

DRAFT August 2, 2012

FOOD AND NUTRITION SECURITY IN THE PHILIPPINES: AN OVERVIEW

Paper commissioned by the Asian NGO Coalition for Agrarian Reform and Development (ANGOC) for the Asian Alliance Against Hunger and Malnutrition (AAHM)

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July 2012

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LIST OF ABBREVIATIONS

AHMP	Accelerated Hunger Mitigation Program
AFMA	Agriculture and Fisheries Modernization Act
AFMP	Agriculture and Fisheries Modernization Program
AMCFP	Agro-Industry Modernization Credit and Financing Program
ANP	Applied Nutrition Programme
ARMM	Autonomous Region of Muslim Mindanao
BAS	Bureau of Agricultural Statistics
BIDANI	Barangay Integrated Development Approach for Nutrition Improvement
BFP	Breakfast Feeding Program
BPAN	Barangay Plan of Action for Nutrition
CFAD	Community Fund for Agricultural Development
CoCoPal	Cocoa, Coconut and Palayamanan
CRDES	Collaborative Extensive Research and Development
CRS	Catholic Relief Services
CSO	Civil Society Organization
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DOST	Department of Science and Technology
DSWD	Department of Social Welfare and Development
EO	Executive Order
FAITH	Food Always in the Home
FAO	Food and Agriculture Organization
FIELDS	Fertilizer, Irrigation and Infrastructure, Extension and Education, Loans, Dryers, Seeds
FIES	Family Income and Expenditure Survey
FMR	Farm-to-Market Road
FNRI	Food and Nutrition Research Institute
FSP	Food for School Program
FSSP	Food Staples Self-Sufficiency Program
FSW	Food Sovereignty Watch in Mindanao
HSFP	Healthy Start Feeding Program
IFAD	International Fund for Agricultural Development
IPC	Integrated Food Security Phase
JFC	Jollibee Foods Corporation

LAKASS	Lalakas ang Katawan Sapat sa Sustansya
LGU	Local Government Unit
MRDP	Mindanao Rural Development Program
NAPC	National Anti-Poverty Commission
NCP	Nutrition Center of the Philippines
NCR	National Capital Region
NIA	National Irrigation Authority
NFA	National Food Authority
NGO	Non-government organization
NNC	National Nutrition Council
NNS	National Nutrition Survey
NSO	National Statistics Office
PPAN	Philippine Plan of Action for Nutrition
PDAP	Partnership for Development Assistance in the Philippines, Inc.
PDP	Philippine Development Plan
PHILDHRRRA	Philippine Partnership for the Development of Human Resources
PhilRice	Philippine Rice Research Institute
PNLC	Philippine NGO Coalition
RENI	Recommended Energy and Nutrient Intake
RFU	Regional Field Unit
RO-RO	Roll On – Roll Off
SAFDZ	Strategic Agriculture and Fisheries Zone
SEA-K	Self-Employment Assistance – Kaunlaran
SKA	SEA-K Association
SMP	School Milk Project
SPS	Sangkap Pinoy Seal
SRA	Social Reform Agenda
SUC	State University and College
TCP	Teacher-Child-Parent Approach
TN	Tindahan Natin
UN	United Nations
UNICEF	United Nations Children’s Fund
UPLB	University of the Philippines – Los Baños
WFD	World Food Day
WFP	World Food Programme
WHO	World Health Organization

RATIONALE

Governments and intergovernmental organizations have prioritized food security as a development agenda after the food crisis of 2008. As may be expected, food investments have increased, trade agreements strengthened and development assistance is shifting back to agriculture. And yet, food and nutrition especially of the smallholder agriculture remains volatile.

This study is intended to provide a post-food crisis outlook on food security and nutrition conditions of the country. It describes in detail the status, programs, mechanisms and the key effects on smallholder agriculture. In forwarding its recommendations, it analyzed the facilitating and constraining factors from the perspective of the rural poor. It also suggested some activities to governments, development organizations and the private sector in securing local and national food security.

The paper used data published by government agencies and intergovernmental organizations including food agencies of the UN system and the World Bank. In reflecting the views of the local communities, the authors utilized materials of civil society organizations and research institutions.

The paper adapts FAO's definition of food security, that is: "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life." When applied, this targets food security from macro level down to the household level, with individual family members as the main concern.²

A Brief Assessment of Food and Nutrition Security in the Philippines

Per capita food consumption of the rural population in the Philippines by weight has declined from 863 grams in 1987 to 786 grams in 1993³ (Table 1). The decline is also true for the urban population dipping from 869 grams in 1987 to 819 in 1993. Except for the slight increase in the consumption of milk and milk products of the urban population, the decrease in food consumption is evident in all food groups: cereals and cereal products, starchy roots and

² Food and Agriculture Organization (FAO, 2002).

³ Source: Surveys are conducted every 5 years. The next survey will be in 2013.

tubers, sugars and syrups, fats and oils, fish, meat and poultry, eggs, dried beans, nuts and seeds, vegetables and fruits (Pedro et. al., 2006).

Table 1. Trends in per capita consumption of food group (grams) by urban-rural residence, Philippines, 1987 & 1993 (Pedro et. al., 2006)

Food group	Rural		Urban	
	1987	1993	1987	1993
Cereals and Cereal Products	361	350	318	318
Starchy Roots and Tubers	25	21	17	13
Sugars and syrups	22	17	26	20
Fats and oils	12	11	15	14
Fish, meat and poultry	145	133	174	161
Eggs	8	9	13	15
Vegetables	104	102	91	86
Milk and Milk Products	34	24	56	64
Dried beans, nuts and seeds	9	8	11	11
Fruits	115	84	123	93
Miscellaneous	27	16	24	23
Beverages	13	6	10	11
Condiments and Others	11	9	11	9
Others	3	1	3	2
Total (g)	863	786	869	819

Source: National Nutrition Survey (NNS), 1987; 1993.

High percentage of underweight children

This under consumption is reflected in high number of underweight children among 0-5 years old and 6-10 years old reaching as high as 34%. In the last 20 years, the percentage of underweight children in these ages has not gone down below 20% as shown in Table 2. (FNRI, 2001, 2005 & 2008). In a study targeting conflict-affected communities in Central Mindanao, 40.9% of the children were considered underweight (UNICEF et.al., 2010).

Table 2. Underweight for age 0-5 years old and 6-10 years old (%): Philippines, 1993-2011 (FNRI, 2001, 2004, 2005, 2008 & 2011).

Underweight	1993	1996	1998	2001	2003	2005	2008	2011
0-5 years	29.90	30.80	32.00	30.60	20.70	24.60	26.20	20.2
6-10 years	34.20	34.20	30.20	32.90	26.70	22.80	25.60	32.0

Food eats up big chunk of family budget

This low level of food consumption occurred despite allocating more than 40% of the total family expenditures to food in the last 21 years. In those years, food registered the highest share of expenditure at 50.7% in 1988 and the lowest at 41.4% in 2006. In 2009, food still captured a big chunk of the family budget at 42.6%. (NSO, 1997, 2006 & 2009).

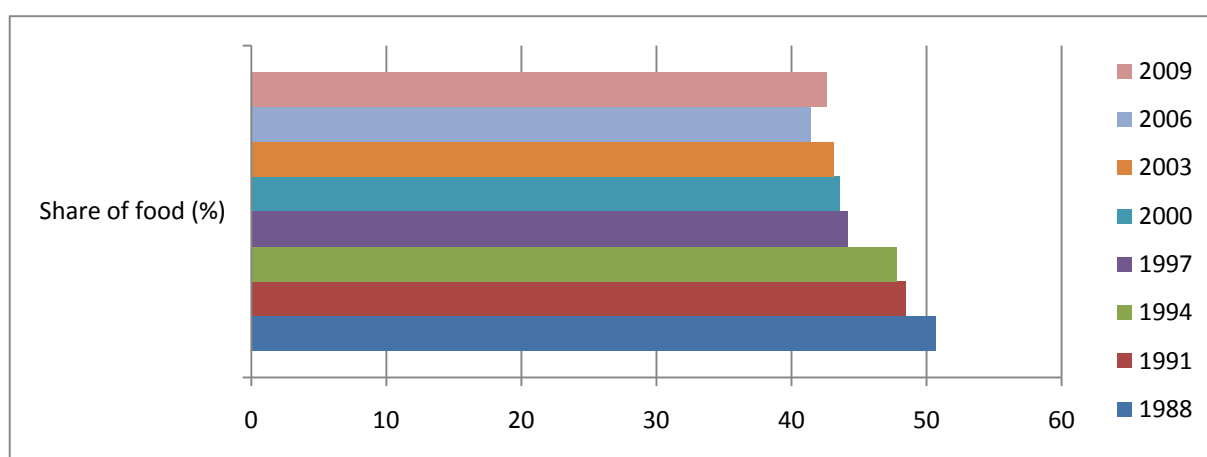


Figure 1. Share of food to total family expenditures (in %), Philippines: 1988-2009 (NSO).

Food insecurity is unevenly distributed across regions and sectors

In general, rural population is eating less than those living in the urban areas (Pedro et. al., 2006). Across geographical regions, food insecurity is high in the rural areas of the Autonomous Region of Muslim Mindanao (ARMM) and Regions 5, 10, 12 and 9. Except for Bicol (Region 5), all of these regions are in Mindanao. This situation is reflective of the poverty incidences in these regions ranging from 55% to 67% in 2000 (NSO, 2000). The difference in urban and rural poverty in the country is considerably great, but not too much in ARMM.

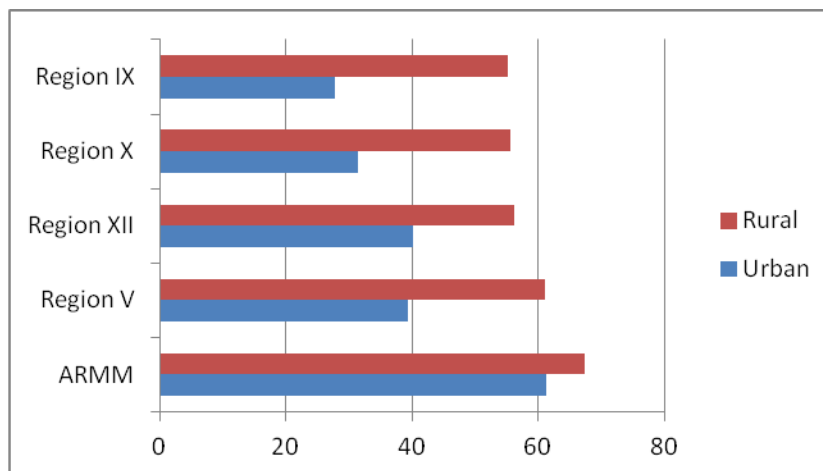


Figure 2. Top five regions with highest rural poverty incidences, Philippines (NSO, 2000).

Filipinos fall midway among Southeast Asian nations

The incidence of underweight children below 5 years old in the Philippines in 2003 falls below Vietnam and Indonesia. Efforts to mitigate the percentage of underweight children in the Philippines, however, have a long way to go to catch up with Malaysia and Thailand.

Table 3. Percentage of underweight children below 5 years old, Southeast Asia, 2003 (WHO, 2011).

Southeast Asian Country	Incidence (%)
Vietnam	24.6
Indonesia	23.1
Philippines	20.7
Thailand	8.6 ⁴
Malaysia	8.1 ⁵

⁴ excluding Bangkok; WHO, 2007

⁵ based on 2003–2005 data from Food and Agriculture Organization (FAO) food security statistics; Chatterjee et. al., 2010

Rice imports

Rice is the main staple in the country, though some regions may also eat corn. Self-sufficiency ratio is defined as “the extent to which a country relies on its own production resources, or the extent of sufficiency of domestic production in relation to domestic consumption.” A self-sufficiency ratio of less than 100 percent implies that production is inadequate to cope with the demand of the population (BAS, 2012). Table 4 below shows the sufficiency ratio of the country for rice.

Table 4. Rice self-sufficiency and import dependency ratio (%), 2007-2010, Philippines (BAS, 2012).

Staple	Ratio	2007	2008	2009	2010
Rice	Self-sufficiency	85.47	81.9	85.83	81.27
	Import dependency	14.53	18.11	14.17	18.73

Corrolary, volumes of rice importation experienced upward and downward trends alternately from 2007-2011 to meet the demands. Its highest peak was recorded in 2008 with 2432.85 thousand MT, while its lowest was in 2011 with 707.67 thousand MT. In terms of value or expenditures, rice made it to the top 10 highest agricultural imports as it placed 1st in 2009 and 2010, and 4th in 2011.

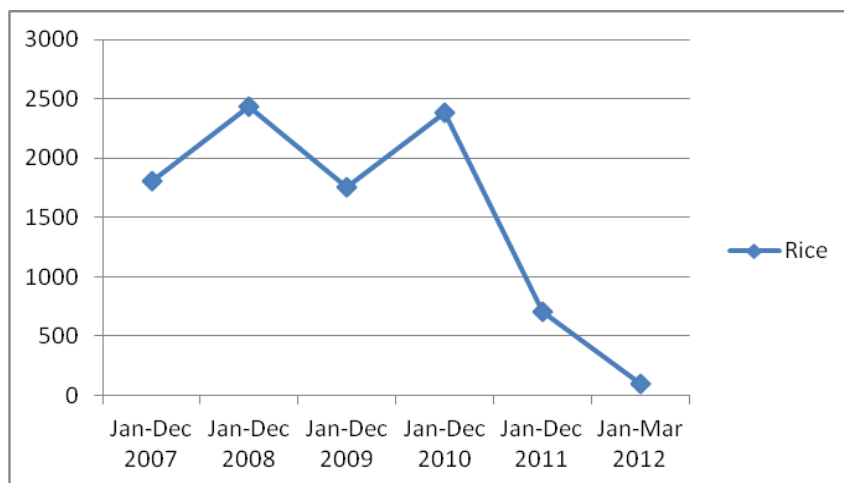


Figure 3. Import quantity of rice, Jan-Dec 2007-2011, Jan-Mar 2012, Philippines, in '000 MT (BAS, 2012).

Trends in rice prices

Prices of rice per kilogram steadily increased from 2007 to 2011. For regular milled rice, it pegged the highest in average in Region IX followed by Region X, both in Mindanao island, at P30.4 and P30.2, respectively. Regions IX and X were also noted to belong to the top five regions with highest rate of poverty incidences (see Figure 2). Moreover, inflation rate for rice within the same period range averaged at 10.3%. Its highest was in 2008 at 29.1% (BAS, 2012).

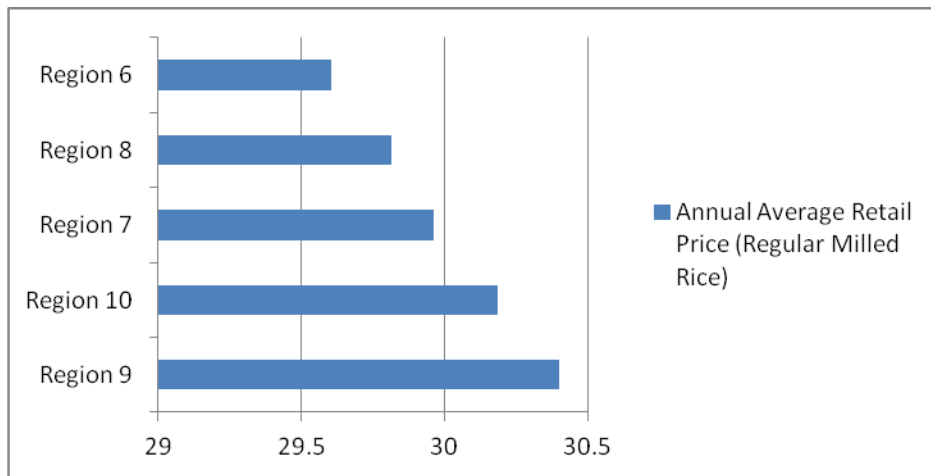


Figure 4. Top Five Regions with Highest Annual Average Retail Price of Regular Milled Rice, Philippines, 2007-2011 (pesos/kg⁶) (BAS, 2011).

⁶ US \$1=P41.270 (August 1, 2012)

Programs and Mechanisms for Food and Nutrition Security

The Philippine Government acknowledges these food security gaps and a number of line agencies have instituted programs to address these needs. Many of these programs are directed towards augmenting the nutritional needs of children. Some are intended to enhance food supply while a few are targeted to increase household income. Some are done through price subsidies, while others are more comprehensive, targeting improvements in agricultural infrastructure, equipment and productivity.

Government Programs

I. Nutritional Promotion

The promotion of food and nutrition security may be categorized into four areas: 1) Feeding Programs; 2) Nutrient Fortification; 3) Information, Education and Nutrition Awareness; and 4) Food Production.

A. Feeding Programs

Food for School Program (FSP)

FSP is implemented under Accelerated Hunger Mitigation Program (AHMP, see page 15) by the Department of Education (DepEd) and Department of Social Welfare and Development (DSWD) to address hunger by providing food subsidies to schoolchildren per day of school (for 120 days) in DepEd-supervised day care centers while encouraging school attendance. These food subsidies provide a ration of one (1) kilogram of iron-fortified rice to each pupil from Grades 1-6.

FSP was known in 2005 as “Dunong ng Bata, Yaman ng Bansa,” where DepEd carried out supplementary feeding for grade 1 and preschool pupils; and DSWD for 2-5 year-old children in daycare. In 2006, it came to be known as “Malusog na Simula” with rice distribution and supplementary feeding by DepEd, and the provision of milk and warm meals for pupils in daycare (Edillon, 2008).

In the first quarter of 2009, FSP served 491,312 pupils from 13,766 daycare centers in over 496 cities and municipalities, and 1,821,250 pupils in public schools in over 51 provinces

(Pablo, 2009). The Aquino administration, however, cancelled FSP due to reports of leakage and corruption (Reyes, 2010).

Healthy Start Feeding Program (HSFP)

HSFP is undertaken as part of AHMP by DSWD. The program aims to provide supplementary feeding of food from indigenous and other ingredients, equivalent to 1/3 of the daily Recommended Energy and Nutrient Intake (RENI) to: 1) enrich the knowledge, attitudes and practices of parents through proper health and nutrition education; 2) to check the children's nutritional status and growth; and 3) to examine and tackle problems on health and nutrition.

HSFP provides daycare children 3-5 years of age with hot breakfast meals or afternoon snacks for five days per week. The program is conducted for 120 days. Children's weight and height are measured before and after the program to verify nutritional improvement. It is implemented in municipalities and provinces identified as the 10 poorest and most food insecure in the country (DSWD, 2012).

School Milk Project (SMP) and Breakfast Feeding Program (BFP)

SMP offers chocolate-flavored liquid or powdered milk for 120 days in a school year. BFP serves fortified biscuits and noodles to Grade 1 pupils in the 5th and 6th class municipalities around the country for 120 days as well. These noodles, fortified with iodine, contain 300 kilo calories, 10 grams, protein and 800 IU beta carotene. DepEd Central Office acquires the goods for these programs and sends them to different schools. The national government provides funds.

Applied Nutrition Programme (ANP)

ANP of the DepEd is a self-aided feeding effort sustained and managed by the school, the parents and the community. The feeding activity gets provisions from thirty-five percent (35%) of the canteen's finances and a portion of the produce of the program (Cariaga, 2007).

Food Assistance

Food Assistance, part of the Philippine Plan of Action for Nutrition (PPAN) of the National Nutrition Council (NNC), takes the form of complementary feeding for undernourished populations, particularly preschoolers aged six to 24 months, and among women in the second

trimester of pregnancy in areas hit by calamity or crisis. Also undertaken are: school feeding of breakfast meals and milk feeding for underweight children grades 1 and 2; rice distribution in schools; and food discounts offered by Tindahan Natin (TN, see page 14).

B. Nutrient Fortification

Nutripan sa Eskwelahan

Nutripan sa Eskwelahan is a self-sustainable school or community bakery serving affordable iron- and Vitamin A-fortified bread and biscuits to schoolchildren. This program was set up following Nutrition Center of the Philippines' (NCP) research findings of fortified bread reducing anemia and Vitamin A deficiency. Thirty-six (36) bakeries have so far been put up in over 30 schools in the Pangasinan, Batangas, Quezon Province, National Capital Region (NCR), Cebu, Negros, and Cagayan de Oro City (Azcueta, 2010).

Micronutrient Supplementation

Micronutrient Supplementation is an intervention scheme under the PPAN set by the NNC. It is the distribution of Vitamin A and iron supplements to pregnant and lactating women, infants, and adolescents.

Food Fortification

Food fortification came with the enactment of two laws: on compulsory enrichment of some staples with iron and/or Vitamin A; and a voluntary enrichment of processed foods with the Sangkap Pinoy Seal (SPS) approval from the Department of Health (DOH), an indication of the recommended amount and type of fortification present in the food.

C. Information, Education, and Nutrition Awareness

Teacher-Child-Parent Approach (TCP)

TCP is the creative dissemination of fundamental health and nutrition concepts through spontaneous interaction among teachers, pupils, and parents. Specially-designed teaching-learning packages such as workbooks for parents and pupils back up the efficient delivery of health and nutrition concepts.

Barangay Plan of Action for Nutrition (BPAN)

BPAN is targeted to improve the women's and children's nutritional status through doable minimum services, among which include: Nutrition Information and Education, Home Food Security, with promotion of fortified food consumption and micronutrient supplementation, and growth monitoring in the targeted villages. In pilot barangays from 1999-2000, 70% of the barangay captains passed an Executive Order (EO) issuing BPAN implementation, with the *Sangguniang Bayan* also passing legislative resolutions. Mobilizing sari-sari (retail) storeowners to sell iodized salt and fortified food items with SPS helped boost consumption of such. Container gardening and home gardens were initiated and showed the prospect of food availability at the household and barangay level (Solon et. al., 2001).

Nutrition, Information, Education and Communication

This intervention scheme under PPAN is the promotion of nutrition-related principles through multimedia campaigns, special events, and interpersonal communication to preschool and schoolchildren, pre-teenagers, teenagers, pregnant and lactating women, mothers and care providers. It also includes training specialists and frontline workers (e.g. rural and barangay health workers, nutritionist-dietitians) and formulating proper practices and guidelines for nutrition education activities.

Pabasa sa Nutrisyon

Pabasa sa Nutrisyon falls under BPAN where 10-12 mothers gather and discuss the nutritional information in a Nutri-guide, which they can use for household reference. This 10-session activity attempts to capacitate them to mitigate the risk of malnutrition in their families. The program targets mothers of preschool and schoolchildren, of underweight children, and the pregnant and lactating women. Integrated nutritional topics in subjects, school activities and assignments further reinforce learnings on pupils and parents.

D. Food Production

Alay Tanim at Pangkabuhayan

Alay Tanim at Pangkabuhayan is conducted in schools through bio-extensive gardening, environment-friendly food production technologies, tree planting and landscaping, and nursery establishment.

Home and Community Production

Home and Community Production, an intervention scheme under PPAN, entails the establishing of gardens in the Filipinos' homes, schools and communities and distributing of planting materials, small animals and fingerlings, and providing technical help. Such gardens are intended to increase the supply of sources of low-cost food rich in nutrients.

Food Always in the Home (FAITH)

FAITH encourages the building of community, school, and home gardens, even in containers, to attain household food security and hunger mitigation. Training and manuals to grow vegetables and fruits the organic way are being offered.

II. Subsidies

Tindahan Natin (TN)

Tindahan Natin is implemented by DSWD and National Food Authority (NFA) collaboratively. Stores established for TN sell cheap but good quality rice, noodles, sugar and cooking oil in favor of the poor communities, and provide jobs for TN operators: SEA-K beneficiaries, barangay councils, LGUs, community-based associations, NGOs, existent retail or sari-sari stores, military camps and other organizations all registered and accredited by apt regulating agencies. TN has been established since January 2006 (DSWD, 2010).

Rice Price Subsidy Program

This program is one of the ways the NFA does to achieve food security as the chief government agency with such mandate. It ensures the selling of rice and corn in affordable prices in accredited market outlets: retailers, government agencies like DSWD when conducting feeding programs, NGOs, NFA rolling stores, and others. NFA Rice is made available both to the poor and unpoor (Jha & Mehta, 2008). Jha and Mehta's (2008) paper revealed, however, that the percentage of rice sold to the poor was lower than that of the rice sold to the non-poor. This may indicate improper targeting of resources because of its "general subsidy."

Furthermore, they showed conflicting data that in 2006, per capita rice supply amounted only to 18 kg when NFA's 2006 Accomplishment Report estimated a requirement of 126 kg for daily consumption. Household-level Family Income and Expenditure Survey (FIES)

data showed that barely 7 kg of rice was consumed. They also mentioned that other studies identified the program's weaknesses: "poor targeting, governance problems, and conflicting objectives." Leakage was estimated at 44% while undercoverage was estimated at 89%.

III. Comprehensive and Integrated Food Security Programs

Some government programs intend to address food insecurity through more integrated programs linking supply and demand, providing support services for productivity, and enhancing purchase capacity.

Accelerated Hunger Mitigation Program (AHMP)

Launched by the government in 2007, AHMP seeks to diminish food insecurity and hunger in the country. As such, its target beneficiaries include 42 priority provinces, identified by a nationwide survey adopting Social Weather Station's self-rated hunger survey. On the supply side, it includes increased food production and enhanced efficiency of logistics and food delivery. The first is addressed through seed subsidies, repair and rehabilitation of irrigation facilities, and technical assistance. The second is addressed through food depositories called Barangay Food Terminals in Manila and major cities in the country, TN, RO-RO ports, farm-to-market roads, and Food for School Program. On the demand side, it includes "putting money into poor people's pockets"—training, microfinance, and upland distribution to poor people; promoting nutrition through education; and managing the population (Edillon, 2008).

Self-Employment Assistance- Kaunlaran (SEA-K)

Implemented under AHMP's demand side strategy, SEA-K extends basic management training with interest-free, non-collateral seed fund capital to help poor under- and unemployed families in their income-generating activities. This capacity-building program stabilizes and sustains a self-managed, community-based micro-credit organization. Its components include savings mobilization, capital assistance, social preparation, and access to other services. Five to six groups with five members each form a SEA-K Association (SKA) to join the program. A capital seed fund with a maximum of P150,000 may be provided to each SKA (DSWD, 2012).

Lalakas ang Katawan Sapat sa Sustansya (LAKASS)

LAKASS is the community-based action program of PPAN that caters to households with the highest risk of malnutrition in the most nutritionally-depressed municipalities. A seed fund capital of P250, 000 to a municipality for nutrition-related activities, livelihood assistance and income-generating projects.

Barangay Integrated Development Approach for Nutrition Improvement (BIDANI)

This community-based integrated development program serves to improve the nutritional status and living conditions of the rural poor, to foster household-level food security, and to reinforce the capacity of the barangay in managing development programs. One of its activities included financial assistance for micro-credit endeavors.

Credit Assistance for Livelihood

Credit Assistance for Livelihood is also part of the intervention schemes of PPAN that provides credit and income-generating opportunities for poor households having malnourished children by connecting them with lending and financial institutions. Livelihood opportunities may include fruit processing and preservation and meat processing.

Fertilizer, Irrigation and Infrastructure, Extension and Education, Loans, Dryers, Seeds (FIELDS)

FIELDS is an assistance provision for farmers and fishermen and is directed towards stabilizing prices and increased food availability and supply. It comprises of six components: Fertilizer, Irrigation and rural infrastructure, Extension services and farmer education, Loans, Dryers and post-harvest facilities, Seeds and other genetic materials.

Fertilizer component advocates balanced fertilization and sustainable agricultural practice through farmers' trainings on producing organic fertilizer and soil ameliorants. The second component involves restoring and generating hectares of land for higher yield, as well as the rehabilitation and construction of farm-to-market roads leading to production areas, and fishports and fish landings to markets. Extension and education reaches out to farmers in palay-producing areas yielding less than 3.8 MT per hectare.

Through Loans, farmers avail of credit assistance with low interest rates to buy farm inputs and machineries. The fifth component provides for construction and distribution of dryers and other post-harvest facilities, maintenance and construction of ice plants, cold storages, fish ports and slaughterhouses. A seed subsidy program with distribution of inbred

certified rice seeds, fingerlings, heads of animals and planting materials comprises the last component.

Collaborative Extensive Research and Development for Food Security (CRDES)

CRDES is a program by the University of the Philippines – Los Baños (UPLB), financially assisted by the Department of Agriculture (DA), in relation to the Philippine Rice Program involving FIELDS. It aims to achieve self-sufficiency of rice farmers in Regions IV-A, IV-B, & V and to create and reinforce partnerships among various stakeholders (DA Regional Field Units or RFUs, state universities and colleges or SUCs, NGOs, farmer co-operators). It carries out a review of FIELDS plans and implementations in different provinces, SUCs, and farmer co-operator groups; joint field research; functional FIELDS support services such as improvement of seed production; capacity building and partnership framework for food security attainment; and policy and governance studies.

At the last phase, CRDES expects rice seed production, extension and delivery systems to have been mounted; agricultural networks among provincial LGUs and SUCs instituted; and policies on food security—drafts of local ordinances at the provincial level—formulated and legislated. This program is implemented from August 2009 to January 2012 (CRDES, 2010).

Agriculture and Fisheries Modernization Program (AFMP) (Agrikulturang Makamasa Program)

Launched in late 1998, AFMP served as implementation of the Agriculture and Fisheries Modernization Act (AFMA) passed as a law in 1997. Poverty alleviation and social equity, food security, rational use of resources, sustainable development, global competitiveness, people empowerment, and protection from unfair competition were the policy's key points—with rural industrialization through productivity improvement as the overall thrust. To modernize the agricultural sector, AFMA concretely aims to ensure “equitable access to assets, resources and services, and promoting higher-value crops, value-added processing, agribusiness activities, and agro-industrialization” (Musngi, 2006); to empower people through cooperative-strengthening; and to guarantee “food accessibility, availability and stable supply...at all times” (Musngi, 2006).

A number of components fall under AFMA, such as Strategic Agriculture and Fisheries Development Zones (SAFDZs), irrigation, infrastructure, post-harvest facilities, rural non-farm employment training, Agro-Industry Modernization Credit and Financing Program (AMCFP), and Product Standardization and Consumer Safety.

As of December 31, 2010, microfinance and credit programs continued; A total of 20,559.47 kilometers of farm-to-market roads (FMRs) or 87.58% of the target FMRs to rehabilitate or construct has taken place from 2001-2010; skills training program continue and planning manuals and information materials granted; research extension is ongoing, among others.

Mindanao Rural Development Program (MRDP)

Developed in 1999, MRDP was created to reduce poverty among the rural poor, women and indigenous communities in Mindanao. It explicitly targeted increase in agricultural productivity and efficiency, sustainable improvement of rural income, enhancement of food security of the poor, and provision of sustainable mechanisms for rural progress through better institutional service by LGUs and concerned agencies. DA implemented this, jointly funded by the World Bank, National Government, and LGUs of 26 provinces and 225 municipalities in Mindanao.

Its components include: a) rural infrastructure (rehabilitation and construction for improved farm productivity and access to markets), b) Community Fund for Agricultural Development (CFAD; livelihood projects for increasing rural income), c) natural resources management, and d) investment for governance reform and program administration (more effective decentralization, agricultural competitiveness, and accountability). Its subprojects intended as food security interventions cover crop and animal production, integrated and crop-based farming systems and others.

Food Staples Self-sufficiency Program (FSSP) 2011-2016

At the macro level, the FSSP, anchored on the *Philippine Development Plan (PDP) 2011-2016* targets mainly the attainment of the country's domestic requirement by 2013 and thus will find no need in importing. After 2013, the target will be to strengthen countrywide adaptability of food staples to the effects of climate change. Its strategies and innovations undertaken and continually tested range from import reduction, investment in farm infrastructure, equipment and irrigation, research, partnerships and multi-thronged approach, to lessening rice wastage by consumers.

One of its banner programs is the Agri-Pinoy Rice Program. It targets more specific strategies, such as market development services (promotion, seed trading centers, and others) as well as education and training.

Government Mechanisms

Government agencies employ different strategies geared towards sustainable national, regional, local, and household food security. Most of these, having related mandates, partner together in various programs and projects.

Some of these agencies, like the DA, NNC and National Anti-Poverty Commission (NAPC), serve as coordinating and policy- and program-formulating bodies that also partner with and capacitate other stakeholders. DA is principally mandated to promote agricultural and fisheries development and growth. To do this, it provides a policy framework directing public investments and works with LGUs to provide necessary support services.

NNC is particularly responsible for promotion of good nutrition and nutrition monitoring, while NAPC ensures the integration of the social reform agenda (SRA) into national, regional, and local development plans, institutionalizes basic sector and NGO participation and coordination in the SRA cycle, and develops microfinance assistance.

The Food and Nutrition Research Institute (FNRI) serves as the primary research arm for nutrition under the Department of Science and Technology (DOST). Philippine Rice Research Institute (PhilRice) and Bureau of Agricultural Statistics (BAS), both under DA, work through research and development, and providing statistical agricultural data, respectively.

For example, in AHMP, each component is tasked by certain government agencies. DA, Department of Environment and Natural Resources (DENR), and National Irrigation Administration (NIA) are in charge of increasing food production; DOH, NNC, DepEd and LGUs in nutrition promotion; DA, NFA, Department of Agrarian Reform (DAR), DepEd, DSWD and others on food delivery, as well as in other components.

The government calls on a multi-thronged approach—that is, for concerned government bodies to work together in implementing programs with certain aspects related to their respective mandates and functions. The government also encourages partnerships with the LGU and the private sector.

CSO / NGO Programs

CSO/NGO programs are varied depending on the focus of intervention. Their programs range from sustainable food production to policy advocacy. Some examples are outlined below.

Cordillera Ecological Center (or PINE TREE), Go Organic! and Philippine NGO Coalition (PNLC) focus on sustainable agriculture and environmental livelihood endeavors (e.g. agroforestry, organic agriculture, alternative energy) with technical assistance, capacity building and skills trainings. Food Sovereignty Watch in Mindanao (FSW) also sought conducting activities on sustainable agriculture for food security of poor rural farmers, as well as health and environmental protection.

PNLC, Partnership for Development Assistance in the Philippines, Inc. (PDAP) and Philippine Partnership for the Development of Human Resources (PHILDHRRRA), aimed to enhance economic sustainability among rural populace through inter-trade among small communities and small businessmen, microfinance, resource mobilization, and financial services.

Policy reforms in response to advocacies and campaigns favoring the rural poor's needs are being appealed for by the Philippine Development Forum Working Group on Sustainable Rural Development and other NGOs. PHILDHRRRA, PNLC, and Go Organic! also conduct research and documentation. Go Organic! hands out information, education, and communication through a national weekly talk show on TV, provincial weekly radio program, and articles on print. The World Food Day (WFD) Committee engages institutions such as FAO Goodwill Ambassadors, athletes, and schools, in food security campaigns.

International projects

There are also a number of international projects on Philippine agriculture and food security. For one, the World Food Program (WFP) just this July 2012 met with willing main officials of the Cotabato provincial government to discuss technicalities and nature of the project, *Piloting the Integrated Food Security Phase Classification (IPC) in the Conflict-Affected Central Mindanao*. In coordination with NNC, the project will be implemented in provinces presently helped by WFP, particularly Lanao del Norte, Lanao del Sur, Cotabato province, Maguindanao and Sultan Kudarat (Provincial Government of Cotabato, 2009).

The pilot project will make use of a creative tool called Integrated Food Security Phase Classification, for retrieving data from related government agencies and non-government

organizations and consolidates and examines food security, nutrition and livelihood information from various sources to classify food security according to international standards. It will also be useful to enhance food security analysis and decision-making (Provincial Government of Cotabato, 2009). This project has been operated in September 2010 as a learning exercise for national and Mindanao level food security stakeholders to try the method and see its possible added value to current systems in the Philippine context (WFP, 2010).

Other international projects include *Developing Sustainable Livelihoods and Self-employment of Small Farmers in Leyte* by Catholic Relief Services (CRS); *Cocoa, Coconut and Palayamanan (CoCoPal)* that strives to increase food security by capacitating smallholder farmers through value chain and integration tied to a farming systems approach; *Bridging Small Farmers to a Jollibee Supply Chain* by CRS which connects small farmers to Jollibee Foods Corporation (JFC), among others. These projects are spread out among Mindanao, Visayas and Luzon regions (IFAD, 2011).

Challenges and recommendations in program implementation

Some comprehensive packages, however, experienced difficulties in handling and delivery of resources. In the Food for School program, schools did not have the necessary space for rice storage and teachers took the extra load to repack the oftentimes low-quality rice (Tandoc, 2009). Leakages and under coverage of rice delivery, implying the incidence of corruption, also occurred in the Food for School and NFA's Rice Subsidy Program. Furthermore, because some government programs are multi-anchored, failure to effectively implement their respective roles can affect the whole process.

The community-based and development-oriented aspects of most programs contribute to the successful implementation, as marked by participative beneficiaries, various sectors (e.g. children and mothers) targeted, and a good number of them. The bottom-up approach of management that considers and addresses the concerns of the provincial, municipal, and barangay levels also helped. Integration of nutrition and food availability concepts in the schools' subjects further reinforces the programs' objectives. Also, training beneficiaries how to sustain and manage such endeavours contribute to community development.

The political will of the barangay captains, as in the case of BPAN, showed their support and can lead to a stronger implementation of the program. However, the law of mandatory

fortifying rice, sugar and cooking oil also resulted to resistance from the manufacturers because of added costs.

In order to be more effective, partnerships and coordination with target recipients and other mechanisms should be strengthened. Government-led projects, especially centralized ones, must be willing to work with NGOs who are better able to reach sectors of rural poor. Decision-making should also involve NGOs as they hold extensive familiarity of situations in the localities (IFAD, n.d.). Decentralization and transparency of operations must be enhanced. With political will and proper enforcement of non-contradictory laws by the government, and NGOs' and CSOs' structure and pro-poor nature and goals, projects may be more effectively implemented. Sustainability plans must also be discussed regularly.

Food Security and the Smallholder Agriculture

Meeting the nation's food requirements of over 90 million people is a gigantic task considering that the food has to be on the table of every household ready to eat at least three times a day every day. Anything less is unacceptable. It is not an overstatement to say that the nation's health, social cohesion and political stability depend on this.

But securing the food needs is everyone's responsibility. And everyone (farmers, food processors, handlers, distributors, retailers, vendors, parents, community leaders, businessmen, administrators and everybody else) knows the importance of food and has taken on the huge responsibility. Everyone contributes to ensuring that nobody sleeps hungry.

And so, in the long history of the Pilipino nation, this basic need has been adequately met. There were instances when food shortages were experienced especially during occurrence of calamities, social conflicts or when rice supply has not been efficiently managed that resulted to long queues or food wastage. Overall, however, this has not yet been a major problem.

Hunger among vulnerable sectors and malnourishment of children are the more pressing concerns. Government line agencies particularly DSWD and DepEd together with LGUs, however, have instituted programs to address these inadequacies. There are areas for improvement especially in the implementation of these programs but these have been identified and are being corrected.

A closer look at the rural poor

Among the vulnerable sectors, the smallholder farmers face daunting challenges with current global developments. The stability in their food production and consumption is being

threatened by the increasing competition for land due to agricultural investments and urbanization. As modern and plantation agriculture expands, they are losing access to these lands. Even lands for social and religious functions are taken away. While the government may have the right intention of encouraging agricultural investments, it should include in their economic equation the food security of the rural poor. The social cost may be too high.

The changing climate pattern will also have tremendous impact on the rural poor's food security. As agriculture is very specific to location and sensitive to weather, the types of crops and their productivity will be greatly affected. In turn, this will affect food intake as there will be changes in taste, nutrient content and social acceptability.

The rural poor, across regions in the world, generally have "insufficient access to or ownership of assets and resources, especially land and water, lacking access to financial services, education opportunities, advisory services, infrastructure, and well-functioning markets" (IFAD, 2010). They are in shortage of such possessions, limited of economic opportunities and quality education and skills, and other benefits social and political disparities fail to bring them.

In the Philippines, the study of Pedro et al shows that, in general, rural population is eating less than those living in the urban areas. Within the food groups, however, people in the rural areas eat more cereals, starchy tubers and vegetables. What needs to be augmented are milk and milk products, poultry and eggs, fish and meat. Surprisingly, they also eat less fruits.

The bigger percentage intake of carbohydrates and starchy foods is related to the availability and affordability of these food products in the rural areas. While the rural poor may not own any land, they usually have access to productive land. They have also excess labor especially when children stop going to school after high school. When planting materials are available, they can easily cultivate, harvest and process these products for family consumption.

With access to land, availability of labor and traditional technologies, a big percentage of their food needs are met. They do not need land entitlements, formal training of food production or sophisticated equipment to store and process their products. These traditional practices and social accommodations in the community in a way ensure their food security, at least for the carbohydrates and starch requirements.

The low consumption of fruits may be linked to land tenure. As they do not have effective control on the land over a long period of time, they do not invest in planting fruit crops that mature only after a number of years.

The greater challenge, however, is in meeting their requirements in the other food groups. Normally, these foods are not available in the area as they live in remote areas far away from the market. In cases where these foods are available, they are beyond their financial capability. They have very limited cash income and have other priorities.

Securing the food needs of the rural poor

In enhancing the food security of the rural poor, a big bulk of the challenge is assisting rural communities meet these requirements by producing them locally. This can be done by producing substitute products, fortifying existing foods or introducing new commodities. An example of this initiative is the promotion of native chicken through stock development, improved cultural management, feed formulation and postharvest management. Another example is the introduction of a legume that is high in protein content. It may not totally substitute meat and meat products but at least reduce the level of protein deficiency. The introduction of a new commodity or new variety may, however, require training and technical assistance.

Complementing local food production is facilitating access of the rural poor to the market. Better access to the market will allow them to sell their excess products and buy what they need. Hopefully, this will result to better allocation of resources and satisfy their needed nutrients. But this requires bigger government investments: farm to market roads, transport facilities, distribution centers, marketing outlets, to name a few.

On top of these investments, the purchasing capacity of the rural poor has to be strengthened. This would imply increasing their agricultural productivity, better livelihood and employment opportunities and enhanced entrepreneurial capacities.

Exercising greater control on food

The underlying assumption here is that food is more secure when produced in the backyard. Moreover, locally produced food is of better quality and the price cheaper. Food nutrients are conserved and there is no need to add preservatives. Handling costs are also minimal.

Though there are a number of countries who have relied on the market to augment their food supply, most of them depend mainly on domestic production. The volume of rice traded in the world market, for example, is less than 5% of the total production.

Given the uncertainty of the world market after the recent food and financial crises, some food importing countries are reviewing their food policies. A number of Middle East countries that rely heavily on the market for their food supply having inadequate agricultural lands have started producing their own albeit in other nearby countries. Similarly, the impending negative impacts of climate change on food production have also added to this uncertainty.

Recommendations

Given the fragile food sub-system of the rural poor, it is recommended that their control over productive resources to produce their own food be strengthened, their local food production be enhanced and their link to the market be facilitated.

Strengthening access to food plots

The rural poor should be given full control of a parcel of land enough for them to produce their own food. It could be in their individual backyards or in communal lands allotted for these purposes. This will allow them greater control of their food supply producing some excess to exchange with their other food needs. If possible, tenure can be extended over a long period of time for them to invest in perennial crops such as fruits.

Rice farming all over the country need to be made more productive so as to reduce imports. Sustainability and low-cost farming are also needed to make price lower for consumers and gain higher income for farmers.

By doing this, the food security of the rural poor will be greatly stabilized without too much external interventions. This will not allow them to meet all their food requirements but will certainly prevent massive hunger.

Enhancing local food industries

At the community level, local institutions with the LGUs taking the lead can provide support facilities such as seed banks, processing plants and distribution channels. This will increase their productivity and allow participating in the local market. They can also generate more jobs with income rates that can sufficiently meet their daily food requirement and other needs.

Linking local food production directly to the local market through a value chain will generate local employment thereby maximizing labor. Hopefully, it will boost the local economy as well as improve the local community's health and food security particularly those of the rural poor.

Key interventions in the establishment of these food chains are the organization of the rural poor into commodity clusters to attain marketable volume, provision of postharvest and storage facilities and enhancement of their entrepreneurial capacities.

Facing global challenges

The increasing competition for agricultural land and climate change are the two most daunting global developments that may have serious impacts on the food security of the rural poor. While investments in agriculture are certainly welcome and the gradual urbanization of rural areas will surely occur, food security of the rural poor should be factored in the economic equation.

In the expansion of agricultural production particularly large-scale plantations, displacement of the rural poor has become a common phenomenon. More innovative social and institutional arrangements that will be beneficial to all are needed. The articulation of the status and needs of the rural poor therefore is essential.

The impact of climate change may be more difficult to anticipate and adapt. Review and formulation of updated comprehensive land use plan is therefore important. Community preparedness is also necessary. In predisposed areas, community food stock may also be established.

Looking forward

Given the volatility of the rural poor's food security and the seriousness of the global threats, it is also recommended that pilot areas in the regions with high incidences of food insecurity be implemented urgently. Thus, LGUs are highly encouraged to come up with strategies in implementing and ensuring that centralized programs reach the households.

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