3.62	4.40	6.94	3.40	3.56	4.00
Alteration of farm mngt. practices	15.38		7.35	5.93	13.04		6.67	6.06	13.89		6.99	6.00	11.11	6.58	5.07	6.40	12.50	3.40	6.05	6.20
Crop rotation							2.67	1.52			1.40	0.80			0.72	0.40			1.07	0.60
Integrated pest management	7.69	2.70	2.94	3.39	4.35	2.94	4.00	3.79	5.56	2.82	3.50	3.60	2.78		2.17	1.60	4.17	1.36	2.85	2.60
Crop diversification	7.69			0.85					2.78			0.40			2.17	1.20	1.39		1.07	0.80
Others, please specify															0.72	0.40			0.36	0.20

Awareness on agricultural Insurance

Ranking of Problems Facing Farmers Today

In order to understand the knowledge and attribute of farmers on agricultural insurance, the respondents were first asked on the three most serious problems they are facing today. Tables 88a, 88b and 88c show the ranking of problems facing farmers today. There are 302 or 60.40 percent corn farmers of Region 2 claimed that the number one pressing problem they faced is adverse weather condition such as drought and flood. There were more percentage of farmers from the without insurance group who claims adverse weather condition as their first serious problem with 61.60 percent than the farmers with insurance with 59.20 percent (Table 88a). There are 101 or 20.20 percent (table 77b) corn farmers claimed it as their second rank pressing problem and there are 68 or 13.60 percent (table 77c) claimed it as their third rank pressing problem.

As to the second most pressing problem faced by corn farmers, Table 88b shows that high cost of farm inputs (fertilizers, pesticides, etc.) has the highest percentage with 35.20 percent. There are 147 or 29.40 percent claimed that low farm gate price of agricultural products is their second pressing problem. It is worthy to note that the second most pressing problem of the corn farmers are economic in nature. This trend is the same for the farmers with insurance with claim and without insurance groups. However, the farmers with insurance without claims the highest second rank problem is low farm gate price of agricultural products with 35.61 percent.

For the third most pressing problem of corn farmers in Region 2, 147 or 29 percent claimed that the problem is the high cost of farm inputs and 122 or 24.40 percent corn farmers claim that their third pressing problem is low farm gate price of agricultural products. However, the highest third rank pressing problem of farmers with insurance with claims is the low cost of produce with 27.12 percent.

88a. Ranking of problems facing farmers today (first rank), by treatment group, Region 2

Problems Facing Farmers	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
First Rank - Frequency																				
Adverse weather conditions (drought, flood)	6	23	43	72	10	20	46	76	16	43	89	148	24	41	89	154	40	84	178	302
Low farm gate price of agricultural products	1	1	4	6	2	1	2	5	3	2	6	11	3	2	5	10	6	4	11	21
High cost of farm inputs (fertilizers, pesticides, etc.)	1	6	5	12	4	7	9	20	5	13	14	32	4	17	19	40	9	30	33	72
High cost of labor			3	3	1		1	2	1		4	5					1		4	5
Farmers being heavily indebted to traders/ lack of capital	1	3	5	9	2		4	6	3	3	9	15	1	5	9	15	4	8	18	30
Poor soil fertility	2			2			2	2	2		2	4			2	2	2		4	6
Lack of post-harvest facilities (dryer, miller, storage, etc.)				0			1	1			1	1				0			1	1
Pests, weeds, emergences of new pests and diseases				0			1	1			1	1				0			1	1
Lack of new farming technologies			2	2				0			2	2				0			2	2
Water shortage		4	4	8	3	6	6	15	3	10	10	23	4	10	14	28	7	20	24	51
Others	2		2	4	1		3	4	3	0	5	8		1		1	3	1	5	9
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
First Rank - Percentage																				
Adverse weather conditions (drought, flood)	46.15	62.16	63.24	61.02	43.48	58.82	61.33	57.58	44.44	60.56	62.24	59.20	66.67	53.95	64.49	61.60	55.56	57.14	63.35	60.40
Low farm gate price of agricultural products	7.69	2.70	5.88	5.08	8.70	2.94	2.67	3.79	8.33	2.82	4.20	4.40	8.33	2.63	3.62	4.00	8.33	2.72	3.91	4.20
High cost of farm inputs (fertilizers, pesticides, etc.)	7.69	16.22	7.35	10.17	17.39	20.59	12.00	15.15	13.89	18.31	9.79	12.80	11.11	22.37	13.77	16.00	12.50	20.41	11.74	14.40
High cost of labor			4.41	2.54	4.35		1.33	1.52	2.78		2.80	2.00					1.39		1.42	1.00
Farmers being heavily indebted to traders/ lack of capital	7.69	8.11	7.35	7.63	8.70		5.33	4.55	8.33	4.23	6.29	6.00	2.78	6.58	6.52	6.00	5.56	5.44	6.41	6.00
Poor soil fertility	15.38			1.69			2.67	1.52	5.56		1.40	1.60			1.45	0.80	2.78		1.42	1.20
Lack of post-harvest facilities (dryer, miller, storage, etc.)							1.33	0.76			0.70	0.40							0.36	0.20
Pests, weeds, emergences of new pests and diseases							1.33	0.76			0.70	0.40							0.36	0.20
Lack of new farming technologies			2.94	1.69							1.40	0.80							0.71	0.40
Water shortage		10.81	5.88	6.78	13.04	17.65	8.00	11.36	8.33	14.08	6.99	9.20	11.11	13.16	10.14	11.20	9.72	13.61	8.54	10.20
Others	15.38	0.00	2.94	3.39	4.35	0.00	4.00	3.03	8.33		3.50	3.20		1.32		0.40	4.17	0.68	1.78	1.80

88b. Ranking of problems facing farmers today (second rank), by treatment group, Region 2

Problems Facing Farmers	With Insurance								Without Insurance								Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Second Rank- Frequency																				
Adverse weather conditions (drought, flood)	4	12	13	29	5	8	10	23	9	20	23	52	7	20	22	49	16	40	45	101
Low farm gate price of agricultural products	2	9	19	30	10	10	27	47	12	19	46	77	8	20	42	70	20	39	88	147
High cost of farm inputs (fertilizers, pesticides, etc.)	4	14	28	46	6	10	25	41	10	24	53	87	14	22	53	89	24	46	106	176
High cost of labor		1	1	2		1	2	3		2	3	5		4	2	6		6	5	11
Farmers being heavily indebted to traders/ lack of capital	1		2	3	1	1	3	5	2	1	5	8	4	8	5	17	6	9	10	25
Poor soil fertility			1	1			1	1			0	2			3	3			5	5
Lack of post-harvest facilities (dryer, miller, storage, etc.)				0		1		1		1	0	1				0		1	0	1
Pests, weeds, emergences of new pests and diseases				0		1	1	2		1	1	2			2	2		1	3	4
Lack of new farming technologies			1	1							1	1			2	2			3	3
Water shortage	1		1	2		1	4	5	1	1	5	7	2	1	4	7	3	2	9	14
Others	1	1	2	4	1	1	2	4	2	2	4	8	1	1	3	5	3	3	7	13
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Second Rank- Percentage																				
Adverse weather conditions (drought, flood)	30.77	32.43	19.12	24.58	21.74	23.53	13.33	17.42	25.00	28.17	16.08	20.80	19.44	26.32	15.94	19.60	22.22	27.21	16.01	20.20
Low farm gate price of agricultural products	15.38	24.32	27.94	25.42	43.48	29.41	36.00	35.61	33.33	26.76	32.17	30.80	22.22	26.32	30.43	28.00	27.78	26.53	31.32	29.40
High cost of farm inputs (fertilizers, pesticides, etc.)	30.77	37.84	41.18	38.98	26.09	29.41	33.33	31.06	27.78	33.80	37.06	34.80	38.89	28.95	38.41	35.60	33.33	31.29	37.72	35.20
High cost of labor		2.70	1.47	1.69		2.94	2.67	2.27	0.00	2.82	2.10	2.00		5.26	1.45	2.40		4.08	1.78	2.20
Farmers being heavily indebted to traders/ lack of capital	7.69		2.94	2.54	4.35	2.94	4.00	3.79	5.56	1.41	3.50	3.20	11.11	10.53	3.62	6.80	8.33	6.12	3.56	5.00
Poor soil fertility			1.47	0.85			1.33	0.76			1.40	0.80			2.17	1.20			1.78	1.00
Lack of post-harvest facilities (dryer, miller, storage, etc.)						2.94		0.76		1.41		0.40						0.68		0.20
Pests, weeds, emergences of new pests and diseases						2.94	1.33	1.52		1.41	0.70	0.80			1.45	0.80		0.68	1.07	0.80
Lack of new farming technologies			1.47	0.85							0.70	0.40			1.45	0.80			1.07	0.60
Water shortage	7.69		1.47	1.69		2.94	5.33	3.79	2.78	1.41	3.50	2.80	5.56	1.32	2.90	2.80	4.17	1.36	3.20	2.80
Others	7.69	2.70	2.94	3.39	4.35	2.94	2.67	3.03	5.56	2.82	2.80	3.20	2.78	1.32	2.17	2.00	4.17	2.04	2.49	2.60

88c. Ranking of problems facing farmers today (third rank), by treatment group, Region 2

Problems Facing Farmers	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Third Rank- Frequency																				
Adverse weather conditions (drought, flood)	2	4	8	14	6	4	9	19	8	8	17	33	3	15	17	35	11	23	34	68
Low farm gate price of agricultural products	3	6	23	32	5	10	11	26	8	16	34	58	14	17	33	64	22	33	67	122
High cost of farm inputs (fertilizers, pesticides, etc.)	3	9	16	28	7	13	27	47	10	22	43	75	9	17	46	72	19	39	89	147
High cost of labor		4	6	10	1	3	10	14	1	7	16	24	2	7	15	24	3	14	31	48
Farmers being heavily indebted to traders/ lack of capital	1	2	1	4			3	3	1	2	4	7	1	2	4	7	2	4	8	14
Poor soil fertility				0			1	1		0	1	1	2	3	1	6	2	3	2	7
Lack of post-harvest facilities (dryer, miller, storage, etc.)		5	6	11		1	4	5		6	10	16	1	2	8	11	1	8	18	27
Pests, weeds, emergences of new pests and diseases	2	2	3	7	2			2	4	2	3	9		4	2	6	4	6	5	15
Lack of new farming technologies			1	1				0		0	1	1				0			1	1
Water shortage			1	1			2	2		0	3	3			2	2			5	5
Others	2	5	3	10	2	3	8	13	4	8	11	23	4	9	10	23	8	17	21	46
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Third Rank- Percentage																				
Adverse weather conditions (drought, flood)	15.38	10.81	11.76	11.86	26.09	11.76	12.00	14.39	22.22	11.27	11.89	13.20	8.33	19.74	12.32	14.00	15.28	15.65	12.10	13.60
Low farm gate price of agricultural products	23.08	16.22	33.82	27.12	21.74	29.41	14.67	19.70	22.22	22.54	23.78	23.20	38.89	22.37	23.91	25.60	30.56	22.45	23.84	24.40
High cost of farm inputs (fertilizers, pesticides, etc.)	23.08	24.32	23.53	23.73	30.43	38.24	36.00	35.61	27.78	30.99	30.07	30.00	25.00	22.37	33.33	28.80	26.39	26.53	31.67	29.40
High cost of labor		10.81	8.82	8.47	4.35	8.82	13.33	10.61	2.78	9.86	11.19	9.60	5.56	9.21	10.87	9.60	4.17	9.52	11.03	9.60
Farmers being heavily indebted to traders/ lack of capital	7.69	5.41	1.47	3.39			4.00	2.27	2.78	2.82	2.80	2.80	2.78	2.63	2.90	2.80	2.78	2.72	2.85	2.80
Poor soil fertility							1.33	0.76			0.70	0.40	5.56	3.95	0.72	2.40	2.78	2.04	0.71	1.40
Lack of post-harvest facilities (dryer, miller, storage, etc.)		13.51	8.82	9.32		2.94	5.33	3.79		8.45	6.99	6.40	2.78	2.63	5.80	4.40	1.39	5.44	6.41	5.40
Pests, weeds, emergences of new pests and diseases	15.38	5.41	4.41	5.93	8.70			1.52	11.11	2.82	2.10	3.60		5.26	1.45	2.40	5.56	4.08	1.78	3.00
Lack of new farming technologies			1.47	0.85							0.70	0.40							0.36	0.20
Water shortage			1.47	0.85			2.67	1.52			2.10	1.20			1.45	0.80			1.78	1.00
Others	15.38	13.51	4.41	8.47	8.70	8.82	10.67	9.85	11.11	11.27	7.69	9.20	11.11	11.84	7.25	9.20	11.11	11.56	7.47	9.20

Availment of Agricultural Insurance

Table 89 shows the distribution of respondents as to the first availment of agricultural insurance.

The table reveals that among the corn farmers with crop insurance with claims, 12 or 10.17 percent availed of agricultural insurance about two years ago, 3 or 7.63 percent first availed about a year ago and a few (2.54 percent) first availed of insurance about three years ago. Of the farmers with crop insurance and without indemnity claims, 7 or 5.30 percent first availed of agricultural insurance about a year ago and 4 or 3.03 percent first availed such about two years ago. For those corn farmers without without crop insurance, 3 or 1.20 percent first availed agricultural insurance about two years ago and 1 or .40 percent first availed about three years ago.

The table further reveals that in all three groups of farmers, 42 or 8.40 percent of which avail of agricultural insurance regularly and 4.58 91.60 percent does not avail such insurance regularly. While many of those without insurance first availed of insurance two years ago, it appears that there is a reason why these farmers did not continue to insured their corn crops.

Reason for Non-regular Availment of Agricultural Insurance

Table 90 presents the reason for non-regular availment of agricultural insurance by the corn farmers of region 2. It can be gleaned from the table that 37.39 percent of corn farmers give other reasons for non-regular availment of agricultural insurance such as: the documentary requirements are difficult to comply, the corn farmers are not satisfied with the amount of indemnity claim received. 27.95 percent claim that they do not have enough money to pay for the premium of the insurance and 10.26 percent reasons out that agricultural insurance is not helpful in their activities. The trend is the same for all treatment groups.

While there is a significant proportion does not believe that insurance will not be help to farmers, it appears that farmers do not understand the benefits derived from insurance or it may be assumed that under any other authority in insurance did not really do their part in reaching out the said farmers who are supposed to benefit from insurance.

Reason for Non Availment of Agricultural Insurance

The reasons of the three groups by farmers for the non availment of agricultural insurance are shown in Table 91. For both farmers with and without insurance, the top three reasons for non availment of insurance are: lack of capacity to pay the premium, not aware of crop insurance and the documentary requirements are difficult to comply. For the respondents with insurance with claims group the top three reasons for non availment of insurance are difficulties in producing the documentary requirements (10.17 percent), lack on incapacity to pay premiums (9.32 percent) and farmers are not satisfied with the amount to cover with respect to premium price. This indicates that farmers take the amount of cover as not enough to compensate the amount of damage.

Table 89. When first availed of and avail agricultural insurance regularly by treatment group, Region 2 (Cagayan Valley)

When First Availed of Agricultural Insurance	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Total number of respondents	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
When First Availed of Agricultural Insurance																				
Frequency																				
About a year ago		5	4	9		1	6	7		6	10	16						6	10	16
About two years ago		5	7	12	1		3	4	1	5	10	16		1	2	3	1	6	12	19
About three years ago			3	3							3	3		1		1		1	3	4
About four years ago																				
About five years ago		1		1						1		1						1		1
More than five years ago			1	1			1	1			2	2							2	2
Total		11	15	26	1	1	10	12	1	12	25	38	0	2	2	4	1	14	27	42
Percentage																				
About a year ago		13.51	5.88	7.63		2.94	8.00	5.30		8.45	6.99	6.40						4.08	3.56	3.20
About two years ago		13.51	10.29	10.17	4.35		4.00	3.03	2.78	7.04	6.99	6.40		1.32	1.45	1.20	1.39	4.08	4.27	3.80
About three years ago			4.41	2.54							2.10	1.20		1.32		0.40		0.68	1.07	0.80
About four years ago																				
About five years ago		2.70		0.85						1.41		0.40						0.68		0.20
More than five years ago			1.47	0.85			1.33	0.76			1.40	0.80							0.71	0.40
Avail of Agricultural Insurance Regularly?																				
Frequency																				
Yes		11	15	26	1	1	10	12	1	12	25	38		2	2	4	1	14	27	42
No	13	26	53	92	22	33	65	120	35	59	118	212	36	74	136	246	71	133	254	458
Total	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Percentage																				
Yes		29.73	22.06	22.03	4.35	2.94	13.33	9.09	2.78	16.90	17.48	15.20	0.00	2.63	1.45	1.60	1.39	9.52	9.61	8.40
No	100.00	70.27	77.94	77.97	95.65	97.06	86.67	90.91	97.22	83.10	82.52	84.80	100.00	97.37	98.55	98.40	98.61	90.48	90.39	91.60

Table 90. Reason for non-regular availment of agricultural insurance, by type of crop, region and treatment group

Reasons	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
I do not have enough money to pay for it	2	2	12	16	11	14	15	40	13	16	27	56	14	27	31	72	27	43	58	128
I do not think insurance is helpful to my farming activities	1	3	6	10	1	2	6	9	2	5	12	19	1	7	20	28	3	12	32	47
I did not reach the deadline for applying this cropping season	2	4	5	11		2	7	9	2	6	12	20	1	4	11	16	3	10	23	36
I do not know how to avail of agricultural insurance (where to apply, etc.)	1	4	3	8	1	4	10	15	2	8	13	23	4	11	21	36	6	19	34	59
A relative/friend/neighbor told me that they had difficulty getting indemnity claims				0				0						2	2	4		2	2	4
Others	7	12	23	42	8	11	27	46	15	23	50	88	15	22	49	86	30	45	99	174
Total	13	25	49	87	21	33	65	119	34	58	114	206	35	73	134	242	69	131	248	448
Percent																				
I do not have enough money to pay for it	15.38	7.69	22.64	17.39	50.00	42.42	23.08	33.33	37.14	27.12	22.88	26.42	38.89	36.49	22.79	29.27	38.03	32.33	22.83	27.95
I do not think insurance is helpful to my farming activities	7.69	11.54	11.32	10.87	4.55	6.06	9.23	7.50	5.71	8.47	10.17	8.96	2.78	9.46	14.71	11.38	4.23	9.02	12.60	10.26
I did not reach the deadline for applying this cropping season	15.38	15.38	9.43	11.96	0.00	6.06	10.77	7.50	5.71	10.17	10.17	9.43	2.78	5.41	8.09	6.50	4.23	7.52	9.06	7.86
I do not know how to avail of agricultural insurance (where to apply, etc.)	7.69	15.38	5.66	8.70	4.55	12.12	15.38	12.50	5.71	13.56	11.02	10.85	11.11	14.86	15.44	14.63	8.45	14.29	13.39	12.88
A relative/friend/neighbor told me that they had difficulty getting indemnity claims														2.70	1.47	1.63	0.00	1.50	0.79	0.87
<u>Others</u>	53.85	46.15	43.40	45.65	36.36	33.33	41.54	38.33	42.86	38.98	42.37	41.51	41.67	29.73	36.03	34.96	42.25	33.83	38.98	37.99

Table 91. Reason for non availment of agricultural insurance, by treatment group, Region 2 (Cagayan Valley)

Reasons for Non Availment	With Insurance																Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500				
Not aware of crop insurance	1	1	2	4	1	5	12	18	2	6	14	22	9	15	25	49	11	21	39	71				
No need of insurance		1		1	1		3	4	1	1	3	5	1	4	15	20	2	5	18	25				
Lack capacity to pay for the premium	3	1	7	11	6	12	9	27	9	13	16	38	11	18	25	54	20	31	41	92				
Not aware of the ways one can avail of insurance	2	2	1	5	1	2	8	11	3	4	9	16	3	12	21	36	6	16	30	52				
Not satisfied with the amount of cover with respect to premium price		1	8	9	1	2		3	1	3	8	12	1	4	9	14	2	7	17	26				
The documentary requirements are difficult to comply	1	6	5	12	2	2	12	16	3	8	17	28	3	8	14	25	6	16	31	53				
Do not trust the institution offering agricultural insurance		1	3	4		1	2	3	0	2	5	7	1	2	5	8	1	4	10	15				
Heard that claims payment takes too long		3	2	5			1	1	0	3	3	6	2	4	5	11	2	7	8	17				
Not required by my credit institution									0	0	0	0			1	1	0	0	1	1				
Others	8	13	24	45	12	13	27	52	20	26	51	97	11	24	48	83	31	50	99	180				
Total	15	29	52	96	24	37	74	135	39	66	126	231	42	91	168	301	81	157	294	532				
Percent of total n																								
Not aware of crop insurance	7.69	2.70	2.94	3.39	4.35	14.71	16.00	13.64	5.56	8.45	9.79	8.80	25.00	19.74	18.12	19.60	15.28	14.29	13.88	14.20				
No need of insurance		2.70		0.85	4.35		4.00	3.03	2.78	1.41	2.10	2.00	2.78	5.26	10.87	8.00	2.78	3.40	6.41	5.00				
Lack capacity to pay for the premium	23.08	2.70	10.29	9.32	26.09	35.29	12.00	20.45	25.00	18.31	11.19	15.20	30.56	23.68	18.12	21.60	27.78	21.09	14.59	18.40				
Not aware of the ways one can avail of insurance	15.38	5.41	1.47	4.24	4.35	5.88	10.67	8.33	8.33	5.63	6.29	6.40	8.33	15.79	15.22	14.40	8.33	10.88	10.68	10.40				
Not satisfied with the amount of cover with respect to premium price		2.70	11.76	7.63	4.35	5.88		2.27	2.78	4.23	5.59	4.80	2.78	5.26	6.52	5.60	2.78	4.76	6.05	5.20				
The documentary requirements are difficult to comply	7.69	16.22	7.35	10.17	8.70	5.88	16.00	12.12	8.33	11.27	11.89	11.20	8.33	10.53	10.14	10.00	8.33	10.88	11.03	10.60				
Do not trust the institution offering agricultural insurance		2.70	4.41	3.39		2.94	2.67	2.27		2.82	3.50	2.80	2.78	2.63	3.62	3.20	1.39	2.72	3.56	3.00				
Heard that claims payment takes too long		8.11	2.94	4.24			1.33	0.76		4.23	2.10	2.40	5.56	5.26	3.62	4.40	2.78	4.76	2.85	3.40				
Not required by my credit institution															0.72	0.40			0.36	0.20				
Others	61.54	35.14	35.29	38.14	52.17	38.24	36.00	39.39	55.56	36.62	35.66	38.80	30.56	31.58	34.78	33.20	43.06	34.01	35.23	36.00				

Since many of those without claims and without insurance claims they are not aware of insurance, it appears that PCIC has to improve its awareness campaign on the programs. At the same time the farmers lack of capacity to pay premium is an indication that farmers has low level of risk taking by paying the premium which if no damage they would not get any claim in exchange of premium they paid.

Reason for Availment of Agricultural Insurance

The reason for the availment of agricultural insurance by the corn farmers of Region 2 is shown in Table 92. Of the 42 corn farmers respondents who availed of agricultural insurance, 18 or 38.10 percent claimed that they avail the agricultural insurance because of the encouragement of the Agricultural Technician from the Local Government Unit 19.05 percent availed the agricultural insurance because it is a requirement for them to be able to get a loan in their cooperative or other lending institutions or because they are beneficiary of free insurance program of the government; and 6 or 14.29 percent are encouraged by their neighbor, friend or relatives.

Source of Premium Payment for Agricultural Insurance

Table 93 presents the distribution of the source of premium payment of corn farmers in Region 2 for their agricultural insurance. It shows that of the 42 corn farmers-respondents who avail of agricultural insurance, 17 or 40.48 percent of corn farmers' agricultural insurance premium s free insurance from government program, 14 or 33.33 percent paid their agricultural insurance premium out of their pocket and 10 or 23.81 percent is part of the loan from creditor. This indicates that the coverage of the free insurance program is not yet one-half of the corn farmers.

Average Rating of Products and Service Characteristics of PCIC

Table 94 shows the rating of product and services characteristics of PCIC by the corn farmers of Region 02. It can be gleaned from the table that the product and services characteristics as follows: number of forms to be accomplished (2.9), affordability of the premium payment rated 2.9, accessibility of the PCIC office (2.8), sufficiency of the risk covered when compared to risk faced by farmers in crop production (2.8), available feed backing mechanism (2.8), and on the procedure for filing indemnity claim claims, objectivity of assessment in procession both rated as 2.7.

Table 92. Reason for availment of agricultural insurance, by type of crop, Region and Treatment Group

Reasons for Availment	With Insurance				Without Insurance				With and Without Claims				Without Insurance				Total (Pooled)			
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
The agricultural technician in our LGU		6	2	8		1	5	6		7	7	14		2		2		9	7	16
Requirement for me to get a loan in my cooperative/lending institution/bank		2	4	6		2		2	1	2	4	7			1	1	1	2	5	8
Beneficiary of free insurance program of the government		2	5	7						2	5	7			1	1		2	6	8
My neighbor/ friend/ relative was able to claim and encouraged me		1	2	3			3	3		1	5	6						1	5	6
Heard about agricultural insurance in the radio																				
Saw an advertisement/TV program on agricultural insurance																				
Read about it in a poster																				
Others			2	2			2	2			4	4							4	4
Total		11	15	26		3	10	13	1	12	25	38	0	2	2	4	1	14	27	42
Percent of total who availed																				
The agricultural technician in our LGU	54.55	13.33	30.77		33.33	50.00	46.15	0.00	58.33	28.00	36.84		100.00		50.00		64.29	25.93	38.10	
Requirement for me to get a loan in my cooperative/lending institution/bank	18.18	26.67	23.08		66.67		15.38	100.00	16.67	16.00	18.42				50.00	25.00	100.00	14.29	18.52	19.05
Beneficiary of free insurance program of the government	18.18	33.33	26.92						16.67	20.00	18.42				50.00	25.00		14.29	22.22	19.05
My neighbor/ friend/ relative was able to claim and encouraged me	9.09	13.33	11.54			30.00	23.08		8.33	20.00	15.79							7.14	18.52	14.29
Heard about agricultural insurance in the radio																				
Saw an advertisement/TV program on agricultural insurance																				
Read about it in a poster																				
Others			13.33	7.69			20.00	15.38			16.00	10.53							14.81	9.52

Table 93. Distribution of source of premium payment for agricultural insurance, by type of crop, Region and Treatment Group

Source	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Out of pocket		5	3	8			6	6		5	9	14						5	9	14
Part of the loan from creditor		2	4	6	1		2	3	1	2	6	9			1	1	1	2	7	10
Borrowed from relative/friend/neighbour			1	1							1	1							1	1
Free insurance from government program		4	7	11		1	2	3		5	9	14		2	1	3		7	10	17
Total		11	15	26	1	1	10	12	1	12	25	38	0	2	2	4	1	14	27	42
Percent																				
Out of pocket		45.45	20.00	30.77			60.00	50.00	0.00	41.67	36.00	36.84						35.71	33.33	33.33
Part of the loan from creditor		18.18	26.67	23.08	100.00		20.00	25.00	100.00	16.67	24.00	23.68			50.00	25.00	100.00	14.29	25.93	23.81
Borrowed from relative/friend/neighbour			6.67	3.85							4.00	2.63							3.70	2.38
Free insurance from government program		36.36	46.67	42.31		100.00	20.00	25.00	0.00	41.67	36.00	36.84		100.00	50.00	75.00		50.00	37.04	40.48

Table 94. Average rating of product and service characteristics of pcic, by treatment group, Region 2-Cagayan Valley

Product and Service Characteristics	With Insurance												Without Insurance				Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Number of forms to be filled up for enrolment and the ease of accomplishing them		3	2.8	2.9	3	3	2.8	2.8	3	3	2.8	2.9	3	3	3	3	3	3	2.8	2.9
Accessibility of the PCIC office		2.7	2.9	2.8	3	3	2.6	2.7	3	2.8	2.8	2.8	3	3	3	3	3	2.8	2.8	2.8
Affordability of the premium payment		2.9	2.8	2.8	3	3	2.9	2.9	3	2.9	2.8	2.9	3	3	3	3	3	2.9	2.9	2.9
Accessibility of payment channels available for paying the premium (via loan deduction, etc.)		3	2.9	2.9	3	3	2.7	2.8	3	3	2.8	2.9	3	3	3	3	3	3	2.8	2.9
Sufficiency of the risks covered when compared to risks faced by farmers in crop production		2.9	2.6	2.7	3	3	2.7	2.8	3	2.9	2.6	2.7	3	3	3	3	3	2.9	2.7	2.8
Adequacy of the amount of cover to be received when a loss occurs for financing next season's planting		2.7	2.7	2.7	3	3	2.7	2.8	3	2.8	2.7	2.7	3	3	3	3	3	2.8	2.7	2.7
Available feed backing mechanisms (communication channels) in case of questions in enrolment or claims		3	2.7	2.8	3	3	2.6	2.7	3	3	2.7	2.8	3	3	3	3	3	3	2.7	2.8
Procedure for filing indemnity claims		2.7	2.7	2.7	3	3	2.6	2.7	3	2.8	2.6	2.7	3	2.5	2.8	3	3	2.8	2.6	2.7
Objectivity of assessment in processing		2.7	2.7	2.7	3	3	2.6	2.7	3	2.8	2.7	2.7	3	2.5	2.8	3	3	2.8	2.7	2.7
Sufficiency of the actual indemnity received to finance next season's planting		2.6	2.3	2.5	3	3	2.3	2.4	3	2.7	2.3	2.4	3	2.5	2.8	3	3	2.7	2.3	2.5
Length of time of processing claim		2.6	2.6	2.6	3	3	2.4	2.5	3	2.7	2.5	2.6	3	3	3	3	3	2.7	2.6	2.6
Overall satisfaction with PCIC's products and services		2.9	2.9	2.9	3	3	2.5	2.6	3	2.9	2.7	2.8	3	2.5	2.8	3	3	2.9	2.7	2.8

Note: Added without insurance, might be possible that they were insured in 2012?

Indemnity Claims Payment and Utilization

The sufficiency and timing of received indemnity claims of farmers with insurance and with claims in 2014 is shown in Table 95. The table shows that for all farmer-respondents identified as with indemnity claim, there were 71.19 percent of them who claimed that they received their indemnities. Although they were pre-identified to have received indemnity claim (Treatment 1) based on PCIC record but 28.81 percent mentioned that they did not receive indemnity claim. This can be explained by the unawareness of the farmer about the indemnity he would claim. Since the farmer is covered with insurance through the lending institution conduit, the indemnity the farmer received might have been used to pay his/her loan. However, this was not communicated properly to the farmer, thus this result.

When the farmers were asked whether they received their indemnity in time for the next season's planting, majority of (64.29 percent) mentioned that they did not received their indemnity claims not in time for the next planting season. There are farmers (35.71 percent) who claim that they were able to receive indemnity in time for the next cropping season. Similarly, there are few (15.48 percent) of the farmers who received indemnity claim mentioned that the amount they received is sufficient for them to be able to plant again. However 84.52 percent of them mentioned that the indemnity claim they received is not enough to plant again.

These findings imply that the intention of insurance indemnities is not met – that is for the farmers to be able to plant for the next season again. Because of the delayed receipt and insufficient amount of indemnity received by the farmers they resort to borrow again for their next planting season.

Table 95. Received Indemnity claims in 2014 and in time for next season's planting and sufficiency to plant again by farm size, Region 2, 2015.

Source	With Insurance, with calims							
	FS1		FS2		FS3		All	
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent
Received indemnity claim in 2014								
Yes	7	53.85	29	78.38	48	70.59	84	71.19
No	6	46.15	8	21.62	20	29.41	34	28.81
Total	13	100.00	37	100.00	68	100.00	118	100.00
Received in time for next season's planting								
Yes	2	28.57	13	44.83	15	31.25	30	35.71
No	5	71.43	16	55.17	33	68.75	54	64.29
Total	7	100.00	29	100.00	48	100.00	84	100.00
Is the amount received sufficient to plant again?								
Yes			5	17.24	8	16.67	13	15.48
No	7	100.00	24	82.76	40	83.33	71	84.52
Total	7	100.00	29	100.00	48	100.00	84	100.00

Utilization of Indemnity Claim

Table 85 shows the utilization of indemnity claims payment. Majority (88.10 percent) of the farmers utilize their indemnity claims to pay farm production inputs. This is observed in all farm size groups. There are few who used to pay existing loans (5.96) and to buy food for the family (3.57 percent). The findings reveal that farmers are in debt in their production since bulk of their indemnity claims are used to pay their production inputs. This indicates that even the farmer receives indemnity claim, this does not assure them to plant again and apply the required amount of inputs for the next cropping season unless the farmer has to borrow again for the next cropping season.

It cannot be denied therefore the importance of the lending institution as conduit for the crop insurance of PCIC to the farmers' corn production activity. However, PCIC has to review the system of assessing losses and the amount of indemnity considering the cost of production. Consider also the duration and timing of processing of indemnity claims.

Table 96. Utilization of indemnity claim payment of corn farmers by farm size, Cagayan Valley (Region 2), 2015.

Source	With Insurance			
	With Claims			All
	FS1	FS2	FS3	
Frequency				
Used to pay for farm production inputs	7	22	45	74
Used to pay my existing loan so that I could renew my loan		2	3	5
Used to buy food for my family		3		3
Used to pay for my children's education		1	1	2
Used to pay for my family's medical bills		1		1
Others	2	1	6	9
Total	9	30	55	94
Percent of those with Claims				
Used to pay for farm production inputs	100.00	75.86	93.75	88.10
Used to pay my existing loan so that I could renew my loan		6.90	6.25	5.95
Used to buy food for my family		10.34	0.00	3.57
Used to pay for my children's education		3.45	2.08	2.38
Used to pay for my family's medical bills		3.45	0.00	1.19
Others	28.57	3.45	12.50	10.71

The average amount of indemnity claims received by farmers and the ratio of indemnity payments to estimated crop damage is shown in Table 86. For all farmers surveyed, the average indemnity claims for crop damage due to typhoon and flood is ₱3,452 and ₱5,445 due to drought. The bigger amount of claim for drought damaged crop can be explained by the fact that when drought damages corn farms, corn plants do not grow and form corn grains, therefore no harvest is expected. While those damaged by typhoon, it is possible that partial damage occurs and corn plants have still the tendency to recover and bear fruit.

In 2014, only an average 24 percent of estimated crop damage was received by corn farmers out of the total damage/loss. However, the percentage increase to 32 percent

indemnity payment received out of crop damage in 2015. The ratio of indemnity payment received is higher in large farms than in small farm.

These findings indicate that the indemnity claim in crop insurance cannot cover all the crop loss during shocks. This would not encourage farmers to subscribe on crop insurance. Farmers are not risk taker and therefore it is difficult to convince them to pay for the premium if later they will receive only one-third of the amount of loss due to disasters such as typhoon, flood and drought despite the higher subsidy rate from the government. This maybe the reason why farmers are not willing to pay any of the bid amount on crop insurance as indicated below.

Table 97. Average Amount of indemnity claim received by cause of loss and ratio of indemnity received to estimate crop damage of corn farmers with insurance and with claims, Region 2, 2015.

Cause of Loss	With Insurance, With Claims			
	FS1	FS2	FS3	All
Average Amount of Indemnity Claim Received By Cause of Loss				
Typhoon, flood		1,411	4,442	3,452
Drought, not enough water	2,000	2,891	8,063	5,445
Others		4,000		4,000
Ratio of Indemnity Received to Estimated Crop Damage				
2014	0.13	0.23	0.24	0.24
2015	0.13	0.20	0.41	0.32

Willingness to Pay Agricultural Insurance

The willingness of corn farmers to pay for corn insurance was determined and the result is shown in Table 86. There are bid amounts of cover identified in eliciting the willingness to pay which are based on the average amount of cover for corn: ₱5,083/ha and ₱1,950.40/hectare. The PCIC crop insurance was explained including the premium rates as a percentage of amount cover, amount of cover and premium payment were explained before the respondent answered the question on willingness to pay. The table shows that there are 52.80 percent who are not willing to pay both bid amounts.

There are more farmers who are willing to pay the lower bid amount (₱1,950.40/ha). There are only 10.60 percent who claim that agricultural insurance is not useful and that's the reason why they are not willing to pay any of the bid amounts. For the three groups of farmers, 12.17 percent among those with claims, 8.33 percent of those without claims and 10.8 percent of those without insurance are not willing to pay crop insurance because to them crop insurance is not useful. Farmers with insurance with claims (T1) have lower percentage on willingness to pay the both bid amounts than the farmers without claims. This may be explained by their experience on low amount of indemnity claim they received during the previous seasons.

There is a higher percentage of small farmers (less than 0.5 hectare) who are not willing to pay for the bid amount. This may be because of the smaller amount of capital used in small farms which the farmer can finance and in case of crop damage, the effect is not as much as those with large farms. Thus, the farmers do not see the effect of cash out for the payment of insurance premium in order to assure of the indemnity in case of crop loss/damage.

Table 98. Willingness-to-pay for corn insurance by bid amount and treatment group by farm size, Region 2. 2015

Bid Amount	With Insurance								Without Insurance								Total (Pooled)			
	With Claims				Without Claims				With and Without Claims											
	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All	FS1	FS2	FS3	All
Frequency																				
Willing to Pay P5,083/ ha per cropping season	3	19	18	40	6	15	39	60	9	34	57	100	12	31	54	97	21	65	111	197
Willing to pay P1,950.40/ha per cropping season but not P5,083	5	18	24	47	5	13	43	61	10	31	67	108	14	34	59	107	24	65	126	215
Not willing to pay both bid amounts	8	15	42	65	17	18	29	64	25	33	71	129	22	41	72	135	47	74	143	264
Not willing to pay both bid amounts because agricultural insurance is not useful	1	4	10	15	2	4	5	11	3	8	15	26	3	7	17	27	6	14	33	53
Average quoted bid amount if not willing to pay both bids	206	180	385	315	271	339	483	386	250	267	425	350	377	285	342	330	310	277	383	340
Total respondent(n)	13	37	68	118	23	34	75	132	36	71	143	250	36	76	138	250	72	147	281	500
Percent of Total Respondent (n)																				
Willing to Pay P5,083/ ha per cropping season	23.08	51.35	26.47	33.90	26.09	44.12	52.00	45.45	25.00	47.89	39.86	40.00	33.33	40.79	39.13	38.80	29.17	44.22	39.50	39.40
Willing to pay P1,950.40/ha per cropping season but not P5,083	38.46	48.65	35.29	39.83	21.74	38.24	57.33	46.21	27.78	43.66	46.85	43.20	38.89	44.74	42.75	42.80	33.33	44.22	44.84	43.00
Not willing to pay both bid amounts	61.54	40.54	61.76	55.08	73.91	52.94	38.67	48.48	69.44	46.48	49.65	51.60	61.11	53.95	52.17	54.00	65.28	50.34	50.89	52.80
Not willing to pay both bid amounts because agricultural insurance is not useful	7.69	10.81	14.71	12.71	8.70	11.76	6.67	8.33	8.33	11.27	10.49	10.40	8.33	9.21	12.32	10.80	8.33	9.52	11.74	10.60

Note: Added those with insurance; (seems that partners also asked the question to those with insurance already)

Impact of Crop Insurance on Corn Production

This section presents the statistical results in terms of factors affecting PCIC insurance availment, comparison of net income between farmers with and without insurance and estimated impact of agricultural insurance on net farm income when the respondents are group into (a) whether or not they satisfied the critical matching criteria, (b) only samples that satisfied all the five critical matching criteria, and (c) at least three matching criteria.

Factors Affecting PCIC Insurance Availment

Table 99 shows the factors affecting the probability of PCIC insurance availment by corn farmers in Region 2 for the cropping years 2014 and 2015. The table shows that there are five factors significantly affecting the availment of PCIC crop insurance by corn farmers namely: farm size, government transfer income, adoption of hybrid variety, corn parcel ownership/tenure and the distance of farmer to PCIC Office.

The result shows that the availment of crop insurance tends to be positively correlated with the adoption of hybrid corn variety. This means that farmers with crop insurance tend to have higher adoption rate of hybrid variety than farmers without crop insurance. Around 97 percent of those farmers with insurance are planting hybrid corn variety while 94.59 percent of the without insurance plant hybrid corn variety. It can also be reasoned out that indemnity availment of those insured in the preceding cropping season will make farmers be financially capable to finance then the succeeding cropping season. And hence the promises of higher income due to availability of fund to purchase the required production inputs make them choose to plant hybrid corn. In like manner, hybrid corn variety require higher production inputs and therefore higher expenses than the non-hybrid corn variety, hence farmers using the hybrid variety tend to have the incentive to avail crop insurance for his farm. This finding can also be attributed to the observation that agricultural farm technologies usually have connections with hybrid corn dealers and that in a way farmers with insurance are more encouraged to plant highbred than those without insurance.

Land tenure of corn parcels negatively affects the farmers' availment of crop insurance at 5 percent level of significance. The proportion of corn farmers with insurance is higher among those who do not own their corn farms than those who own at least part of their corn parcels. Among those who do not own their corn farms (291 farmers), 53.95 percent are with insurance and 46.05 percent are without insurance. This means that farmers who do not own the land tend to avail of crop insurance than those who own the land. This is because logically speaking, farmers take sole responsibility of inputs as well as premiums. If the crop is damaged, the land owner will not have any share of the indemnity. The normal sharing arrangement of harvest in the region is 1:3 or 1:4 – that is one part for the land owner and three or four parts for the tenant. So the reason why tenant farmers tend to assure their farms with crop insurance is the belief that they are freed from giving owners share for the indemnity they can claim.

Table 99. Factors affecting PCIC insurance availment of corn farmers in Region 2, 2015.

Variable	Coefficient	Std. Err.	P> z
Dependent: Probability of availing of corn insurance			
Independent variables			
Constant	1.98311	2.21454	0.371
Period	-0.09820	0.12460	0.431
Past rainfall shock	0.27480	0.25587	0.283
Farmer's sex	-0.41395	0.29902	0.166
Farmer's education (base category: Primary)			
Secondary	-0.42789	0.33412	0.200
Tertiary	0.01883	0.26798	0.944
Farmer's farming experience	-0.00440	0.01006	0.662
Farmer's membership in organization	0.19879	0.38953	0.610
Farm size	0.20624	**	0.08043
Government transfer income (log)	0.20249	**	0.08506
Non-farm wage income (log)	0.02534		0.01587
Non-farm entrepreneurial income (log)	0.04366		0.04147
Hybrid variety	2.54006	***	0.85060
Percentage of corn parcel ownership	-0.57761	**	0.25233
Access to irrigation	-0.65240		0.88660
Topography (flood/river plain)	-0.05366		0.32269
Cropping system (intercropping)	-0.48801		0.85088
Agricultural asset	0.00960		0.07299
Distance to PCIC offices	-0.87820	**	0.37244

*** significant at 1% level, ** significant at 5% level; * significant at 10% level.

Table 99 further shows that farm size is positively correlated with the probability of availing crop insurance. This means that the larger the farm size, the higher the probability of getting insurance for their corn farms. This implies that predicting that calamities occur, farmers with larger farms face greater risks and hence their tendency is to get insurance for their crops. This is actually part of their interest in gambling. Farmers with larger farms face greater risks so they have more incentive to get insurance for their corn farms.

The distance between PCIC office and farmer was also analyzed as a predictor of insurance demand. The findings reveal that the distance of office to farmer is independent from insurance demand. The negative correlation implies that the distance between the PCIC office and the farmer need not necessarily be very close (within the same municipality/city or province) to the farmer's place. This is because in Region 2, the more important factor farmers consider is accessibility of the office. So whether the PCIC officers can reach by vehicles the farmers' homes or not does not matter, for as long as the office is present to serve them. Also, PCIC usually have their tie ups with the Local Government Units (LGU) through the Municipal Agricultural Office (MAO) wherein their Technicians reach out farmers through barangay coordinators or officers. In fact, during the gathering of data, there are areas that cannot be reached by four wheel vehicle but by the use of sled cart. The Technician called the farmers to the municipal office generally located at municipal centers

to discuss about the agricultural insurance. However it is worthy to mention that the presence of PCIC office within the area where the farmers are influence the demand for insurance.

Government transfer is positively correlated with the availment of crop insurance as the table. Government transfers include those non-agriculture related and non-credit. This means that corn farmers who receive higher government transfers have higher probability of getting agricultural insurance. Farmers who receive government transfers are usually the ones included in the list of beneficiaries of the government assistance such as the insurance premium subsidy of the PCIC. Having received any government transfer the farmer has something to use for the purchase of agricultural insurance

Net Incomes of Sample Corn Farmers

Table 100 shows the net income of corn farmers in Region 2 for the cropping years 2014 and 2015. Net income in the table is computed as:

$$\text{Net income from corn production} = \text{gross income} - (\text{total cost of production} + \text{Insurance premium}) + \text{indemnity claims}$$

The table shows that corn farmers in Cagayan Valley with insurance with claims have generally higher income than those without insurance although there is no clear pattern across farm size. This may be explained by the indemnity claims received by farmers with insurance which is added to the net income. Although the indemnity payments received covers only around one-third of loss due to crop damage but higher than the insurance premium, the net effect to income is positive compared with farmers with insurance without claim and farmers without insurance who received nothing in time of shocks. Thus, for farmers who do not have insurance and no indemnity payments received, they are not able to recover any portion of the loss due to crop damage despite they experience the same shocks with the matched samples (with insurance with claim).

The corn farmers have higher income in 2015 than in 2014. Secondary data and based on the report of NEDA, the region experienced shocks in 2015 causing a decline from 2014 in the gross value added of agriculture and fishery sector. The setback in the growth of agriculture and fishery sector in 2015 was attributed to the extreme weather events (typhoons Egay, Lando, Ineng and Nona) and adverse effects of the El Niño which started in the second year of the year (NEDA, 2016). However, the table shows that the net income is lower in 2014 than 2015 which may be explained by the insurance premium and indemnity claim received by farmers - that is, insurance premium is added to the cost and indemnity claim is added to the income. The findings on the cost and return above the net income of corn production without imputing the effect of insurance) indicate that the farmers have higher net income in 2014 than in 2015. This implies that the purchase of crop insurance and the indemnity received does not directly affect corn production because the amount may have been used for other purposes. The specific dates or timing of receiving indemnity claims and the timing of corn production should be further studied.

Table 100. Comparison of net income of corn farmers with and without insurance in Region 2 for the cropping years 2014 and 2015

Farm Size	With Insurance		Without Insurance
	With Claims	Without Claims	
2014			
0.5 ha & below		3,443.21	- 107.39
>0.5 ha to 1.0 ha		220.99	- 745.65
>1.0 ha	1,498.10	191.10	- 0.80
All Farm Sizes	1,498.10	219.89	- 3.49
2015			
0.5 ha & below	2,376.97	1,178.09	385.41
>0.5 ha to 1.0 ha	1,287.96	861.96	1,120.54
>1.0 ha	2,763.43	- 454.22	414.81
All Farm Sizes	2,098.30	187.67	635.56

The amount of cover in agricultural insurance for corn is very much lower than the farm production cost. Based on DA-Region 2 data the average cost of production is P 53,215/hectare or P60,138/ha for commercialized hybrid yellow corn and P37,341/hectare for OPV-white corn. Also, the study of PSA (2014) on average production cost and return of corn production in Cagayan Valley for January-June 2013, the average cost of production is P43,183/hectare (P24,462/hectare for white corn and P43,362 for yellow corn). The ceiling amount of cover by PCIC is P40,000/hectare for hybrid variety and P28,000/hectare for OPV. However, the data shows that the maximum amount of cover is P25,000/hectare. If medium risk for natural disaster cover, the amount of premium P25,000 cover is P3,345 which maybe a loss if farmer gets only less than 50 percent of total amount of damage. Other reason is maybe due to only few adjusters from PCIC to determine actual lost, estimation is not individually but get samples only.

There is no pattern across farm size in terms of the net income on corn production. This may be explained by the fact that many of the farmers who own more than one parcel did not avail crop insurance for all the parcels but only for some parcels. Those farmers with large farm size usually own more than one parcel, on the average two parcels. In 2015, there were more shocks but farmers with insurance but did not received indemnity claim tend to have incurred added loss due to the premium payment than those without insurance, especially for large farms.

Estimated Impact of Agricultural Insurance

The estimated impact of agricultural insurance on net income of farmers on corn production in Region 2 is shown in the results of t-test for the statistical comparison of net income per hectare of corn production between the farmers with insurance and without insurance, with insurance with claim and without claim, and with insurance with claim and without insurance by farm size is shown in Table 5.

When farmers are not grouped according to farm size, the results reveal that there is statistical significant differences at 5 percent level of significance between net farm incomes of those farmers with insurance with claims and those without insurance 2015 and at 10 percent level of significance in 2014. This means that farmers with insurance with indemnity claim have higher net income than those farmers who did not avail of crop insurance.

Similarly, there is a significant difference in net income per hectare between the farmers with insurance with claims and the farmers with insurance without claim at 5 percent level of significance in in both years 2014 and 2015. This indicates that farmers with insurance and receive indemnity claims have higher net income on corn production than those farmers who have crop insurance but did not receive indemnity claim.

When farmers are grouped according to farm size, the t-tests also reveal that the average net farm income from corn production of those farmers with insurance with claims is significantly different from those farmers with insurance but without claims in both years 2014 and 2015 among large farms (greater than 1.0 ha) at 5 percent level of significance. This means that farmers with insurance with claims have relatively higher net income on corn production than farmers with insurance but without claims among farmers with large farm size.

Among small farm size group (1.0 ha and below), the net income on corn production of farmers with insurance with claims and farmers without insurance are significantly different at .05 level of significance. This show that for small farms, farmers with insurance with claims have higher net income on corn production than farmers without insurance in 2015 but not significant in 2014. There were more shocks in 2015 than in 2014 in Region 2.

The above findings indicate that receiving an indemnity claim from insurance has significant impact on the net income of farmers on corn production. This concludes the importance of receiving of indemnity claims when farmers are affected by shocks.

Table 5. Statistical comparison of income (PhP) between farmers with and without agricultural insurance, Region 2, cropping years 2014 and 2015

Farm size	Y _{with insurance} - Y _{without insurance}		Y _{with claims} - Y _{without claims}		Y _{with claims} - Y _{without insurance}	
	2014	2015	2014	2015	2014	2015
1 ha. & below	710.54 ^{ns}	66.98 ^{ns}	717.74 ^{ns}	714.41 ^{ns}	1,501.59 ^{ns}	1,462.74 ^{**}
> 1 ha.	142.95 ^{ns}	372.48 ^{ns}	1,657.08 ^{**}	2,823.77 ^{**}	581.02 ^{ns}	946.43 ^{ns}
All farm sizes	489.67 ^{ns}	-283.87 ^{ns}	1,278.22 ^{**}	1,910.63 ^{**}	2,115.31 [*]	1,914.51 ^{**}

Note: Y = net income from corn production (on a per-hectare basis);

^{ns}, not significant; * significant at 10%; ** significant at 5%; *** significant at 1%

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary and Conclusion

Basic Profile and Characteristics of the Households

Farmers are in their midyears (48 year), majority are males and married and undergone elementary level of formal education with an average of 4.4 family size. Farming is the primary occupation of farmers and few as their secondary occupation. Mostly are members of PhilHealth but only few are members or beneficiaries of SSS/GSIS, Cooperatives, mutual aid, supplemental feeding program, cash for work program, health assistance program and education/scholarship program. Only few received agricultural support assistance such as subsidy or free seeds for crop production, fertilizer, pesticides, livestock dispersal, government credit, agricultural insurance and livelihood training program and disaster relief assistance for both with and without insurance group of farmers and

One-tenth of the farmers belong to the indigent group, with percentage of CCT beneficiaries slightly higher in the group of farmers with insurance than the farmers without insurance

Housing and Household Productive Assets

Majority of the households have non-makeshift housing and in terms of construction materials of outer wall, almost one-half of the farmers have homes vulnerable to disaster. Farmers with insurance without claims are the least vulnerable to typhoon disaster while those farmers without insurance are the most vulnerable to typhoon disaster - majority of them uses light materials. The farmers own the house and lot where they are staying and mostly have been staying for more than two years in their respective residents.

Most of the farmer-households have electricity at home with less than one-tenth of them has no electricity. Almost all the farmer respondents, regardless of farm size and treatment group, have sanitary toilet

The corn farmers can have several type of source of drinking water supply depending on their environment and capacity. However, almost all of the farmers regardless of farm size and treatment group have safe water source. Majority of the farmers have protected dug well as their main source of water supply.

Access to Physical Infrastructure, Economic Support and Agricultural Services

The most common facilities that the farmers are aware of in their barangay are the presence of drying facilities and thresher. These are also the important facilities in corn production that they availed of.

Farm Characteristics, Production and Income

Farmers planted corn in more than one parcel of farm. The household with insurance planted an average of 1.9 parcels, a little bit higher than their counterpart without insurance with 1.7 parcels. The area planted with corn by farmers with small farm size (FS1) have fewer number of parcels while those farmers with large farms (FS3) have more number of parcels planted with corn.

The average area planted in Cagayan Valley Region for corn is 1.9 hectares per household or 1.1 hectares per parcel. The average physical area planted with corn per household with crop insurance was 1.95 hectares and 1.8 ha for the without insurance. The farmers with insurance with claim had the largest average area planted with corn which is 2.1 hectare per farm. Given the large area planted with corn, which is around two hectares, the effect to farmer would be large if the farms are damage with natural calamities.

Majority of the respondents have farms located within the same barangay where they live. There are more households from the “without insurance” whose farms are located within the same barangay where they live than the “with insurance”. Respondents therefore do not spend much travel time to and from house to their farm. Likewise, supervision of their farms would be easier since they do not travel long distance to go to their farms hence, transportation cost is not high.

The topography of the parcels of farms planted with corn share the same percentage on broad plains and hilly/rolling lands, the rest are river flood plain. There is a higher percentage of farm parcels of the respondents without insurance that are located in hilly lands than those with insurance. Farms located in river/flood plain are prone to flood during wet season while those hilly/rolling farms are prone to drought especially during dry season and during heavy down pour of rain which may cause erosion. The results indicate that since the corn farmers are located in areas located prone to flood and in hilly areas may require more insurance coverage of their corn production.

The prevalent cropping system used by farmers in their corn farm is mono-cropping. Mono-cropping is the growing of a single crop in the same field every cropping. Almost all of the parcels planted to corn are rainfed farms.

More than one-half of the corn farm parcels are fully owned by the respondents, around forty percent are tenanted and the remaining six percent are either rented, leased or with certificate of land stewardship. More than one-half of the farmers without insurance fully own their corn farms while less than one-half of the with insurance fully own their farms.

Almost all farmers planted hybrid corn variety in both cropping years, 2014 and 2015. There is a higher percentage of the farmers with insurance using hybrid variety (96.67 percent) than those famers without insurance with 94.59 percent. Farmers with small farm size (FS1) had the lowest percentage of farmers using hybrid variety among the three farm size groups.

Out of the total parcels planted to corn, only one-fifth has agricultural insurance cover each cropping year. The area covered by crop insurance increased in 2015 from 2014. For those with agricultural insurance, almost one half of the respondents did not know the type of their agricultural insurance cover .

Around one-fourth of the total respondents identified as with insurance, with indemnity claim claimed to have received indemnity claim. The major cause of loss connected to indemnity claim received in 2014 was typhoon and flood.

The average cost of production per farmer was P107,196 in crop year 2013-2014 and P106,738 in crop year 2014-2015. One crop year include two cropping seasons. With the average farm size of 1.9 hectares per farmer, this indicates that the average cost of production per hectare was around P56,000/ha per crop year. The highest expenditure was on seeds (P31,685). The high cost of seeds maybe due to several times of planting due to flood. In flood plains, there were cropping seasons the farmer has to repeat planting if the first planting at early stage of corn plant is destroyed due to flood. Farmers with insurance with claims has the highest production cost with an average of P121,729 per farmer among the treatment groups. The average net income was P33,298 for all farmers in 2014.

Credit Availment Practices

Less than one-half of the farmers availed agricultural loans for both cropping seasons. There were more farmers of the with insurance who availed agricultural loans than those farmers without insurance. Among those with insurance, there were more farmers with claim group who availed agricultural loans than those without claim group of farmers. Majority of the farmers get their loan from private person money lenders. There was a higher percentage of the farmers with insurance who availed from cooperatives, banks and institutional private money lenders than farmers without insurance although this comprise of around ten percent of the farmer group.

The average amount of loan of farmers is ₱36,364 from formal credit source and P33,685 from informal source in crop year 2014. Although there are more farmers who borrowed from informal source, the average amount of loan is bigger from formal source than from the informal source.

The average amount of loans of farmers with insurance with claim who availed from formal creditors was PhP 51,364.00, PhP30,556.00 for farmers with insurance without claims and P27692 for farmers without insurance. The average loan amount of the with insurance from formal credit (P42,000) is higher than from informal source (P34,830), however the reverse is observed among farmers without insurance. The amount of loan from formal creditor is lower (P27,694) than from informal credit source (P32,298).

The informal sector charged higher interest rate which is 11 percent than the formal source which is 4.7 percent. This is observed in both cropping years. Despite of the higher interest from informal creditor majority of the farmers still prefer to barrow from them because they are nearer to their place, not too many paper requirement and no collateral. In general, there is no collateral required from majority of borrowers by lending institution/individual. However it should be noted that for barrowing farmers, the application for insurance is first submitted to lending conduit before the application for insurance cover is approved.

In 2014 there are 29.15 percent of the borrowers who were not able to pay their loans on time and 23.87 percent in 2015. There were more farmers of the farmers with insurance without claim group who were not able to pay their loans on time than those group of farmers with insurance with claim. The main cause of non-payment of loan is the poor harvest of

farmers due to typhoons. Most of the farmers utilized their loan proceeds for farm production inputs regardless of the treatment group.

More than one-half who did not avail loan during the study period. There are more farmers without insurance who did not avail loans than farmers with insurance. The first reason for corn farmers for non-availment of loan is that they cannot afford to borrow.

Household Income and Other Receipts

The highest mean source of income of corn farmers is from salaries and wages from employment amounting to P120,007 per annum followed by income from family sustenance activities with P96,693. Although the major occupation of farmers is farming, the mean is low compared to the other sources of income.

On the average, the highest percentage of the household income was derived from the major crop which is corn both in 2014 and 2015. Less than ten percent each come from other sources of income. The farmers with insurance have higher percentage that derived income from major crop than the farmers without insurance.

Shocks and Coping Strategies

The most severe natural disaster shock experienced by the farmers is drought followed by typhoon. In terms of the second most severe shock experience, the highest is drought.

More than one-half of the group of farmers with insurance with claims experienced drought as the most severe shocks, one-half of the farmers without claims and 56.40 percent of the without insurance. The percentage of the group of farmers without insurance farmers who experienced drought is higher than the group of farmers with insurance without claim. The highest most severe manmade shock experienced by farmers is financial crisis although only few claimed it (less than ten percent).

Among the most severe natural disasters, the biggest decline in household income is due pest infestation with estimated amount of P38,015 income loss. The group of farmers without insurance did not report any decrease in income due to pest infestation. The most affected in terms of decrease in income due to pest infestation are the large farms. This may be explained by the time constraint of the farmer to monitor the large farm area. The integrated pest management requires the farmer's time to monitor the farm closely in order to prevent the occurrence of pest and diseases above the threshold level before the application of pesticides or insecticides

The biggest average monetary impact of shocks is P41,265 due to pest infestation. Pest infestation is also the shock with the highest monetary impact among group of farmers with insurance without claims. The monetary impact of drought and pest infestation is higher in group of farmers with insurance than the farmers without insurance. Typhoon and flood had higher monetary impact to farmers without insurance than those with insurance.

It is found out that around one-third of the corn farmers were not able to recover at all from shocks, almost one-half partially recovered and only around one-fifth completely

recovered. There is a slightly higher percentage who completely recovered among the group of farmers without insurance than the with insurance treatment group. Among the farmers with insurance group, there is a higher percentage of farmers without claims who have not recovered at all than farmers with claims.

Coping strategies are classified into food-related, non-food related, health-related, education-related and other coping strategies the farmers employ. Farmers relied more on their own produce as their food related coping strategy for the most severe natural shock they experienced.

Risk Mitigation Strategies in Crop Production

Adopting earlier or later planting date as the number one risk mitigation strategy of corn farmers during dry and wet season either with or without insurance.

This particular strategy is commonly practice by farmers whose farm is located within the flood plains, wherein during the rainy season there is risk of flooding. Farmers plant earlier if they think there is not much rains and flood to come, so that at the growing stage of corn plants, they are not in time with the start of dry season or where there is little rain already. Little rain is already experienced I Region 2 during month of February, to avoid this, planting is October to November. However, flood usually comes during October-November, if corn fields are flooded, planting is postponed to December – January.

During wet seasons, main planting is done which is usually the start of rain so that at harvest time, around September there is no much rain yet and drying of corn grains would be easier. If there is no rain yet during May, planting is postponed until June. This is risky also because harvesting in October is in time with the rainy season.

Awareness on agricultural Insurance

Majority of farmers claimed that the number one pressing problem they faced is adverse weather condition such as drought and flood. There were more percentage of farmers from the without insurance group who claim adverse weather condition as their first serious problem

Among the corn farmers with crop insurance with claims, around ten percent only availed of agricultural insurance about two years ago and less than ten percent each first availed about a year ago and a few first availed of insurance about three years ago. Less than ten percent of the farmers avail of agricultural insurance regularly while almost all do not avail such insurance regularly. The number one reason for the non-regular availment of crop insurance is that the farmers do not have enough money to pay the premium. The number one reason of those who availed agricultural insurance on the other hand is because of the encouragement of the Agricultural Technician from the Local Government Unit.

Indemnity Claims Payment and Utilization

Around three-fourths of the farmer-respondents identified as with indemnity claim, claimed that they received their indemnities while the one-fourth still claimed they did not receive indemnity claim. This indicates that these farmers lack awareness about the indemnity he would claim especially if the farmer availed crop insurance through a lending institution conduit. Majority of the farmers did not receive their indemnity claim in time for the next planting season.

The farmers utilized their indemnity claims to pay farm production inputs. Thus, crop insurance indemnity is very important for the farmer to sustain the input requirements for the next planting season.

Willingness to Pay Agricultural Insurance

The average indemnity claims for crop damage due to typhoon and flood is ₱3,452 and ₱5,445 due to drought. The bigger amount of claim for drought damaged crop is due to the fact that when drought damages corn farms, corn plants do not grow and form no corn grains, therefore no harvest is expected. While those damaged by typhoon, it is possible that partial damage occurs and corn plants have still the tendency to recover and bear fruit.

These findings indicate that the indemnity claim in crop insurance cannot cover all the crop loss during shocks. On the average almost one-fourth of the estimated crop damage was received by corn farmers out of the total damage/loss in 2014 and almost one-third of the crop damage in 2015. The ratio of indemnity payment received is higher in large farms than in small farm.

More than fifty percent of the farmers are not willing to pay any of the bid amounts of crop insurance. The bid amounts of cover in eliciting the willingness to pay which are based on the average amount of cover for corn are ₱5,083/ha and ₱1,950.40/hectare. This indicates that farmers are not yet sold of getting crop insurance on their own.

Factors Affecting Availment of Crop Insurance

The availment of crop insurance tends to be positively correlated with the adoption of hybrid corn variety, farm size and government transfer while negatively correlated with land tenure and distance from/to PCIC offices.

Farmers with crop insurance tend to have higher adoption rate of hybrid variety than farmers without crop insurance.

The distance of office to farmer is independent from insurance demand. The distance between the PCIC office and the farmer need not necessarily be very close (within the same municipality/city or province) since tie-ups with the Local Government Units (LGU) through the Municipal Agricultural Office (MAO) can be made to reach out farmers through barangay coordinators or officers.

Farmers who do not own the land tend to avail of crop insurance than those who own the land. Logically speaking, farmers take sole responsibility of inputs as well as premiums. If the crop is damaged, the land owner will not have any share of the indemnity.

The larger the farm size, the higher the probability of getting insurance for their corn farms. This imply that predicting that calamities occur, farmers with larger farms face greater risks and hence their tendency is to get insurance for their crops.

Corn farmers who receive higher government transfers have higher probability of getting agricultural insurance. Having received any government transfer the farmer has the added capacity or has something to use for the purchase of agricultural insurance.

Impact of Crop Insurance on Corn Production

Corn farmers in Cagayan Valley with insurance and received indemnity claims have statistically higher net income on corn production than those farmers with crop insurance but did not receive indemnity claims in both 2014 and 2015 cropping years. Also, farmers with insurance with indemnity claims have higher net farm income than farmers without insurance. Among large farms (greater than 1.0 ha) corn farmers with insurance with claims have higher net farm income than farmers with insurance without claims in both years.

The above results indicate the importance of receiving indemnity claims for corn farmers.

Recommendations

In light of these findings, it is recommended that policies, programs and efforts of the government and the PCIC efforts be directed towards enhancing the factors that increase the availment of agricultural insurance such as discounts to those who do not own their farms and those who use hybrid varieties. The indemnity coverage and assessment of damage to claim indemnity should be reviewed. Intensive awareness campaign and education about the agricultural insurance should be made for farmers to appreciate the importance of insurance. Further study in Region 2 on the farmer's attitudes toward agricultural insurance and other studies that may affect the performance and availment of agricultural insurance in Region 2.

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