### RICE WATCH AND ACTION NETWORK

# Issues and Prospects of the Philippine Corn Industry

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# Rationale

orn is an important crop in the Philippines. Just like rice, it is also a staple for Filipinos specifically those from the Southern Philippines.

Rice Watch and Action Network (R1) wanted to work on both rice and corn in its earlier stage. However, the network decided to initially focus on rice crops because corn was as complex a sector with multifaceted issues as rice. It might be difficult for R1 to pursue the different issues covering the sector.

After two years of existence, R1 now sees the need to study the corn sector and bring to the front of the network's issues and agenda. But this is actually a perfect time to study the sector.



Issues and Prospects on the Philippine Corn Industry

In recent years, the rising cost of oil propels the need to develop renewable sources of energy such as the use of bio-fuels. The United States—a major producer of corn has been saving its corn produce for its bio fuel industry for some time now. This has pushed the corn prices at its highest in recent history. While the farmers are happy about it, the livestock sector is not. Although consumed as food, corn's other biggest purpose is the production of animal feeds. And the growing livestock and poultry sectors are already complaining about the high cost of inputs.

To guide R1 in its attempt to develop its position on the corn sector, this paper provides an overview of the sector's performance, the industry's major issues and concerns as well as trends and experiences in the international market.

# I. Brief Industry Situationer

ata from the Bureau of Agricultural Statistics reveal that the country is almost sufficient in corn at 99%. Our sufficiency ratio has gone up over the years from 96% in 2001 to 99% in 2004-2005.

Year	Production	National Corn Requirement*	Self-Sufficiency Ratio
2001	4525	4710	96
2002	4319	4542	95
2003	4616	4737	97
2004	5413	5456	99
2005	5253	5311	99

Table 1. CORN SELF SUFFICIENCY RATIO, 2001-2005

Note: \*- represents requirement for food, for feeds and wastes, seeds, processing

However, if you look at the country's needs on a per corn variety basis, the country is deficient in yellow corn production. The general varieties of corn planted are yellow and white corn. Yellow corn is the one used for feeds. White corn is the variety preferred for food in the country although yellow is edible as well. According to Mr. Jess Binamira, former DA Corn Director, yellow corn is highly preferred in Mexico for food because of its yellow fat while in the Philippines, it is preferred for feeds also for the yellow fat because it gives poultry and hogs a good color. Issues and Prospects on the Philippine Corn Industry

The requirement for yellow corn for feeds is pegged at 3.414 MMT in 2005 while production was at 3.01 MMT only. This places our self-sufficiency ratio for yellow corn at 88%.



Our demand for feeds is around 64% of the total demand for corn and only about 22% of supply is consumed as food. Other uses of corn are for seeds (1%) and processing (13%) (Please see table 2).

The production doesn't seem to match this demand for yellow corn. About 43% of the total corn production is devoted to white while the rest is for yellow. In terms of production areas, 61% of the total area for corn is devoted to white corn production and only 39% was devoted for yellow corn production (Please see table 3). Food use is only about 1.147 million metric tons while the white corn production was 2.251 MMT leading to a surplus of about 1.1 million metric tons in 2005. In a roundtable discussion on the corn industry,<sup>1</sup> Director Binamira however failed to give a concrete answer on where the surplus in white corn goes.

The biggest corn producing provinces are Isabela and Bukidnon. Corn productivity over the last 5 years is said to be low at an average of 1.98 tons per hectare. Farmers are largely using native Tinigib varieties and Open Pollinated Varieties (OPV) corn seeds. Over the last two years, the yield per hectare has reached the 2 tons per hectare mark.

<sup>1.</sup> The Roundtable Discussion on Corn was sponsored by R1 last February 7, 2007.

								<b>^</b>				
		SUPP	۲Y					UTILIZ,	ATION			
										Net Food Dis <sub>l</sub>	posable	
YEAR	Beginning Stock	Production	Imports	Gross Supply	Exports	Seeds	Feeds and Waste	Processing	Total	Per Capita Kg./Yr.	Grams /Day	Ending Sock
2001	190	4525	172	4887	a/	50	2941	604	1115	14.31	39.21	177
2002	177	4319	278	4774	a/	48	2807	576	1111	13.97	38.27	232
2003	232	4616	100	4948	a/	48	3000	616	1073	13.23	36.25	211
2004	211	5413	23	5647	a/	51	3518	722	1165	14.09	38.60	191
2005P	191	5253	71	5515	a/	49	3414	701	1147	13.46	36.88	204

# Table 2. CORN: Supply and Utilization Accounts, Philippines, 1990 -2005 (in thousand metric tons)

P - Preliminary data a/ - Less than 1 thousand metric tons

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	Production	Area Hectarage	Yield Per Hectare
Philippines			
All	5,253,160	80,237	2.15
White	2,251,617	46,479	1.51
Yellow	3,001,543	33,758	3.16
CAR			
All	130,464	107,030	3.11
White	24,809	45,988	1.79
Yellow	105,655	28,185	3.75
llocos			
All	300,184	67,298	4.46
White	49,473	17,420	2.84
Yellow	250,711	49,878	5.03
Cagayan Valley			
All	769,506	258,180	2.98
White	54,460	27,918	1.95
Yellow	715,046	230,262	3.11
Central Luzon			
All	182,333	44,500	4.10
White	15,893	9,164	1.73
Yellow	166,440	35,336	4.71
S.Tagalog-A			
All	64,102	36,365	1.76
White	21,719	12,807	1.70
Yellow	42,383	23,558	1.80
S.Tagalog-B			
All	94,161	36,407	2.59
White	8,578	6,181	1.39
Yellow	85,583	30,226	2.83
Bicol			
All	118,115	80,237	1.47
White	37,183	46,479	0.80
Yellow	80,932	33,758	2.40

## Table 3. ESTIMATED PRODUCTION, AREA HECTARAGE, YIELD PER HECTARE, 2005 By Variety of Corn Per Province

	Production	Area Hectarage	Yield Per Hectare
Western Visayas			
All	193,736	107,030	1.47
White	52,821	45,988	0.80
Yellow	140,915	61,042	2.40
Central Visyas			
All	188,525	246,463	1.81
White	170,859	235,094	1.15
Yellow	17,666	11,369	2.31
Eastern Visayas			
All	68,416	58,589	0.76
White	63,772	55,264	0.73
Yellow	4,644	3,325	1.55
Zamboanga Peninsula			
All	223,208	163,365	1.37
White	206,847	157,218	1.32
Yellow	16,361	6,147	2.66
Northern Mindanao			
All	938,227	381,499	2.46
White	339,889	219,401	1.55
Yellow	598,338	162,098	3.69
Davao			
All	293,413	200,409	1.46
White	215,174	172,257	1.25
Yellow	78,239	28,152	2.78
SOCCSKSARGEN			
All	959,286	398,343	2.41
White	397,273	196,406	2.02
Yellow	562,013	201,937	2.78
CARAGA			
All	98,595	55,765	1.77
White	75,521	49,129	1.54
Yellow	23,074	6,636	3.48
ARMM			
All	630,889	265,328	2.38
White	517,346	227,651	2.27
Yellow	113,543	37,677	3.01

### Table 3. continued

Topping the white corn producers are ARMM, SOCKSARGEN and Northern Mindanao regions. The biggest yellow corn producers are Cagayan Valley, Northern Mindanao and SOCKSARGEN regions. Since livestock raisers are mostly in Laguna, Batangas and Rizal in CALABARZON area, yellow corn are transported either as processed feeds or raw materials to these areas.

Meanwhile, the country imports yellow corn as well as make use of cheaper corn substitutes to address the supply gap. Corn imports comprise 3% of the total importation in 2005 while corn substitutes represent 13% and the bulk of these come from the US.

Corn substitutes are soybean meal, wheat, and the like that cost lower than locally grown corn. Feedmillers, livestock and poultry industries are trying to find ways to lower production costs and are using cheaper corn substitutes as an option to tide them over the shortage. Feedmillers sometimes prefer imported corn because this normally meets the 14 percent moisture content requirement that would prevent formation of aflatoxin.

Prices of corn have increased from PH6.50 to Ph 7 rate before 2004 to the current price of PH 12.20 per kilo.

# II. Major Stakeholders of the Corn Industry

### Government

he Department of Agriculture is implementing the Corn Program that focuses on the intensification of yellow corn production. Areas or farm clusters were selected for planting of yellow corn hybrids, either from the single cross hybrid (IPB-911) variety or triple corn hybrid variety. The program aims to engage

some 75,000 corn farmers in 100,000 hectares with a potential annual production of 1.0 MMT.

The regional units of the DA have a dedicated program for this with coordinators who will implement the corn program in their respective areas.

### **Corn Farmers**

There are almost a million corn farmers in the country. Many of them are mostly smallholders and marginal, dependent totally on rainfall.



Data gathered by the National Corn Competitiveness Board from Region X showed that corn farmers are earning a net income of Ph 16 thousand for one hectare (please see cost benefit analysis of hybrid yellow corn). This is believed to go down especially if the farmers plant the Open Pollinated Variety (OPV).

Activity	Unit	Qty	Unit Cost (Php)	Total (Php)	Cost /kg
I. Labor Cost				15,597	3.12
Production				5,000	1.00
1. Land Preparation				2,100	0.42
a.Plowing	TR	1	1,500	1,500	0.30
b.Furrowing	MAD	2	200	400	0.08
c.Lime/manure spreading	MD	2	100	200	0.04
2. Planting	MD	10	100	1,000	0.20
3. Fertilizer Application	MD	3	100	300	0.06
4. Cultivation				1600	0.32
a.Off-baring	MAD	1	200	200	0.04
b.Hilling-up	MAD	2	200	400	0.08
c.Weeding	MD	10	100	1,000	0.20
5.Harvesting (sharing with harvester/owner	MD				
Post Production				10,597	2.12
7. In field Hauling (either by tractor)	Sacks	225	2	450	0.09
<ol> <li>Hauling by piecework (2 moves)</li> </ol>	Sacks	225	2	450	0.09
9. Shelling	MD	5	100	500	0.10
10.Drying	MD	28	100	2,800	0.56
11.Machine/Eqpt. Services/Facilities				3,375	0.68
a.Sheller	Kg.	5,000	0.35	1,750	0.35
b.Solar Dryer	Kg.	5	0.1	500	0.10
c.Truck Hauler (from farm to sheller)	Sacks	225	5	1,125	0.23
12.0ther Cost				3,022	
a.Interest (18% pax 4 months ave.)	Ha.	1	2,122	2,122	0.42
b.Overhead and Contingency	Ha.	1	900	900	0.18

Table 4. Cost and Return Analysis for One Hectare ofHybrid Yellow Corn\*

\*Data for region X

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Activity	Unit	Qty	Unit Cost (Php)	Total (Php)	Cost /kg
II. Material Cost				12,693	2.54
10.Seed	Bag	1	2,200	2,200	0.44
12. Fertilizer				8,904	1.78
a.Urea	Bag	3	820	2,460	0.49
b.14-14-14	Bag	2	732	1,464	0.29
c.Di-Ammonium Phosphate	Bag	3	1,300	3,900	0.78
d.Chicken Manure	Bag	40	20	800	0.16
e.Lime	Bag	80	4	280	0.06
13.Insecticide	Bottle	1.25	585	731	0.15
14.Sacks (for corn in cobs,2 uses)	Pcs.	225	2.5	563	0.11
15.Sacks (for grains use,2 uses)	Pcs.		2.5	250	0.05
16.Twines	Kg.	1	45	45	0.01
Total Cost of Production				28,290	5.66
Yield (kg./Ha)		5,000			
Corn Price ( P/kg.)			9		
Gross Income				45,000	
Net Income				16,710	3.34

Table 4. continued

Source: National Corn Competitiveness Board

Meanwhile, a look at the cost and returns analysis by technology used would reveal that return on investment is smallest for corn farmers using the traditional planting method.

Table 5. Cost and Return Analysis for Corn Production in Region II

		Technolog	y Level	
Details	Traditional Planting Method	Recommended 12 Steps Planting	Mechanized (borrowed capital)	Mechanized (own capital)
Inputs*	7,782.00	7749.00	5649.00	5649.00
Cash Labor/Rentals	10,800.00	9,900.00	11,000.00	11,000.00
Fixed Cost	743.28	705.96	656.96	
Total Expenses	19,325.28	18,354.96	17,314.96	16,649.00
Gross Sales	24,000.00	30,000.00	36,000.00	36,000.00
Net Income/ha	4,674.72	11,645.04	18,685.04	19,351.00
ROI	24.19%	63.44%	107.91%	116.23%

\* Cost of items as of June 2000 Source: Department of Agriculture Region 2, cost of items during June 2000

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A group of corn farmers have formed PHILMAIZE or the Philippine Federation of Corn Producers. It has around 3000 members nationwide and is quite supportive of emerging technologies in corn, including BT corn or genetically-engineered corn. PHILMAIZE sits at the National Corn Competitiveness Board as the corn producer representative.

Meanwhile, the National Corn Competitiveness Board is a private sector initiative that brings together all the stakeholders of the industry-from input suppliers, producers, transport and logistics to feedmillers and end users. It aims to raise the level of competitiveness of the industry by jointly solving problems from pre-production to post production issues.

### Feedmillers

Feedmillers are the ones who process yellow corn as feeds. The end users of feeds are the livestock and poultry sectors. The Philippine Association of Feed Millers, Incorporated (PAFMI) represents some of the biggest stakeholders in the feedmilling sector. PAFMI is composed of companies also known to have big stakes in agri-agro production, like San Miguel Foods, VITARICH, General Milling Corporation, Universal Robina Corporation, Swift Foods, Liberty Flour Mills, Far East Agricultural Supply, Foremost Farms, Purefoods Corporation and a lot more from the big agribusiness companies.

In 2006, PAFMI requested the government to increase the WTOapproved Minimum Access Volume (MAV) Plus mechanism increasing corn imports from 216,000 tons to 336,000 tons or 120,000 tons more. This would allow the Philippines to import corn at the preferred tariff duty of 35 percent as opposed to over-MAV tariff rate of 50.<sup>2</sup>

http://www.grains.org/galleries/market\_perspectives/Market%20Perspectives%206-2-06.pdf, US Grains Council, 2 JUNE 2006 MARKET PERSPECTIVES

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### Livestock and Poultry Sector

Both the livestock and poultry industries are among the end users of corn. Livestock industry includes the swine, carabao, cattle, goat and dairy industries. The demand for corn by the livestock and poultry sectors is expected to increase by 1 million metric tons in 2007.

The swine industry dominates this sector. For the swine industry alone, the three top-producing provinces are Batangas, Laguna and Rizal. By region, Central Luzon produces the highest number of swines at 15.86% in 2005 followed by CALABARZON at 13.42%.

Meanwhile, the poultry sector, particularly the broiler industry is also expected to grow. The industry's 2005 output totalled 1.215 million metric tons in liveweight, valued at P48.07 billion. It comprises 73% of the total value of poultry production at P79.687 billion. The broiler egg production contributes about Ph20.820 billion pesos in additional production value.

Both sectors are complaining of increasing costs of inputs. According to the hogs sector, the high cost of inputs such as imported soybean meal and corn pushes pork and poultry prices to rise.

Corn is about 20% of the total costs in hog production and 21% in poultry. Over-all, the feeds' cost constitutes about 40% in the cost of total swine production and about 60% in poultry. Prices of inputs

are also volatile as 70% to 80% of the total ingredients in manufacturing feeds are imported, including corn and corn substitutes.

Farmgate and retail prices per kilogram of hogs were found to be increasing over the 5 year period (2000-2005). The price per kilo of pork increased by almost Ph20 from the 2001 level. Meanwhile, the retail price of pork lean meat costs around Ph139.28 per kilo. This is around Ph68 additional amount from the farmgate price.

Particulars	P/Kg	Percent
PRODUCTION COST		
01. Cost of Stock/Piglet	27.74	35.75
02. Land Rental	0.41	0.53
03. Feeds		
Corn	15.37	19.81
Others	20.56	26.49
04. Drugs & Biologies		
FMD	1.11	1.44
Others	4.95	6.38
05. Labor	3.34	4.31
06. Utilities	1.10	1.42
07. Depreciation	0.75	0.97
Sub Total	75.34	
08. Cost of Money (%)	0.75	0.97
Management Cost (2%)	1.51	1.94
TOTAL COST OF PRODUCTION	77.60	100.00
FARM PRICE	81.0	
Reservation Cost (less 3 kg)	-2.86	
NET FARM PRICE	78.14	
Margin	0.54	

Table 6. COST OF PRODUCTION - Swine

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	Integ	grator	Non-In	tegrator
Particulars	P/Kg	% Share	P/kg	% Share
I. PRODUCTION				
Cost of Stock/DOC	10.00	16.70	14.39	22.16
Land & Building Rental			2.19	3.37
Growers Fee	7.50	12.52		
Feeds				
Corn (50%)	13.00	21.71	13.80	21.54
Others (50%)	23.90	39.91	25.31	38.67
Biologics	1.69	2.82	2.50	3.85
Labor			1.13	1.13
Brooding Expenses			1.40	1.40
Overhead Cost				
Electricity /Water			1.03	1.03
Repair/Maintenance			0.31	0.31
Misc. (Hauling/Licensing/Etc.)			0.31	0.31
Fixed Cost	1.50	2.50		
Sub Total	57.59		62.39	
Management Cost (2%)	1.15	1.92	1.25	1.92
Cost of Money (2%)	1.15	1.92	1.25	1.92
TOTAL COST	59.89	100.00	64.89	100.00
Margin			7.11	
FARM PRICE / Transfer Price	59.89		72.00	

### Table 7. COST OF PRODUCTION - Poultry

Table 8. Swine and Poultry Production, lightweight (in MT),Philippines, 200-2005

	2000	2001	2002	2003	2004	2005	Average
Swine	1,517,793	1,584,516	1,667,763	1,733,087	1,722,447	1,761,787	1,664,566
% GR		4.40	5.25	3.92	-0.61	2.28	3.05
Chicken	997,816	1,098,793	1,173,738	1,231,794	1,231,794	1,238,351	1,154,872
% GR		10.12	6.68	1.28	3.62	0.53	4.47

Note: Swine- 3.05% Growth Rate (2000-2005), Chicken-4.47% Growth Rate (2000-2005)

Table 9.	Total	Projecti	ion of	Swine	and	Poultry	in	(MT),
		Philip	oines,	2005	201	0		

	Average	2006 (Prj)	2007 (Prj)	2008 (Prj)	2009 (Prj)	2010 (Prj)
Swine	1,664,566	2,203,885	2,917,944	3,863,558	5,115,086	6,772,374
Chicken	1,154,872	1,785,432	2,760,278	4,267,390	6,597,385	10,199,557

Prj - Projected Swine - 3.05 GR, Chicken - 4.47% GR

# III. Trends in World Corn Supply and Demand

n 2005, the United States Department of Agriculture (USDA) reported that the year registered the lowest in international corn supply stocks in 25 years because consumption is indeed increasing. Prices increased further due to falling global wheat production-a corn substitute. Wheat production in recent years has suffered production losses due to drought and other calamities. According to an importer, "Eight percent of US wheat is having drought. Russia and wheat-producing areas in Eastern Europe are being hit by Russian cane or winter kill. Southern hemisphere-producing wheat (Argentina) will also produce less"<sup>3</sup>



3. Statement by trader Eric Bailon of Paritas Trading Corp as cited by Melody Aguiba in http://www.mb.com.ph/issues/2006/02/11/BSNS2006021156079.html, Melody Aguiba , Manila Bulletin Online

US and China are the two largest producers of corn. The US remains the biggest corn producer at 41% of world production or 255.54 Million metric tons of the world's total production of 624.33 million metric tons. China produces about half of the US' production.

A look at the quantity of exports of these two countries over the last five years would reveal that the loss of one is the gain of the other. When the US' exports dropped in 2003, China's exports significantly rose only to go down in 2004 when the US recovered on the same year.

	(,									
2001	2002	2003	2004	2005						
<b>USA</b> 50,506,854.11	50,711,828.47	45,807,274.98	50,525,566.54	47,790,530.88						
CHINA 5,654,952.75	11,309,911.54	16,051,435.67	3,022,936.99	8,983,726.53						

Table 10. Export quantity including Food Aid(1000 tonnes) on Maize

Source: FAO

However, the US lowered its corn exports in 2005 when its corn use for ethanol doubled from 17% in 2003 to 27% in 2005. The use of corn for ethanol is said to contribute to the increasing demand for corn.

China is as well believed to be gearing up for increased use of biofuels as its economy grows bigger. It is already investing in other biofuel crops like sorghum as in the case in the Philippines through the recently-signed RP-China Agreement. In recent years, the Philippines has been buying most of its corn from China as freight costs from Chinese ports were seen to be much lower than the rates from the ports of US and Argentina .

Dr. Binamira summarized the US' possible hand in the increasing corn prices. The US, by developing and subsidizing its ethanol industry, has created an assured domestic market for corn. They can command the movement of corn prices in the world market because they are, by far, the biggest corn producer in the world. According to Mr. Binamira, this saves the US government on subsidies to corn farmRice Watch and Action Network

ers by around US\$20 billion dollars. At the same time, the US is assured of their corn market in the ethanol industry and a renewable source of ifs energy use.

But some are raising another question of whether this overwhelming demand for corn will remain. The development of other biofuel sources such as cellulose is feared to make this demand for corn for biofuels, a history. Cellulose, a fibrous molecule found in all plants, is abundant and is a favoured subject of renewable, plant-based biofuels research. Issues and Prospects on the Philippine Corn Industry

# IV. Identifying Potential Policy Issues in Corn

The corn sector is a vital industry. Addressing the needs of the corn sector would also lead to benefiting its allied industrieslivestock and poultry sectors, etc. The competitive advantage of local livestock and poultry in the domestic and export markets will depend on the cost-efficiency of the domestic corn industry. Corn, on the other hand will have to contend with cheaper imported corn and feed substitutes.

Corn in terms of importance, remains second only to rice. The sector received very little public investment compared to rice.

PHILMAIZE is advocating for more support to the corn industry coming from ACEF to improve its competitiveness and effectively supporting poultry and livestock industries in the end. They argue that all tariffs generated by corn imports should go to a competitiveness fund for the corn industry. Please see table below for actual amount of tariff earnings from corn from 1998 to 2001 (see last column of Table 11).



Commodity	HS Code	MAV (MT)	Utilization Volume (MT)	% Utilized (Wtd. Ave.)	In-Quota Tariff (%)	Amount MAV Tariff (PhP)
Corn	1005	1,070,600	773,633	88.9	35	1,230,235,766.64
Pork	0203	254,760	62,423	29.1	30	769,247,869.50
Poultry	0207	111,756	45,045	49.4	45	656,267.125.61
Frozen Beef	0202	470,760	103,877	58.2	30	1,199,428,769.52
Chilled Beef	0201	29,139	2,144	14.5	30	31,320,668.52
Total						3,886,500,199.80

Table 11. Approximation of MAV Utilization by Select	ed
Commodities, 1998-2001	

Source: http://www.da.gov.ph/comprogram/acep/Introduction.html, sourced, July 2, 2007

Since many of the corn farmers are subsistence in nature, addressing their issues would help improve their lot. Their production issues are also not very different from rice and other crops. Their yield per hectare is relatively low according to Mr. Butch Umengan of the National Corn Competitiveness Board. Almost all of the corn farms are rainfed.

Obviously, the yellow corn production has to be increased. Livestock raisers are claiming that they are in dire need of supply for feeds. United Broilers and Raisers Association (UBRA), for example said they are willing to go into contract growing with corn farmers to ensure the supply of feed inputs.

Post harvest wastage is also a major problem of the sector. There are very little drying facilities which can help minimize corn losses.

Farmers need to change their attitude towards the farming practice for corn. Corn farmers are believed to care less for their corn farms than they do with other crops.

Corn quality needs to be improved also. According to PAFMI, they prefer imported corn than locally-grown corn. The imported corn normally meets the 14 percent moisture content requirement that would prevent the formation of cancer-causing aflatoxin.<sup>4</sup>

<sup>4.</sup> http://www.mb.com.ph/issues/2006/02/11/BSNS2006021156079.html, Melody Aguiba, Manila Bulletin Online

Transportation from farm to market is also a major hurdle. Since livestock and poultry farms are mostly in Luzon, logistics and handling of corn from the corn growing provinces of Cagayan Valley and Mindanao is crucial. As of now, transporting is getting a big share in their cost of production, as well.

This is the very same rationale behind the Grains Highway Program of the government that was implemented by the Office of the Million Jobs under former DA Secretary Cito Lorenzo and has also been revived by Secretary Arthur Yap. Under the program, it has identified interventions from seed to shelf, including increasing production to make any investments in post harvest and bulk handling facilities viable.

The introduction of BT corn came with this program. The BT corn was expected to trigger corn production throughout the year.<sup>5</sup> The government's claim is that this will ensure there is corn cargo the whole year, maximizing the investments provided for the post-harvest and bulk-handling facilities.

Currently, the logistics cost of corn remains high because according to the Domestic Shipowners Association, cargo volume is low and the hauling of corn products is done manually. The ports have no bulk-handling facilities that can handle fast roll off-roll on of cargoes.

With the projected tightening of supply a major likelihood in the years to come,<sup>6</sup> expect the livestock and poultry industries to use the same issue to justify the high domestic prices of pork, beef and other meat products. As of now, the government is promoting the planting of more corn to take advantage of projected increase in prices.

The dilemma that this situation poses is that it is advantageous to farmers while dreaded by the livestock and poultry sector and possibly to the meat-eating public. This is probably one policy issue that has to be resolved.

<sup>5.</sup> BT Corn claims to be corn borer resistant. Hence, it will be possible to plant corn even during months when corn borer normally attacks.

<sup>6.</sup> USDA, GAIN Report, 2003

Although the demand for corn for bio ethanol is valid, the political economy of corn has to also be given some thought. The US is a big player in world corn production that in the end, having a sound policy for corn self-sufficiency should be foremost in the government's agenda.

The rising cost of oil—a major input in fertilizers can also be seen as an opportunity to demand for the shift to organic inputs. The use of Bio-N—a biological fertilizer that replaces the chemical fertilizer, for example, has been found to be effective in reducing requirements for chemical inputs in corn. Bio-N has been promoted in Cebu where corn is a staple crop. The use of Bio-N increased corn production by up to 6.0 tons/ha from the average of 0.5-2.0 tons/ha.<sup>7</sup>

Another issue is the accessibility of inputs. If this becomes accessible and affordable, then farmers would surely use the right amount of inputs for their corn farms. According to Mr. Umengan, farmers normally use lower amounts of needed inputs.

Finally, the productivity issue also brings to fore the contentious issue of the use of BT corn. The commercialization of Bt corn is still allowed although the Department of Agriculture has not pursued it with the same vigor as during the time of Sec. Cito Lorenzo. This implies that the BT corn issue will remain and this is something that organizations, like R1, that are opposed to genetic engineering of life forms, such as crops should think about as it tries to develop further its campaign and analysis on GMOs.

<sup>7.</sup> USE OF BIO-N AS FERTILIZER IN CORN PRODUCTION (BIOTECHNOLOGY) Philippines, sourced from the internet on June 30, 2007, http://www.unesco.or.id/ APGEST/pdf/philippines/phi-bp-bt.pdfphilippines/phi-bp-bt.pdf

# R1

### **Rice Watch and Action Network**

### **R1's Commitment**

R1 is a group of organizations working individually and collectively to pursue policy changes in rice, particularly in the area of trade and the particulary in the area of trade and the nature of rice farming systems in the country. Its bias is on small farmers and the improvement of their living conditions as well as promoting sustainable and equitable systems and arrangements towards a sustainable development. This is a network that aims to strengthen existing initiatives of individual member organizations towards the same end.

### R1's Program of Action

R1 is pursuing a trade campaign that will protect small rice farmers and to promote sustainable agriculture – both of which are aimed at fostering an economically and environmentally viable rice industry.

The network is committed to push the following agenda:

- Promoting sustainable rice farming
   Strengthening community and farmers' rights over seeds
   Retaining Quantitative Restrictions on rice
   Increasing domestic support for the rice industry

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