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Policy Options for Rice and Corn Farmers in the Face of Seasonal Climate Variability

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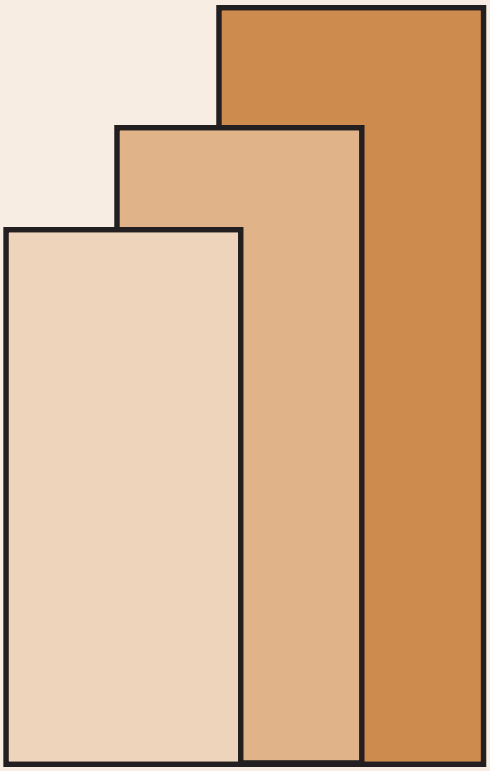

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POLICY OPTIONS FOR RICE AND CORN FARMERS IN THE FACE OF SEASONAL CLIMATE VARIABILITY*

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ABSTRACT

In the face of seasonal climate variability, the smallholder farmers, particularly those in rural communities, are among the most adversely affected. As a way to address this, together with concern on low productivity, the Philippine government has been implementing a range of risk management programs for farmers and other agricultural stakeholders. Based on key informant surveys and focus group discussions with rice and corn farmers conducted in key producing areas, however, farmers reported that they still have limited options in terms of changing their production decisions in response to seasonal climate forecasts (SCF). Among the risk mitigation tools available, the following emerged as most preferred by farmers: localized climate information, accessible credit, crop insurance, and special assistance programs such as irrigation and seeds provision. This paper tackles these programs in details and then discusses the challenges besetting these programs. The paper also presents some policy options which could enhance the delivery of these agricultural services in pursuit of improved productivity and welfare in target farming communities in the country.

Keywords: Seasonal Climate Forecast (SCF), risk management programs, localized climate information, agricultural credit, crop insurance, irrigation, seeds subsidy

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1.0 INTRODUCTION

The vulnerability of agriculture to the unpredictability of nature is an age-old riddle, which have left even the wisest of men without answers. In most cases, people are left with no other recourse but to adapt to environmental happenings and make do with what they have. In the Philippines where agricultural production represents a major source of livelihood for many rural people, the pressure to do better amidst seasonal climatic variability is immense.

Scholars have claimed that the phenomenon of climatic variability has great socio-economic ramifications and would worsen the disparity between the rich and poor. Measures to address this concern should therefore be multi dimensional-- tackling both physical and welfare issues. Safeguarding the livelihood and interests of local farmers means that the impact of natural disasters and other agricultural risks cannot be taken lightly and entails concrete action in social, economic, and political fronts.

Nature's challenges are daunting for everyone concerned. Farmers with their meager resources and traditional ways have been trying to adapt and survive. National and local governments, NGOs and other institutional bodies/stakeholders are doing their part but further consolidation of efforts is needed. Among those that the Philippine government has come up with to assist farmers in the face of seasonal climate variability are price stabilization measures, typhoon and/or drought relief, livestock and feed subsidies, farm input subsidies, agricultural credit, and subsidized crop insurance schemes.

Decades of agricultural support, risk mitigation, and relief efforts have resulted to some degree of success, but a more lasting and sustainable solution is yet to come. Recent surveys among rice and corn farmers in key producing municipalities made it apparent that the sector still needs much assistance. As gathered, general farm productivity needed to be improved, farms were still very vulnerable to damages by floods, drought and typhoons, and many farmers were up to their necks in debt.

1.1 Impact of seasonal climate variability

Much had happened in the country's agricultural sector over the past decade. Great technological milestones were made but setbacks were also ever present. Productivity in the crop sector was generally increasing over the last ten years, but production losses especially those from seasonal climatic aberrations were huge.

Data from the Department of Agriculture prove the vulnerability of the farming sector to the unpredictability of nature. Droughts, floods and typhoons have been wreaking havoc on crops and causing untold miseries among farmers. From 1995-2004 alone, climatic aberrations had damaged a total of 4.1Million hectares of prime rice and corn farmlands. Cumulative losses incurred amounted to ₱16Billion for rice farmers and ₱7.2 Billion for corn growers.

Table 1. Damages to rice and corn production due to droughts, floods and typhoons from 1995-2004

YEAR	PALAY Damages			CORN Damages		
	Area(ha)	Volume(MT)	Value (P'000)	Area(ha)	Volume (MT)	Value (P'000)
1995	581,511	953,436	3,977,341	126,863	192,979	476,412
1996	95,326	114,979	234,706	13,196	418,481	704,416
1997	201,021	204,186	433,284	30,675	27,697	82,439
1998	1,281,838	1,863,848	4,679,394	350,357	497,075	1,846,004
1999	278,956	258,487	809,088	9,883	5,714	32,873
2000	375,029	510,553	1,594,869	19,394	10,535	57,598
2001	214,593	296,040	805,059	140,882	162,808	546,143
2002	121,199	220,760	548,347	53,271	87,046	330,354
2003	287,199	413,155	1,320,091	255,565	663,901	1,696,124
2004	362,086	649,531	1,696,584	148,578	492,183	1,436,241
Total	3,798,758	5,484,975	16,098,763	1,148,664	2,558,419	7,208,604
Mean	379,876	548,498	1,609,876	114,866	255,842	720,860

Source: Department of Agriculture, 2006

Looking further back, Greenpeace (2007) estimated that from 1975 to 2002 alone, intensifying tropical cyclones in the Philippines have caused an average yearly damage to property of PhP 4.5B with agricultural damages reaching as high as P3B. The organization further claimed that the Philippines, like the rest of the region, would likely continue to experience extreme climatic variability as manifestation of the impact of climate change.

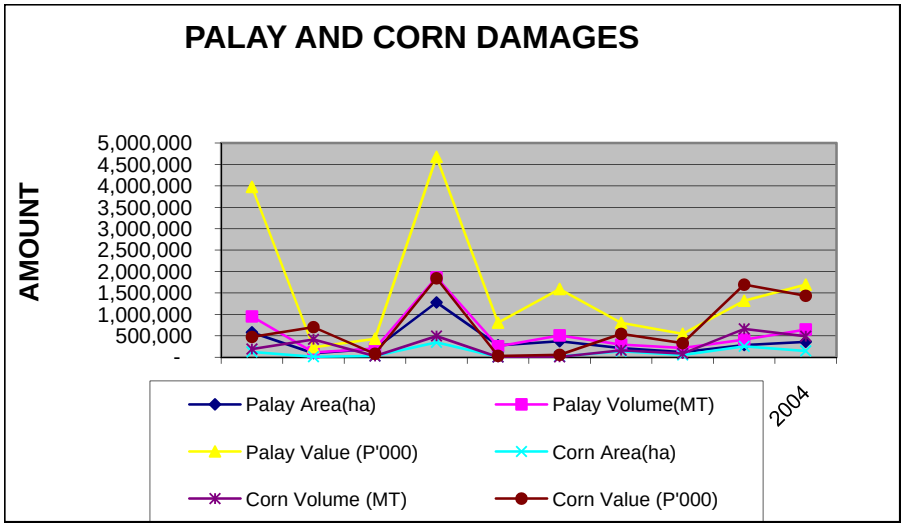
A major cause of the climatic catastrophes being experienced in the country, and in other parts of the world, is the El Niño Southern Oscillation (ENSO) phenomenon. ENSO shows its destructive face through two major phases: the El Niño or warm event and the La Niña or cold event. El Niño conditions lead to drier seasons due to suppressed tropical cyclone activity and weak monsoon characterized by delayed onset, dry periods and early termination. La Niña, on the other hand, is characterized by above normal rainfall, and longer rainy seasons. The destructive power of ENSO was clearly documented during the 1997-1998 El Niño/La Niña episode when a total of ₱7.6B in rice and corn production losses were incurred.

Table 2. El Niño and La Niña Episodes during the past decade

Period	Event
May 1994-April 1995	El Niño
October 1995-April 1996	La Niña
June 1997-May 1998	El Niño
August 1998- July 2000	La Niña
November 2000- March 2001	La Niña
June 2002-April 2003	El Niño
August 2004-March 2005	El Niño

Source: CPC-NOAA, 2006

More alarming is the seemingly frequent occurrence of the ENSO phenomenon in recent years. There has not been a single year from 1994 up to present when either the cold or warm phase of ENSO was not present. This fact is distressing given the trend that the event only occurred on average by intervals of 2-7 years during the last three hundred years. According to Amadore and Greenpeace (2007), the more frequent occurrence of severe El Niño and La Niña events are likely local manifestations of global climate trends. This apparent increase in climatic variability equates to elevated risks in agricultural production and postproduction operations.



1.2 Problems compounding rice and corn farming

Risks are easily converted to losses when not properly addressed. ENSO and seasonal climate variability impacts all segments of society, but among the most affected are resource- constrained farmers whose livelihoods are greatly dependent on the changing seasons. This is most evident among rainfed farmers who rely exclusively on rainfall to irrigate their crops. Other agricultural businesses that operate with better resources and more modern technology on better farmlands are also not spared from the same risks.

Prolonged dryspells, excessive rains and flooding are critical events that could easily destroy a season's crop. The coming of rains signals the start of a new planting season, but the same gift from nature- or lack of it- could easily wipe out a standing crop. The need to safeguard the interests and investments of local farmers and industry players is therefore of great importance.

The problems of smallholder farmers are further aggravated by a number of complicating elements in the rural countryside. Getting enough capital to buy inputs and start the cropping season is a big challenge in itself for most rural dwellers. Replenishing finances after an environmental catastrophe is a much greater hurdle. Add the complication of excessively high-interest loans from informal lenders and you've got a poverty trap that is effectively working against the socio-economic welfare of local farmers.

The need to help smallholder rice and corn farmers to overcome environments and socio-economic challenges is a given. A more critical concern is how to proceed in giving such help. Over most parts of the last century, the government and non-government organizations have been busy trying to come-up with the best means to solve the perennial socio-economic problems in rural farming communities. Some efforts produced commendable results but many more failed and were just written to the annals of unsuccessful development initiatives.

This paper intends to expound on some preferred mitigating tools, which have been explicitly aired by interviewed rice and corn farmers. It presents some policy options which could enhance the delivery of agricultural services and help improve productivity in target farming communities.

2.0 PREFERRED DEVELOPMENT INTERVENTIONS

To address concerns on low productivity and seasonal climate variability, the Philippine government has been implementing a range of risk management programs for farmers and other agricultural stakeholders.

Though not much could be done when a "prolonged drought" or a "super typhoon" strikes, there is still a wide array of applicable tools that could help agricultural workers mitigate environmental challenges and decide intelligently in the face of seasonal uncertainties. Most important to consider in any development effort is the fit of the intervention on the needs and situations of the target population. Not a few development initiatives have failed because of the absence of a "match" between the help being offered and what is required in the field. The best way to proceed then is to do situational analysis and extract from the target clientele the types and kinds of assistance that are needed and preferred.

With this principle in mind, formal surveys and focus group discussions with rice and corn farmers were conducted in key producing areas to carefully assess the profile of the target groups and come-up with a list of preferred mitigation tools. After a lengthy process, the following emerged as the most acceptable to farmers: *better climate information, accessible credit, crop insurance and special assistance programs*.

The succeeding discussion breaks down the issues behind each of the preferred interventions and present policy options to make the interventions more accessible and acceptable to farmers.

2.1 Better Seasonal Climate Forecast and Information

2.1.1 State of the Art/Climate Information and Services Offered

The Philippine Atmospheric, Geophysical Astronomical Service Administration PAGASA, the country's premiere meteorological agency, has a wide range of climate

information products being offered on a regular basis. It has around ten advisories designed to inform and warn the populace on upcoming climatic/weather conditions.

Table 3 enumerates the different information packages.

Table 3. PAGASA's Climate Information Products

Monthly weather situation and outlook
Annual Seasonal Climate forecast
El Niño/La Niña Advisory
Tropical Cyclone Warning
10 Day Advisory
Farm Weather Forecast
Phil Agroclimatic Review and Outlook
Press Release on Significant Events
Phil Agri-weather Forecast
Climate impact Assessment Bulletin for Agric

More significant to seasonal climate variability are PAGASA'a seasonal climate forecasts SCF. SCF is one of the tools, which could help farmers and decision makers better prepare for seasonal variability. SCF applies probabilistic principles in projecting climatic deviations. PAGASA uses seasonal predictions from both national and international climate centers in coming up with its own forecasts for a certain period. International agencies tapped for the purpose are the National Center for Environmental Prediction/Climate Prediction Center NCEP/CPC, International Research Institute for Climate and Society IRI, and the Australian Bureau of Meteorology (ADPC and IRI 2005).

PAGASA's Climate Monitoring and Prediction Center CLIMPC is tasked to come-up with rainfall forecasts. Its services include forecasts on monthly and seasonal intervals, and an annual seasonal climate forecast or outlook. The average value of five different statistical techniques are currently being used in forecasting rainfall. These include the analogue method, Fourier analysis, Rainman, Principal Component Analysis using sea surface temperature as predictor and climate predictability tool CPT. Fourier analysis uses longtime data series, Rainman is a software developed by the Australian center for International Agricultural Research ACIAR that uses ENSO and ENSO phase indicators, and CPT is a tool from the IRI.

Maps comparing the expected monthly/seasonal conditions as a percent of normal and as deviations from normal are used to present forecasts. Written discussions also present a backgrounder and serve to put the prediction in proper context.

To disseminate information and invite appropriate discussions, quarterly forums are spearheaded by PAGASA with institutional partners and key stakeholders. More frequent meetings are scheduled during times of calamities. Among those who regularly attend the forums are media people, information end-users, and representatives of interagency committees dealing with water resource management, agricultural development and disaster mitigation and relief.

Farmers get most climate related information from television and radio programs. Regular press releases are also made by the agency specially in the event of extreme weather events. Local agricultural technicians also help disseminate appropriate advisories.

2.1.2 Challenges in Coming up with Appropriate SCFs

Though the list of climate information products from PAGASA is long, only El Niño/La Niña Advisory and Tropical Cyclone Warning effectively reach majority of the farming populace in selected sites in Isabela based on the the study of Reyes et.al. (2006). Ninety four percent of the farmers in the selected sites were aware of ENSO forecasts, while 85% received tropical cyclone warnings. The rest of the information products got a low awareness rating ranging from 19% to 2%. Usefulness and reliability ratings were acceptable with only a few expressing extreme discontent on the products. However, the figures still indicate that much has to be done to properly disseminate climatic information, improve its accuracy, and package the products in more useful ways.

Table 4. Awareness on, usefulness and reliabilty of PAGASA climate information products

Product	Awareness %	Usefulness* %					Reliability** %			
		1	2	3	4	5	1	2	3	4
Monthly weather situation and outlook	19	1	4	4	8	4	2	6	6	6
Annual Seasonal Climate forecast	19	1	5	7	2	2	1	4	8	5
El Niño/La Niña Advisory	94	11	16	38	16	13	9	26	24	18
Tropical Cyclone Warning	85	5	14	32	16	14	6	22	27	18
10 Day Advisory	7	-	1	5	-	1	-	2	2	1
Farm Weather Forecast	5	-	1	1	-	2	-	1	-	2
Phil Agroclimatic Review and Outlook	2	-	-	-	-	2	-	-	-	2
Press Release on Significant Events	2	-	-	1	-	1	-	1	-	1
Phil Agri-weather Forecast	4	-	-	2	-	1	-	1	1	1
Climate impact Assessment Bulletin for Agric	4	-	-	2	-	1	-	1	1	1

*Usefulness rating: 1-not useful, 2-somewhat useful, 3-useful, 4-highly useful, 5-vital
**Reliability rating: 1-unreliable, 2-somewhat reliable, 3-reliable, 4-excellent
Source: Reyes et.al. 2006

Among the most pressing concerns aired by farmers is the absence of localized climate/weather forecasts. PAGASA comes up with only national and regional advisories. The clamor for more relevant and specific information is justified given the archipelagic nature of the country and the diversity of local climate/weather conditions. Farmers really need to be provided with specific localized meteorological service if they are to truly gain the edge in the battle against seasonal climate variability.

Another challenge is the lack of time-series data that can be used for developing forecasting models. There are no meteorological stations in all of the municipalities. Even for those who have stations, many of these are relatively new (less than 50 years) and do

not have data long enough to establish significant patterns. This would open up a lot of windows for the application of new technologies and methodologies like the application of simulation modeling in assessing the impact of climatic variability.

2.1.3 Policy Options and Recommendations

It is quite evident from the preceding discussions that a critical answer to the informational needs of farmers is through proper information dissemination. PAGASA has a wide range of meteorological products, which could address a variety of climate related queries. The usefulness of these materials would be in question if access to them by target clienteles is impaired.

An advocacy to use wider communication channels would address this concern. Television and radio programs have been proven to be effective means of bringing information to farmers in the countryside. Print materials in layman form and preferably written in the local dialect would also help a lot in informing farmers and other agricultural stakeholders.

Another doable course of action is the cleaning and completion of the country's meteorological archives. Local meteorological stations, some with records spanning almost a hundred years, have rich collections of location specific data. This wealth of data/information would be put to good use if processed and structured in more useable formats. A main hindrance in running simulation softwares using climate data are missing information like rainfall, solar radiation, etc. Efforts should be made to fill out missing figures and make these available for various studies.

A more complex issue to tackle is the upgrading of PAGASA'a capacity to come-up with localized seasonal climate forecasts. Discussions with technical personnel of PAGASA cleared that such could only be done given more location specific meteorological data. This is a more long-term goal, which could be addressed by establishing meteorological stations at the barangay level. Needless to say, the required investment for purchasing equipment and establishing local facilities and training the necessary manpower would be quite large. A possible mechanism to make this more workable and attainable is to link with local governments and communities for manpower and resources support at the municipal/barangay level. Further study should be done to evaluate the requirements and feasibility of this proposal.

2.2 More Accessible Rural Credit Facilities

2.2.1 Background on Philippine Agricultural Credit

Key players in Agricultural Credit. Formal and informal lenders make up the rural financial scene. Formal lenders include commercial banks, thrift and development banks, rural banks and credit-guarantee institutions. Informal lenders, on the other hand, include traditional moneylenders (traders, millers, large farmers, friends, relatives, landowners and overseas contract workers) and the organizations and groupings (credit unions and credit cooperatives, rotating savings and loan associations).

At the top of government efforts to oversee agricultural credit is the Agricultural Credit Policy Center (ACPC). ACPC is mandated to help government to develop and implement strategies and policies that increase and sustain the flow of credit to agriculture and fisheries, improve the viability of farmers and fisherfolk, and support agriculture modernization, food security and poverty alleviation. Under the Agriculture and Fisheries Modernization Act (R.A. 8485), ACPC was tasked to facilitate the phase-out of all agricultural directed credit programs (DCP) and develop, design and administer a globalized agricultural credit scheme.

The Philippines has a lot of commercial banks numbering at around 42 in 2005. Among them, Landbank (LBP) is the most active in agricultural credit. The Development bank of the Philippines (DBP) is also active in providing credit to agriculture and small and medium scale industries.

LBP was initially the main financing arm of the government's land reform program but it turned from its mandate when it was conferred a universal bank status. The Agriculture and Fisheries Modernization Act (AFMA) reaffirmed LBP's role in agrarian reform and in the delivery of credit services to the agriculture sector (Llanto 2004). Today, LBP is the largest formal credit institution in the countryside. It services more than 5,000 cooperatives and farmers groups benefiting about 500,000 small farmers and fish folk (the economist). In 2004 alone, it reportedly disbursed P16.6Billion to small farmers and fisherfolks through 1,138 partner cooperatives and 420 CFIs (rural banks, cooperative banks, development banks) and QUEDANCOR.

QUEDANCOR or the Quedan and Rural Credit Guarantee Corporation started as a guarantee fund in 1978 designed to increase the production and marketing of rice and corn. Its mandate was expanded beginning 1980 to include feedgrains and other agricultural commodities in the guarantee program. It became a corporation in 1992, enlarging its powers and resources to support farmers and rural enterprises and making it a semi-government entity, in which 40% of its authorized capital stock is to be subscribed by the private sector. Under RA 7393, the Corporation is tasked to accelerate the flow of investments and credit resources into the countryside so as to trigger the vigorous growth and develoment of rural productivity, employment and enterprises, thereby generating more livelihood and income opportunities for the disadvantaged rural populace. To boost the agricultural sector's performance, the agency has linked up with the Development Bank of the Philippines and the Department of Agriculture (DA) Agricultural Credit

Policy Council to come up with the government's Hybrid Rice and Corn Credit Program, which the QUEDANCOR Agro-Modernization Credit Fund Program (AMCFP) is backing up. Under this program, P400 million was allocated for loans to rice and corn farmers to improve their harvest. Authorities also established the QUEDANCOR-Rural Banks' Investment Program for Small Farmers and Fisherfolk to provide farmers and fisherfolk nationwide with resources that will enable them to pursue agri-fisheries livelihood projects. For 2006-2007, QUEDANCOR facilitated a total of P190.52 million loan releases to 6,334 beneficiaries covering Regions 1 to 12 and CARAGA.

Table 5. QUEDANCOR's Loan Releases and Beneficiaries from 2006-2007

Year	Amount (PM)	Beneficiaries	Phased out QUEDANCOR SRT Programs*
2006	146.97	4,982	Hybrid Corn Production Program, Hybrid Corn Seed Production & Corn Logistical Competitiveness
2007	43.55	1,352	
Total	190.52	6,334	

Source: QUEDANCOR

*The afore-cited credit programs, which were previously implemented under QUEDANCOR's Self-Reliant Team (SRT), have already been phased out in 2006 and were rationalized.

Though LBP, DBP, QUEDANCOR and other formal institutions have been contributing significantly in agricultural lending, Informal lenders still make up the majority of creditors servicing the rural countryside.

Brief History on Agricultural Credit. A colorful history tells the story of how informal money lenders came to dominate the present rural credit scene. For decades before the ascent of informal lenders to the apex of rural financing, formal lending institutions administered an extensive credit machinery which was fueled by cheap or subsidized money from the government. Llanto (2004) tells a comprehensive story on how the rural financial system had evolved over the years.

Directed credit programs DCPs or subsidized lending programs especially designed for a specific sector or group of clienteles dominated rural financing from the 1970's until the mid 1980's. Llanto (1990) pointed out that at one time, subsidized government credit provisions were fragmented into 46 commodity-specific programs. He added that the setup was too costly for the government and the subsidized interest rates and the preferential treatments towards implementing financial institutions also resulted in poor loan recovery. Lamberte and Lim (1987 as cited by Llanto 2004) also pointed out that subsidized credit was not at all cheap and the benefits of the subsidy were only captured by large farm-owners, thus frustrating the objective of subsidized credit programs

Getting validation from numerous studies highlighting the problems created by artificially cheap credit and calling for the abolition of DCPs, the government led by then President Corazon Aquino discontinued existing DCPs in 1986 and consolidated credit funds into the Comprehensive Agricultural Loan Fund CALF. A credit guarantee fund for small farmer loans was also established to encourage banks to lend to smallholder farmers who do not have lands for collateral. However, this setup was short-lived as clamour for subsidized credit prompted decision makers to resurrect DCPs by the end of the Aquino administration.

The liberalization and deregulation of the financial sector in the Philippines began in the 1980s. Lamberte and Lim (1987) provided an extensive review of rural finance and ointed out the importance of maintaining a sound macroeconomic framework, including market-based policies. However, while BSP and other government agencies like NEDA and DOF have supported financial reforms like the adoption of market-based interest rates, these do not seem visible the operations level of government financial institutions – interest rate subsidies continued to be provided in some credit programs implemented by the government (Llanto 2004).

From the 1990's to the present, DCPs have again multiplied and second only to informal lenders, they remain a major source of credit for smallholder farmers and fisherfolks. The situation is likely not to change in the near future given that most loan portfolio of formal banks target big clients with business and financial viability as main considerations. Rural dwellers are considered as high-risk borrowers due to their limited capacity to pay loan obligations.

Government has also attempted to enhance the participation of formal creditors through P.D. 717 or the Agri-Agra Loan Quota Law. The law regulates banks to allocate a minimum of 25 percent of their loans to agricultural projects and agrarian reform beneficiaries. However, this condition is not properly imposed as in reality, banks only lend an average of less than ten percent of their loans to agricultural projects. Banks do not want to take great risks and absorb higher transaction costs through involvement with agricultural projects (ACPC 2007).

This situation provided an impetus for informal credit markets to gain more ground and proliferate. Informal lenders, given their nature, are able to easily answer the rural demand for credit, which formal institutions have chosen not to satisfy. The proliferation of informal credit simply highlights the presence of unmet demand for credit in the countryside.

Data from Bangko Sentral ng Pilipinas prove that majority of farmers go to informal lenders for their credit needs. Though informal lending decreased by 16% from 1996 to 2002, their hold on the credit market is still formidable at 60%.

Table 6. Borrowing by major source of loans: 1996-2002

Source	1996-1997	1999-2000	2001-2002
All borrowers	100.0	100.0	100.0
Formal institutions	24.0	28.6	34.4
Informal lenders	76.0	61.3	60.3
Formal and informal lenders			5.3

Source: ACPC 2002

2.2.2 Seasonal Climate Variability and Other Challenges Besetting Agricultural Credit

Unattractiveness to Formal Lending and Uncertainties Brought About by Climatic Variability. The risk averseness of formal banks when it comes to targeting clients makes it hard for them to fully venture into the rural financial market. Aside from the inherent lack of assets and financial resource common to many countryside residents, income from smallholder agriculture is quite variable and uncertain. This reality impacts on the capacity of farmers and other agricultural workers to meet their loan obligations.

Add the complication of seasonal climate variability and you have got a very strong deterrent against the participation of formal institutions in countryside lending. Extreme climate/weather events like floods, droughts and typhoons could easily destroy a season's crop and erode whatever financial capacity farmers have. Lack of traditional collateral like land and other marketable assets further scores against the security of lending to farmers.

Available figures on damages to agriculture from extreme climatic events are staggering. Estimated annual cost to agriculture amounted to a conservative estimate of P3Billion. With local and international meteorological organizations predicting that the occurrence of ENSO and other extreme climatic events would be more frequent and intense, the future does not seem to be more attractive to formal bank ventures.

Difficulties With Agrarian Reform and Traditional Collateral. More challenges beset Philippine agricultural credit. Llanto (2004) mentioned that the uncertainties unintentionally brought by the Comprehensive Agrarian Reform Law CARL further decreased the willingness of banks to provide financial services to rural areas. Among the law's stunting provisions were:

- prohibition on mortgaging/selling of land within 10 years of its award and upon full payment by farmer beneficiaries to Landbank
- ceiling on ownership of agricultural lands at 5 hectares
- government as sole buyer of awarded lands
- prohibition of share-tenancy arrangements

Llanto and Estanislao (1995) and David et.al. (2003) (as cited in Llanto 2004) explained that the restrictive provisions of agrarian reform eroded the collateral value of land hampering farmer's access to credit, particularly in the formal financial markets.

Unsustainability of Directed Credit Programs DCPs or Subsidized Credit. Directed Credit Programs which are now again in proliferation consistently receive criticism from financial scholars and development professionals. Though seemingly the easiest recourse to address an unyielding formal credit sector, provision of highly subsidized credit creates a very artificial environment. As discussed earlier, the funds are not really cheap as the government incurs great cost in administering them. Financial intermediaries which serves as conduits also gets the major share of the subsidy pie at 65 to 90 percent (Herdt and Rosegrant 1988). Not to mention the fact that these programs still failed to reach majority of the borrowing farmers. In the final tally, it seems that everyone looses

with DCP. The government and donor agencies loose money, formal financial conduits develop unhealthy dependence on DCP funds, and farmers are still left with limited options and inadequate credit services.

The sustainability of donor-supported credit programs have also been questionable. Funds easily get depleted and once donor support is withdrawn, operations get impaired and programs are put to a halt.

Ineptness of Market Oriented Approach. The market-oriented approach to agricultural credit also seemed to have failed to meet exoectations. Hyped as the best recourse during the peak of DCP implementation in the early 80's, market oriented credit and financial policy barely succeeded in convincing formal banks to venture more on agricultural lending.

Possible factors that prevented the credit market to adjust despite liberalization efforts were enumerated by Kraft in 1998 (as cited by Llanto 2004):

- the agriculture and agrarian loan quotas which promoted inefficiency in funds allocation and increased banks' opportunity costs
- the overly strict loan provision requirements of CB for reasons of greater prudence made most banks wary of the agriculture sector
- the reduction in the number of banks due to merging weakened the impact of interest deregulation; big banks gained increased control in pricing that led to lower levels in real interest rates for savings and deposits which is believed to have discouraged savings in the rural areas
- the Magna Carta for Small Farmers (RA 7607) in 1992, impose that interest rates for small farmer loans should not be greater than 75 percent of prevailing commercial rates, and the RA 7900 in 1999, which stipulated that low-cost credit be made available to high-value crops, both drove away banks from these types of portfolio
- the continued implementation of DCPs which promoted inefficient fund allocations prevent rural borrowers from venturing into other rural-based enterprises because these programs were usually commodity-specific

Drawbacks with Informal Credit. One only has to go to the countryside and talk to farmers to validate the dominance of informal lenders in rural financing. Reyes et.al (2006) found out that smallholder corn producers continued to patronize local lenders though interests were being charged at a minimum rate of 30%.

Without question, informal credit remains the champion in rural credit provision, capturing a substantial percentage of the market. Though serving a very important purpose in the scheme of things, informal credit lends to several drawbacks. Llanto (2004) mentioned that a problem with informal finance is its inability to sustain the credit needs of a growing rural economy and to intermediate the rural surplus. Also given a relatively inelastic demand for rural credit, local lenders tend to manipulate interest rates to their advantage and the detriment of agricultural stakeholders.

The situation meets the short term capital requirements of farmers. But with excessively high interest rates, the ability of farmers to repay loans becomes critically compromised. This usually results to debt accumulation in the long run—effectively tying up farmers to the strings held by local traders and lenders.

Need for a Workable Hybrid Rural Credit System. The need for more workable credit financing schemes in the countryside is very evident. There must be a way to bridge the localized advantage of informal lenders to the financial strength and consistency of formal institutions. Such a scheme would not only improve the welfare of smallholder farmers, but also enhance their capacity to cope with adverse conditions brought by seasonal climatic variability.

2.2.3 Policy Options and Recommendations

But hope is not lost for the agricultural credit sector. The small presence of formal banks/creditors in the rural scene has opened up opportunities for informal entities to grow and service the rural credit market. Though possibly at the expense of small farmers and rural folks, informal creditors are cashing in on this credit gap.

The ability of informal lenders to adapt to local requirements sets them apart from their formal counterparts. High transaction costs, as well as high loan risk impairs the ability of traditional banks to operate cost-effectively under a rural set-up. The rigid credit requirements imposed by rural banks also do not go well with the rural setting. If formal institutions are to regain a substantial portion of the credit market, they will have to adopt some flexibility.

One way of doing this is to accept substitute collaterals. Informal lenders have long been exploiting this alternative by accepting pawning of cultivation rights, required sale of output to trader-lenders, joint liability or having a guarantor to back up the loan, mutual guarantee by group members, interlinked contracts and government guarantee (Llanto 2004). In short, formal institutions need to evolve if they are to fair well in the rural credit market.

Another possible workable arrangement is shown in government's attempts to partner with informal lenders in rural credit delivery. QUEDANCOR for instance has tapped traders and millers with access to traditional banking as credit intermediaries. Guarantee were given to these traders and millers who, after obtaining bank loans provided credit to their small farmer clients in turn. Landbank was also motivated to use NGOs and cooperatives as credit intermediaries to deliver credit to numerous small borrowers. Practical arrangements like these should be considered more seriously to take advantage of the strengths of the informal lending sector.

A promising development is the present popularity of alternative lending schemes like microcredit. Microfinance institutions MFIs were left free to charge market-oriented interest rates, enabling them to recover costs and allowing their operations get a semblance of sustainability. Most MFIs are patterned over the Grameen Bank of Bangladesh. The essence of its operation is joint-liability. Membership is limited to

people from the same area with similar economic resources. Loan repayment is facilitated through peer pressure as members borrow in groups. NGOs have also pioneered the use of lending techniques that draw inspiration from the informal moneylenders, e.g., use of third party guarantees, timely processing and quick release of loans, lending without requiring traditional collateral, etc (Llanto 2004).

More lessons from abroad could serve as model for the Philippine case. Llanto (2004) stated that the Indonesian experience provides important lessons for rural Asia in developing a sound and efficient rural financial system, and these are: (1) technocrats and the foreign technical assistance have important roles in creating effective systems, (2) favorable policy environment, (3) the massive mobilization of savings proved that rural people do save given attractive savings products, (4) policies and institutions can be designed to achieve high levels of outreach, serve the very poor and attain financial and institutional sustainability using an individual lending technology.

Though market oriented credit is preferred by experts over DCPs, the role of government in the scheme of things is widely acknowledged. There is consensus that the financial market should be left to market forces, but Gonzales-Vega (as cited in Llanto 2004) believed that exclusive reliance on such might not give optimal results. Proper political interventions are needed. Llanto (2004) further stated that an environment conducive to financial intermediation necessitate the provision of proper infrastructure like large-scale irrigation systems, major road networks, farm-to-market roads, ports, bridges, storage facilities and energy and power systems that will increase agricultural production and improve economic activity in the rural sector.

Related to this, ACPC recommends the government institute policies to reduce intermediation and transaction costs. An atmosphere wherein banks can reduce the effective borrowing rate at which they lend should be provided. Other proposed points of action recommended were the streamlining of regulatory requirements imposed by government, increasing investments in rural infrastructure to lower the cost of transportation and communications in the rural areas, and providing guarantee schemes that decrease the bank's cost of absorbing defaults.

Overall, this paper acknowledges the complexities and challenges underlying agricultural/rural credit financing. With formal lenders hesitating to take a bigger bite of the credit market pie, all concerned have no recourse but to try to enhance the services offered by informal entities. Some device should, however, be formulated to give ample protection to small farmers from unscrupulous traditional lenders.

Seasonal climate variability, aside from increasing risks in agricultural operations, further decreases the attractiveness of farmers to formal lenders. On the other hand, informal lenders are able to capitalize on these events, since they are still able to earn through collateral substitution even when farmers' crops fail. One evidence to this claim is the seeming consolidation of agricultural lands in the countryside. Trader-lenders are establishing fiefdoms and amassing hundreds of hectares of agricultural lands.

A more long-term stance should be the easing back of formal lenders like banks into the rural credit scene. Something must be done to make the operation of formal institutions in the countryside more attractive and viable. Ways should be devised to answer problems on information asymmetry, decrease transaction costs, and increase loan recovery and net income.

Alternative modalities like microfinancing also present great potential in bringing better credit service to rural dwellers. The scheme should be studied more closely to make its operation truly sustainable and replicable for smallholder farmers.

2.3 More Accessible Crop Insurance

2.3.1 Background on Philippine Crop Insurance

Crop insurance or more aptly agricultural insurance is designed to protect agricultural producers against loss of crops, livestock and agricultural assets on account of natural calamities, plant pests and disease and/or other perils. The service is claimed to have great socio-economic relevance as it address not only the welfare aspect of the after-loss event, but also help in stabilizing farm incomes more equitably. It also aims to reverse the risk-averse nature of farmers and motivate them to invest more on new technologies to help increase productivity (PCIC 2006).

Key Players in Philippine Crop Insurance. The Philippine Crop Insurance Corporation (PCIC) implements and manages the government program on agricultural insurance. Created under PD 1467 in 1978 and amended in two occasions under PD 1733 (1980) and PD 8175 (1995), PCIC operates as a business corporation. Though insurance for rice and corn are subsidized, PCIC does not receive any budget from the government for its administrative operations.

PCIC's operation is decentralized up to the Regional level, bringing services closer to its farmer-clienteles. The set-up also enables the program to respond immediately to local needs especially in times of calamity. Claims have to be settled expeditiously to augment farmers' funds and enable them to replant as soon as conditions become favorable. PCIC's management has given its Regional Offices some degree of autonomy with the authority to settle claims at their level based on policies and operating guidelines laid down by the Head Office (PCIC 2006).

Brief History of Philippine Crop Insurance. In 1976, the Land Bank (LBP) led and funded an interagency committee that undertook a full-blown feasibility study on the technical, marketing, management, and financial aspects of a crop insurance program in the Philippines. The move was in response to the vulnerability of the country, specifically the agricultural sector, to natural disasters such as typhoons, floods and droughts.

The inter-agency Committee for the Development of the Philippine Crop Insurance System (IAC-PCIS) comprising of representatives from the Department of Agriculture(DA), Department of Agrarian Reform(DAR), Armed Forces of the

Philippines(AFP), private insurance industry, other private agencies, cooperative organizations/movement, and the University of the Philippines recommended actions which eventually led to the creation of the Philippine Crop Insurance Corporation (PCIC). Through Presidential Decree No. 1467, promulgated on 11 June 1989, the insurance program was operationalized (Estacio and Mordeno 2001).

The PCIC implemented the insurance program nationwide starting on May 7, 1981 with rice as the only covered crop. Corn was added in the program beginning July 1, 1982. To make the program more responsive, R.A. 8175, known as the revised charter of Philippine Crop Insurance Corporation, was signed into law in December 1995 amending P.D. 1467 (PCIC 2006).

PCIC claims that aside from protecting farmers from financial losses, crop insurance was also considered as a confidence building instrument/financial security that can be offered as 'surrogate' collateral to banks and other financial institutions to influence and encourage them to continue participating and supporting government credit programs like the one offered under 'Masagana 99'.

Further expanding its coverage, PCIC pushed an interim cover for tobacco in September 1991 and for High Value Commercial Crops (HVCC) in October 1993. It also joined the Pool of Livestock Insurers, now the PLMSC, to undertake livestock insurance covering cattle, swine, goats and poultry. PCIC also administered the Comprehensive Agricultural Loan Fund (CALF) Guarantee Program of the DA and its policy arm, the Agricultural Credit Policy Council. It started with the multi-risk guarantee coverage for priority crops in October 1988, which shifted to credit guarantee in September 1991. It also implemented the Fisheries Sector Program (FSP) guarantee Fund of the DA-ACPC, which concluded its operation in December 2000 (Estacio and Mordeno 2001).

More recently, PCIC launched the Term Insurance Power Packages (TIPP) intended for farmers, fisherfolks and other stakeholders in the agriculture sector. TIPP include a one year life insurance, accident insurance and loan repayment protection plan for agricultural producers and stakeholders. The new insurance packages for agricultural stakeholders and producers were termed as the agricultural stakeholders and producers protection plan (ASP3), the accident and dismemberment security scheme (ADS2) and the loan repayment protection plan (LRP2) (Cuayson 2005).

The agricultural stakeholders and producers protection plan (ASP3) is a one year term insurance for the life of the agricultural stakeholder/producer against death resulting from accident, natural causes, murder and assault. This plan could be individual and/or group. The accident and dismemberment security scheme (ADS2) covers death and dismemberment due to accident. And, the loan repayment protection plan (LRP2) covers the face value of the agricultural loan upon death or total permanent disability of the borrower (Cuayson 2005).

Crop Insurance Performance. Rice and corn insurance constitute roughly 84% of PCIC's total business. From 1981 to 2007, the program was able to serve a total of 3,468,155 farmers insuring a total sum of ₱ 31 Billion. Total gross premiums received

during the period exceeded indemnities paid at a ratio of 1.27: 1. However, PCIC had a rough time during its first decade of operation when damage claims consistently surpassed premium collections from 1983 to 1989. The program then had its shining moments during the early part of the 90's when it reached its peak coverage at 336,000 farmers. Figures then drastically declined and by the year 2001, the number of covered farmers leveled off just below the 50,000 mark. PCAIC closed the year 2006 with barely 36,000 farmers covered.

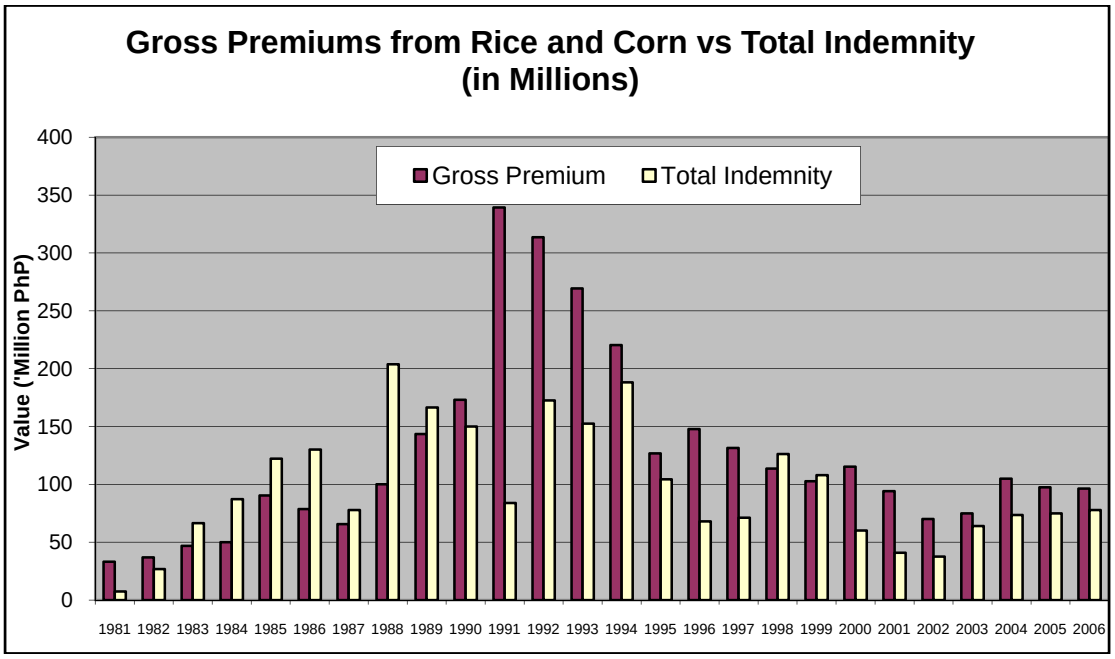


Table 7. Cumulative Insurance Coverage and Claims Paid for Rice and Corn from (1981 - 2007)

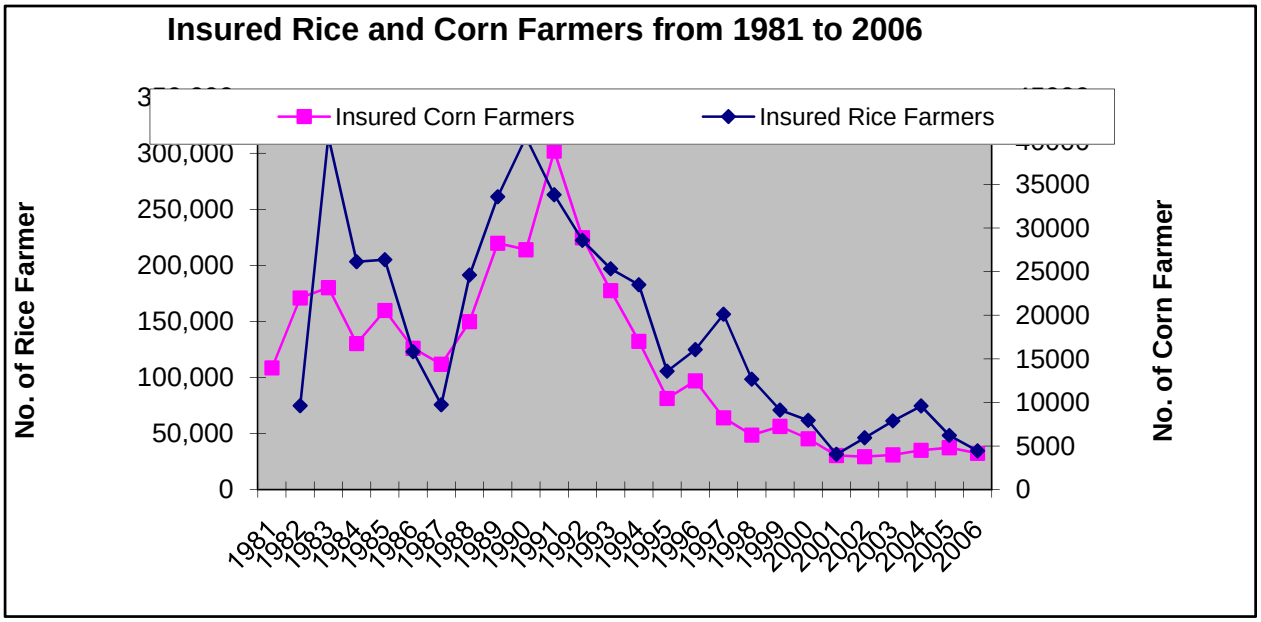
Insurance Lines	Insurance Coverage		Claims Paid	
	No. of Farmers/ Policies Written	Sum Insured (₱M)	No. of Farmers/ Policies Paid	Claims Paid (₱M)
Rice	3,010,929	26,437.23	845,812	1,960.54
Corn	457,226	5,011.11	189,548	611.22
TOTAL	**3,468,155**	**31,448**	**1,035,360**	**2,572**

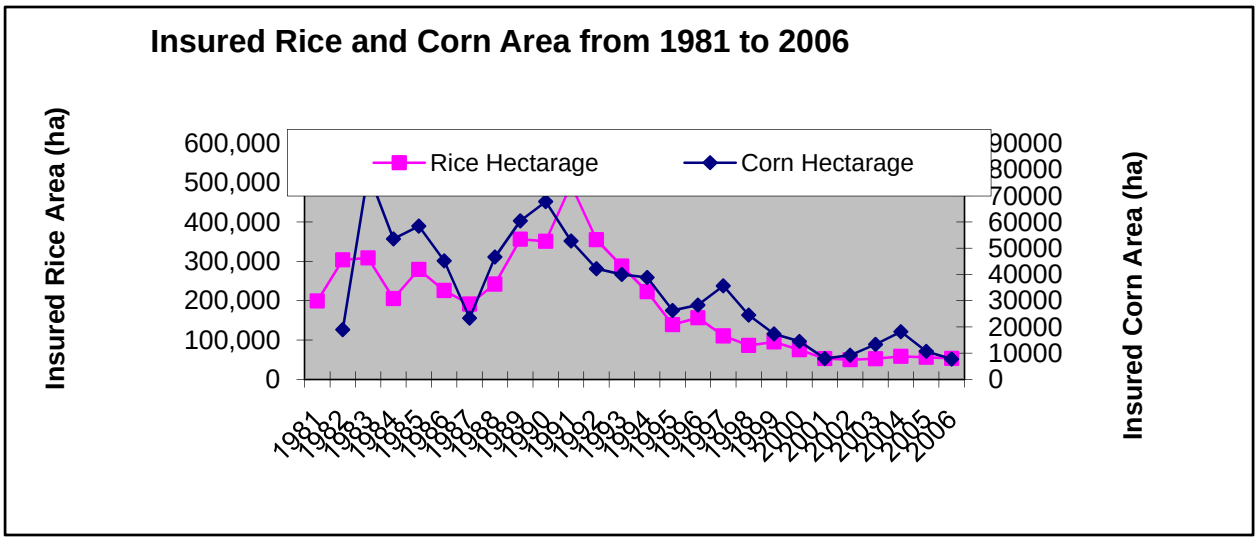
Source: PCIC 2007

Estacio and Mordeno (2001) attributed the decline in insured farmers to the contraction of self financed market and the shrinking of Directed Credit programs. PCIC also claimed that with the borrowing farmers dominating the traditional lines, the decreasing trend on crop insurance coverage greatly reflected the lending performance of formal lenders particularly the Land Bank (LBP), which accounted for 77% of its clients. They also

claimed to have encountered the problem of adverse selection with the self financed farmers where damage rates were significantly higher. This may have prompted the seeming anti-selection of the SF market starting PCIC's second decade of operation.

Downward trends on insurance coverage for both rice and corn as shown in figures__ did not demonstrate much difference. This means that the reason for the decline might be systemic or general in nature and not so much commodity specific.





Crop Insurance and Seasonal Climate Variability

Battling the ill-effects of seasonal climate variability in agricultural production could be addressed in three fronts: (a) prevention of agricultural damage through accurate advisory and proper timing; (b) alleviation of impact through in-course mitigating measures; and (3) softening of risks through crop insurance.

Seasonal climate variability proved to be the top source of uncertainty for rice and corn farmers. Based on PCIC data, the two top causes of loss claims for rice and corn crops up until year 2000 were typhoons/floods and droughts. Losses from rats/pests and diseases seemed to have gained momentum since the start of the new millennium.

Overall, typhoons and floods were the major causes of production damage for rice, while drought was the number one cause of loss for corn. Claims on rice insurance from typhoon/flooding totaled to PhP 1.050 Billion from 1981 to 2007. Claims on corn insurance caused by drought amounted to PhP258 Million from 1982 to 2007.

An aggregate amount of PhP1.7Billion in rice and corn crop insurance claims is attributed to damages from typhoons/floods and droughts. The figure represents 66% of the total indemnity paid by PCIC for all insured commodities covering all causes since the start of its operation. This figure alone effectively describes the impact of seasonal climate variability on crop insurance operations and agricultural productivity as a whole.

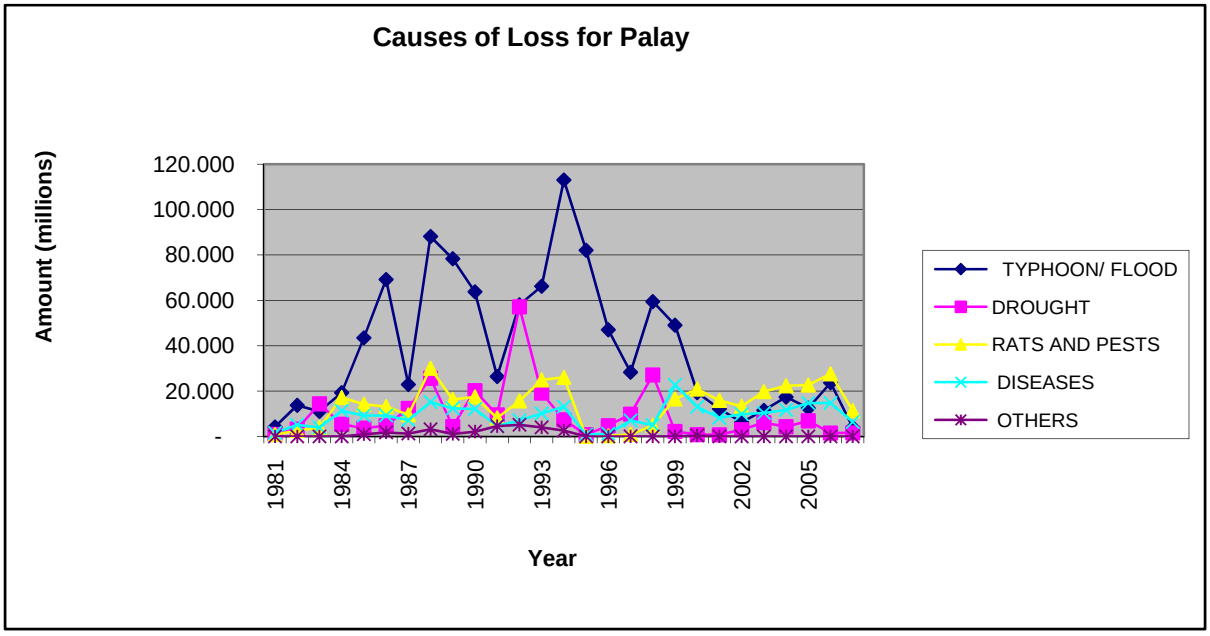


Figure __. Causes of production losses for rice as reflected in indemnities paid

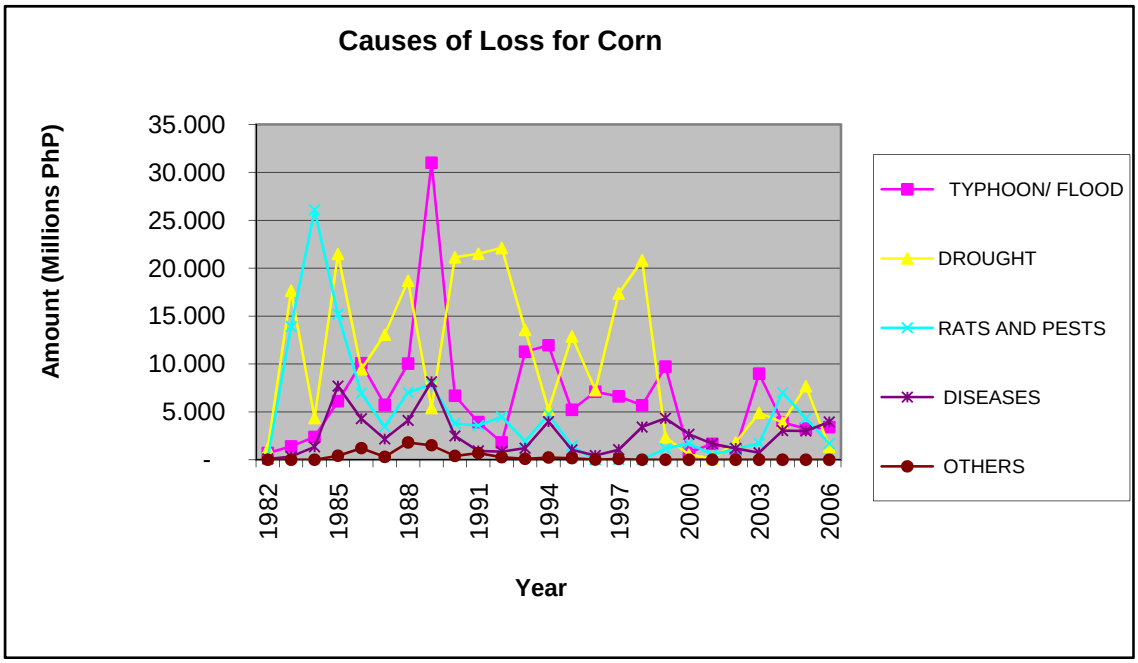


Figure __. Causes of production losses for corn as reflected in indemnities paid

2.3.2 Challenges Besetting Crop Insurance

In a recent PIDS-led survey conducted in Isabela, Philippines, it was found out that formal lending institutions and crop insurance were virtually non-existent in select farming communities. Farmer dependence on informal credit seemed to have also created a nonviable setting for a crop insurance program. It seems unlikely that an informal lender would insure his borrowers from eventual crop loss. Without hinting on the possible deviousness of local informal credit operators, a loss for the borrowing farmer could still be a gain for the lender.

Experts agree that traditional crop insurance schemes are plagued with inherent problems (Roberts 2005, FAO 2003, Skees 2003). Common to all classic insurance programs are problems in information asymmetry, adverse selection, moral hazard and high administrative and transaction costs. Information asymmetry refers to the unequal information available to insurers and clients; adverse selection refer to the non-inclination of low-risk farmers to buy insurance; moral hazard relates to farmer's inclination not to do enough to avoid or minimize loss; and, high administrative and transaction costs refer to the huge expense in marketing, calculating and collecting individual premiums and paying claims.

The same difficulties are being experienced by the crop insurance program in the Philippines.

High Overhead Costs and Insufficient Investment Funds. Estacio and Mordeno (2001) claimed that the major problems besetting the program are high overhead costs

and insufficient investment funds. The financial sustainability of PCIC seemed in question.

The program's survival depends greatly on subsidies and organizational cost trimming as the government does not allow PCIC to load operational overhead, cost of money recovery and profit mark-up on insurance premium.

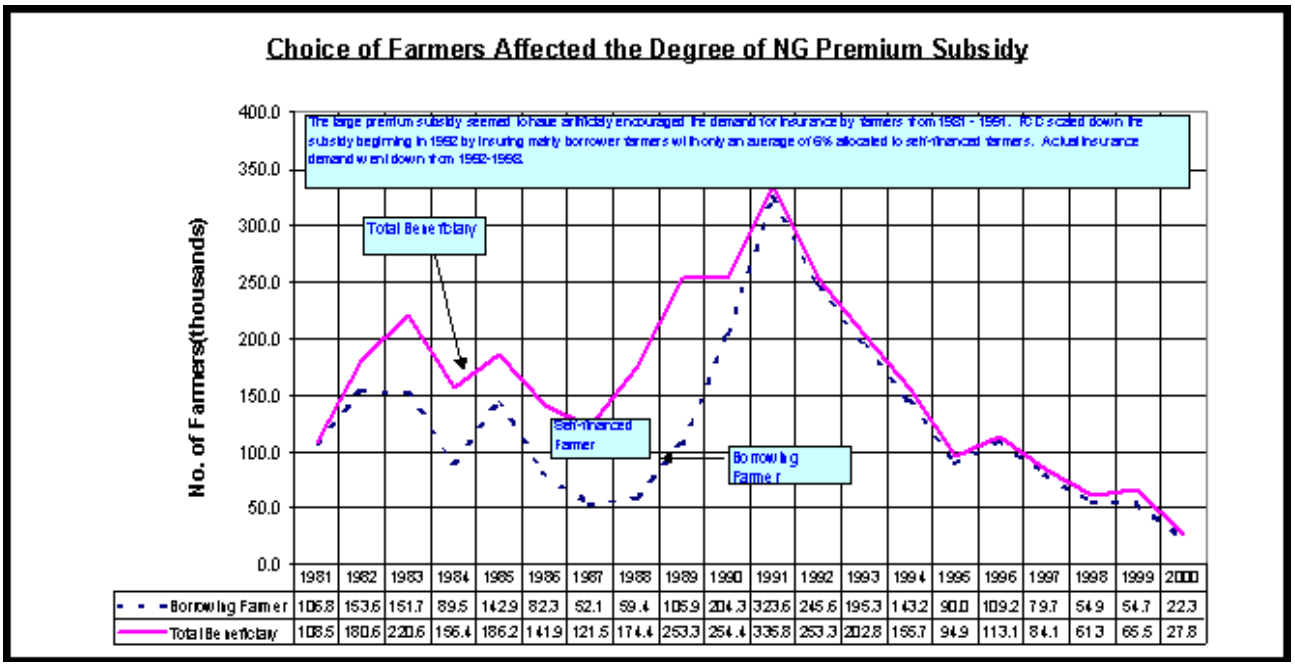
Traditional crop insurance is expensive to implement, but more so given the setup of PCIC. The program incurs very high transactional cost in bringing service to the countryside. This is aggravated by the fact that PCIC adopts an individual underwriting and claims approach. This means that dealings are on a farmer to farmer basis and claims assessment requires field inspection. The work is daunting given the number of beneficiaries vis a vis the number of PCIC personnel.

The high operational expense of PCIC is not being met by yields from its investment funds. The organization has an approved capitalization of P2Billion from whose yield PCIC was supposed to source its operational requirements. But the total the amount is yet to be completed and as of early 2000, only half of the amount was in PCIC's coffers. This, coupled with late and/or non-remittance of government share in premium make the case of PCIC doubly difficult.

An audit report by the Commission on Audit (COA 2003) showed that as of December 2002, only 267Million out of the 950Million government share has been invested by PCIC. This meant that money which was supposed to earn from investments was already being used for operations. This situation would lead to fund depletion in the long run. COA claimed that the management retains huge sums of money in the amount of 31-164Million which could have otherwise yielded returns from investments. The audit team noted that existing policies and procedures on investments were not adequate for the generation of highest possible income.

Dependence on Borrowing Farmers (BF) Market. When the crop insurance program was started in 1981, the state made it a compulsory requirement for borrowing farmers to avail of crop insurance when applying for loans. Through the years, the proportion of borrowing farmers (BF) over self-financed farmers (SF) continued to widen. Starting in 1991 almost all clients of PCIC were borrowing farmers. Estacio and Mordeno (2001) claimed that anti-selection of the self-financed market was evident and that the compulsory BF market lulled PCIC to complacency.

The problem of adverse selection showed its head with the anti-selection of the SF market. Only farmers in peri-prone areas came to patronize the insurance program making it difficult for PCIC to balance its risk portfolio.



Source: Estacio and Mordeno, 2001

Lack of Market-Orientation. PCIC claimed that the operation of the agricultural insurance program is problematic because "the non-independence and high *covariability* of risks in agriculture and the casual empiricism that the elasticity of demand for agricultural insurance with respect to price is highly elastic going up (and relatively inelastic going down)".

Estacio and Mordeno (2001) stated that PCIC couldn't raise premium prices to find a more appropriate market rate and fill the funding gap. Such an action was said to be politically sensitive and even required approval from the President of the Philippines. Further, the elasticity of demand for prices going up means that PCIC will further limit the access of resource-constrained farmers and possibly price itself out of the market. PCIC also looses out on opportunities to go for other higher yielding investments because the law limits it to invest only in government securities.

Efforts to market PCICs insurance products to target clienteles seemed inadequate. The numbers alone tell the story. The yearly total number of insured farmers has never breached the 50000 mark for rice and 10000mark for corn since the year 2001. The potential market for crop insurance s immense given that these figures only represent less than one percent of the 5.2Million estimated number of smallholder farmers in the country. The number of borrowing farmers alone plays at around 3.4Million per year, of which 1.3M are formal borrowers (ACPC 2003). This is quite a substantial part of the crop insurance market if tapped accordingly.

Tab;e __. National Composite Rates and Premium Sharing per Hectare (in Philippine Pesos PhP)

Type of Farmer and Crop	Multi-Risk Cover			Natural Disaster Cover		
	Low Risk	Medium Risk	High Risk	Low Risk	Medium Risk	High Risk
Borrowing Corn Farmer*						
Farmer	509	1,017	1,526	342	684	1,026
Lending Institution	540	540	540	360	360	360
Government	1,912	1,912	1,912	1,350	1,350	1,350
Total	2,961	3,469	3,978	2,052	2,394	2,736
Self-Financed Corn Farmer*						
Farmer	1,049	1,557	2,066	702	1,044	1,386
Government	1,912	1,912	1,912	1,350	1,350	1,350
Total	2,961	3,469	3,978	2,052	2,394	2,736
Borrowing Rice Farmer**						
Farmer	321	640	961	246	491	737
Lending Institution	440	440	440	330	330	330
Government	1,298	1,298	1,298	928	928	928
Total	2,059	2,378	2,699	1,505	1,749	1,995
Self-Financed Rice Farmer**						
Farmer	761	1,080	1,401	576	821	1,067
Government	1,298	1,298	1,298	928	928	928
Total	2,059	2,378	2,699	1,505	1,749	1,995

Note: * Insurance coverage of P18,000 for Hybrid corn varieties
** Insurance coverage of P22,000/ha for irrigated and rainfed Inbred rice
Figures were computed from PCIC premium rates

Application of Emerging Innovations in Crop Insurance. In the global scene, new crop insurance products are gaining popularity. Designed to address the perennial problems associated with traditional insurance schemes, more and more converts are recommending their application. Among the new product lines are crop revenue insurance and index-based and market-based insurance. Though still to be tried, PCIC has recently signified interest in exploring the possibility applying some of these new innovations.

Considering conditions in the Philippines, index-based insurance seemed most applicable. Under the scheme, indemnities are paid based on the value of an index or trigger rather than actual farm losses. Instead of the usual insurance policy, a simple coupon that gives a monetary sum is used. The coupon becomes payable upon certification by authorities that the trigger event has occurred. Triggers or indices could be meteorological measurements (i.e. rainfall, windspeed, and temperature), area yield, price, and even livestock mortality rate. depending on applicability and correlation with crop damages.

FAO (2007) opined that the trigger event, though simple in concept, also becomes the bottleneck for index-based operation. In the case of weather-based index insurance, a sufficient network of tamper-proof meteorological devices would be required to serve as reliable monitors. Key decisions will also have to made on the nature and specifics of trigger mechanisms. Examples are the size of typhoon, wind strength, rainfall level and the proximity of these occurrences to insured areas.

Though relatively new additions to the range of agricultural insurance products in the market, innovations such as these provide workable alternatives to traditional approaches. They may also hold the key to answering the ever-present problems that are plaguing the crop insurance industry.

2.3.4 Policy Options and Recommendations

Having gone through almost three decades of existence and operational fluctuations, the Philippine crop insurance program still has relatively modest impact to show. It's mandate of providing security for agricultural producers, particularly subsistence farmers, has been met with logistical and operational challenges over the past years.

The numbers alone tell the tale of the local insurance program—from 1981 to 2000, PCIC was only able to provide insurance for a cumulative total of 3.5M farmers. At its peak in 1991, the program serviced around 336,000 farmers. These figures seem relatively small compared to the estimated 5.2M smallholder farmers in the country.

Officials from PCIC claimed that the agency had been lulled to complacency by targeting borrowing farmers as its main market. The statement would be an interesting subject of discourse as many literatures reveal that borrowing farmers numbered at around 3M per year[5], the insurance program seemed to have captured only a small portion of the credit market. If the figures are correct, PCIC had failed to institutionalize crop insurance in many formal lending institutions/organizations.

PCIC claimed that the performance of the insurance program was greatly dependent on the performance of formal lending institutions, particularly that of the Land Bank of the Philippines (LBP). However, when insurance coverage was falling during the late 90's and early 2000, LBP had been consistently reporting increasing loan releases to small farmers and fisherfolks. In 2000 alone, it claimed to have released 12.1B to its agricultural clienteles. By 2004, it reported a total disbursement of 16.6B as loan to about 430,000 farmers and fisherfolks.[6] The fact that LBP claimed to have released the loans through partner organizations like cooperatives, rural banks, development banks and QUEDANCOR might partially be able to explain the confusion.

Table __. Estimated number of smallholder farmers and credit info in 2002

	%	Total
Total number of smallhold farmers[4]		5,290,000
Number of Borrowers/non-borrowers[5]		
Borrowers	64.0	3,385,600
Non-borrowers	36.0	1,904,400
Source of Credit[5]		
Formal	39.7	1,344,083
Informal	60.3	2,041,517

Note: [4] was estimated by ACPC based on the labor force survey (LFS); percentages reflected in [5] came from the study of ACPC and SWS in 2003

If PCIC indeed targeted farmers patronizing formal credit, then it should have also tapped the abovementioned institutional partners of LBP. The market of borrowing farmers should have been exploited more fully. It seemed that PCIC operated an insurance business, devoid of an aggressive marketing arm. By basing its operation on the captured market of formal lenders, it effectively operated as a supporting body and not as a fully functioning autonomous institution or business corporation. PCIC should have done more to entice more farmers, especially those not availing loans from formal sources, to avail of the securities they offer.

The insurance program could only pass the blame to insufficient financial support from the national government. The government is supposed to subsidize the cost of insurance for small farmers and fisherfolks, but its contribution in the past had been characterized by non-remittances or late remittances. In effect, PCIC had been offering a relatively cheap insurance coverage without the benefit of the promised government subsidy. Poor capital contribution and premium shares from the government coupled with high overhead expenses for PCIC, could collectively lead to the eventual downfall of the Philippine agricultural insurance program.

If the agricultural insurance program is to survive and become operationally sustainable, it will have to operate as an economically viable unit. With the absence of assured financial support from the government, efforts must be made to streamline the program's operation and install a more aggressive marketing component.

Ultimately, PCIC must go after its mandated target market—the small farmers and fisherfolks. It seems that as it is right now, agricultural credit and agricultural insurance are intertwined. If the insurance program is not allowed by law to impose commercially competitive rates and profit from smallholder farmers, then the program has no choice but to stick close to formal lenders and avail of promised subsidies. But still, the market for borrowing farmers is big enough for PCIC to create waves and generate significant impact. The program just has to find creative ways to expand its share of the market.

On a more global note, traditional crop insurance schemes like the one that we have in the Philippines, have been generally touted as hard to sustain. Highly subsidized, these programs operate with very high transaction costs. Problems of adverse selection, moral hazard and information asymmetry are also rampant and debilitating. A more lasting solution to these difficulties would entail an overhaul of the system and adoption of innovative schemes like index-based and market-based insurance products. Serious effort will have to be exerted to review the present set-up and assess the feasibility of implementing the abovementioned alternatives.

In the end, Filipino farmers who are mostly risk-averse by nature, look for assurances in their farm operations. With more than 90% for local agricultural workers classified as smallholders, many could not afford a failed season of cropping. SCFs and applicable mitigating measures soften the blow of climatic aberrations. Adding crop insurance as an intervention gives assurance to the farmer that he would at least breakeven during the season.

Aside from tackling other socio-economic issues, a way must be found to bridge seasonal climate forecasts with the adoption of agricultural risk management tools like crop insurance. Decision makers should have this option in their arsenal of possible development interventions. Destruction from foreseen climatic variability could best be addressed through a wide-spectrum approach—technologies to mitigate the effects of drought and flooding could help a lot, but when still in doubt, it is best to be insured.

2.4 Better Fitted Special Agricultural Programs

2.4.1 Special Programs for Rice and Corn in the Philippines.

Rice is the staple majority of Filipinos while corn is the preferred cereal for almost a fifth of the population and comprises almost 70% of livestock feed requirements. Together, the two commodities make up the most important agricultural crops in the country, feeding the population and giving livelihood to more than 3 million households in the countryside.

A snap shot of the rice and corn industries show both promise and despair. With an average annual national production of 11.20 Million Tons (MT) for rice and 5.25 MT for corn, the Philippines incur respective yearly production deficits of 1.5 MT and 1.33 MT (PCARRD 2005, Lantican 2004, BAS 2006). The country fills this supply gap through appropriate importation from neighboring countries. This means that though the present supply situation is needing, farmers and industry people could still cash in on the unmet demand through greater productivity and more efficient trade.

A little over 4 Million hectares are planted to rice, while another 2.5 Million hectares are planted to corn. Lantican (2004) estimated that for the Philippines to be self sufficient in its grain requirements, productivity for both crop should be raised to at least 3.80T/ha. Salazar (2003), on ther other hand, duduced that given a population annual growth rate of 2.2% and estimated rice consumption of 105 kg per person per year, the country will

need to produce 21 MT of rice in 2025 and 34 MT in 2050 to feed 123 M and 203 M people, respectively. The present figure of 4 M hectarage devoted to rice would suffice only if the country can achieve an average yield of 6 mt/ha. With the present national average sanding only at around 3.25 for rice and 2.15 for corn, greater efforts are evidently needed to elevate productivity.

Shocks from seasonal climate variability further increase the challenge for all concerned. The importance of the commodities, as well as the immense challenge in improving productivity justifies government intervention through special programs.

Various types of assistance are being offered by the government to rice and corn farmers. The administration extends its arm of support though a range of programs like subsidies on seeds and other inputs, irrigation development, credit facilitation, crop insurance, farm-to-market roads, capacity building though technical assistance, training and extension, postharvest development, price support and others. Among the cited interventions, seed subsidy during calamities and irrigation development were mentioned by interviewed farmers as most needed and relevant in coping with seasonal climate variability.

Irrigation for Rice and Corn. Irrigation facilities available for rice and corn production are National Irrigation Systems (NIS). Communal Irrigation Systems (CIS), Small Water Impounding Projects (SWIP), Small Farm Reservoir (SFR), Diversion Dams (DD), and Shallow Tube Wells (STW). NIS and CIS are administered by the National Irrigation Administration(NIA), while SWIP, SFR, DD and STWs fall under the wings of the Bureau of Soils and Water Management (BSWM). Rice farms are the ones mostly benefited by large-scale irrigation infrastructure as corn producing areas are generally rainfed.

The NIA operated and maintained an aggregate irrigated area of 972,692 ha in the year 2005. This consists of 496,242 ha and 476,450 ha for wet and dry crops, respectively. The figure represents an increase of 6% or 6,227 ha of irrigated lands compared with the previous year for NIS alone. The total irrigated area by Communal Irrigation Systems (CIS) total irrigated area of 558,598 ha comprising of 291,891 ha during wet season and 266,707 ha during the dry season. All in all, the total irrigated area in both wet and dry seasons for NIS and CIS is 1,531,290 has. (NIA 2006)

As of 2007, BSWM has reported the construction of a total of 1,399 SWIPs, 22,282 SFRs and 30,728 STWs. These types of infrastructure are classified as small-scale irrigation systems with each structure servicing only limited farm area. Average service areas for the systems are 55ha for SWIP, 1-2 ha for SFR, 20-60 ha for DD and 3-5ha for STW. Though relatively limited in coverage, small scale irrigation systems have lower investment cost per hectare, and mst could be developed by private persons or entities.

During the 1997-1998 El Niño episode, the use of small-scale irrigation facilities figured prominently in government efforts to mitigate the adverse impact of drought. Units like SWIP and SFR are able to harvest rainfall and runoff from catchment areas for use during water-lean months. As such, they are perfect interventions for rolling terrains usually

planted to corn. NIA supported irrigation systems mostly benefit rice production as they are designed to meet the water requirements of large tracts of land.

Seed Subsidy. To help small farmers meet the high cost of inputs, the government through the Department of Agriculture (DA) implements programs that subsidize the price of hybrid and inbred seeds for rice; and, hybrid and open pollinated varieties for corn. The seeds are provided during regular season to increase farm productivity, and at times during post calamity relief to aid in the rehabilitation and replanting of damaged farms. Two umbrella programs within the DA, the Ginintuang Masaganang Ani (GMA) Rice Program and the GMA Corn Program cover the implementation of the seed subsidy programs.

The GMA Rice Program focused its efforts from 2005-2007 on the top rice producing provinces in the country, which accounted for 80% of the total rice production. The intervention includes component programs on inbred and hybrid rice. Inbred rice seeds were distributed to masterlisted farmers in target irrigated and rainfed-lowland areas. Buffer seeds were also stocked for calamity stricken areas. A quick turn around (QTA) planting strategy was also implemented in 2005 to address possible losses from the occurrence of El Niño in that year.

The hybrid component was about encouraging more farmers to plant hybrid seeds, primarily through the Hybrid commercialization program (HRCP). HRCP aims to enhance rice farmers' productivity and income. In 2007, the GMA Rice Program targeted a toal production of 16.7MT covering 327,993 ha planted to hybrid rice and 1.7M ha for inbred rice.

When the program started in 2001, the government shouldered half of the cost of hybrid seeds amounting to P1,700.00/bag. The amount was lowered in succeeding years. Current price subsidies on rice seeds are around PhP1000.00/bag for hybrid and PhP400.00/bag for inbred.

Table __. **Accomplishments of GMA-Rice Program, 2002-2007**

Period	Seeds distributed (bags)		Area planted (has.)	
	Target	Accomplishment	Target	Accomplishment
January-December 2002	- No data -		504,750	227,759
Dry season 2002-2003	504,750	286,070	- No data -	
Quick-Turn-Around 2002	84,874	75,198	84,874	75,127
January-December 2003	509,138	372,221	585,735	789,694
Wet season 2004 – Dry season 2004-2005	309,461	229,493	1,248,347	969,215
Wet season 2005	34,357	35,099	50,000	27,945
Dry season 2005-2006	70,313	38,027	42,523	35,852
Wet season 2006	582,874	791,752	582,874	791,752
Dry season 2006-2007	575,011	178,584	575,011	177,516
Wet season 2005	- No data -		9*	9*
Dry season 2005-2006			78,751	38,335

* damaged during La Niña

Table __. **Accomplishments of Office of the Provincial Agriculturist (OPA) in Isabela, 2006-2007**

Cropping season	Target	Accomplishment*
- no records in the earlier seasons -		
Wet season 2006	14,500	9,352
Dry season 2006-2007 (Rice tungro virus (RTV)-affected)	not available	12,252
Wet season 2007	14,500	10,131

* in terms of seeds distributed (bags) / area planted (hectares)

Table __. **Accomplishments of Office of the Municipal Agriculturist (OMA) in Angadanan, Isabela, 2006-2007**

Period	Accomplishment*
August-September 2006	233 bags/has.; 179 farmers (rainfed areas)
Dry season 2006-2007	866 bags/has.; 883 farmers (RTV-infected areas)

* in terms of seeds distributed (bags) / area planted (hectares)

The GMA Corn Program, on the other hand, targets to develop new lands for corn production, increase productivity in existing corn clusters, enhance efficiency in postharvest, improve transport logistics and better market linkage between farmers and consumers. Among its many components are the hybrid seed subsidy and the OPV seed exchange programs. The former distributes quality hybrid corn seeds under counterpart

agreements; while the latter distributes and produces OPV corn seeds for counterpart agreements with LGUs and for intercrop with coonut. Both hybrid and OPV subsidized seeds are also extended as rehabilitation support to farmers in calamity-stricken areas

The implementation of the subsidy scheme for corn seeds varies in different localities. To illustrate, seed subsidy for those who buy from DA- Isabela is P2000/bag. In Nueva Ecija, subsidy is alsoP2000/bag for hybrid corn seeds, but only 700/bag for those plnating in new/underutilized corn lands.

Table __. **Accomplishments of GMA-Corn Program, 2005-2007**

Year	Hybrid seeds distributed (in bags)		OPV seeds distributed (in bags)	
	Target	Accomplishment	Target	Accomplishment
2005	16,563	17,714	7,808	11,046
2006	64,387	72,186	30,614	38,602
2007 (1st sem)	37,741	32,857	16,657	14,975

Table __. **Accomplishments of OPA-Isabela, 2004-2007**

Cropping Period	Target hybrid corn areas (has.)	Hybrid corn seeds distributed (bags)	No. of municipalities/ cities served
Dry season 2004-2005	56,785	33,495	29
Wet season 2005	21,022	14,839	21
Dry season 2005-2006	50,993	5,150	29
Wet season 2006	11,567	11,132	22
Wet season 2007 (QTA)	7,950	3,204	15

Table __. **Accomplishments of OMA-Angadanan, Isabela, 2004-2006**

Period	Accomplishment*
January-December 2004	1,273 bags
December 2004-January 2005 (Rehabilitation Program)	1,273 bags
Wet season 2005 (Rehabilitation Program)	2,875 bags
Wet season 2006	1,029 bags; 552 farmers

* in terms of hybrid corn seeds distributed (bags)

2.4.2 Challenges Besetting Irrigation and Seed Subsidy Programs

Improving Irrigation facilities for farmers. Of the more than 4M hectares of farm land devoted to rice and 2.5M ha devoted to corn, only around 1.43Mha are serviced by NIA administered systems and private irrigation systems. Considering that not all lands are irrigable, NIA estimates that about 1.7M ha still remains to be irrigated.

The figures seem flat until one considers the costs attached to them. The estimated expense of just rehabilitating existing irrigation facilities is about 100,000 to 150,000 per hectare (PCARRD 2005). The cost of establishing new national and communal irrigation systems would be much higher. Consider also that operation and maintenance of the systems cost around P2000-3000/ha per year and you have got a huge budgetary requirement.

Another issue with irrigation is the level of benefits derived from it. PCARRD(2005) questioned the rationale behind spending most of the irrigation and agriculture budget on rice. It mentioned that though rice has been given priority for irrigation, its productivity over the last three decades continues to be low. Rice importations are at a high and farm income and crop yields remain low. PCARRD added that there seems to be no coordinated and sincere effort to irrigate corn, vegetables, tree crops, other non-rice crops and upland areas.

As mitigating measure against climatic aberration like droughts and floods, irrigation facilities serve both as water reservoir and drainage. Limitations though are ever present. During times of drought, the service areas of NIA administered systems are drastically cut. The tail-end portion of serviced farms often experience water shortages during prolonged dryspells or sometimes even during regular dry season. The situation entails the use of supplementary water sources such as on-farm reservoirs or other small scale irrigation systems.

Challenges on Seed Subsidy. The rice and corn seed subsidy programs cost a lot of money. Just like with the case of irrigation projects, efforts must be made to ensure that government investments or subsidies yield appropriate and commensurate social and economic benefits.

Talks with farmers in Isabela revealed a problem with the corn seed subsidy scheme. Corn farmers who received free seeds as part of post calamity relief efforts were not happy about the program. They complained of having received low quality seeds with low viability or germination rate. The volumes of seeds given were also small (at around 3-5kg per farmer) that they did not even suffice replanting operations for a quarter of a hectare. Program implementers should ensure the relevance of any development effort—a halfhearted attempt only cultivates resentment and negative feelings among farmers.

On hybrid seed, there were calls from outside groups to conclude the seed subsidy program. Rice Watch and Action Network (R1), through its lead convenor Jessica Reyes-Cantos, has urged congress to stop the inclusion of hybrid rice subsidy in the Department of Agriculture's 2008 budget. She said that given a subsidy of P1,000 per 20kg bag and

assuming that a hectare of rice land will need 1 bag of hybrid rice seeds, the government will have to spend P500 million for hybrid rice subsidy covering 500,000 hectares or only 12.5 percent of the total rice lands. A 2007 World Bank report also cited that the sizeable amount of money and public human resources spent on Hybrid Rice Commercialization Program did not produce much net social benefit. R1 said the farmers' adoption of hybrid seeds was slow and only reached peak coverage of 11 percent of the total rice farm area in 2005.

DA Sec. Arthur Yap had previously announced the gradual phase out of hybrid seed subsidy until year 2008. Noting and hoping that by the end of the period, the hybrid rice technology would have already established popularity and farmers themselves would buy the seeds and fully adopt the technology on their own.

2.4.3 Policy Options and Recommendations

Adequate farm inputs and irrigation water are necessary if greater productivity and higher area planted to crops, especially rice, are to be targeted. This is very much true for rice, where increase yield would entail proper irrigation support. Corn on the other hand, could survive in less developed agricultural lands and thrive exclusively on rainfall. But better corn productivity could be had if water during the crop's critical growth stages could be assured.

Sebstian et.al. (2000) claimed that with a comparatively small area for rice production, one way to increase productivity is to increase the proportion of irrigated areas. The favorable crop environment afforded by the presence of sufficient water, not only allows the doubling of not only cropping intensity, but also yield. Historical data analysis shows that the irrigated ecosystem has a yield advantage of more than one ton per hectare compared to rainfed areas. It is also important to properly maintain and rehabilitate existing irrigation systems to prevent further deterioration and ensure optimum performance.

The next question would be how much additional spending is the government willing to commit for irrigation. Establishing new irrigation infrastructure and maintaining and rehabilitating old systems necessitate the commitment of Billions of pesos. The government must decide on the most cost-effective solution to address this issue.

One possible answer is use of small-scale irrigation systems, which require lesser investment cost to build and operate. BSWM claims that the costs per hectare of constructing such structures are: 100,000 for SWIP, 20,000 for SFR, 45,000 for diversion dams and 16,000 for STW. These figures are many times lower than the cost of establishing national and communal irrigation systems like the ones NIA have.

Even the Magna Carta for Small Farmers, which was signed into law in 1991, advocates this proposal. Section 19 of the act says that "the Government shall provide adequate support services that will address the development, management and conservation of water resources. Focus shall also be made on small irrigation systems that are more

efficient, cost-effective and cheaper to establish. The design and construction of irrigation systems shall be based not only on economic rate of return but also on the sustainable use of these systems. Inefficient and underutilized irrigation systems shall be rehabilitated, improved and maintained."

PCARRD (2005) also advocated that studies be made on the possibility of developing irrigation systems for diversified crops to give farmers better income. The most appropriate method of irrigating diversified crops should be determined and the technology standards for planning and designing irrigation and drainage facilities for non-rice crops should be established.

On hybrid rice subsidies, David (2006) raised a critical concern when she observed that even with massive subsidies the program still failed to deliver strong evidence that currently available varieties are commercially viable. There were also documented problems on unsuitability of varieties and poor quality seeds that were not addressed. The study recommended the phase out of present subsidies on hybrid seeds and pushed for the allocation of resources to develop an efficient inbred rice seed system with modest subsidy.

The state is mandated to ensure that every farmer has equal opportunity to avail of good seeds and planting materials (Magna Carta for Small Farmers 1991), but this does not necessarily mean the provision of subsidies. A market-oriented approach would recommend the stoppage of price support for inputs as subsidies might provide a false sense of profitability and possibly mislead farmers when choosing the appropriate crop variety for their production activities. In the end, validation for the seed subsidy program on hybrid rice would come with farmers' voluntary acceptance of the technology package and upon assessment of the social and economic advantages brought about by the undertaking.

Bottomline is if seed subsidies are to continue, effort must be made to ensure that the target smallholder farmers are the ones who are truly benefiting from the program.

3.0 Implications, Recommendations and Conclusions

The productivity of smallholder rice and corn farmers evidently needs to be improved. Average yields for both crops even in areas with input support and irrigation systems are still quite low. This fact, coupled with shocks from extreme climatic events like drought/floods/typhoon, make the group extremely vulnerable. State interventions in this case seem justifiable.

The government intervenes in a number of ways, but the most preferred by farmers as gathered from surveys and focused group discussions were better information, credit support, crop insurance, input subsidy and irrigation service. These development tools proved to have legitimate claims to social and economic benefits. However, imperfections on both products and systems were apparent.

Localized seasonal climate forecast and information should really be provided to farmers and other stakeholders. PAGASA will have to work on developing this capacity through setting-up more meteorological stations and training its manpower. Capitalizing on the resources and cooperation of local communities seem to be the best recourse. However, while such capacity is being developed, PAGASA will have to improve the dissemination of its present information products. This entails the use of mass media as well as other information, education and communication materials/strategies that are easily accessed and understood by farmers.

Agricultural credit is one of the most commonly aired needs by farmers. The dominance of informal lenders in the countryside has its benefits as well as drawbacks. On the positive side, local creditors are able to provide the capital requirements of many agricultural producers. High transaction costs and credit risks in dealing with rural communities greatly limit the participation of formal institutions in rural lending. Turning back to directed credit programs, which have been said to cost the state a lot of money, as well as distort the rural financial market, becomes the desperate resort of a government wishing to aid its constituents. In the end, something must be done to either make the rural credit market more attractive to formal lenders; or increase the capacity of formal institutions of cost-effectively operate in the countryside. Either way, a healthy participation of formal creditors is much needed in the countryside.

Agricultural Insurance is said to be the best answer against seasonal climate uncertainty. It also makes farmers more attractive to formal creditors. However, the present crop insurance scheme in the Philippines is plagued with difficulties. Like most traditional crop insurance programs, the one in the Philippines experiences problems on adverse selection, high overhead costs, and financial sustainability. The present system has no choice but to depend on premium subsidies from the government to make its product saleable. Though needed for sustainability reasons, increasing premium rates might backfire on an already lean list of clientele. The Philippine Crop Insurance Corporation (PCIC), the program implementer, must device a way to keep the business afloat without effectively cutting the affordability of its insurance products. A good alternative would be to explore emerging innovations like index-based and market-based insurance products. In the end, PCIC has to increase its coverage of the farming sector as well as ensure a financially sound and sustainable operation.

Input subsidies such as provision of seeds for rice and corn farmers are of big help to many. However, the cost-effectiveness of this intervention must be studied more carefully. The government is incurring huge expenses in providing highly subsidized hybrid and inbred seeds to farmers, without the benefit of seeing dramatic productivity improvements and social benefits. Provision of seeds as part of relief assistance to areas damaged by drought/flood/typhoon is commendable and seemed necessary especially for subsistence farmers. However, negative feedbacks from recipients of these seed aids stating that poor quality (and small quantity) seeds are being distributed should be investigated. If such claim is true, then those who were supposed to help are contributing to the difficulties and expense being experienced by the victims.

Irrigation support for rice is necessary if greater productivity is to be desired. However, the cost involved in establishing, rehabilitiating and managing irrigation systems is staggering. Questions on returns/benefits should be promptly answered. As most irrigation facilities in the country service only rice, efforts must be made to determine whether the situation is cost effective. It may be wise to look into diversification, specifically into the possibility of providing irrigation to more high value crops/commodities. Another option is the establishment of small-scale irrigation systems, which cost much less per hectare as compared to national and communal irrigation systems.

Ultimately, a lot could be done to alleviate the plight of smallholder farmers and increase their capacity to cope with shocks and environmental stresses. Though different development programs have been set-up to tackle specific issues and concerns, one must never miss to look at the bigger picture. The individual interventions, when put together, perfectly complement and justify each other. Climate forecast/information helps in deciding on kind of crop and level of farm inputs--input and irrigation subsidies help in increasing farm productivity—agricultural credit allows farmers to properly finance the appropriate package of technology—crop insurance protects from risk as well as improve chances for availing agricultural credit. Everything fits, and looking at a vantage point, an insured well-informed and well-funded farmer has a better chance of surviving the challenges offered by seasonal climate variability.

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ANNEX 1

The PCIC and the Rice and Corn Crop Insurance Program

The crop insurance program is being implemented in the Philippines by the **Philippine Crop Insurance Corporation,** a government-owned and controlled corporation organized by virtue of Presidential Decree 1467 issued in 1978. Its charter was later revised under RA 8175 to give it some legal impetus to expand and to adopt to current circumstances.

Rice and Corn consist the traditional insurance lines of PCIC.

A. PCIC's Mandate

As the implementing agency of the agricultural insurance program under P.D. # 1467, as amended by R.A. 8175, PCIC is mandated to provide insurance protection to the country's agricultural producers particularly the subsistence farmers, against:

- Loss of their crops and non-crop agricultural assets on account of natural calamities such as typhoons, floods, droughts, earthquakes and volcanic eruptions, plant pests and diseases, and/or other perils.
- PCIC can also provide guarantee cover for production loans extended by lending institutions to agricultural producers for crops not yet covered by insurance.

B. PCIC's Mission

PCIC as an agricultural insurer is committed to help stabilize the income of agricultural producers and promote the flow of credit in the countryside by:

- Providing insurance protection to qualified farmers and other agricultural stakeholders against losses of their crops and and produce, including their farm machineries and equipment, transport facilities and other related infrastructures arising from natural calamities, pests and diseases, and other perils beyond their effective control;
- Extending innovative and client-responsive insurance packages and other services thru peoples' organizations including farmers' cooperatives, agricultural lenders and service providers.

C. PCIC's Vision

Philippine Crop Insurance Corporation as:

- A viable service-oriented government institution attending to every insurance need of subsistence farmers and other agricultural stakeholders with utmost professionalism, integrity and efficiency;
- A corporate body working with strong network of insurance and agricultural intermediaries in the spirit of partnership and oneness of purpose; and
- A key factor in realization of vibrant and progressive rural economy where Filipino farmers work with peace of mind under the protective mantle of agricultural insurance.

D. PCIC's Regular Insurance Program on Rice and Corn:

Rice and Corn Crop Insurance is an insurance protection extended to farmers against losses in rice and corn corps due to natural calamities as well as plant pests and diseases.

1. Eligibility and Coverage
Borrowing Farmers - for those obtaining production loan under the government supervised credit program;
Self-Financed Farmers - optional, provided they agree to place themselves under the supervision of a PCIC accredited Agricultural Production Technician.

Amount of Cover (per hectare)

Palay:

Inbred Varieties –	
Irrigated/Rainfed	P22,000.00
Upland	P10,500.00
Seed Production	P30,000.00
Hybrid Rice (F1) -	P26,000.00

Corn:

Open-pollinated variety -	P10,000.00
Hybrid variety -	P18,000.00

2. Premium Subsidy
Government premium subsidy is for subsistence farmers only (those who are tilling 7 has. or less rice/corn land)

3. Period of Cover
From direct seeding or upon transplanting up to harvest provided that insurance shall commence from the date of issuance of the Certificate of Insurance Cover (CIC) or actual direct seeding or upon transplanting for rice and emergence of the first leaf for corn.

4. Type of Insurance Coverage
Natural Disaster Cover - damage due to typhoon, flood, drought, volcanic eruption, and earthquake; Multi-Risk Cover - includes risks due to natural disasters, plus pest infestation and diseases.

5. Filing of Application for Insurance Coverage
For Borrowing Farmers:

- Individual borrowing farmer may file his application for production loan with a lending institution/bank;
- Borrowing farmers as a group must submit List of Borrowers (LOB), Standard Farm Plan and Budget (SFPB) and Control Map (CM)/ Location Sketch Plan (LSP)

For Self-Financed Farmers:

- Should file Application for Crop Insurance (ACI) any day before actual transplanting/direct seeding.

- Individual Farmer may file ACI with PCIC Insurance Underwriter, accredited solicitor or underwriting agent;
- Farmers applying for coverage under the Group Crop Insurance Scheme (GCIS) shall submit the following:
  - List of Participants (LOP)
  - Standard Farm Plan and Budget (SFPB)
  - Control Map (CM) / Location Sketch Plan (SFPB)

6. Premium Rate and Sharing

Premium rates varies with risk classification, crop season, and region.
Example of Farmers Share for Palay crop and Medium-Risk areas:

National Composite Rates and Premium Sharing (in Percentage)

	Multi-Risk Cover			Natural Disaster Cover		
	Low Risk	Medium Risk	High Risk	Low Risk	Medium Risk	High Risk
Borrowing Corn Farmer						
Farmer	2.83	5.65	8.48	1.90	3.80	5.70
Lending Institution	3.00	3.00	3.00	2.00	2.00	2.00
Government	10.62	10.62	10.62	7.50	7.50	7.50
Total	16.45	19.27	22.10	11.40	13.30	15.20
Self-Financed Corn Farmer						
Farmer	5.83	8.65	11.48	3.90	5.80	7.70
Government	10.62	10.62	10.62	7.50	7.50	7.50
Total	16.45	19.27	22.10	11.40	13.30	15.20
Borrowing Rice Farmer						
Farmer	1.46	2.91	4.37	1.12	2.23	3.35
Lending Institution	2.00	2.00	2.00	1.50	1.50	1.50
Government	5.90	5.90	5.90	4.22	4.22	4.22
Total	9.36	10.81	12.27	6.84	7.95	9.07
Self-Financed Rice Farmer						
Farmer	3.46	4.91	6.37	2.62	3.73	4.85
Government	5.90	5.90	5.90	4.22	4.22	4.22
Total	9.36	10.81	12.27	6.84	7.95	9.07

7. Filing of Notice of Loss

- Notice of Loss (NL) should be filed within 10 calendar days from occurrence of loss.
- Where damage is gradual or progressive, NL should be filed not later than 20 calendar
- days before the scheduled date of harvest.
- Claims for Indemnity (CI) should be filed within 45 calendar days from occurrence of

- loss.

8. Loss Adjustment and Claims Settlement

- Team of adjusters shall be constituted composed of:
  - 1 from PCIC
  - 1 from DA/LGU/DAR/NIA
  - 1 from designated member of the farmers' organization (if claims is under GCIS)
- The General Assessment Team shall be constituted during occurrence of widespread calamity and or pest/disease infestation.
- Claims shall be adjusted and settled on individual or collective basis.

Source: htttp://www.pcic.da.gov.ph/Products.html

ANNEX 2

PHILIPPINE CROP INSURANCE CORPORATION

DISTRIBUTION OF PALAY INSURANCE CLAIMS

By Year, By Cause of Loss, In Million Pesos

YEAR	TYPHOON/ FLOOD	DROUGHT	RATS/PESTS INFESTATION	PLANT DISEASES	OTHERS	TOTAL
1981	4.167	0.940	0.817	1.568	-	7.492
1982	13.717	3.257	2.622	5.122	-	24.718
1983	11.029	14.361	3.840	3.982	-	33.212
1984	19.269	5.389	17.158	11.269	-	53.085
1985	43.444	3.635	14.175	9.206	0.957	71.417
1986	69.171	4.729	13.201	9.262	1.781	98.144
1987	22.887	12.344	9.538	7.188	1.236	53.193
1988	88.138	25.653	30.070	15.150	3.138	162.149
1989	78.316	4.388	16.316	12.378	1.125	112.523
1990	63.753	20.149	17.421	12.138	2.138	115.599
1991	26.411	9.510	8.196	4.691	4.540	53.348
1992	58.015	57.134	15.657	7.075	5.121	143.002
1993	66.187	19.129	24.953	10.127	3.995	124.391
1994	113.022	7.350	26.043	13.119	2.585	162.119
1995	82.051	0.763	-	0.848	-	83.662
1996	47.013	4.728	0.266	1.172	0.003	53.182
1997	28.303	9.836	0.921	7.028	0.010	46.098
1998	59.416	27.104	4.842	4.980	0.007	96.349
1999	49.024	2.213	16.524	22.708	-	90.469
2000	19.294	0.784	20.912	13.029	0.396	54.415
2001	12.179	0.730	15.874	8.162	-	36.945

2002	6.234	2.997	13.303	9.896	-	32.430
2003	11.510	6.080	19.780	10.360	-	47.730
2004	17.370	4.280	22.320	11.700	-	55.670
2005	12.510	6.880	22.670	14.720	-	56.780
2006	23.667	1.496	27.585	14.764	-	67.512
June 2007	3.905	1.557	11.350	6.378	-	23.190
ALL YEARS	1,050.002	257.416	376.354	248.020	27.032	1,958.824

Source: PCIC, 2007

PHILIPPINE CROP INSURANCE CORPORATION

DISTRIBUTION OF CORN INSURANCE CLAIMS

By Year, By Cause of Loss, In Million Pesos

YEAR	TYPHOON/ FLOOD	DROUGHT	RATS/PESTS INFESTATION	PLANT DISEASES	OTHERS	TOTAL
1982	0.698	1.151	0.133	0.086	-	2.068
1983	1.395	17.642	13.890	0.331	-	33.258
1984	2.380	4.346	26.082	1.357	-	34.165
1985	6.111	21.470	15.179	7.683	0.419	50.862
1986	10.068	9.449	6.951	4.291	1.210	31.969
1987	5.736	13.041	3.441	2.165	0.303	24.686
1988	10.039	18.671	7.030	4.107	1.803	41.650
1989	30.996	5.391	7.870	8.140	1.509	53.906
1990	6.676	21.134	3.774	2.485	0.396	34.465
1991	3.928	21.500	3.565	0.921	0.694	30.608
1992	1.806	22.101	4.479	0.856	0.261	29.503
1993	11.269	13.551	1.936	1.213	0.098	28.067
1994	11.949	5.196	4.743	3.980	0.233	26.101
1995	5.212	12.867	1.431	1.042	0.163	20.715
1996	7.100	7.272	-	0.448	0.017	14.837
1997	6.609	17.352	0.032	1.055	0.086	25.134
1998	5.679	20.818	0.013	3.416	-	29.926
1999	9.715	2.326	1.170	4.326	-	17.537
2000	0.727	0.544	1.727	2.665	-	5.663
2001	1.660	0.105	0.538	1.672	-	3.975

2002	1.095	1.790	1.112	1.188	-	5.185
2003	8.980	4.890	1.720	0.730	-	16.320
2004	3.900	3.890	7.020	3.040	-	17.850
2005	3.240	7.670	4.300	3.000	-	18.210
2006	3.405	1.356	1.693	3.945	-	10.399
June 2007	0.672	2.382	0.366	0.754	-	4.174
ALL YEARS	161.045	257.905	120.195	64.896	7.192	611.233

Source: PCIC, 2007

PCIC Insurance Production and Claims for Palay and Corn crops from 1981 to 2007

YEAR	PRODUCTION						GROSS	CLAIMS					
	PALAY			CORN				PALAY			CORN		
	NO. OF FARMER	AREA(Has)	AC(P'M)	NO. OF FARMER	AREA (Has)	AC(P'M)	PREMIUM (P'M) (PALAY& CORN)	FARMER/ CLAIMANT	AFFECTED AREA (Has.)	INDEMNITY (P'M)	FARMERS/ CLAIMANT	AFFECTED AREA (Has.)	INDEMNITY (P'M)
1981	108,528	199,333	265.462				33.213	7,627	12,853	7.492			
1982	170,973	303,947	410.152	9,610	18,969	36.467	36.873	25,759	33,454	24.718	149	268	2.068
1983	180,135	308,743	446.112	40,498	78,784	160.765	46.935	42,500	65,948	33.212	15,200	26,913	33.258
1984	130,288	205,486	462.038	26,129	53,544	186.416	50.012	51,372	87,303	53.085	17,423	34,134	34.165
1985	159,803	279,557	865.112	26,363	58,419	302.557	90.388	46,102	83,293	71.417	13,775	28,954	50.862
1986	126,059	225,965	773.425	15,809	45,172	240.686	78.722	46,486	90,706	98.144	8,750	21,314	31.969
1987	111,776	191,446	665.950	9,721	23,362	120.103	65.660	35,708	68,764	53.193	5,988	15,058	24.686
1988	149,801	242,335	865.350	24,597	46,651	236.118	100.048	74,560	126,563	162.149	11,681	25,529	41.650
1989	219,721	356,345	1,295.724	33,578	60,406	305.164	143.543	58,382	97,315	112.523	20,308	37,119	53.906
1990	213,969	350,931	1,616.354	40,410	67,758	337.734	173.077	78,291	124,675	115.599	13,891	26,820	34.465
1991	301,954	494,538	2,838.811	33,809	52,733	299.397	339.299	35,009	58,869	53.348	10,784	19,032	30.608
1992	224,703	355,232	2,216.870	28,584	42,176	262.594	313.653	60,509	101,618	143.002	9,662	15,841	29.503
1993	177,512	288,057	1,883.225	25,316	39,986	255.528	269.336	49,086	84,535	124.391	8,939	15,506	28.067
1994	132,249	222,859	1,496.892	23,486	38,834	252.169	220.388	57,993	102,446	162.119	8,471	14,452	26.101
1995	81,314	139,252	982.688	13,568	26,272	166.583	126.810	29,352	51,690	83.662	7,429	13,161	20.715
1996	97,004	156,671	1,382.963	16,049	28,335	237.438	147.870	16,895	30,109	53.182	3,811	6,956	14.837
1997	64,028	110,583	1,093.081	20,099	35,650	327.443	131.547	10,647	19,143	46.098	5,584	9,537	25.134
1998	48,634	86,445	877.757	12,651	24,519	243.377	113.721	16,151	30,259	96.349	5,625	10,138	29.926
1999	56,402	95,398	995.039	9,112	17,345	172.221	102.729	18,902	32,936	90.469	3,658	6,564	17.537
2000	45,341	75,481	846.402	7,931	14,495	136.237	115.246	12,503	21,542	54.415	1,685	3,250	5.663
2001	30,401	52,900	580.990	4,037	7,961	83.773	94.127	9,510	16,416	36.945	1,381	2,265	3.975
2002	29,362	50,212	551.383	5,933	9,232	85.333	70.123	7,625	13,054	32.430	1,277	2,013	5.185
2003	30,993	52,502	590.786	7,869	13,347	121.940	74.872	10,547	17,440	47.730	3,188	5,111	16.320
2004	35,055	58,677	669.613	9,583	18,198	175.894	104.920	12,254	20,823	55.670	4,643	7,962	17.850
2005	37,423	56,118	688.740	6,198	10,691	120.036	97.510	12,399	19,593	56.780	3,384	6,256	18.210
2006	32,354	53,312	689.018	4,433	7,743	102.021	96.338	14,599	23,764	67.512	2,118	3,871	10.399
June 2007	15,147	26,957	387.291	1,853	3,420	43.113	45.879	5,044	8,796	23.190	744	1,295	4.174
ALL YEARS	**3,010,929**	**5,039,282**	**26,437.228**	**457,226**	**844,002**	**5,011.106**	**3,282.840**	**845,812**	**1,443,906**	**1,958.824**	**189,548**	**359,319**	**611.233**

Source: PCIC, 2007