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Effects of Trade Liberalization in the Philippines

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Institutional and Structural Aspects

The share of the Philippine agriculture sector to national output or GDP has been declining, from 30% on average from 1966 to the mid-1970s down to 20% in 1997. Nonetheless, the sector's contribution to the country's economy remains significant, accounting for 9.3% to total export earnings, 8.6% to import expenditures and 42% to total employment.

The Philippines has a long history of protective trade policies, which resulted in the country's limited participation in international trade in the past. Import and exchange controls were employed in light of recurrent disequilibrium in the country's balance of payments and were used increasingly to promote industrialization through import substitution. It should be noted that import substitution policies, exchange rate and import controls also contributed to the declining share of the agriculture sector to GDP. Attempts towards unilateral trade reforms in the country took place initially in the 1960s and resumed in the 1980s. Partial trade liberalization continued in the 1990s and intensified at the onset of regional trading agreements such as the ASEAN, AFTA-CEPT and the multilateral trading agreement under the GATT-UR/WTO.

The present study provides an overview of the trade regime in the Philippines including related exchange rate, monetary, and fiscal policy information; infrastructure development; agricultural trade; production situation and important issues on agricultural trade liberalization on selected CGPRT crops (rice, maize, soybean, cassava, potato) and other major agricultural commodities (coconut, chicken, hogs, beef).

Since the economic reconstruction (1910-1938) and colonial (1946-1949) periods, exchange rate and import controls were increasingly utilized in addressing recurrent balance of payment (BOP) crises. A fixed exchange rate of 2 pesos per US dollar prevailed until the early 1960s and resulted in an overvaluation of the Philippine peso, adversely affecting agricultural exports which dominated the country's exports at that time. With import controls, on the other hand, foreign exchange was allocated

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based on the essentiality of goods rather than comparative advantage. The exchange rate and import controls are traced to the Bell Trade Act which required US approval of a change in Philippine exchange rate, prohibited import taxes, and ruled out tariff increases since the bulk of the country's imports came from the US. Upon expiration of the Bell Trade Act in 1955, tariffs replaced exchange control in regulating imports and protecting domestic industries.

The first attempt in trade reform took place in the early 1960s. Under a decontrol program, imports and export licenses were no longer required. In late 1965 the peso was formally devalued from the fixed exchange rate of 2 pesos to 3.90 pesos per US dollar, which became the official parity rate. In the mid-1960s, expansionary monetary and fiscal policies resulted in the deterioration and worsening of the BOP which necessitated the restoration of exchange rate and import controls.

Trade policy continued to protect domestic industries in the 1970s. Import controls became more restrictive as the number of regulated commodity lines increased from 1,307 lines in 1970 to 1,820 lines in 1980. Instead of tariff reforms, export promotion compensated for the continued bias against exports.

Due to major flaws and limitations of past protective policies, a second attempt at trade reform began in 1981 amidst a worsening trade deficit due to an expansionary fiscal policy. As part of the country's industrial structural adjustment program, a Tariff Reform Program (TRP) and an Import Liberalization Program (ILP) were implemented. The TRP provided for a uniform level of protection among and within sectors of the economy, reduced effective production rates (EPR) and reduced tariff rates from 100 to within the range 10 to 50%. The initial schedule of the ILP included the removal from the list of restricted items – 263 lines in 1981 and 617 lines in 1982, reducing the number of restricted items, respectively, by 24% and 20% from the previous year's levels. Due to a BOP crisis which began in 1983, the ILP was postponed for three years and exchange and import controls were re-imposed. In order to discourage imports, the peso was devalued three times from mid-1983 to mid-1984 and floated in late 1984. Import liberalization resumed in 1986 with more items liberalized but mostly manufactured goods; agricultural export taxes were abolished; fertilizer and wheat imports were liberalized but maize imports were banned temporarily.

After the completion of the TRP in 1985, a new round of unilateral tariff reductions followed. Executive Order (EO) 470 in mid-1991 reduced the number of high tariff commodity lines and increased the number of low tariff commodity lines. EO 8 issued in mid-1992 replaced QRs by tariffs but was later reversed by the Magna Carta for Farmers which required the imposition of QRs as a means of protecting agricultural products in sufficient supply. In early 1993, Memorandum (MO) 95 restored the QRs on certain commodities including maize, pork and poultry meat.

Trade reforms intensified with recent multilateral and regional trading agreements. Under the GATT-UR/WTO, the Philippines is committed to two of the four major areas of concern of the UR Agreement on Agriculture: market access and sanitary and phytosanitary (SPS) measures. There are no export subsidies in the country and the value of agricultural subsidies are less than the 10% ceiling level for developing countries, hence, the country made no commitments on these areas. Under market access, the tariffication of quantitative restrictions (QRs) is legislated through the Republic Act (RA) 8178. The tariffs for sensitive agricultural products were mostly 100% in 1995 and 1996, which are generally above the nominal protective rates under the QRs. These rates will be reduced to within the range of 10 to 50% by the years 2003 and 2004. The Philippines sought the postponement of rice tariffication.

Tariff reduction is also the major feature of the ASEAN Free Trade Association (AFTA), which aims to transform the ASEAN region into a free trade area by the year 2003. For the Philippines a total of 391 primary agricultural products are included in the Common Effective Preferential Tariff (CEPT) scheme of the AFTA. By the year 2003, lower tariff rates will be imposed on these products, although highly sensitive imports may still be allowed higher tariffs. The Philippines suggested exclusion of rice in the AFTA-CEPT scheme as it is deemed that Filipino rice farmers are not yet prepared to face competition from its neighboring ASEAN partners.

Under the Asia Pacific Economic Cooperation (APEC), the Philippine tariff reductions under the UR bound tariffs, APEC Bogor and individual action plan (IAP) follow a downward trend but with lower rates for the IAP.

Message from the Director

Meetings of the Technical Advisory Committee (TAC) and the Governing Board (GB) for the year 2000 were held in November.

Along with information about on-going and newly started projects, I had to inform the TAC and the GB concerning: (i) the failure in materializing proposed projects "SUASA-3"[*], "MDSP"[**] and "AgriAtlas"[***], and (ii) the cessation of "AGRIND"[****] project. In the case of (i), the reasons were (a) difficulties in sharing resources at the ESCAP secretariat; (b) hesitation in co-financing arrangements in the expected participating countries; and (c) no prospective source of funds, respectively, while in the case of (ii), it was a change in funding policy at the partner institute. Efforts made by the Centre were unsuccessful, apparently due to the prolonged economic recession in the region.

Nevertheless, both the TAC and the GB requested that the Centre further expand coverage of research areas as well as participating countries in consideration of equalization of participation opportunity. I accepted these requests as encouragement to the Centre.

The TAC and the GB also suggested improvement of the project formulation process and establishment of some of kind of agreement with participating countries or institutes to promote collaborative conditions for financial arrangements. These suggestions are all worth further discussion, although choice of alternative schemes might be very limited.

In December, a regional workshop entitled "Food Security in the Southwest Pacific Island Countries" was held in Sydney with the four participating countries, Fiji, Papua New Guinea, Tonga and Vanuatu. This workshop was almost the final activity of the two-year research project "Food Security Strategies in Selected South Pacific Island Countries (SouthPIC)" funded by the Government of Japan. I am pleased to report to you that the meeting was very successful and fruitful owing to the presentations and active discussions by all of the national experts and commentators from the participating countries and guest speakers. We achieved common understanding on the diverse conditions surrounding food security and a wide range of strategies to deal with the issue in these island countries. Not only stabilization of food production and improvement of marketing systems, but also several social factors such as education, health care, employment and even good governance were included in the discussions.

The meeting as well as the project was appreciated by the countries for their timeliness and significance of the topics. The project will soon publish four country reports, an integrated report and the proceedings of the workshop. The CGPRT Centre will be pleased if these reports contribute to further improvement of food security conditions and to further development of agriculture in these countries.

We are now at the end of 2000, which is the final moment of the 20th Century. There will be no difference between the last day of the 20th Century and the first day of the 21st Century. Nevertheless, the CGPRT Centre feels something special and is refreshed in facing the forthcoming new century.

HARUO INAGAKI

Infrastructure such as land, water and air transport facilities are important support to international trade directly and indirectly. Investment in infrastructure in the Philippines intensified in the late 1960s until the late 1970s. After this period, due to fiscal constraints infrastructure investment

[*] Human resources development to enhance sustainability of upland agriculture in selected Southeast Asian countries (SUASA-3)
[**] Market development strategies for potato in selected Southeast Asian countries (MDSP)
[***] Dissemination of ecoregional analysis and planning tools for the development of agricultural atlas in Asian monsoon countries (AgriAtlas)
[****] Avenues for agro-industrial development in Southeast Asia (AGRIND)

continued but at a reduced pace and most of the infrastructure was completion of existing projects. In the early 1990s public infrastructure investment accounted for only 2% of GDP compared with a 5% share in the late 1970s to the early 1980s. Large infrastructure programs were financed mostly from external credit.

The above situation is illustrated by the status in road development, the largest component of infrastructure investment. In a span of three decades from 1965 to 1997, the total length of road in the Philippines almost tripled from 56 thousand to 161 thousand kilometers. Road construction grew on average at an annual compounded rate of 7% from 1965 to 1980, but it slowed down to 1.3% in 1981 to 1985, with minimal growth of only 0.03% from 1996 to 1997.

In 1997, more than two-thirds of the total length of roads in the country is made of gravel, asphalt and concrete portions 18% and earth road, 5%. Rural roads comprised more than one-half of the total road length. This sector, however, receives the smallest share of investment allocation. In recognition of the importance of rural road development to the competitiveness of agricultural products especially with the current trend in trade liberalization, an agricultural Competitiveness Enhancement Fund (CEF) is formed from the tariff proceeds of the Minimum Access Volumes (MAV) of the Department of Agriculture (DA) part of which is earmarked for the development of farm to market roads.

Due to physically dispersed islands in the Philippines, ports and water vessels and airports are equally important with road facilities. The number of ports increased by 9% over the period 1994 to 1996. Seven of the government airports are international airports. A greater volume of traded goods is carried by sea relative to air transport due to higher costs of the latter.

In the agriculture sector, the development of production and post-harvest facilities is carried out by the DA through its various sectoral programs. Under its grain program, the DA has embarked on irrigation projects such as water impounding, shallow tube-well and deep tube-well irrigation. Support in postharvest facilities is provided through the construction of multipurpose drying pavements, distribution of small mechanical dryers aimed at improving timeliness in grain drying operations and moisture meters to be used in monitoring moisture content of maize for the prevention and control of aflatoxin. Facilities for rice milling, grain storage (warehouses) and transport have also improved, although these are mostly within the private sector.

One-third of existing livestock auctions are below the standards of the National Meat Inspection Commission (NMIC). Thirty abattoirs are for rehabilitation and new construction. Only 1% of abbatoirs conform to international standards. These concerns are being addressed under the DA's livestock program.

Institutional services, primarily sanitary and phytosanitary (SPS) measures, complement physical infrastructure supporting international trade. Several studies have shown that, in general, the Philippines has yet to establish its own standards for most plant and plant products, meat and meat products, and fisheries and marine products for adoption or submission to the Codex Alimentarius Commission of the Food and Agricultural Organization (FAO). These inadequacies are attributed to laboratory facility and personnel constraints. Most of the Philippine standards for product export, for example, are adjusted or based on the Codex for requirements of importing countries.

The value of exports and imports increased beginning in 1987 but imports have outpaced exports, which resulted in large trade deficits. The trade deficit-GDP ratio in 1997 doubled the ratio in 1980. The proportion of total export value to GDP was increasing, but the level of export earnings was not sufficient to cover the import needs of the other sectors of the economy.

Consistent with the declining relative importance of the agriculture sector to GDP is a corresponding decline of agricultural foreign trade. In the early 1980s, agricultural exports which include processed agricultural products (e.g. coconut oil and pineapple juice) and agro-industrial products (e.g. agricultural machinery) contributed about one-third to total export value. This share dropped to 9% in 1997 in view of the increasing non-agricultural manufactured exports especially electronics. Also, the share of agricultural imports to total imports declined from 11% in the early 1980s to about 9% in 1997.

The Tariff Reform Program (TRP) and Import Liberalization Program (ILP) resulted in increased agricultural trade beginning in 1988. However, agricultural imports exceeded exports, which gradually eroded the agricultural trade balance such

that deficits incurred beginning 1994 and increased further with trade liberalization.

"Food and Live Animals Chiefly for Food" captured, on average, 90% of total agricultural imports in the period 1980-1997. Under this classification, the three major exports and their contributions are vegetables and fruits (50%), fish and fish preparations (17%), sugar and sugar preparations and honey (12%).

Over the reference period of 1980-1997, seven commodities have been consistently in the top ten exports: coconut oil, desiccated coconut, copra oil cake/meal, sugar, fresh banana, pineapple and pineapple products, and tuna in fresh, frozen and chilled forms. Shrimps and prawns, fresh, frozen and chilled, were also in the top ten exports except in 1980 and 1982. Coconut oil remains as the largest contributor to agricultural exports. The value of exports in 1997 reached US$ 673 million, 18% above the 1996 level. Export proceeds from desiccated coconut ranked among the top five from 1980-1987 but went down to number eight mostly after this period. The value of exports in 1996 to 1997 averaged US$ 86 million. Copra oil cake/meal and copra exports have declined in importance especially copra due to a shift from raw to processed coconut product exports.

Earnings from centrifugal sugar exports were second to coconut oil from 1980 to 1985 but declined to lower rankings, sixth in 1996 and ninth in 1997. The volume of annual exports has declined substantially from an average of 963 thousand tons in the first half of the 1980s to 198 thousand tons in 1987. This has been attributed to the removal of preferential treatment of Philippine sugar in the U.S., emergence of sugar substitutes and declining productivity.

Pineapple and pineapple product exports were stable, mostly either as the number four or number five agricultural export earner. Annual export values in 1996 and 1997 averaged US$ 153 million. Fresh banana was the second largest agricultural export from 1995 to 1997, contributing on average US$ 226 million annually.

Fishery export is dominated by tuna, shrimps and prawns, seaweed and carageenan. Shrimps and prawns accounted for the second largest share of agricultural export earnings from 1987 to 1992 and 1994 with a yearly average of US$ 225 million. It ranked sixth in 1996 and 1997 with annual earnings of US$ 140 million. Seaweed and carageenan were in the leading ten agricultural exports beginning in 1995, contributing US$ 83 million or the seventh largest. Annual export receipts in 1996 and 1997 were US$ 94 million.

Between 1998 and 1997, the annual average value of manufactured fertilizer exports was mostly the seventh largest, US$ 94 million. As a non-traditional export crop, green bean coffee shipments outside the country earned substantially from 1984 to 1986 with a peak of US$ 119 million in 1986 resulting from the coffee frost in Brazil. Exports dwindled, and starting in 1990 the value of exports was no longer in the top ten. As for traditional export crops, unmanufactured tobacco was last included in the top ten exports in 1994 and abaca registered in the top ten only in 1983 and 1984 in the whole period of 1980-1997.

The U.S. is the major trading partner of the Philippines for its coconut oil, dessicated coconut, sugar, coffee, unmanufactured tobacco, abaca, pineapple and pineapple products, tuna and seaweed and carageenan in more recent years. Japan is the biggest market for fresh banana, shrimps and prawn, and also a major destination for tuna and pineapple and pineapple products. Copra oil cake/meal, seaweed and carageenan are shipped largely to European markets. In 1996 and 1997, Vietnam was the biggest buyer of manufactured fertilizer.

A consistent pattern between trade reform and share of agricultural imports to GDP is observed. When import controls were re-instituted in the mid-1980s, the share of agricultural imports to GDP decreased. It increased during the trade reforms in the late 1980. This pattern became more apparent in 1995 to 1997. The impact of reforms in import policies is more indicative in foodcrops and livestock imports. The percentage share to agricultural GDP in 1997 was more than twice the share in 1980 and almost doubled in the case of foodcrops.

Food and live animals chiefly for food constitute the bulk of agricultural imports. It accounted for about two-thirds, on average, of the annual total agricultural import value from 1990 onwards. In the first year of the GATT-UR in 1995, import values increased by 38% from the 1991 levels. The second and third largest groups of agricultural imports during the 1980-1997 period were, respectively, inedible crude materials and manufactured fertilizer. The values of imports of other commodity groups such as animal and vegetable oils, agricultural chemicals and materials,

agricultural machinery and manufactured fertilizer have increased from 1994 to 1997.

From 1980 to 1997, six commodities were consistently in the top ten imports: wheat and meslin, milk and cream products, urea, soyabean oil/cake and other residue, cotton and unmanufactured tobacco. Flour, meals and pellets of fish, meat and crustaceans were in the leading ten imports except in 1983. Whole and ground malt were in the top ten list until 1993. Unmilled maize, rice, meat of bovine animals and agricultural machinery were in the top list for several years. Soybean and manufactured tobacco were in the top ten, respectively, only in 1991 and in 1993.

The three leading imports are wheat and meslin, milk and cream products and soybean oil cake/residue. Wheat is used both as food substitute for rice and as a feed substitute for maize. As a result of the lower tariff for wheat used for food compared to a higher tariff for wheat as feed, part of wheat imports for food were diverted to feed. Wheat and meslin imports have been increasing. In 1997, the value of imports was US$ 423 million, which was 13% more than its 1996 level and 21% above 1995 imports. The U.S. is the largest supplier of wheat with an average value of US$ 245 million from 1991 to 1997.

About 90% of the country's dairy products are imported. Milk and cream products ranked as the second largest imports in most years from 1990 to 1997. Imports in 1996 amounted to US$ 329 million but decreased to US$ 303 million in 1997. Australia is the largest source of dairy products, accounting for 48% and 43% of total value of imports in 1996 and 1997, respectively.

Most soybean product imports are in the form of oil cake and other residue. From 1991 to 1997, average annual imports were US$ 142 million. In more recent years the U.S. has captured the Philippine market for soybean. In 1996 and 1997, annual imports from the U.S. averaged US$ 64 million representing 46% of total annual imports in the two year period.

Rice imports were the third largest in 1996 and 1997. The value of imports peaked in 1996 at US$ 294 million. Another large shipment occurred in 1997 valued at US$ 211 million, as a hedge against expected production shortfalls in the first quarter of 1997 due to the El Niño. Imports from Vietnam comprised 41% of the total value of imports in 1996 and 47% in 1997. Thailand was the second largest source, accounting for 18% of total import expenditures in 1996 and 29% in 1997.

Paddy production is increasing but at a decreasing rate. The gap between annual paddy production and total use is widening. The deficit years, which were associated with adverse weather conditions, outnumbered self-sufficiency periods. On grounds of food security and lack of competitiveness of small rice farmers, the tariffication of rice has been postponed under the GATT-UR/WTO until the year 2004. Also, initial high tariff rates for rice have been sought under the AFTA-CEPT. Even with the tariffication of rice in the year 2004, the level of protection to farmers is not lessened, because the government can always intervene in domestic pricing. Domestic prices of rice are kept above international prices. According to a study by the Department of Agriculture (DA), trade liberalization would have a neutral effect on rice.

Maize plays an important role in Philippines agriculture both as food and particularly as feed to the rapidly growing livestock and poultry industries. More than 60% of maize demand is for animal feed, which is mainly yellow maize. Over the period 1980-1997 the share of feed in the total usage of maize has followed an increasing trend due to proportionate increases in swine and chicken inventories especially the latter. In spite of productivity gains in yellow maize production resulting from the government's yellow maize programs and R&D activities in open pollinated varieties, adverse weather conditions, particularly droughts have affected productivity. Total domestic maize production net of stocks has not been sufficient to meet total maize requirements, making the country a net importer of maize except in 1988 and 1990 when maize surpluses were noted. Maize imports in the last 18 years up to 1997 depended on the adequacy of stocks. Under the GATT-UR/WTO, previous quantitative restrictions on maize imports were replaced with out-quota tariffs of 100%, which will be gradually reduced to 50% by 2004. Under the AFTA-CEPT, maize is included in the list of 25 sensitive farm products whose tariffs would be reduced to 5% in 2009. Similar to rice, domestic maize prices are above international prices, which is traced to the high distribution and marketing costs, due to the long distances from the maize producers to the maize millers and feedmillers. Previous studies show that marketing and distribution costs from the farmgate to the users are more than twice

the costs in Thailand. Domestic transport costs account for one-third to one-half of marketing costs for grains such as maize, compared to a share of one-fourth in other ASEAN countries. The conditions of the rural roads and shipping contribute the highest cost effect. The system of arrastre and stevedoring in the Philippines makes cargo handling costs the highest in the ASEAN region. Moreover, domestic fuel costs exceed the costs in other ASEAN countries. High distribution and marketing costs and lower yields due to adverse weather conditions make the Filipino maize farmers, especially the small farmers, less competitive than their counterparts in the larger maize producing countries. If these conditions are not addressed, trade liberalization will place the marginal and subsistence maize farmers in the Philippines at risk. Reliance on the domestic maize supply will also make the livestock industry, especially chicken and pork, uncompetitive due to high cost of maize as feed. It has been suggested in some studies to further lower the maize tariff or at the extreme allow importation of maize free of duty. It has been argued that while this would displace the marginal and subsistence maize farmers, the resources could flow to smallholder livestock. The displaced maize farmers can still shift to high value commercial crops (HVCC).

In the livestock sector, chicken is the fastest growing component. Domestic chicken meat production is generally sufficient for domestic requirements, resulting in minimal imports of poultry meat. This is due primarily to the highly commercialized nature of chicken production systems which are left largely to the private sector. Partial trade liberalization under Executive Orders 470 and 8 supported the industry in the form of lower tariffs on import of purebred live chickens, which are good parent stock. The GATT-UR/WTO tariff rate for purebred breeders is a 10% base rate and a 10 to 15% ceiling rate. Domestic poultry meat production including offal is protected currently with a tariff rate of 100% to be reduced to 40% by the year 2000.

Pork accounts for about one-half of the total domestic supply of meat in the Philippines. The pork supply has been relatively stable because of improved domestic production and imports of breeder stocks. The supply availability has ensured stable prices, except in 1990 when pork prices went up due to high feed cost. Pork meat export has been declining while imports of breeder stocks are increasing. Tariff rates for swine carcass meat and offal under the GATT-UR/WTO are 100% to 40% from 1995 to 2000, which is above the duties imposed on bovine animals. This did not, however, discourage imports. As the maize and livestock industries are highly dependent, high costs of maize feeds will put at risk the livestock small holders.

As an result of the Import Liberalization Program in 1990-1993, lower tariffs were imposed on live animal importation especially cattle for fattening and for breeding. As a result beef production grew by 9% yearly from 1993 to 1997. Under the GATT-UR/WTO, the initial tariff rate in 1995 was 10% to be reduced to 5% in the year 2000, compared to a 3% duty before the GATT-UR/WTO. Feeder cattle have tariff rates of 20 to 10% in the period 1995-2000. The Philippines made an error in computing the minimum access volume (MAV) of beef submitted to the GATT-UR/WTO. The quantity of beef imports under the MAV was overestimated by 1.8 to 1.9 thousand metric tons. Although this has already been rectified, it had implications for the protection of domestic producers.

The Philippines continues to be the largest supplier of coconut products in the world market contributing more than half to total world supply of coconut oil and copra. The country is, however, a price taker in the world market for coconut oil since this product comprises only 5% of the total world market for vegetable oils. Under the GATT-UR/WTO, the initial bound rate for coconut product exports in 1995 was 70% to be reduced at the old rate of 50% for coconut oil and desiccated coconut, and 60% for copra. Since the country is a net exporter of coconut products, there are no MAVs for these products. The main concern in the coconut industry with trade liberalization is the lower tariff rate on competing vegetable oils such as soybean oil, palm oil and margarine and shortening, and soybean itself. It has been argued by coconut industry groups that the low tariff of 3% on soybean will encourage large imports. Although soybean is imported mainly for soymeal as feed for livestock, its by-product soybean oil will compete with coconut edible oil, thereby prejudicing the domestic coconut industry. The coconut industry groups have lobbied for a higher tariff for soybean, to be equivalent with the tariffs of other vegetable oils.

Domestic production of cassava is generally sufficient for the country's needs. Under the GATT-UR/WTO, the initial bound tariff of cassava in 1995

was 50% to be reduced to 40% in the year 2004. Since the country exports cassava products, the country did not make any minimum access volume commitments.

Domestic production of potato is used mainly for the table and partly for seed. Imports are mostly in small quantities although french fries potato imports have gained importance with the advent of fast food chains in the country. The Republic Act 8178 lifted the seed potato import ban due to the seed requirements of domestic producers. The initial tariff for fresh potato under the WTO was set at 100% in 1995 to be reduced to 40% in 2004. Potato imports account, on average, for only 20% of its minimum access volume.

Trade liberalization has its advantages as well as disadvantages. The long term goal is to make domestic producers more competitive in the world market through exposure and access to better technology, improved production efficiency and higher product standards. But the preconditions to the achievement of these in the domestic situation rest upon the resources of farmers, especially small farmers, and the so called safety net measures in the form of infrastructure and institutional support from the government that would facilitate farmers' access to these free trade opportunities. It is also dependent indirectly on macroeconomic (i.e. monetary) policies. Also, as the country's major trading partners will be adopting an open market policy, the Philippines can derive some compensatory concessions in terms of lower tariffs for the country's exports. On the other hand, structural changes that go with trade liberalization have some de-stabilizing effects on the domestic agriculture sector and the other sectors of the economy. What is important is to put the safety net measures securely in place during the adjustment or transition period which is not far beyond. This requires a vigorous effort and may take a longer period of transition than the time set under the recent multilateral and regional trading agreements.

Commodity Aspects

This study is a follow-up to the first phase of the agricultural trade liberalization study in the Philippines, which dealt with structural and institutional aspects. The present study has the following components. It identifies and discusses crucial policies and issues on production, marketing and international trade for two of the most important agricultural commodities in the country - rice and corn (with focus on yellow corn). With this backdrop, the study proceeds with its major objective of providing a quantitative assessment of the effects of trade liberalization at national, regional and farm levels of the rice and corn sectors. The trade liberalization in this study is confined to tariff reforms.

Regression analysis, covering the data from 1980 to 1997, is the major framework in assessing the impact of tariff reforms at the national and regional levels. The elasticities of supply and demand and elasticities of price linkage transmission for wholesale and farm prices are used to quantify the effects of tariff reforms on production, demand and, hence, on the welfare effects through the concepts of producer and consumer surpluses using the average price and quantities for 1997 as the base year. Whenever appropriate, secondary data on supply and demand elasticities are adopted. A partial budget analysis complements the regression analysis whereby the effects of tariff reforms in agricultural inputs such as fertilizer and agricultural machinery are determined. In addition, the changes in farm prices as a result of tariff reforms are used to simulate the changes in costs and returns of producing rice and yellow corn. The impact analysis at the farm level is confined to partial budget analysis. Also, it determines the effects of tariff reforms on production inputs such as fertilizer and agricultural machinery.

The regional and farm level assessments are concentrated in Central Luzon region. A small cross section of rice farmers in a village in Nueva Ecija province in the region served as a source of data for the partial farm budget analysis. A yellow corn producer in a village in Pampanga province also in Central Luzon was selected.

The rice sector

Under the GATT-WTO, the Philippines sought to postpone rice tariffication for ten years until the year 2004. Philippine rice has also been excluded temporarily in the AFTA-CEPT scheme. These trade policy measures are designed to cushion the domestic rice farmers from any imbalances that may arise as a result of trade liberalization. In the next WTO round of negotiations policy makers are faced with the decision of whether to seek an extension of the special treatment for rice or to replace the quantitative restrictions (QRs) for rice with tariffs and if so, at what rate.

The declining rice output in the country in recent years due to adverse weather conditions has resulted in substantial rice imports. For a long period, the government through the National Food Authority (NFA), the central marketing agency for grains, had the exclusive authority to import rice free of duty. In 1999 the private sector was allowed rice imports of the minimum access volume (MAV).

In this study, the assessment of trade reforms in rice accounts for the following tariff scenarios. The first scenario is a change from a duty free or zero tariff to 50%. This mimics the recent move by the government in 1999 to partially deregulate NFA's monopoly on rice imports by allowing private sector participation of the MAV whereby the 50% tariff applies. This is on the premise that the NFA Council will allow continuous participation of private traders in rice importation. Second, rice will be tariffied at the rate of 200% after the year 2004 or earlier. In order to make analysis feasible, it is assumed that the tariff will be applied to all rice imports. Moreover, to compare the impacts of different tariffs, the following rates are used: from 0 to 50% and from 0 to 200%.

National level analysis

The assumed scaling up of rice tariffs will result in increases in domestic prices and production, decrease in demand, producer surpluses but consumer losses. The 1997 average wholesale price will rise by 3.15% at the 50% tariff and 12.60% at 200% tariff. These changes, in turn, will cause corresponding decreases in the 1997 national rice demand by 0.90% and 3.53%, respectively, at 50% and 200% tariff rates. Prices received by farmers will increase by 1.80% at 50% tariff and 7.19% at 200% tariff. Increases in farm prices will induce paddy production to rise minimally by less than 1% (0.59) at 50% tariff and by 2.37% at 200% tariff.

The welfare effects will be producer surpluses but consumer losses. The latter, however, exceed the former, resulting in welfare net losses by 2.59 billion pesos at 50% tariff and 10.1 billion pesos at 200% tariff.

Tariff reforms in agricultural inputs such as fertilizer and agricultural machinery, whereby the tariff decreases, respectively, by 2% and 10%, in addition to increases in farm prices for paddy resulting from rice tariffication, were applied simultaneously with the 1997 average cost and returns data for paddy. The results show that on a per hectare basis, the net profit-cost ratios will increase by 9.5% with the 50% tariff and 42.86% with the 200% tariff.

Regional level analysis

Following the same procedure in the national level analysis, the increases in rice tariff will result in corresponding increases in wholesale prices (5.25 and 21.0%), farm prices (5.04 and 20.16%) and in production (2.12 and 8.47%); decreases in consumption (-2.05 and -8.21%); surpluses to producers but surplus losses to consumers. In contrast with the national level analysis, the percentage changes in wholesale prices are only slightly above the percentage changes in farm prices; producer gains exceed consumer losses, which will result in net welfare to the region by 131.22 million pesos at 50% and 0.73 billion pesos at the high tariff of 200%. The reason for this is that Central Luzon is a rice surplus region.

Farm level analysis

The combined impacts of tariff reforms in fertilizer and agricultural machinery and rice tariffication were determined on the costs and returns of a small cross section of paddy farmers in a village in Nueva Ecija province in Central Luzon region. The analysis indicated increases in the net returns per one cropping, per hectare of irrigated paddy farms, by about 21% at 50% tariff and 77% at 200% tariff.

In the partial budget analysis for the region, tariff reductions for fertilizer and agricultural machinery reduce cost only minimally; the additional effects of tariffs for rice through farm price increases result in higher net profit-cost ratios, by almost twice from 0.08 to 0.14 at 50% tariff and nearly four times from 0.08 to 0.30 at 200% tariff.

The corn sector

As a result of R & D breakthrough in open pollinated varieties (OPVs), the national output of yellow corn improved substantially beginning in 1986. National average yields reached 2 metric tons per hectare in 1993. In spite of substantial gains in output and yield for yellow corn, average yield for the country is still below that of major producers such as Thailand (3 mt/ha.), Argentina (4 mt/ha.) and U.S. (almost 8 mt/ha.). Yellow corn accounts for about two-thirds of the country's livestock feed formulation. The rapid growth in the domestic livestock industry has put pressure on corn supply such that shortfalls in yellow corn output especially

during the dry season result in reliance on imports. The inefficient domestic marketing system for yellow corn also contributes to the supply problem. The long distance and highly dispersed geographic location of the production areas (Mindanao island) and consumption areas (feedmillers and major livestock producers are located in Luzon island), the weak infrastructure links and monopoly in inter-island shipping result in high marketing costs of corn in the Philippines. On average, the cost of marketing and distribution of corn in the Philippines is two-thirds higher than in Thailand.

Unlike rice, the quantitative restrictions (QRs) for corn have been replaced by tariffs under the GATT-WTO. The in-quota tariff of the MAV is 35% until the year 2004. The out-quota tariff was set initially at 100% in 1995 and will be reduced gradually to 50% in 2004.

In determining the effects of corn tariff reforms in the next WTO negotiations, the current 35% under the MVA serves as the basis for analysis. The first assumption for tariff reduction will be from 35% to 20% to be followed by another reduction to 5%. The latter scaling down of the corn tariff is consistent with the objective of AFTA-CEPT to reduce tariffs in ASEAN member countries within the range 0% to 5% by the year 2010. For comparative purposes, the analysis will consider the following tariff rates: from 35 to 20% and from 35 to 5%.

National level analysis

An import demand function was estimated for yellow corn in order to determine the effects of tariff reductions. This was not undertaken for rice due to data limitations. Based on the results, the 1997 average import volume of yellow corn of 302.96 thousand tons will increase by almost 3% at 20% tariff and by almost 6% at 5% tariff. The other effects of reduced tariff rates are as follows. The 1997 average wholesale price of yellow corn will diminish by 2.86% and 5.73%, respectively, at the 20% tariff and 5% tariff. These changes in turn will cause demand for yellow corn to increase by less than 1% (0.74%) at 20% tariff and by 1.49% at 5% tariff. Farm prices will also decrease 2.78% and 5.58% and yellow corn production will decrease by 1.97% and 3.96%.

The overall impact will be positive consumer surpluses but producer's surplus losses. The former, however, exceed the latter, resulting in net welfare benefits of 330.53 million pesos and 663 million pesos, respectively, at the 20% and 5% tariff.

In the partial farm budget analysis, in spite of the reduction of fertilizer cost (tariff reduction for agricultural machinery was not applied due to the absence of this cost in the farm budget data), net profit per hectare decreases by 7.7% and 15.9% due to lower farm prices as a result of the lowering of the tariff for yellow corn.

Regional level analysis

The overall effects of tariff reductions of yellow corn in Central Luzon follow the same pattern as with the national level, i.e. decreases in wholesale prices (-8.61 and -16.41%) and prices received by farmers (-8.29 and -15.80%); higher demand by 2.08% and 3.95%; and production reduced by 9.85% and 18.77%. Consumer surpluses will more than offset producer losses, which will result in net benefits of 381.14 million pesos and 737.17 million pesos, respectively, at the 20% and 5% tariff.

In the partial farm budget analysis in the region, the combined effects of the tariff reform in fertiliser and the depressed farm price effects of reforms in yellow corn tariff will lead to net profits lower by 16.22% at 20% tariff and 31.54% at 5% tariff. The impact of the tariff reduction in agricultural machinery was not included in the analysis due to the absence of cost in machinery rental in the regional data.

Farm level analysis

Tariff reforms in fertilizer and agricultural machinery reduce the cash cost of producing one cropping of an irrigated hectare of yellow corn of one sample farmer in a village in Pampanga province, also in Central Luzon region. This leads to a less than 1% (0.67%) increase in net returns. However, this gain is offset by the decreasing effect on output farm prices of reduced tariffs of yellow corn, by 6.6% from 35 to 20% tariff and 18.8% from 35 to 5% tariff. This situation may result in shifting back to paddy cultivation which the sample farmer was engaged in previously.

It should be emphasized that the above results of the impacts of tariff reforms in rice and yellow corn are good only as far as the assumptions of this study and limitations of the data would allow. The quantified impacts of tariff reforms should be interpreted as the probable directions of supply, demand, domestic prices, producer and consumer surpluses for the rice and corn sectors.

Effects of Trade Liberalization in the Republic of Korea

Myung-Hwan Sung[*]

Institutional and Structural Aspects

This study is a part of the TradeLib project initiated by the United Nations ESCAP CGPRT Centre, entitled "Effects of the Trade Liberalization on Agriculture in Selected Asian Countries with Special Focus on CGPRT Crops." This is a three year project consisting of three parts, an institutional study, commodity study and a location-commodity specific study. The present study is covers the institutional and structural part of the project. The study focuses on the effects of trade liberalization on agriculture in Korea with special focus on CGPRT crops. The main objective of this part was to review institutional aspects of trade liberalization, including the history of the trade regime, various trade-related policies, infrastucture related to foreign trade, and trade related-indicators in Korea.

Korean agriculture has progressed in line with economic development. An attempt was made to develop the agricultural sector in the early 1960s. The objective of agricultural development was to increase production as Korea had suffered from chronic food deficiency. However, the importance of the agricultural sector in the Korean economy has been shrinking with the progress of industrialization. Agriculture's share in gross domestic product (GDP) declined from 12.5% in 1985 to 6.3% in 1996.

The major emphasis of trade policy is on protection of domestic industry, stabilization of prices, improvement of the balance of payments, increase in employment, and efficient usage of production factors in Korea. Government fiscal policy accomplishes its function in the allocation of resources, the distribution of income, and the stabilization of the economy. The operation of public finance basically achieved its purpose of economic stability. The monetary and credit policy emphasized a stable monetary supply so that the economy ran smoothly and aggregate money demand was maintained at an optimum level.

In Korea, the shares of domestic freight traffic by road, shipping, railway and aviation were 68.6%, 22.7%, 8.6%, and 0.1% in 1996, respectively. Roads, as the main traffic form carried about 70% of traffic freight, taking an important role in the national economy and regional development in Korea. For normal temperature storage, there are 7,535 storage facilities in Korea in which 4,205 tons of farm products could be stored. There are 1,529 cold storage facilities and 833,805 tons of agricultural products can be stored in such storage facilities. The total number of standardized items permitted reached 5,651 items and the quantities 3,007 thousand tons in 1996.

With respect to trade value, an adverse balance of payments has existed since 1990 with the exception of 1993. Korea exported 128,300 million dollars and imported 143,500 million dollars in terms of value in 1996. As a result, the negative trade balance amounted to 15,300 million dollars. The value of agricultural and forestry product imports was 10,940 million dollars, representing 7.6% of the total value of imported products in 1996. The value of the agricultural and forest product export has continuously grown from 652 million dollars in 1985 to 1,829 million dollars in 1996. This amount represented only 1.4% of the total exported products in 1996.

There is an effort to promote liberalization of agricultural trade in international society. According to this stream the Uruguay Round for facilitating international trade was launched at Punta del Este in 1986. The round of multilateral trade negotiations was conducted under the General Agreement on Tariffs and Trade. The liberalization of agricultural products was extended to all member countries by the results of the Uruguay Round. In the case of Korea, the country schedule was completed after Korea had many bilateral and multilateral negotiations with various countries. By the Uruguay Round Agreement on Agriculture, Korea is facing liberalization of agricultural trade, which may remove all trade barriers and subsidies.

Considering the content of the WTO agreement and the characteristics of products, 83 major items such as rice, beef, red pepper, garlic, and so forth are imported by state trade and 25 items such as pork, chicken, and so forth are imported by quota auction. Since the beginning of

[*] Korea Rural Economic Institute, Dongdaemoon-Gu, Seoul, Republic of Korea. This paper is adapted from Effects of Trade Liberalization in the Republic of Korea: Institutional and Structural Aspects, Working Paper No. 35, CGPRT Centre, Bogor, and Effects of Trade Liberalization in the Republic of Korea: Commodity Aspects, Working Paper No. 47, CGPRT Centre, Bogor.

UR negotiation, Korea has opposed the tariff principle without exception but has opened the market by the minimum market access instead of deferring tariffication in the case of rice. The Korean government is in an unfavorable circumstance, trying to simultaneously harmonize growth of domestic agriculture and fulfill the WTO Agreement on Agriculture.

The major export categories in 1996 were processed fruits, apple, pear, Kimchi, vegetable seeds, red pepper, cucumber, strawberry, tomato, cactus, and ginseng. Japan, Russia, Hong Kong, China, USA, Taiwan, Spain, Thailand, Indonesia, and Malaysia were the major purchasing countries in 1997. The major import categories are cereals, livestock, vegetable oil, fats, and other luxury foods. USA, China, Australia, Indonesia, Malaysia, New Zealand, Brazil, Thailand, Canada, and Japan were the major source countries in 1997.

Faced with strong pressure to liberalize agricultural imports, Korean agriculture has been urged to achieve structural adjustment to compete in an internationally open market. The basic factor limiting agricultural productivity, small farm size, will not improve substantially in the near future in the spite of the restructuring plan as the land itself is so limited. Therefore, it is essential to compare production, prices, and exports and imports of major agricultural products to evaluate the effects of trade liberalization before and after the market opening in Korea.

The decision-makers face the limitations of policy measures, since all agricultural policies are to be regulated under the WTO. In order to strengthen competitiveness, Korean agriculture needs agricultural reform policies according to the level of effects of agricultural trade liberalization. If the goals of agricultural reform policies are effectively achieved in the future, Korea will be able to enhance farmers' incomes and to adjust to an internationally open market system.

Commodity Aspects

This study covers the commodity and location-commodity specific parts of the project. The study focuses on the effects of trade liberalization on agriculture in Korea with special focus on CGPRT crops. The main objective of this part is to analyze the effects of trade liberalization at the national level and farm level, and to examine impacts of the current financial crisis on domestic prices in Korea.

The Uruguay Round Agreement on agriculture has forced agricultural policy reform, which may remove all trade barriers and subsidies, on member countries. In the case of Korea, negotiations held in December 1993 settled the details for an open form of major agricultural product market and the size of reduction in subsidy due to the preferential trade arrangement for developing countries.

Since the beginning of the UR negotiation, Korea has opposed the tariff principle without exception, but has opened the market by the minimum market access (MMA) instead of deferring tariffication in the case of rice. Korea has decided upon the maintenance of a quota system for a fixed period, tariff increases in the case of other publicly noted items and the setting of a ceiling tariff in the case of non-concession items. The right to import these items through state trade, quota auction, recommendation of real demander and so forth are effectively distributed and managed. Profits created by state trade and quota auction are absorbed into a fund and invested in business to raise competitive power.

Korea was recognized as a developing country for tariff reduction and compliance with the fulfillment period. In particular, the calculation of tariff equivalents considers the base period of 1988-90 (1986-88 in the document of the UR agreement on agriculture) and the reduction rate and period are reduced to two-thirds of the level of developed countries. However, import liberalization by tariffication on all agricultural, fishery and livestock products with the exception of rice, which is major source of income for farmers, was inevitable.

Due to the conclusions of the UR negotiations on agricultural products, Korea has imported rice in accord with minimum market access from 1995. The MMA of 1-4% of domestic consumption has been granted. The quantities of import for barley, potato, and sweet potato among major agricultural products are 3-5% of total domestic consumption by MMA. The import quantities for soybean and maize increased above current import levels. Imports of red pepper, garlic, onions, and sesame, which were concession items before the UR agreement, are 3-5% the level of total domestic consumption due to their import liberalization.

Under the WTO, the stable supply of foodstuffs in Korea is related to food policies, because the self-sufficiency ratio is continuously decreasing and the import of foodstuffs shows a continuously increasing tendency. If complete liberalization of agricultural

trade is realized, the Korean self-sufficiency rate for foodstuffs will decrease markedly. Korea's capability to produce food, including the main food, rice, is weak and very unstable. Another problem is to overcome the financial crisis, which started in November 1997. The rising exchange rate has also increased production costs in the agricultural sector. The income and expenditure of farm households became worse due to the increase in farming costs caused by the rapid currency depreciation, increase in the interest rate and constraint of loans by financial institutes, and decrease in consumption of agricultural products. For these reasons, some farm households have abandoned agriculture and the agricultural production structure has changed.

In this situation of flux in domestic and international environments, farmers' incomes in Korea are highly dependent on agriculture and the impacts of trade liberalization on agricultural products are very significant in Korea as well as in other countries in the Asian area. The greatest impact is the decrease in domestic prices of agricultural products.

To analyze the effect of trade liberalization on domestic agriculture at the national level, a baseline was set as the basis for comparison. Also, for each of the selected products, i.e., rice, soybean, onion, and ginseng, two scenarios were made. The baseline for the four commodities was the average of the domestic prices, production quantity, and consumption amount during the 1992-1994 period (three recent years before launching WTO). Scenario I for rice, soybean, and onion is the case where the import quota by MMA becomes 1% of total consumption after trade liberalization. Scenario II assumes that the import quota by MMA becomes 4% of total consumption after trade liberalization. In the case of ginseng, scenario I assumes that the import quota by MMA becomes 0.25% of total consumption after trade liberalization. On the other hand, scenario II uses the value 0.5%.

The effect of trade liberalization at the national level was calculated using the elasticities of demand, supply, and price transmission. Based on the effects on the consumption, production, and prices with trade liberalization, changes in the consumer and producer surplus are calculated. The results are expectations of how the producer and consumer welfare would be changed with further progress of trade liberalization. In the case of rice, scenario I shows that the consumer surplus, as a result of trade liberalization, would be increased by 261.3 billion won, whereas the producer surplus would be decreased by 192.0 billion won. Therefore, it can be expected that the social welfare gain will be 69.3 billion won. Scenario II indicates that the increase in the consumer surplus would be 1,060.7 billion won compared to the baseline, whereas the producer loss would be 759 billion won. Therefore, the social welfare gain will be 301.7 billion won.

In the case of soybean, scenario I shows that the consumer surplus, as a result of trade liberalization, would increase by 72.1 billion won, whereas the producer surplus would decrease by 5.7 billion won. Therefore, the social welfare gain will be 66.3 billion won. Scenario II indicates that, compared to the baseline, the increase in the consumer surplus would be 292.5 billion won, whereas the producer loss would be 22.6 billion won. Therefore, it can be calculated that the social welfare gain will be 269.9 billion won.

In the case of onion, scenario I shows that the consumer surplus, as a result of trade liberalization, would increase by 13.8 billion won, whereas the producer surplus would decrease by 2.4 billion won. Therefore, the social welfare gain will be 11.4 billion won. Scenario II indicates that, compared to the baseline, the increase in the consumer surplus would be 56 billion won, whereas the producer loss would be 9.4 billion won. Therefore, the social welfare gain will be 46.6 billion won.

In the case of ginseng, scenario I shows that the consumer surplus, as a result of trade liberalization, would increase by 2.3 billion won, whereas the producer surplus would decrease by 1.2 billion won. Therefore, the social welfare gain will be 1.1 billion won. On the other hand, scenario II indicates that, compared to the baseline, the increase in the consumer surplus would be 4.6 billion won, whereas the producer loss would be 2.4 billion won. Therefore, the social welfare gain will be 2.3 billion won.

Thus, the effect of trade liberalization on consumer prices is greater than on producer prices. This means that the actual import quantities of the selected commodities would increase to the import quantities estimated to accompany further progress of trade liberalization of agricultural products. All of the selected commodities will have consumer gains due to the lower consumer price and producer loss due to the decrease in producer prices. As a result, the producer loss for a commodity which has high self-sufficiency, such as rice and ginseng, is larger

than that for a commodity which has low self-sufficiency, such as soybean.

Partial budget analysis was used to evaluate the effects of trade liberalization at the farm level. For the partial budget analysis between with and without trade liberalization, the change in the net return is calculated according to the change in farm price at the farm level. It is assumed that the input quantity and costs are not changed. If there were no trade liberalization, the farm price of rice would be 1,847 won per kg, increased by 7% compared to 1,726 won with trade liberalization. Due to trade liberalization, although the seeding cost is reduced, annual farm returns would be reduced by 67,203 won per 10 a.* In the case of soybean, the farm price of soybean would be 2,035 won per kg, increased by 5.4% compared to 1,931 won with trade liberalization. The trade liberalization of soybean would reduce annual farm returns by 20,691 won per 10 a.

Under the scenario without trade liberalization the farm price of onion per kg would be 304 won, increased by 7.5% compared to 283 won with trade liberalization. Due to trade liberalization, annual farm returns of onion would be reduced by 110,456 won per 10 a. If there is no trade liberalization, the farm price of ginseng would be 17,267 won per kg, increased by 0.5% compared to 17,181 won with trade liberalization. Due to trade liberalization, although the seeding cost is reduced, the annual returns of ginseng farming would be reduced by 34,791 won per 10 a.

From the above results, although the farm price of rice was only decreased by 7% at the national level, net returns of rice were reduced by 9.4% at the farm level. The negative effect of trade liberalization, on net returns of soybean at the farm level was much higher than that on the farm price. For onion, the farm price was reduced by 7.5%, however, net returns were decreased by 11.4%. These results mean that net returns of farming households decrease and the condition of farm management deteriorates due to trade liberalization. With trade liberalization of ginseng, there is little effect of price change on net returns at the farm level.

In order to capture the effects on domestic prices of exchange rate changes induced by the current financial crisis, price transmission and exchange rate pass-through elasticities were used. The transmission elasticity of soybean shows that a 1% increase in the import price causes the domestic price of soybean to increase by 1.309%. The exchange rate pass-through elasticity of soybean shows that given a 1% increase in the exchange rate, the domestic price of soybean increases by 2.4884%. This seems an unusual case. The high figure means that the domestic consumer price of soybean is very sensitive to changes in the import price and exchange rate.

The price transmission and exchange rate pass-through elasticity for wheat flour are 0.2756 and 1.3644, respectively. The domestic consumer price of wheat flour is more affected by a change in exchange rate than by a change in the import price. The price transmission and exchange rate pass-through elasticity of a feed mixture for beef cattle and swine are lower. Given a 1% increase in the import price of maize or exchange rate, the domestic feed price paid by farmers increases about 0.3%. This result corresponds to the fact that the increasing rate of price index paid by farmers is lower than that of the consumer price index for food and beverages for the period of 1997-98.

In summary, considering the overall results of this study, it seems that trade liberalization of agricultural products will increase consumer welfare. Nevertheless, it is expected that there would be a decrease in producer welfare and farm income. Also, due to trade liberalization, the price of agricultural products would decline, then this would lead to stagnation of growth in agriculture. Furthermore, the population and labor participation rate in rural areas would decline, so, the unemployment rate in agriculture will be a major issue in Korea.

If trade liberalization is completely allowed, agricultural production will decline on a large scale, then insecurity of farm households will be greatly increased in the agricultural sector. Prior to the import opening, growth of the agricultural sector was dependent on the conditions of domestic demand and supply. Furthermore, change in both inter and intra macro economic conditions (i.e., exchange rate and price change in domestic and world markets) will greatly affect the domestic agricultural sector.

Currently, it is important for agricultural policy to promote agricultural growth and rural development to increase the income of farm households. Accordingly, in order to alleviate the current agricultural situation in Korea, agricultural

* 10 a (are) = 0.1 hectare.

policy is focusing on the construction of agricultural infrastructure to promote productivity of paddy land and upland. In order to cope with trade liberalization, the Korean government needs to invest in agricultural infrastructure so the government can improve the structure of the agricultural industry.

For these purposes, policy implications to be considered by policy-makers are outlined briefly below. The government should increase investment in the construction of the agricultural infrastructure to improve production conditions, such as irrigation development, readjustment of arable land, and research and extension for grains. Also, the government needs to construct an integrated agricultural information system to improve production and the marketing systems. For security of foodgrains, policy such as production support for the purpose of food security and consolidating competitiveness for self-sufficiency of foods, especially rice, is promoted. In order to reduce production costs, new varieties with high yield and high quality should be developed and efficient farm management should be accomplished by agricultural mechanization. Moreover, along with trade liberalization, the trade policy of import restriction should be changed to efficient import management of foodgrains.

CGPRT Centre News and Activities

ECOPOL

"The Economic and Policy Analysis for the Eco-regional Approach in Southeast Asia (ECOPOL)" project started in June 1998 in Vietnam and November 1998 in Indonesia and ended in December 2000.

In Indonesia, a final analysis and report based on field data is underway. The results will be presented to the local partners and authorities in the first semester of 2001. In Vietnam, the results of the institutional analysis are being analyzed and will be presented to the stakeholders early next year. Implications for the development of rice and pig activities in the Red River Basin will be elaborated and used for discussing policy measures. The ECOPOL staff are currently writing a methodology book for developing and implementing participatory approaches in policy making based on this two year experience. The book is due to be completed in mid 2001 and will include the latest results from Indonesia and Vietnam.

The support of the French Government to ESCAP CGPRT Centre will continue in 2001 until 2003. The ECOPOL project will give way to a different set of activities under the generic name of MAPSuD/Metropol project. MAPSuD stands for "Management of Agricultural Policies for Sustainable Development", while Metropol refers to the orientation towards the supply of food for urban consumers.

This project aims at strengthening the Centre with a focus on the following objectives:

1. to build up and disseminate a concept for the management of CGPRT crop development policies in order to link different decision making levels and reconcile the preferences of different actors;
2. to adapt tools and methods for testing and applying this concept in the field of public decision-making so that the decisions are more effective;
3. to establish a network of associated institutions involved or concerned with socio-economic and policy analysis for the development and use of CGPRT crops in partner countries; and
4. to train network participants and support them for concrete applications in order to nourish the concept and verify its relevance in particular in the case of urban food supply.

Practical activities will include an exploration of the needs in terms of tools and methods for CGPRT crop socio-economic and policy analysis from the partner countries through surveys; formulation of a training and support offer based on the results within a network frame; implementation of these actions according to priorities defined with the partner organizations; and diffusion of reliable and objective information as a support for decision making.

SouthPIC

All draft country reports for the project "Food security strategies in selected South Pacific island countries (SouthPIC)" have been submitted to the Centre. They are now in process of finalization and will be published within a few months.

A regional workshop was held on 12-13 December 2000 in Sydney to discuss the country studies conducted in the two-year research project.

The meeting was attended by the national experts and commentators from the four participating countries, Fiji, Papua New Guinea, Tonga and Vanuatu, the regional advisor of the project, one resource person from the ESCAP/POC and one representative of the ESCAP secretariat.

The meeting was fruitful owing to the detailed presentations and active discussion. Diverse conditions of food security in these countries were recognized by the participants.

ELNINO

The interim reviews on the country studies were conducted for Malaysia on 19-23 October, Indonesia on 24-28 November, and the Philippines on 4-10 December.

Malaysia: The project progressed as planned in general. The experiences of sugar/rubber plantations during the last El Nino and research results of a fruit research station showed complex mechanisms in the impact of weather abnormality on crop production/quality and its socio-economic implications. Simple but quite efficient water management in the sugar plantation can be an example of appropriate technology adoptable to small farmers. The Muda Agricultural Development Authority (MADA) scheme is an excellent example of water management for a large irrigation system. Besides irrigation service, MADA is involved in organizing small farmers, promotion of cooperative shops and cage fishing in canals. Further collaboration with these institutes is advisable in the country study.

Indonesia: The study has been implemented as planned except for the literature review. Review on policies, e.g. social safety net programs in the 1997-98 El Nino, and former/on-going related research should be included in this preparatory study. It is strongly recommended that agronomy and/or agro-meteorology specialists be integrated into the study team. Identification of factors affecting the sensitivity of regions to El Nino-induced abnormal weather changes is an important study objective. Fulfilling this objective requires, first, a deep insight of climatic factors on plant growth and pest epidemiology, and second, analysis of factors (soil type, topography, vegetation, land use, cropping systems, etc.) relating to weather-change vulnerability.

The Philippines: The study team covering socio-economic and natural sciences has been formed. Data on rice should be added in the national level impact analysis, because it may provide a good indicator for abnormal weather damage. Competitiveness and/or complementarity between rice and upland crops should be one of the study subjects. Sugarcane, tree crops, and livestock are also useful to see the complex and dynamic process of drought impacts. Site selection for the second phase needs further consideration. One possibility is, focusing on corn, a village in Pangasinan representing small farmers in a diversified farming system and the other a large-scale monoculture system in Mindanao. Bulacan Province can provide a good research site for looking at dynamism of farming systems including rice, sugarcane and livestock in relation with land/labor use.

Interim reviews for Papua New Guinea and Thailand are scheduled for January/February 2001.

The design of analysis on socio-economic impacts may differ by country according to their unique socio-economic structure. However, it is desirable to compare farmers' behavior or strategies from the same point of view. How to deal with the country specific nature of the problem and common perspective or approach to the problem could be a major issue for the second phase of the project.

Database/IS

Database:

The database activities for the quarter include:

- Acquisition of latest agricultural statistics from Nepal and Thailand.
- Completion of the Agricultural Statistical Profile on Bangladesh, 1947-1999.
- Upgrading of the user interface for the database called RSDS W1.0.

- On-going collection of national agricultural data from FAO.
- On-going job training for the database website design.

Information Services:
- Published and distributed Actor-Led Change for Efficient AgricFood Systems, CGPRT Monograph No. 39.
- Compiled web statistics for year 2000.

Technical Advisory Committee (TAC) and Governing Board (GB) Meetings

The meetings of the Technical Advisory Committee (TAC) and the Governing Board (GB) of the CGPRT Centre for the year of 2000 were held at the Centre on 14-16 and 22-23 November, respectively. The TAC meeting was attended by six members out of nine and the GB meeting was attended by the representatives of all of the ten member countries. Mr. Kim Hak–su, the Executive Secretary of ESCAP, attended the opening part of the GB meeting. Two observers from China participated in the GB meeting for the first time.

Progress reports and future plans of both the research and development (R&D) and the information services and database (IS/DB) programmes, together with the management report, were presented at the meetings.

Under the R&D programme, the following projects and plans were discussed:

Completed projects:
(i) Effects of trade liberalization on agriculture in selected Asian countries with special focus on CGPRT crops (TradeLib).
(ii) Avenues for agro-industrial development in Sotheast Asia (AGRIND).

On-going projects:
(i) Economic and policy analysis for the ecoregional approach in Southeast Asia (ECOPOL).
(ii) Food security strategies for selected South Pacific island countries (SouthPIC).
(iii) Stabilization of upland agriculture and rural development in El Niño vulnerable countries (ELNINO).

Proposed projects:
(i) Prospect of feed crops in South Asia (FEED).
(ii) Human resources development to enhance sustainability of upland agriculture in selected Southeast Asian countries (SUASA-3).

Future project ideas:
(i) Pre-conditioning for agricultural modernization in selected Asian developing countries with special focus on upland farming (AgriModern).
(ii) Management of agricultural policies for sustainable development (MAPSUD).

Under the IS/DB programme, the following activities and plans were reported:

Library:
(i) Library holdings as of September 2000: 6,327 titles (books: 4,385; papers: 1,942; serials/subscription: 20; and serial/gift & exchange: 453).
(ii) Library acquisitions as of September 2000: 242 titles (books: 140; and papers: 102).

Publication:
(i) Working Papers: One country report (WP 52) and integrated report (WP 53) of TradeLib project.
(ii) Monographs: Effects of Trade Liberalization on Agriculture in Asia: Proceedings of a regional workshop (CGPRT No. 38).
Actor-Led Change for Efficient AgriFood Systems: Handbook of the Participatory Actor-Based CADIAC Approach (CGPRT No. 39).
(iii) Palawija News: Vol 17, No. 1-4.

* TAC members: Mr. Masao Kikuchi was replaced by Dr. Akimi Fujimoto (Professor, Tokyo University of Agriculture, Japan); Dr. Boonjit Titapiwatanakun was replaced by Mr. Sakol Ooraikul (Senior Economist, Office of Agricultural Economics, Thailand); and Dr. Sumarno was replaced by Dr. Djoko S. Damardjati (Director, Central Research Institute for Food Crops, Indonesia).
** GB members (2000-2002): Bangladesh, France, India, Indonesia, Japan, Pakistan, Philippines, Republic of Korea, Sri Lanka and Thailand.

CGPRT Centre

The Regional Co-ordination Centre for Research and Development of Coarse Grains, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and the Pacific (CGPRT Centre) was established in 1981 as a subsidiary body of UN/ESCAP.

Objectives

In co-operation with ESCAP member countries, the Centre will initiate and promote research, training and dissemination of information on socio-economic and related aspects of CGPRT crops in Asia and the Pacific. In its activities, the Centre aims to serve the needs of institutions concerned with planning, research, extension and development in relation to CGPRT crop production, marketing and use.

Programmes

1. Research, which entails the preparation and implementation of studies covering production, utilization and trade of CGPRT crops in the countries of Asia and the South Pacific.
2. Training of national research and extension workers,
3. Information and documentation which encompasses the collection, processing and dissemination of relevant information for use by researchers, policy makers, and extension workers.

Palawija News

Contributors are invited to submit concise summaries of significant social research related to CGPRT crops for publication. Figures (graphs or tables) may accompany the article. All articles are subject to editing to meet space limitations.

Please send all queries relating to articles in *Palawija News* to Publications Section, CGPRT Centre, Jalan Merdeka 145, Bogor 16111, Indonesia.

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