



Policy Brief

SENATE ECONOMIC PLANNING OFFICE

February 2009

PB-09-01

Eleven years after the passage of the Agriculture and Fisheries Modernization Act (AFMA), Philippine agriculture is still facing much of the same problems it did prior to the existence of the said law. The lack of financial support for the AFMA, as well the inappropriate allocation of meager resources has contributed significantly to the current situation.

Financing Agriculture Modernization: Risks & Opportunities

The importance of promoting growth and eliminating poverty in the rural sector has been well documented in the literature of Philippine economic development. Yet the rural sector in the country seems to be often left behind during periods when the country would experience modest growth and is also often hardest hit during periods of crisis. Seventy percent of the poor still live in the rural areas with the majority of them dependent on agriculture and agriculture-related industries for their jobs and incomes. Even urban poverty is an indirect effect of rural poverty, since low rural incomes have been noted to push migrants into the cities.

One could possibly attribute this to the fact that public policy in this country has often been biased in favor of industrial development at the expense of agriculture and that public expenditure tends to favor urban centers over the rural periphery.

The Medium-Term Philippine Development Plan itself points out that rural poverty remains tied to the state of agriculture and fisheries and conversely, agricultural performance remains crucial to economic growth and poverty reduction.

The passage of the Agriculture and Fisheries Modernization Act (AFMA) in 1997 was supposed to be a turning point in Philippine agriculture. The AFMA is a comprehensive blueprint for agriculture modernization and rural development. The AFMA aims to transform the rural economy through the introduction of modern technology, increasing availability of rural financing, increasing investments in agricultural infrastructure, improving the links between farmers and markets, both domestic and international, and others.

However, after almost 12 years since the passage of the law, Philippine agriculture is still facing much of the same problems it did prior to the existence of the AFMA. It remains predominantly small,



The SEPO Policy Brief, a publication of the Senate Economic Planning Office provides analysis and discussion on important socio-economic issues as inputs to the work of Senators and Senate Officials. The SEPO Policy Brief is also available at www.senate.gov.ph.

unorganized farm holdings with crops occupying most of the farmlands. The average farm size is 2 hectares, and about 67 percent were planted to temporary crops such as rice and corn comprising 50 percent of the area. Meanwhile, the 2002 Census of Fisheries reveals some 1.6 million operators, with 85 percent of these in subsistence municipal fisheries.

The agriculture and fisheries sector has been performing below expectations and potential. In the 1970s, Philippine agriculture outperformed most other countries in Asia. From close to 5 percent growth in the 1960s to 1970s, annual growth generally slowed down in the 1980s and 1990s, even experiencing negative 6.5 percent growth in 1997. From 2000 to 2008, agriculture and fisheries growth averaged 3.8 percent, hitting a low of 1.8 percent in 2004 and a high of 5.1 percent in 2006. However, the last two years were marked by progressively slower growth rates of 4.9 percent in 2007 and 3.2 percent in 2008.

Agriculture generates a significant number of jobs in the country. From 1993 to 1998 it contributed an average of 42 percent of total employment or around 11.3 million jobs annually. This declined to about 37 percent from 1999 to 2003, or around 11 million jobs. By 2007, estimated employment in agriculture and fisheries was at around 12 million jobs, representing roughly 36 percent of the total labor force.

Clearly, the glorious future for agriculture and the rural sector in general, envisioned with the passage of the AFMA has not quite come to pass. The body of literature on the problems of the Philippine agriculture sector commonly blames the weaknesses of the policy and institutional environment within which the sector operates. Lack of financial support for the AFMA, inappropriate allocation of meager resources as well as issues of bad governance have also contributed to the current situation.

II. CAUSES OF UNDERPERFORMANCE

One of the reasons the AFMA faltered in implementation was the fact that the financial resources which were supposed to be committed for the implementation of the law were not delivered. The AFMA called for a budget of at least PhP20 billion per year from 1999 to 2004 for the Department of Agriculture (DA).¹ The law even specified the planned allocation of

¹The AFMA mandates an additional PhP20 billion for the the DA budget for 1999. For 2000 to 2004, the AFMA, under Rule 112.4 of the Implementing Rules and Regulations, called for the release of at least PhP 17 billion per year in addition to the DAs 1998 appropriation of PhP2.8 billion.

the AFMA budget over the various agriculture programs (Table 1). In addition to this, the law specified that the annual budget allocation for agriculture research and development starting in 2001 would not be less than 1 percent of the agriculture gross value added (GVA) two years before the current budget year. Unfortunately, the total actual budget fell below what was prescribed in AFMA both in terms of new appropriations and obligations. According to estimates cited in the official AFMA assessment conducted in 2007, new appropriations from 1999 to 2005 totaled PhP120.1 billion. This is PhP61.0 billion less than the PhP181.4 billion set by the law. In some years, the shortfall was quite substantial such as in 2004 when total new appropriations were only PhP12.2 billion, a mere 43 percent of the amount required in the law (Tan, 2008).

Table 1. Planned Annual Budget Allocation of Php 20 billion for AFMA Implementation (1999-2004)

Particulars	% of Total	Amount in Php Billion
Irrigation	30.00	6.00
Post-Harvest Facilities	10.00	2.00
Agro-Industry Modernization Credit and Financing	10.00	2.00
Other Infrastructure	10.00	2.00
Research and Development	10.00	2.00
Marketing Assistance	8.00	1.60
Salary Supplement of Extension Workers / Extension Services	6.00	1.20
Capability Building	5.00	1.00
National Agriculture and Fisheries Education System	5.00	1.00
National Information Network	4.00	0.80
Rural Non-Farm Employment Training	1.75	0.35
Identification of SAFDZs	0.25	0.05
Total	100.00	20.00

Source: Department of Agriculture

Moreover, the mandated allocation by AFMA component was not observed.

A number of studies have pointed out how public investments in agriculture have not only been way below the actual requirements of the sector, but worse, have been poorly allocated and utilized. David (2003) noted that a large share of the agriculture spending goes to financing grains trading, provision of seeds and planting materials, and credit (among others), all of which are essentially private goods and services. While government credit programs have proved to be unsustainable, procurement programs for seeds and planting materials have usually been fraught with

overpricing, underutilization, poor quality and late deliveries. Further, public-good type expenditures such as research and development have been badly underfunded. Habito and Briones (2005) noted that the already inadequate research resources are inordinately focused on rice, several times out of proportion to the commodity's GVA contribution.

Esguerra (2006) noted how agriculture expenditures for the delivery of services that the private sector needs to take advantage of new market opportunities have not been prioritized. These include market linkage assistance, market information, product standards enforcement, trade facilitation and import/export processing. Esguerra observed that increasing expenditures in these areas is critical as the expected returns are quite significant.

On top of all these problems, institutional and governance weaknesses, of which much has already been written in the past, serve to further exacerbate the problems of agriculture in the Philippines. These governance issues include corruption (such as the alleged fertilizer scam), politicization of the bureaucracy, weak technical and managerial capability and less-than-ideal cooperation between the national government and local government units (LGUs) with regard to rural development programs.

III. REVIEW OF GOVERNMENT INTERVENTIONS

What follows is a review of the performance of the government with regard to major interventions in agriculture and fisheries vis-a vis their budget from 2004 to 2009 (Table 2).

Table 2. Department of Agriculture, Budgetary Allocation, 2004-2009 (in million pesos)

Major final output	2004	2005	2006	2007	2008	2009*
Irrigation	3,576.0	4,433.7	4,545.8	7,496.9	8,302.9	13,240.2
Post-harvest / Other Infrastructure	964.1	1,786.4	2,186.2	2,014.0	6,364.0	6,695.8
Credit Facilitation	116.9	140.4	139.7	121.3	118.6	118.1
Market Development Services	56.9	58.2	67.1	99.7	243.6	826.0
Research and Development	509.4	532.2	387.7	583.8	651.5	994.4
Extension Support, Education and Training	490.7	637.7	551.0	743.3	863.8	1,844.6
Salary Supplement	436.8	-	-	-	-	-
Information Services	51.3	107.5	128.4	222.4	183.4	257.0
Regulatory Services	923.4	269.9	262.8	328.5	546.0	677.9
Production Support	1,927.5	1,811.1	2,363.0	2,176.0	4,216.5	9,670.3
Policy and Planning	318.3	484.1	541.4	642.3	513.6	1,090.1
Human Resource Development	-	-	-	-	-	-
Program Management	101.9	-	-	-	-	-
TOTAL	9,473.2	10,261.1	11,173.1	14,428.1	22,003.9	35,414.3
Regular Budget	4,252.1	4,273.7	4,210.3	4,736.6	5,771.3	8,592.9
GRAND TOTAL, DA	13,725.3	14,534.8	15,383.4	19,164.7	27,775.2	44,007.3

Source: Department of Agriculture, *proposed

Note: The 2005, 2007 and 2008 figures are from the General Appropriations Act of each year; 2004 and 2006 budget were reenacted. 2009 data is from the 2009 National Expenditure Program (NEP)

Table 3. Status of Irrigation Development (as of June 2008)

Region	Estimated Total Irrigable Area (ha)	Service Area (ha)				Irrigation Development (%)	Remaining Potential Area To be Developed (ha)
		National Irrigation System	Communal Irrigation System	Private Irrigation System	TOTAL		
CAR	99,650	22,622	34,906	22,912	80,440	81	19,210
1	277,180	55,967	96,536	27,329	179,832	65	97,348
2	472,640	137,812	41,532	23,095	202,439	43	270,201
3	498,860	200,136	77,766	20,555	298,457	60	200,403
4	246,960	53,146	53,115	17,962	124,223	50	122,737
5	239,660	20,489	69,999	29,484	119,972	50	119,688
6	197,250	52,216	20,263	5,499	77,978	40	119,272
7	50,740	8,903	21,658	2,539	33,100	65	17,640
8	84,380	19,084	29,607	4,466	53,157	63	31,223
9	76,080	15,162	19,709	1,972	36,843	48	39,237
10	120,700	26,411	23,147	14,764	64,322	53	56,378
11	149,610	33,191	15,639	25,915	74,745	50	74,865
12	293,610	60,679	22,113	17,296	100,088	34	193,522
ARMM	156,720	16,105	7,057	225	23,387	15	133,333
CARAGA	162,300	26,670	20,973	3,316	50,959	31	111,341
TOTAL	3,126,340	748,593	554,020	217,329	1,519,942	49	1,606,398

Source: Department of Agriculture

A. IRRIGATION

Irrigation is a critical component in the Philippines' agricultural development considering that is heavily-dependent on rice production. Irrigation effectively doubles rice-cropping intensity. The average rice yield on irrigated land is around 46 percent higher than on non-irrigated land. It also reduces the risks faced by rice and corn farmers arising from adverse weather conditions.

The share of irrigated land to total potential irrigable land remains quite low at around 49 percent. As of June 30, 2008, the total service area covers 1.5million hectares out of the estimated 3.13 million hectares of potential irrigable areas according to the National Irrigation Administration (NIA). Of these, 47 percent are covered by the National Irrigation System (NIS); 34 percent, Communal Irrigation Systems (CIS); and 13 percent, Private Irrigation Systems (PIS) (Table 3). Lands primarily devoted to rice and corn and having a 3-percent slope or lower are considered to be part of the estimated potential irrigable area.

However, it must be pointed out that the irrigation service area as noted in NIA figures refers to areas having irrigation facilities and does not necessarily mean that these areas are actually receiving irrigation. In reality, the actual irrigated area is usually less than the irrigation service area.

In 2008, for instance, in the dry season, only 73.2 percent of the service areas of national irrigation systems were actually irrigated. The figure rose slightly to 73.4 percent in the wet season. The usual reasons behind this are damaged irrigation canals (either through wear and tear or due to typhoons) or simply due to the lack of water (Table 4).

Table 4. Irrigation Service Area vs. Actual Irrigated Area, 2008

Region	Service area (ha)	Actual Irrigated Area (ha)		Percent of service area (ha)	
		Wet season	Dry season	Wet season	Dry season
CAR	22,622	13,368	13,882	59.09%	61.37%
1	55,872	32,080	23,191	57.42%	41.51%
2	136,312	108,010	113,408	79.24%	83.20%
3	184,037	135,965	135,950	73.88%	73.87%
4	52,410	31,119	25,626	59.38%	48.90%
5	20,489	14,192	15,204	69.27%	74.21%
6	52,216	41,265	38,483	79.03%	73.70%
7	5,726	4,229	6,391	73.86%	111.61%
8	19,036	15,439	15,726	81.10%	82.61%
9	15,162	12,765	15,003	84.19%	98.95%
10	26,411	19,064	24,070	72.18%	91.14%
11	32,161	29,474	29,340	91.65%	91.23%
12	59,169	50,135	49,746	84.73%	84.07%
13	26,012	15,427	14,356	59.31%	55.19%
ARMM	16,105	8,943	9,393	55.53%	58.32%
TOTAL	723,740	531,475	529,769	73.43%	73.20%

Source: NIA

Central Luzon has the largest share of irrigated area followed by Cagayan Valley and Ilocos Regions. ARMM has the smallest share of irrigated areas followed by Central Visayas, Western Mindanao and CARAGA.

In the first three quarters of 2008, the NIA constructed 10,517 hectares of new irrigation, rehabilitated 65,027 hectares and restored 37,403 hectares. These figures represent 47 percent, 71 percent and 71 percent, respectively of their targets for new, rehabilitated and restored irrigation facilities for the year.

Irrigation usually receives the largest share of the total agriculture budget, PhP5.6 billion from 2004 to 2008, or an average of 31.3 percent of the total agriculture budget during that period. While this is certainly a substantial amount, the AFMA actually mandates a higher annual irrigation budget of PhP6 billion per year. However, it was only in 2007 and 2008 when the irrigation budget actually breached this amount with PhP7.5 billion and PhP8.3 billion, respectively. Irrigation will receive an even bigger boost in 2009, with an expected appropriation of PhP13.2 billion, representing a staggering 37.4percent of the total agriculture budget.

It is alarming to note though that despite the considerable efforts and resources spent for rehabilitation and construction of new irrigation, the total irrigation service area increased by only 169,574 hectares, from 1.35 million hectares in 1999 to 1.52 million hectares in June 2008. The increase of about 17,000 hectares per year in irrigation service area was less than 1 percent of the total irrigation service area.

Unofficial estimates stated that 3 percent of irrigation service areas are lost yearly due to ordinary wear and tear, and this does not include irrigation service lost due to

environmental damage to watershed areas, which feed the irrigation systems. Further, some of the NIS and CIS have to undergo major rehabilitation every 10 years (or in some cases, more often) just to maintain a 50-percent dry season irrigation intensity. The NIA estimates that at least PhP5 billion per year is needed just to maintain the existing level of NIS and CIS (David, 2008).

As the government will already have its hands full just rehabilitating and repairing existing irrigated lands, expanding irrigated areas will be a challenge in the coming years given the high cost of development. The development cost of new diversion-type irrigation schemes run from around PhP100,000 to PhP200,000 per hectare while construction of reservoir-type irrigation costs anywhere between PhP250,000 and PhP350,000 per hectare (Table 5).

Given the high cost of irrigation maintenance and development, coupled with the limited finances spread over a broad spectrum of interventions in agriculture, experts have been inclined to recommend that more small-scale irrigation projects such as shallow-tube wells and small water impounding systems would be a more desirable option in the near term.

Sustainability is the overriding issue in irrigation development in the Philippines. It is directly related to issues of cost-effectiveness, efficiency, and cost-recovery (World Bank, 2007). The rehabilitation of irrigation systems needs to be accompanied with improvements in cost recovery because in recent years the collection of irrigation service fees has been reported at only 58 percent of total amount collectible (David, 2003). David recommended that public expenditure be directed to rehabilitate the existing gravity irrigation systems while the expansion into new irrigated areas is done through

Table 5. Irrigation Development Schemes and Costs per Hectare, in pesos (2003 prices)

Type of Project	Useful Life	Description	Development Cost per Hectare	Operations & Maintenance Cost per Hectare
NIP (New); Diversion	25- 50 yrs	5,000- 20,000 ha	100,000- 200,000	2,000- 2,500
NIS (Rehab); Diversion		5,000- 20,000 ha	60,000- 80,000	2,000- 3,000
Reservoir	25- 50 yrs	10,000- 100,000 ha (at least 30 m height)	250,000- 350,000	2,500- 3,000
Deepwell Pump (Rehab)	15-25 yrs	50 ha (100 m depth, 8 in diameter)	50,000- 60,000	10,000 - 12,000
Deepwell Pump (New)	15-25 yrs	50 ha (100 m depth, 8 in diameter)	90,000-100,000	10,000- 12,000
Shallow Tube Well (New)	8-12 yrs	3- 5 ha	50,000- 60,000	5,000- 6,000
CIP (New); Diversion	25-30 yrs	100- 200 ha	80,000- 120,000	---
CIP (New), Reservoir	25-30 yrs	100- 200 ha	100,000- 200,000	---
CIS (Rehab); Diversion		100- 200 ha	40,000- 60,000	---

Source: NIA

the support of small-scale irrigation systems. Small-scale irrigation systems require less investment costs compared to the larger-scale irrigation systems, have shorter gestation periods, yield higher productivity, give farmers a greater degree of control over their irrigation water, and provide more options for crop diversification. Such systems are more efficient (50-90 percent water use efficiency) as against 30 to 40 percent efficiency for conventional irrigation. Large scale systems, though, should not be abandoned completely. Instead, design improvements, with greater emphasis given to technology that minimizes water losses (lined canals, more water control facilities, and improved on-farm water management) should be looked into.

B. POST-HARVEST FACILITIES

Minimizing post-harvest losses could greatly enhance incomes in the rural sector. However, the lack of dryers, milling equipment, cold storage facilities and other ancillary post-harvest equipment continues to be a problem. The government estimates that inadequate post-harvest facilities account for losses of around 15 percent in the crops sector and as much as 40 percent in the fisheries sector.

The DA reported that AFMA targets on the provision of postharvest facilities were based on the assumption that the national government would release the P2 billion funds programmed annually for post-harvest facilities.² Unfortunately, this has not been the case as the budget releases for post-harvest facilities usually fall way below the planned allocation. In 2008, a mere PhP577 million was released for the provision of post-harvest facilities, accounting for only 1.7 percent of the total agriculture budget. But this is seen to change dramatically in 2009 as the DA has called for a more than 200 percent increase in the budget for post-harvest facilities.

The DA is proposing a PhP1.75 billion budget for post-harvest facilities in 2009, which should account for about 4 percent of their total budget if granted. These facilities will come in the form of 2,000 flatbed dryers that should help reduce losses. It has been noted that a significant amount of palay is lost in the drying stage due to lack of adequate drying facilities as evidenced by the number of farmers who still continue to dry their produce along the roads and highways. In addition, 31 new *Bagsakan* Centers (wholesale markets) and 120 new *Barangay Bagsakan* facilities will be established

in 2009. These will enable more small farmers to directly market their produce to consumers and eliminate the layers of middlemen. This should result in higher incomes for farmers as well as lower prices for consumers. Further, DA plans to establish 25 new postharvest processing plants and construct 175 new storage facilities around the country (Table 6).

Table 6. Postharvest facilities, targets for 2009

Particulars	
Flatbed Dryers distributed (no)	2,000
PH facilities/equipment distributed/installed (no)	25
Storage facilities established (no)	175
Barangay Bagsakan established (no)	120
Bagsakan Center (no)	31

Source: DA

It must also be noted that despite the relatively small budget allocated to post-harvest facilities, there are still some questions regarding these allocations. The World Bank (2007) pointed out that a disproportionately high share of the budget for post-harvest facilities (as well as irrigation, research and extension) goes to rice at the expense of other crops with greater export potential. This is probably a result of the government's stated policy of promoting rice self-sufficiency as opposed to food security.

Further, David (2000) noted that much of the post-harvest facilities funded by the government such as grain dryers, farm-level grain centers, agro-processing centers, and cold storage facilities are basically private goods and services. Moreover, the study found out that while private sector activities in these areas have been observed to succeed without any government assistance, government-managed projects of this sort have reportedly experienced low utilization rates.

Findings from the 2007 Commission on Audit (COA) report have indeed shown that some PhP95 million worth of post-harvest facilities in various regions have remained unutilized due to their not being suited to the needs or due to lack of coordination with stakeholders. Nevertheless, there is a continuing clamor from agriculture stakeholders for more post-harvest facilities as reported in the recently concluded AFMA assessment. The assessment (Dy, et al., 2008) included a survey of agriculture stakeholders across the country, which ranked post-harvest facilities as the fourth most important priority sector among AFMA components (behind irrigation, marketing and other infrastructure). Thus, while there is a need for more post-harvest facilities in

² Under AFMA, post-harvest facilities would get 10 percent from the annual budget of P20 billion for the DA.

the country, proper planning, coordination and consultation with the various stakeholders must first be conducted by the DA to maximize available funds.

C. OTHER INFRASTRUCTURE

While the Philippines is generally considered to have a relatively high road network density, the country is one of the worst performers in terms of paved roads in Southeast Asia. There is also a need to develop, expand and improve the existing network of transport infrastructure such as roads, bridges, airports, ports, etc. Investing in transport infrastructure is crucial to the development of agriculture in any country and the Philippines is no exception. The World Bank (2007) has pointed out the critical role for the government of investing in essential public goods, in particular infrastructure (rural roads and wholesale markets), among others, as these investments would reduce marketing and *palay* production costs, allow rice farmers to generate higher incomes even at lower consumer rice prices and allow non-rice farmers to benefit from public goods.

For 2007, the DA had a PhP2.856 billion budget for the construction of farm-to-market roads around the country. Of this amount, only 29 percent or PhP831 million was spent as revealed in the 2007 COA report. Meanwhile, 47 percent (or PhP1.35 billion) was partially spent, 14 percent (or PhP390 million) were not yet utilized and 10 percent (or PhP286 million) incurred delay due to the absence of implementing guidelines.

The DA has explained that most of the projects which were not implemented were due to the fact that several LGUs changed priorities following the change in administration after the 2007 local elections. As a result, the LGUs involved would usually fail to release the necessary counterpart funding to the projects. On the other hand, delays in project completion were usually due to internal problems in the LGU administrations, bad weather, problems in hauling of equipment and late releases of funds. As for the remaining 10 percent of the proposed farm-to-market roads, the DA released the implementing guidelines in April 2008 and these projects should have commenced by then.

The budget for the construction of farm-to-market roads in 2008 increased substantially to PhP7.5 billion, accounting for 22 percent of the total agriculture budget for that year. This was a welcome development as it is consistent with the World Bank's position that investment in these types of public goods will benefit

more farmers and fisherfolk and will improve the welfare of the rural sector in the long term. However, this figure will drop in 2009 as the DA has only programmed a budget of PhP4.4 billion for the construction and rehabilitation of some 2,900 kilometers of farm-to-market roads. The 40-percent decrease could be mainly attributed to the decision to increase the already hefty irrigation budget by nearly PhP4 billion. To a lesser degree, the plan to increase the budget for post-harvest facilities by around PhP1.2 billion will also hurt the budget for farm-to-market roads and other infrastructure. This development is again reflective of the government's thrust to increase rice self-sufficiency, equating this with food security (which the literature suggests should not be the case) and providing little support to other crops with greater export potential.

D. CREDIT AND FINANCE

Small farmers continue to find it difficult to access formal credit and financing despite government efforts to increase the flow of credit to the rural sector. Only a small portion of the lending portfolio of commercial banks goes to agriculture and the bulk of these funds usually go to large farm owners and commercial farms. The inherently risky nature of agriculture, arising from climatic shocks, diseases and infestations, means that small farmers are generally considered by banks and formal financial institutions to be non-creditworthy. Also, small farmers are often unable to meet basic documentary and collateral requirements needed to access formal financing and thus continue to depend on informal credit sources.

In addition to these, the introduction of a number of reforms aimed to strengthen the financial sector, while successful, turned out to work against the rural sector. For instance, increasing of capital requirements increased barriers to entry of new banks and prohibited rural banks from expanding their outreach, restrictions in branching pushed banks to locate in urban areas where there is higher rates of return, mergers and acquisitions forced banks to be more competitive and consequently focus their business on larger, commercial loans.

Over the past two decades, the government has tried a number of interventions to address the problem of rural financing. These include the introduction of loan quotas, subsidized interest rates and directed credit programs, among others. Unfortunately, experience showed that the results of these programs have been minimal, at best, to disastrous, at worst. Kraft (1998) noted how the introduction of agricultural loan quotas

actually promoted inefficiency in funds allocation and increased banks' opportunity costs. Llanto (2004) also noted that the Philippine experience with directed credit programs is too costly for the government because the subsidized interest rates and the preferential treatments towards implementing financial institutions resulted in very low loan recovery. The study further noted financial discipline weakened as a result of distortions introduced in the financial markets by these programs. The combination of the dismal loan repayment performance along with the high cost of maintaining and subsidizing directed credit programs proved to be unsustainable. This forced the government to look into alternative methods of providing rural finance.

The rejection of these traditional approaches and the evolution of micro-financing techniques as a more viable approach to rural financing led to reforms in government credit policy, which were also a part of the sweeping reforms introduced in the AFMA. AFMA mandated the termination of all government directed credit programs to the agriculture sector while consolidating all outstanding loan funds into the Agro-Industry Modernization Credit and Financing Program (AMCFP). Government financial institutions such as the Land Bank of the Philippines (LBP) and the Quedan Credit and Guarantee Corporation (Quedancor) were then tasked to implement the AMCFP as a wholesale lending program to private financial institutions and microfinance institutions, which in turn would re-lend the funds to small farmers and the rural poor.

Initial assessments of the credit policy reforms introduced by the AFMA as well as the mainstreaming of microfinance principles (through the adoption of a National Strategy for Microfinance) have shown some promise, bringing about greater private sector participation in rural credit markets while increasing the access of small farmers to formal financing. Surveys conducted by the Agricultural Credit Policy Council (ACPC) have shown a shift of borrowing to more formal sources. From only 24 percent of small farmers borrowing from formal institutions in 1997, it increased to 49 percent in 2005 (Table 7). The elimination of government-subsidized directed credit programs have also brought about some savings for the government.

Table 7. Borrowing by Major Source of Loans (in %)

Source	1996-1997	1999-2000	2001-2002	2004-2005
All borrowers	100.0	100.0	100.0	100.0
Formal institutions	24.0	38.6	34.4	49.4
Informal lenders	76.0	61.3	60.3	50.6
Formal and informal lenders			5.3	

Source: ACPC Small Farmer and Fisherfolk Credit Accessibility Surveys (in Llanto, 2008)

Nevertheless, there is still a need to increase the amount of financing available to the rural sector as well as further improving access of small farmers to these funds. While increasing government funds for rural credit facilitation would certainly be helpful, the more pressing need would be to encourage the private sector, both commercial lenders and microfinance institutions, to provide credit to the rural sector. In other words, the provision of government services which would reduce the inherent risks in the agricultural sector, including basic infrastructure, appropriate technology and improved market information for farmers would still be the best solution to bringing in rural finance.

Budgetary support for credit facilitation in 2009 will be around PhP118 million. This represents a slight decrease from the PhP118.5 million budget of the previous year.

E. PRODUCTION SUPPORT

Production support programs, particularly those which provide subsidies to farmers for seeds, fertilizers and other inputs have long been an important feature of the DA's work. As a consequence, these programs historically receive a significant chunk of the budget for the sector. The budget for production support averaged PhP2.5 billion from 2004 to 2008, accounting for nearly 14 percent of the budget. This is expected to increase by a staggering PhP9.6 billion in 2009, representing a nearly 130-percent increase and accounting for 27.3 percent of the budget, the second biggest component behind only irrigation spending. The bulk of this amount will subsidize seeds and other genetic material at the cost of around PhP8.6 billion. This amount is 75 percent more than the already significant PhP4.9 billion allocated to seeds for 2008. The remaining amount is allotted mostly for fertilizer subsidies, for which the DA has planned to spend PhP780 million for 2009, down from the PhP1.34 billion budget in 2008.

For 2009, the DA will provide the following seed subsidies to farmers: (1) PhP1,500/bag for hybrid rice seeds, (2) PhP1,200/bag for inbred certified rice seeds, (3) PhP650/bag for open pollinated variety (OPV) corn seeds, and (4) PhP1,200/bag for hybrid corn seeds. The massive scale of the planned production support program can be seen in the DA's targets for the coming year, specifically distribution of: (1) 517,000 bags of hybrid rice seeds, (2) 3.9 million bags of inbred certified rice seeds (this is practically equivalent to nearly 1 bag of rice seeds for each of the approximately 4.3 million hectares of rice planted in the country as of 2007, per BAS data), (3) 137,000

bags of OPV corn seeds and (4) 109,000 bags of hybrid corn seeds.

In addition, the DA also aims to distribute 22 million kilograms of fertilizers and various soil ameliorants, and 10,775 soil testing kits; and to establish 152 new fertilizer production facilities. Other production support measures of the DA for 2009 include the distribution of 25 million pieces of various planting materials, 50,000 heads of various animals and 183 million fingerlings (Table 8).

Table 8. Agriculture's production support targets for 2009

Particulars	
Distribution of fertilizer and other soil ameliorants (kg)	22 M
Fertilizer production facilities established (no.)	152
Soil testing kits distributed (no.)	10,775
Rice seeds distributed	
<i>Hybrid (bags)</i>	517,000
<i>Certified Seeds (bags)</i>	3.9 M
Corn seeds distributed	
<i>Hybrid (bags)</i>	109,000
<i>Open pollinated variety (bags)</i>	137,000
Planting materials distributed (pcs)	25 M
Animals distributed (heads)	50,000
Fingerlings distributed (pcs)	183 M

Source: DA

While subsidies for production support are obviously a very popular policy measure among stakeholders and politicians alike, the level of government spending in this area met widespread criticism. David (2006) and Sebastian et al (2006), for instance, pointed out that the provision of subsidies for goods (which are essentially private in nature) has distorted technological choices, encouraged misallocation of resources, crowded out the private sector, and even disproportionately benefited the already better-off farmers. The World Bank, in particular, has been critical of the program that promotes the widespread use of hybrid rice, stating that the program has incurred substantial and sometimes unintended costs while producing little net social benefit.

It has been suggested that the program would achieve better outcomes by shifting support to location-specific research and development, and improved extension services. It was also suggested that the private sector could play a larger role in producing and distributing high-quality seeds, at a low cost. But this would require improving government regulations, phasing out direct interventions in seeds distribution, ensuring a better bid for the property rights to private organizations, and increasing public investments in research and extension services. Further,

it has also been noted that increasing investments in infrastructure such as farm-to-market, which benefits farmers of all types of crops, would be a better use of the resources allocated to production subsidies.

F. RESEARCH AND DEVELOPMENT

Much has been written on the need to improve agriculture research and development in the Philippines and on how it can serve as an important catalyst for the entire sector. However, public spending on agricultural research and development in the Philippines has historically been less than optimal. R&D spending has perennially ranked quite low in terms of priority, averaging merely 2.94 percent of the total agriculture budget from 2000 to 2008. The trend is set to continue for 2009 with the proposed research budget of PhP994 million, which is merely 2.81 percent of the total DA budget. If the budget of the Department of Science and Technology committed for agriculture and fisheries research were to be included, this figure rises to PhP1.2 billion. Further, the average ratio of agriculture and fisheries research and development expenditure to agriculture GVA is a mere 0.33 percent from 2000 to 2007. This figure is way below the 1-percent level recommended for developing countries and very much lower than the 2 to 3 percent observed in many countries.

The low rate of public investment in agricultural R&D is particularly astonishing in light of the evidence gathered from a number of studies catalogued in Gapasin (2006), indicating economic rates of return of anywhere between 40 to 73 percent in various developing countries. Ponce (2002) noted that rice research in India and China has a 65 percent rate of return.

Aside from the problem of severe underfunding, the current highly complex and multi-level institutional structure, consisting of 161 public R&D institutions and 263 networks, has resulted in agencies having overlapping and duplicate functions (Gapasin, 2006). Naturally, splitting the already miniscule research budget over several competing agencies presents a very inefficient use of limited resources.

Thus, more imperative than increasing the expenditure of agriculture R&D, the implementation of the proposed streamlining and convergence of the various institutions involved in the system should be hastened.

G. EXTENSION SERVICES

After the devolution in the early 1990s, it was noted that the quality and frequency of extension work started

to decline. Perhaps, this is because the importance given to appointing municipal agriculturists and to providing necessary funds for the functions of the office generally varies per LGU. It was also observed that the link between the R&D system and the extension networks has weakened hindering what should ideally be a streamlined system to transfer knowledge and technologies to farmers in the field. This may also be one of the reasons for the slow adoption of new technologies by farmers and fisherfolk in spite of the reported large number of “mature” technologies generated by the R&D system. Strengthening the linkage between the R&D and extension systems would have made researchers better informed of problems faced by farmers and fisherfolk, enabling them to conduct more timely and relevant research.

The AFMA provides an allocation of Php1.2 billion annually as a salary supplement to extension workers. Unfortunately, while this amount is already considered inadequate, it has never been fully released as well. From 2004 to 2008, extension support, education and training received only an average of Php657 million annually, representing a mere 3.63 percent of the budget. This has resulted in historically poor performance rates for the extension system in the Organizational Performance Indicator Framework (OPIF).³ In 2007, indicators such as “training activities conducted” and “participants trained” only had 66 percent and 46 percent of accomplishment rates, respectively.

There are encouraging signs on the horizon though. The extension budget for 2009 is set to receive a massive boost, provided that the Php1.80 billion request by the DA is granted. This would result in a 113.5 percent increase from the 2008 budget and would represent 5.21 percent of the proposed agriculture budget. Aside from the badly needed budget increase for extension services, though, the World Bank further stressed that there is a need to improve the coordination of extension at a national level. Gapasin (2006) pointed out that there are 1,891 publicly funded agencies and LGUs that have recognized extension or advisory function and resources. The DA should play a more strategic role in guiding and coordinating extension units as well as strengthening their links with R&D system.

H. RURAL NON-FARM EMPLOYMENT

Non-farm employment is a vital source of rural incomes. In most developing countries, they could account for half of rural income. Under AFMA, rural non-

farm employment seeks to make rural workers more adaptable and flexible through education and training, promote rural industrialization and the establishment of agro-processing enterprises in rural communities, and ultimately increase the income of rural workers. The components of this intervention, as envisioned in the AFMA, are threefold, specifically: (1) Basic Needs Program (BNP), (2) Rural Industrialization and Industry Dispersal Program, and (3) training of workers.

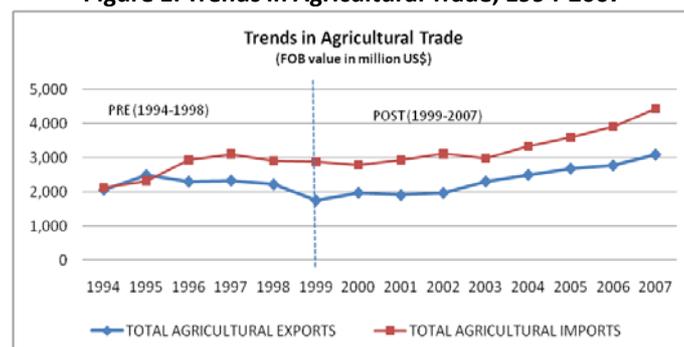
While the program design for the BNP has been made, this has not been implemented due to lack of AFMA funds. The AFMA called for the allocation of Php350 million for the implementation of this program and very little funds to date have been made available. However, the main criticism levied against the BNP is that it is a highly ambitious program that also tends to duplicate activities of other government agencies, particularly the Department of Labor and Employment, TESDA, Department of Education and Department of Trade and Industry. The recently concluded AFMA assessment has proposed that this component of the law be revisited in light of these findings.

I. TRADE AND FISCAL INCENTIVES

General Trends in Agricultural Trade

The trends in the trading of agricultural outputs and inputs show that the Philippines has consistently become a net importer during the 1999 to 2007 AFMA implementation period (Figure 1). Before the AFMA implementation (1993-1998), there was a narrow band between the average value of agricultural exports and the average value of agricultural imports, which reached US\$2.28 billion and US\$2.68 billion, respectively. Post AFMA, the average value of agricultural exports posted a modest rise at US\$2.33 billion while the average value of agricultural imports surged to US\$3.33 billion.

Figure 1. Trends in Agricultural Trade, 1994-2007



Source of raw data: Bureau of Agricultural Statistics

³ The OPIF is a performance-based budgeting model wherein programs and projects are ranked and funded in terms of their priority and relevance to the desired outcomes.

The agricultural export performance during the AFMA implementation was caused by the lagged effect of the 1997 Asian financial crisis that created uncertainty in financial markets, and the more serious problem of the 1998-99 El Niño phenomenon that damaged crops and reduced the volume of exports.

There are no major changes in the market destinations of Philippine major export goods pre and post AFMA, despite the Philippines' membership to the General Agreement on Tariffs and Trade – World Trade Organization (GATT-WTO). The major markets of Philippine top agricultural exports are: USA and Netherlands for coconut oil; Japan for fresh bananas and shrimps and prawns; USA, Japan, Netherlands and Korea for pineapple and pineapple products; US, Japan and Germany for tuna; US, Belgium, Taiwan and the Netherlands for desiccated coconut; and US, Denmark, Great Britain and France for seaweed and carrageenan exports.

However, the agriculture export performance of the country was partly hindered by the WTO-Agreement, specifically on market access, domestic support, export competition and restrictions, and sanitary and phytosanitary (SPS) measures. For example, the country has been experiencing difficulties in accessing markets for its banana and pineapple exports to Australia. Philippine mangoes, except those from Guimaras, also find it hard to get in the US and Japan markets.

While the country has no problem with volume expansion for traditional exports within the already established markets in developed countries, trade expansion for new products in new markets is still very much a bilateral arrangement. Moreover, the interlocking issues related to market access, domestic support and export competition has directly affected the agricultural export performance of the country.

A study⁴ showed that of the 11 less developed countries and 10 developed countries of the Asia-Pacific region, the Philippines and Peru were the laggards in terms of export performance for the periods 1996 to 1999 and 2000 to 2005. The average export earnings of the Philippines were below US\$3 billion, while other less developed countries like China, Thailand, Russia, Indonesia, Malaysia, Chile, and Mexico reported export revenues ranging from US\$10 billion to US\$28 billion in 2005.

⁴ Gonzales, 2007.

Others studies⁵ showed that the general impact of trade as an AFMA component indicates a generally poor level of implementation across commodity subsectors. While the country's compliance was substantial in terms of the external commitment⁶, the results are mixed and inadequate under domestic commitment⁷, and less than satisfactory under the AFMA.⁸ The impact of globalization in the agriculture sector was generally a decline in global competitiveness among sensitive Philippine agribusiness products (rice, corn, beef cattle, hogs, broiler and eggs).⁹ Bright spots of export competitiveness, however, are emerging in high value crops and fishery subsectors in some regions.

To date, the WTO negotiations are in temporary standstill but majority of members agreed to resume negotiations. Technical discussions are ongoing among members in various formats in multilateral context. The Doha Development Agenda, considered by many as the most ambitious undertaking initiated by less developed countries, calls for complete and drastic changes in terms of trade-distorting support and coverage of export subsidies.

Fiscal Incentives under AFMA

Fiscal incentives such as the Tariff Exemptions for Fisheries and Agriculture Modernization (TEFAM) were utilized by large agribusiness firms with importers of soya bean meal eating up the largest share of agricultural input imports at 66 percent. Other imported inputs under TEFAM include machinery and equipment (13%), feed supplement and biologics (9.5%), fertilizer (5.5%) and pesticide (2.9%), among others.

Some 344 firms were granted TEFAM from 1999 to 2005. Over two fifths of these exemptions were concentrated in Regions IV and III, while Regions II, IV-B, V, CAR and ARMM have not yet availed of TEFAM. Notably, among the top 10 importers under TEFAM in 2005, seven were directly involved in poultry and livestock production and feedmilling. Hence, the

⁵ Selected studies of the STRIVE Foundation (Gonzales, 1999; Gonzales, et al., 2001).

⁶ That is, WTO agreement on enhanced market access, removal of domestic support and no use of export subsidies, tariffication of all quantitative restrictions, prohibition of non-tariff measures, minimum access volumes, reduction in tariff bindings, and plant variety registration and protection.

⁷ Provision of an action and budget plan for GATT-UR adjustment measures (i.e. safety nets), enactment of appropriate legislations, and reforms in the value added tax (VAT) for agro-processors, budgetary support to agriculture, and support to irrigation.

⁸ Habito, 1999.

⁹ Selected studies of the STRIVE Foundation (Gonzales, 1999; Gonzales, et al., 2001)

dominance of soybean meal imports, which is a crucial ingredient in the manufacture of animal feeds. The other three importers were involved in fruit processing, sugar production and post harvest facilities. The major imports were dominated by large firms because small firms and cooperatives were constrained by their inability to open letter of credit.

Given the empirical findings, there is a need to pursue more vigorous macro and subsectoral policy reforms and law enforcement in relation to agricultural trade. Enforcement of existing laws (e.g. anti-smuggling, quarantine) and enhancement of domestic support measures to improve competitiveness are a must. Likewise, the country needs to continue its strong trade negotiation initiatives with other least developing countries to level the playing field in agricultural trade. Also, the government needs to beef up its efforts in extending assistance to small and medium enterprises and cooperatives in the regions to avail of tariff exemptions of imported agricultural inputs, and thereby enhance their competitiveness in the world market. Moreover, trade issues should be integrated in the national development agenda, especially those related to poverty reduction, increasing productivity and competitiveness, providing compensation and human development safeguards, and diversification of exports and markets.

Finally, given that the findings on the general impact of AFMA are not as robust as envisioned by the law, it is high time to revisit the AFMA's Implementing Rules and Regulations, including a strong political will to provide budgetary allocation to the agriculture and fisheries sector to make it more competitive.

IV. RECOMMENDATIONS

There is no doubt that the lack of financial support for the AFMA has greatly hindered the proper implementation of programs meant to develop the agriculture sector. While the agriculture budget has increased significantly over the past year and is expected to grow further in 2009, funding gaps still remain and fully releasing all funds promised by the AFMA should be of utmost importance.

However, the proper allocation of these increased resources will be very critical to ensure that benefits are maximized. Streamlining and restructuring of related and overlapping functions between the various agencies would also help greatly in this regard. Improving coordination between the national government agencies

and LGUs with regard to the provision of rural services should also be on the agenda. In this case, perhaps some amendments to the Local Government Code, particularly with regard to the delivery of agriculture extension should definitely be considered. The proposed Philippine Agriculture and Fisheries Extension Act, currently being deliberated in the Senate could be seen as a solution to this.

There might also be a need to revisit the Farmland as Collateral Bill, which seeks to restore the legal rural land market, currently prohibited under the Agrarian Reform Law, and study whether this measure can indeed address some of the problems inherent in rural financing. Also, the passage and implementation of tougher anti-smuggling legislation as well as a review of current quarantine procedures should also be prioritized. Lastly, institutionalizing the use of instruments that monitor the delivery of government services, such as the OPIF and linking these to the budget process is also critical.

REFERENCES

- Antonio, E. & Onodera, O. (2007). Facilitating Trade and Structural Adjustment the Philippines: Experience in Non-Member Economies. *OECD Trade Policy Working Papers, No. 59*. OECD Publishing.
- Balisacan, A., Sebastian, L., et al. (2006). Securing Rice, Reducing Poverty: Challenges and Policy Directions, Overview. SEARCA, PhilRice and DA-BAR.
- Bureau of Agricultural Statistics. (various years). Total Agricultural Exports. Diliman, Quezon City.
- _____. (various years). Total Agricultural Imports. Diliman, Quezon City.
- David, C. (2003). Agriculture. in A. Balisacan and H. Hill (Eds.), *The Philippine Economy: Development, Policies, and Challenges*. Ateneo de Manila University Press. Quezon City.
- David, C. and Inocencio, A. (2000). Key Indicators for Public Expenditure in Agriculture, Natural Resources and the Environment. Manila. *Philippine Institute for Development Studies (PIDS), Discussion Paper Series No. 2000-26*.
- David, C., P. Intal and A. Balisacan, (2007): Distortions to Agricultural Incentives in the Philippines. Agricultural Distortions Working Paper. World Bank

- David, W. (2004). Water Resources and Irrigation Policy Issues in Asia. *Asian Journal of Agriculture and Development, Vol. 1, No. 1., 76-97.* SEARCA, Los Baños, Laguna.
- _____. (2008). Irrigation. In R. Dy, et al., *Modernizing Philippine Agriculture and Fisheries: The AFMA Implementation Experience, 85-128.* University of Asia and the Pacific.
- Dawe, D., Moya, P., & Casiwan, C. (2006). Why Does the Philippines Import Rice? Meeting the Challenge of Trade Liberalization. IRRI and PhilRice.
- Department of Agriculture. (2007). Annual Report 2006.
- _____. (2008). Annual Report 2007.
- Dy, R. (2008). Rural Non-Farm Employment. In Dy, et al, *Modernizing Philippine Agriculture and Fisheries: The AFMA Implementation Experience.* University of Asia and the Pacific.
- Dy, R., et al. (2008). Executive Summary. *Modernizing Philippine Agriculture and Fisheries: The AFMA Implementation Experience.* University of Asia and the Pacific.
- Esguerra, J. (2006). Rural Growth and Development Revisited: Governance Issues and Reform Imperatives for Rural Growth. World Bank.
- Gapasin, D. (2006). Agricultural Research, Development and Extension. Paper prepared for the World Bank Study, *Rural Growth and Development Revisited in the Philippines.* Rural Development and Natural Resources Sector Unit (EASRD) of East Asia and the Pacific Region, Working Paper 36684.
- Habito, C. and Briones, R. (2005). Philippine Agriculture Over the Years: Performance, Policies and Pitfalls. Paper presented at the conference, *Policies to Strengthen Productivity in the Philippines.* Asia-Europe Meeting (ASEM) Trust Fund, Asian Institute of Management Policy Center, Foreign Investment Advisory Service, Philippines Institute of Development Studies and the World Bank on June 27, 2005.
- Habito, C. (1999). Farms, food and foreign trade: The World Trade Organization and Philippine Agriculture. In 2007 AFMA Assessment Report. .
- Gonzales, L. (2007). Making Agricultural Trade Liberalization Work for Small Farmers: Strategies and Measures for Enhancing Productivity and Competitiveness of Small Farmers in the Asia-Pacific Region. In the *2007 AFMA Assessment Report.*
- Gonzales, L. (1999a). The Global Competitiveness of the Livestock and Poultry Subsectors Before and After the GATT-WTO. *2007 In the AFMA Assessment Report.*
- Gonzales, L. (1999b). Trade Liberalization of the Philippine Rice Sector. In the *2007 AFMA Assessment Report.*
- Gonzales, L., Elca, C. and Lapiña, G. (2001). Benchmarking, Global Competitiveness Analysis and Policy Advocacy for the Livestock and Poultry Subsectors. In the *2007 AFMA Assessment Report.*
- Kraft, N. (1998). A Review of the Effects of Financial Liberalization on Finance Intermediation in the 80s and 90s: A Focus on the Agriculture Sub-Industry. *ACPC Staff Paper Series 98-02.* Pasig City, Philippines: Agricultural Credit Policy Council.
- Llanto, G. (2004). Rural Finance and Developments in Philippine Rural Financial Markets: Issues and Policy Research Challenges. *PIDS Discussion Paper Series No. 2004-18.* Makati City.
- Llanto G. (2008): Credit. In Dy, et al, *Modernizing Philippine Agriculture and Fisheries: The AFMA Implementation Experience.* University of Asia and the Pacific.
- Lopez, R. (2005): Why Governments Should Stop Non-Social Subsidies: Measuring the Consequences for Rural Latin America (revised version). University of Maryland, College Park.
- Tan, E. (2008). Budget/Finance. In Dy, et al, *Modernizing Philippine Agriculture and Fisheries: The AFMA Implementation Experience.* University of Asia and the Pacific.
- World Bank (2007). Agriculture Public Expenditure Review. World Bank, Washington, DC.

This Policy Brief was principally prepared by Peter S. Turingan, with contributions from Jamie Lyn Duque, under the supervision of their Directors, and overall guidance of their Director General.

The views and opinions expressed are those of SEPO and do not necessarily reflect those of the Senate, of its leadership, or of its individual members. For comments and suggestions, please e-mail us at sepo@senate.gov.ph.