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Role of WTO subsidy policies on ASEAN agricultural production

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ABSTRACT

WTO brings several important benefits to the members and its agreements helping in better market access and better policy implications. These agreements cannot tackle problems originating in developing countries due to poor domestic supply response, terms of trade changes or exogenous shocks, but opens up new markets for the member countries, efficiency gains, and growth of trade and inflow of foreign products. WTO assists commodity-producing Southeast Asian countries to improve their capacity for increasing the worth of their commodities through processing and manufacturing as well as marketing. At the same time, developing countries should press developed countries to reduce subsidy escalation and allow better market access for processed and commodity-based manufactured products, and thus help commodity producers reap better benefits from the trading system. Therefore WTO policies impact on Southeast Asian countries is positive as well as negative in some aspects. Improvement in production/marketing technology, provision or strengthening of basic infrastructural facilities such as those of packaging, transportation, storage, marketing information etc. and assured factor supplies which improve the comparative advantage can be helpful in increasing the export supply of major agricultural products i.e. coffee and tobacco. Policies and programmes which aim at reducing the yield risk in coffee and tea production will be helpful in increasing the export supply. These agreements significantly improve the stability of market access. WTO has also played a positive role in strengthening domestic policies for better management of agricultural sector crisis of Southeast Asian countries by making the healthy investment atmosphere over a longer period of time.

ntroduction

South East Asian Countries entered the decade of nineties with its foreign exchange crisis reaching exceptional dimensions therefore South East Asian Countries share in major markets of agricultural export commodities had been reduced from 6080 million US$ during year 1995-96 to 5396 million US$ in year 2000-01 which further increase to 13791 million US$ in year 2006-07,17951 million US$ in year 2007-08 and 18421 million US$ in year 2008-09.Thus South East Asian Countries adopted a strategy of growth led exports rather than export led growth for economic advancement of their country.

The root cause of South East Asian Countries adverse economic situation is its current account deficit. This deficit, persistent for many years, nullifies the positive capital account balance and makes the economy adverse. However solution of current account deficit lies in improving their export earnings and limiting imports. The three phased prolonged policy has been pursued by South East Asian Countries in this connection :(i) agricultural import substitution, (ii) agricultural import suppression; and (iii) agricultural export promotion. In the initial stages of development, export promotion and containment of imports through pricing and fiscal mechanisms considered useful. Agricultural Import substitution becomes the development strategy gave primary importance to establishment and development of agro-based industries without increasing the import bill. With changing time, it was realized that no country can flourish without support of economy of other countries. Import suppression can also combat non essential consumer products import of South East Asian Countries. Thus the long term solution to this problem focuses on increasing of our export earnings through export promotion policies.

ASEAN

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration also known as Bangkok Declaration by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand, Brunei Darussalam then joined on 7 January 1984, Viet Nam on 28 July 1995, Laos PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up ten Member States of Asian.

South East Asian Countries Agricultural Production

The shares of major export and import commodities in the total figures for the country, during sub-periods, have been shown in the form of a table.

Present Status of Agricultural Production: Agricultural and allied commodities and agro based commodities formed a major portion of world's agricultural production & exports. Their share in total production & exports of other countries was as high as 22.1 per cent in 1995-96, 21.6 per cent in 2000-01, 20.7 percent in year 2006-07 and 20.5 percent in year 2007-08 and 20.0 percent in year 2008-09.This declining share is in accordance with the theory of Colin Clark that as a country advances through the stages of development the stress in the economy

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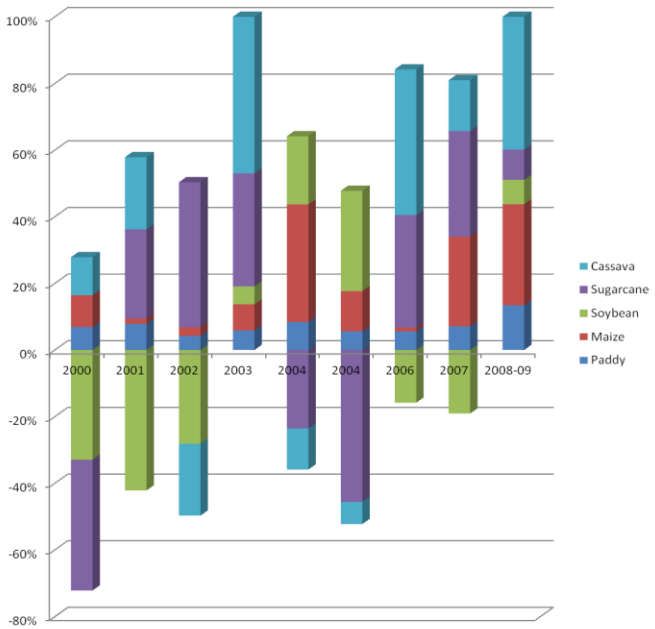
shifts from primary to secondary and tertiary sectors. In absolute terms, however, agricultural production & trade still occupy a place of strategic importance. In value terms, agricultural and allied exports increased from 6730 million U.S. dollars in 1995-96 to 6356 million U.S. dollars in 2000-01 and 13751 million U.S. dollars in 2006-07 to 17921 million U.S. dollars in year 2007-08 and 18021 million U.S. dollars in year 2008-09. Further, the forward linkages of agriculture sector leading to a number of agro-based industries are quite substantial. Thus agricultural production & trade still occupy a key position in South East Asian Countries total export earnings, despite structural changes due to WTO subsidy policies. In South East Asian Countries till now, export orientation of the agricultural sector has not been effectively fostered due to various reasons. It is often felt that agricultural production essential for the domestic demand of that country's population. But it should be recognised that production, exports and domestic demand are interdependent only in the short run. In the long run of the agricultural sector appropriate policy decision matters. South East Asian Countries with its diverse agro climatic conditions and abundant labour supply has a natural comparative advantage in agricultural production & agricultural trade. In addition as long as need of foreign exchange for the country to pay for the import of capital goods, technology and agricultural products, every country has to improve productivity and quality. Sustained production & agricultural trade always motivate to modernise in production process, post harvesting techniques and marketing system of the planning process. In recent years, South East Asian Countries governments have taken various steps to create an environment which is favourable to production & exports of agricultural products and processed food products.

Major Agricultural Products of South East Asian Countries

Major agricultural commodities from nine sectors like cassava, paddy, maize, sugar and honey, coffee, coconut oil, cereals, fruits and marine products, paddy, palm oil, soybean, tobacco, sugarcane, crude rubber have been selected for the study and estimation their demand and supply functions, exports & imports on a sustainable basis. Therefore, it is necessary at this juncture of study to analyze impact of WTO policies on agricultural production of Southeast Asian countries.

Rate of Growth of ASEAN Five Major Food Commodities



Problems of South East Asian Countries Agricultural Production

The Uruguay round of General Agreement on Tariffs and Trade signed on 15th April 1994 at Marrakesh, Morocco has increased agricultural production & exports of South East Asian Countries to new international markets and also opened up new challenges of stiff competition. Emergence of new sovereign states after the collapse of USSR, unification of Germany and new European market has opened up new vistas for the South East Asian Countries. South East Asian Countries have gained from these new opportunities of export promotion on all fronts. Recently in spite of the various steps taken for export promotion by Asean governments past policies of their governments regarding agricultural and food exports oscillated between target of self sufficiency and export promotion.

South East Asian Countries agricultural export performance is determined by a wide range of internal and external factors which affect the supply and demand of agricultural exports & imports. Domestic economic policies in general and trade policies in particular exercise a significant influence on export performance. It is often argued that it should be possible for

South East Asian Countries to increase their share of world production & exports irrespective of the growth of world export demand. Whether WTO policy can provide a boost to South East Asian Countries agricultural production & exports, export demand and supply functions for selected agricultural commodities of crude rubber, paddy, tobacco, maize and palm oil.

Scope of Study

World Trade Organization's Agreement on Agriculture (AoA) creates problem to the developing countries. It examines domestic support provided by developing as well as developed countries into input subsidies which enable the farmers to sell their products at lower prices. The subsidy available to developing countries is limited into mainly four items like input subsidy (fertilizer, seed, electricity, water) given to poor farmers; land improvement subsidy; production of fuel crops; and provision of food subsidy to the poor. So that scope is very vast and most of the developing countries including all South East Asian Countries use these subsidies.

AoA focuses merely on further liberalizing markets of poorer countries but protecting the subsidies and protectionist measures such as tariff peaks and other trade barriers employed by developed countries. Reciprocity is a core principle of the WTO and it directs the trade liberalization commitment of their members. In fact it has misled many developing countries to rapidly open up their markets to dumped imports from the developed countries in order to gain access to the latter's huge markets. But their actions were not "reciprocated" by equally in developed countries because they put up higher tariff walls called tariff peaks and tariff escalation that effectively discriminated against developing countries exports. Therefore the subsidies employed by developed countries to protect their agriculture, expand their production and gain monopoly control in the international market are accorded more protection with the exemptions introduced in the AoA's subsidy reduction. The categorization of subsidies into trade-distorting and non-trade distorting allows the developed countries to shift their existing huge subsidies into acceptable boxes that are exempted for subsidy reduction (e.g. green box and blue box).However, the exemptions that apply to developing countries, are not able to upgrade their long-running negative fiscal position.

Therefore WTO have to legitimize and strengthen the trade-distorting practices of developed countries affects developing countries agriculture.

Previous studies conducted for WTO subsidy policies on ASEAN agricultural production

The main findings of the similar studies conducted between 1963 and 2003 have been discussed as follows.

Shyam, Radhey and Dayal, Ram (1963). In the article, "Measurement of Growth Rate in Agricultural Production", the authors examined alternative methods of computing the agricultural production growth rates in South Asia by discussing the merits and demerits of the two methods. A common method of finding out the geometric growth rate has been suggested to be $L_1 = L_0 (1 + r)^{n-1}$ where r is the growth rate in percent per annum to account for the wide fluctuation in the year-wise data, it has been mentioned that first calculating the trend values and then fitting the equation for growth rates on it would be a better alternative.

Scaperlanda & Mauer, 1969 about agricultural production in ASEAN countries. The market size hypothesis upholds that a large market is necessary for efficient utilization of resources and exploitation of economies of scale: as the market size grows to some critical value, Agricultural production will start to increase thereafter with its further expansion.

Dattatreyulu (1985) in a study "South Asian Countries agricultural exports, challenges and opportunities "conducted for South Asian Countries, discussed a strategy for export development which includes the augmentation of production, formation of marketing groups, improved research, an export policy and greater cooperation and problems encountered in developing the export potential of fish, Coconut oil, spices, cashew kernels, sugar, coffee, cotton, oilcakes, Sugar & honey, tobacco and rice are outlined. He reported that developing countries rely on agricultural exports to earn foreign exchange and contribute to rural development.

Fisher et al. (1984) in an article "Agriculture under free trade" reported on preliminary findings of the economic and welfare effects of a general introduction on free trade. They reported that with free trade, market prices rise by 20 to 25 percent as the downward pressure effect of protection on these prices is lifted. They concluded that this rise in prices favours developing and weakly protected developed countries, and it stimulates a considerable expansion of world trade, particularly in animal products. Global welfare improves, but the poorest layers of the population in developing countries may suffer from the higher prices of basic commodities.

Chand et al. (1991) in this article, the authors have progressed with the objectives of studying the temporal changes in the commodity mix of exports and imports, estimating the commodity/group wise growth and subsidy of the same and examining the performance of the agricultural sector trade and total merchandise trade. The period under study was 1970-88.

Sharples J. and Milham N. (1991) tried to identify to identify domestic factors that have made Australian agriculture competitive since 1950's and those most likely to determine its future competitiveness in global market. According to them, the agricultural exports of Australia which is one of the major exporters of agricultural products has doubled between the mid 1950's and mid 1980's mainly due to expanded public and private investment in agriculture, improve production and marketing efficiency.

Joshi, Vijay and I.M.D.Little 1994 examined cases in Thailand, Philippines, Indonesia, Malaysia, Laos PDR, Cambodia, focusing on major crops important to that country. In Thailand, small soybean and cassava farmers have come under heavy pressure from cheap imports of soybean and export barriers to cassava in Western markets. So their farmers are forced to work harder in efforts to increase production.

Hoekman Bernard., McDougall Robert 1995 has tried to measure the impact of agricultural subsidization of industrialized countries on the developing countries. They stated that developing countries need to pursue complementary policies that perform efficiently. The empirical evidences from a number of studies indicate to a strong and significant effect of WTO policies on growth of developing countries. They have studied that domestic and commercialization policies can yield benefits for the developing countries because of its effect on production, employment, and food prices.

M.A.Rehman. et.al. in 1998 studied that agricultural protection of ASEAN members at country level represents an inefficient transfer of income from consumers and taxpayers to farmers, In addition, price policies based upon subsidy policy have significantly influenced agricultural production.

Francois, Joseph and Anna Strutt.1999 studied about potato farmers; chili and onion producers in Sri Lanka have been complaining about the invasion of cheap imports from Holland. Local farmers are unable to produce food cheaper than their foreign counterparts and are demanding protection through higher import duties, lower local taxes and reduced tariffs on imported inputs required in agricultural production. They had studied that the Agreement on Agriculture enable developed countries to continue high levels of protection, even as many developing countries have liberalized and providing subsidy to their farmers.

Brown, Drusilla K.,Robert M.Stern 1999 have conducted studies on agricultural production surpluses generated through protection and subsidies in developed countries which are often dumped into developing countries markets have severely hurt agricultural development of these countries. It shows that these policies by industrialized countries have displaced about US$20 billion in net agricultural exports per year from developing countries and reduced agricultural incomes in those countries by nearly US$15 billion from agricultural products.

Alagh, Yoginder, K. (1999) in this article, the author has analysed impacts of agricultural trade pattern flows. In Indian agricultural trade, he contended, had grown at a slower pace than agricultural output during the period. More specifically he reported that the exports of vegetables, fruit and coconut oil had been rising. On the other hand, the main import commodities had been vegetable oil, others being rubber and agricultural raw materials like raw jute, cashew kernel, hides and skin, raw silk and wool. In context of WTO, he observed that the agricultural trade by volume had not really picked up and growth was almost negative in terms of trade volume for food, beverages and tobacco in the first half of 1998.

Stern, Robert M., Drusilla K.brown, Dilip K.Das 2000 eliminating special and differential treatment from a realistic liberalization scenario of WTO will increase the benefit to high-income countries by 21 percent, to middle-income countries by 37 percent, and to low-income countries by 64 percent however distribution among and within countries of the economic benefits from agricultural trade liberalization is also significant. However several studies generally agree that all developed

countries would benefit and that most of developing countries including China, India, and Brazil would gain as well. Countries whose agricultural sectors are likely to benefit most from liberalization include Australia, New Zealand, Canada, Brazil, and Argentina.

Bagchi, S. (2001) in his article "Seattle to Qatar: World Trade Negotiations" enumerated the main points in the Draft Declaration for the Doha Ministerial Meet. He observed that most of the proposed points were favourable to developing nationals few of them being, sidetracking of linkage of trade with labour standard and with international concerns, emphasizing on the need to address implementation related issues of "Uruguay Round Agreement" and making special Differential treatments. But he also cautioned that there was sharp divergence of interests related to agriculture which had the potential to settle future talks. To prevent this, he suggested three general set of trade-offs required-first, being internal balancing of costs and benefits by each of the member country, second. Being convergence of interests between EU and US to participate and third, being balancing of interests between countries of north and south.

Chand, R. and Mathew L.P. (2001) in their article "Subsidies & Support in Agriculture", discussed at length the classification of support and subsidies in agriculture under WTO, which according to them, was biased in favour of developed countries. The authors argued that the exempt subsidies mentioned in WTO commitments (AMS) left out a major portion of the support that the developed counties extended to their farmers. Among the five categories of domestic support, green box supports, blue box support, de-minimize support, S&D treatment were beyond reduction. With the help of WTO documents as data source for the year 1995 to 1998, they deduced that among the countries having highest levels of AMS were European Economic Community (EEC) and Japan. In terms of permissible limits of green box support, US were the first spending more than a third of its Agricultural G.D.P. on this support.

Deodhar, S.Y. (2001) in the article "WTO Pacts and Food Quality Issues" put an emphasis on importance of Sanitary and Phyto-Sanitary measures (SPS) and Technical Barriers of Trade (TBT) provisions of Agreement on Agriculture of WTO. After discussing the role of SPS and TBT to harmonize food safety and quality norms, the author keenly observe the bias elements in the present day SPS provisions.

Lindert 2001; Anderson and Hayami. Farmers increase their effectiveness in production but they are not able to achieve minimum living standards. In addition, there is a tendency of recent industrialized economies to lose their comparative advantage in agriculture and become net food importers so these types of developments provide greater scope for protecting farmers through welfare policy. Due to importance of this situation all WTO members countries have to abolish quantitative restrictions and non-tariff barriers in agricultural sector and replace them with reducing tariff level.

Wickremasinghe, U. 2001. In his article for Doha WTO meeting during the 2000s, the economies of the Asian region underwent extensive reforms towards more liberal and open policies resulting in the increase of trade in their national incomes from 21 percent to nearly 30 percent however benefit from trade during this period has been moderate. In 2000, Asian countries accounted for 12.5 percent of the total world exports, mostly directed towards United States of America, United Kingdom and Japan; Switzerland. This may be understood taking into account the large size of the economy and better trade opportunities in presence of diversified production base and specialization.

Thamarajakshi, R. 2002.During Doha declaration, developing countries hoped that the Agreement on Agriculture negotiated as part of the Uruguay Round and signed at Marrakesh in 1994 by 120 countries would open up export markets for their products in the developed countries. But after passing of six years, these countries have found that several drawbacks and inequalities in the agreement.WTO were urged to implement at the Fourth Ministerial Conference. This article discusses the development of Agreement on Agriculture in the Doha declaration.

Gulati, A.; Sharma, A.; Sharma, K.; Das, S. and Narayan (2002) contemplated the effect of free trade of rice in the WTO regime on the trade flow patterns, specifically considering Asia. They used the Nominal Protection Coefficients (NPCs), it being a competitiveness indicator that encapsulates the effects of diverse policies on the wedge between domestic and world prices. They concluded on this basis that Thailand, Philippines, Vietnam and Indonesia, India, Pakistan and China with NPCs less than one were competitive. Further, they argued that with trade liberalization in trade; trade should flow from countries with lower domestic prices of rice to those have higher prices.

Kalegama, Saman and Mukherji Indra Nath (2003) in their article "WTO and South Asia" have proposed the case of a common stand of South Asian Countries at WTO, working to their benefit. As a supporting example, they presented examples of EU, Cairns group and the African block, working as powerful players. Here, they observed a few factors impeding the formulation of a common stand first, was the shadow that regional policies cast over even economic issues South Asian countries in prominently dispute settlement body and need to systematically do the homework, in the form of deliberations and meetings, before the WTO meet.

Objectives Of Study

In view of the above, the present study was undertaken with the following specific objectives:

1. To study agricultural production trends of South East Asian countries.
2. To identify linkages between WTO subsidy policies & agricultural production of South East Asian Countries.
3. To measure the impact of WTO subsidy policy on agricultural production.
4. To interpret the WTO policies implications from the findings of the study.

Research Methodology: This study is based on descriptive research and it is also dynamic in nature since it examines the relationship among variables by using longitudinal or panel study so that possible relationships among variables can be revealed by examining the changes that take place during that time and methods of data collection are library method using primary and secondary published data. Choice of research design and methodology is also influenced by the research environment.The sample used for this study involves ten ASEAN countries namely Brunei Darussalam, Thailand, Myanmar, Malaysia, Cambodia, Laos People Democratic Republic, Vietnam, Singapore, Philippines, Indonesia for the time period of study i.e. year 1995 to 2009 (15 years). The data used for the analysis was taken primarily from agricultural production & trade statistical yearbook of FAO. The sources of

data used in this study are World Development Report for Agriculture, Asean Statistical Yearbooks 1998,2003,2008 Key Indicators of Developing Asean countries, Asean Financial Statistics Yearbook, International Financial Statistics year book 2009 from IMF, Industrial Statistics Yearbook and data on agricultural production, trade openness, tariff exchange rate and are collected from International Financial Statistics report 2009.Asean Statistics Yearbook, United Nations summary statistics 1999,2006,2009. Data have been taken from Asean Statistical Yearbook on Trade and Production, which define only agricultural products, such as cereals, pulses, vegetables, fruits etc. and processed products such as sugar, Crude rubber, palm oil, Soybean etc.

Data Collection and Sources

The study is based on annual secondary data for the period 1995 to 2009.This study of Impact of WTO policy on South East Asian Countries' agricultural production has been based on secondary time-series data. A period of 15 years (1995-2009) was considered for study. Secondary data of agricultural production, price, and other parameters of agricultural policy of other countries were obtained from the yearly book of World Trade Organization, Food and Agriculture Organization of the United Nations.

Statistical Tools Used in Analysis: To analyse the impact of WTO subsidy policies on Southeast Asian countries, all relevant policy interventions like export tax, export subsidies, import tax or import subsidies in each country has been computed using the application of ANOVA (Analysis of Variance) of SAS (Statistical Analysis System) of SPSS (Statistical Package for Social Sciences Software).The calculations are done under the assumption that there is an elimination of all domestic support and export subsidies. The change in world prices, ASEAN production and rest of the world production is analyzed by SPSS software.

Analytical Equation relating Agricultural production & Policy:

To measure the impact of WTO policies on agricultural production a multi-country and multi-commodity model was used as the main analytical tool. The analytical method involves estimation of the following multiple linear regression equation.

$Y = \beta_0 + \beta_1 X_{it} + \mu_i$

Y denotes agricultural production, X represents the set of explanatory variables that are significant determinants of agricultural policy. Linear Regression method of estimation has been employed to estimate the above equation. The final equation to be estimated is as follows:

Agricultural Production $Y_{it} = \beta_0 + \beta_1 RGDP_{it} + \beta_2 TOT_{it} + \beta_3 TRADB_{it} + \beta_4 PC_{it} + u_i$ .....(2)

Where i stands for any country among Southeast Asian country and i=1,2,3,4.....10 and t denotes for any year between time period 1995 to 2009 and u_i is error term and values of β_0, β_1, β_2, β_3, β_4, have been calculated from above equation .The dependent variable Agricultural Production is the ratio of net agricultural production to GDP measured by 100*(agricultural production/GDP), where*denotes multiplication. RGDP is the Real GDP per capita which represents market size of the country. Terms of Trade (ToT) represents trade openness of the country measured by the ratio of trade (import + export) to GDP. TRADB represents measured by ratio of balance of agricultural trade to GDP. PC is the price change of agricultural commodity price either for exports or imports. The calculations are computed using Statistical package for social sciences (SPSS 17) software and SAS (Statistical Accounting System).Production inputs like fertilizer, seeds and pesticide, exploitation of economies of scale: as the market size grows to some critical value, agricultural production will start to increase thereafter with its further expansion stated that real per capita GNP is the most significant determinants of per capita agricultural production. Some studies have used absolute GDP as an alternative measure. The absolute GDP is relatively poor indicator of market potential for the product of foreign investors particularly in many developing economies, since it reflects size of the population rather than income. To avoid statistical problem, market size has been measured in terms of GDP per capita and population, considered as proxies for actual demand and absolute market size, respectively. The expected sign is positive for both variables. In this study we use RGDP per capita as a proxy for market size in each of the Southeast Asian countries.

Results & Discussion:

Impact of WTO subsidies policies on each ASEAN country is to interpret the WTO policies implications from the findings of the study. WTO policies among ASEAN members are carried out through the elimination of import tariffs on certain agricultural products. This policy is carried out step-by-step, such as postponing tariffs and decreasing the tariff scheme for agricultural products. The impact of policies on each ASEAN country is discussed through these policy scenarios: (a) WTO policies for all agricultural products; (b) WTO policies on agricultural production excluding subsidy. The impact of those scenarios on the macroeconomic situation of ASEAN members can be seen from the changes in macroeconomic variables such as nominal GDP, real GDP, Terms of Trade (ToT) and trade balance, while the impact on the agricultural sector can be seen in agricultural production, exports and imports by ASEAN members.

The impact of policies on the agriculture sector of ASEAN countries can be seen through the direction and magnitude of the changes in the macroeconomic variables such as national output (GDP and real GDP), the rate of inflation and the position of trade shown by Terms of Trade and trade balance. Table 3 presents the impact of zero agricultural tariffs among ASEAN members. Under the elimination of tariff barriers, nominal GDP of all ASEAN members except the Philippines and XASEAN (Laos, Brunei, Cambodia, Myanmar) would grow. On the one hand, zero subsidies would increase the price GDP in Indonesia, Singapore, Thailand and Viet Nam. An increase in import value of almost all agricultural commodities in these countries can be influenced by an increase of price GDP. Even though agricultural imports are not a main factor in other sectors, they can influence the production costs and output prices of other sectors. On the other hand, the zero tariffs would decrease nominal GDP in Malaysia, the Philippines and XASEAN. Real GDP, however, would increase by 0.000-0.299 per cent as a result of implementation, both in ASEAN countries and outside ASEAN.WTO Policies in the agriculture sector also has a different effect on Terms of Trade in each ASEAN member. The effects in Malaysia, the Philippines and XASEAN are negative. This result is mainly influenced by a high price increases for imported commodities than for exported commodities. The increase in imported commodity prices can lead to a decrease in the competitiveness of products that rely on intermediate imported goods.

Table1. GDP Share, Employment, Export and Import Share of Agriculture Sector

Country	GDP Share		Employment Share		Export Share		Import Share	
	1996	2002	1996	2002	1996	2001	1996	2001
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
BruneiDarussalam	1.6	1.1	2.5	–	0.2	0.5	47.0	16.0
Cambodia	36.8	47.3	78.1	70.2	–	–	–	
Indonesia	15.4	15.9	43.5	43.8	11.1	8.9	11.2	10.1
LaoPDR	52.2	49.9	–	–	–	–	–	
Malaysia	9.8	8.4	19.4	15.7	7.3	5.8	5.5	5.4
Myanmar	44.4	40.1	2)	77.7	–	–	–	–
The Philippines	21.1	19.7	41.7	37.4	11.2	5.8	9.0	8.4
Singapore	0.2	0.1	0.0	0.0	4.3	2.3	5.0	3.7
Thailand	9.3	9.9	50.0	46.6	20.4	15.2	4.4	5.2
Vietnam	25.1	21.8	70.1	68.2	2	–	–	–
Total in percent					9.3	6.8	6.7	5.5
Total in Million US$					323,361	366,835	350,606	312,912

Source: GDP: ASEAN ASCU Database, based on constant price GDP; Employment share: ASEAN in figures 2003; Trade Share: ASEAN Trade Statistics Database. Notes: GDP share; based on real (Constant Price) GDP. 1) 1995 figure 2) 2000 figure

Table 2: Subsidies under Agreement on Agriculture

Market access	Export competition	Domestic support		
		Amber box	Blue box	Green box
Tariffs Variable entry levies Minimum import price Import quotas SPS standards TBT Requirements	Export subsidies State trading company engaged in export and import Export credits Export of stocks under the price of domestic market Support for marketing and transport	Guarantee price Price added support to farmers, linked to products. Subsidies for inputs Support to investment	Support given to producers within the framework of a production- limiting programme	Income guaranty mechanism, in case of special events (market crisis, natural disasters) Providing farm credit or subsiding it Crop insurance Expenditure on extension Expenditure on training Expenditure on research Expenditure on plant protection services Expenditure on animal health protection services Expenditure on public infrastructure (irrigation, drainage, slaughter house, ware house) Definition of standards Environment protection programme Food security stocks

Source: WTO statistical year book 1996

Table 3: Impact of WTO policies in the agriculture sector on macroeconomic variables

Countries/ regions	Equivalent variation (US$ million)	Trade balance (US$ million)	Price GDP (%)	Real GDP (%)	Term of trade (ToT) (%)
Indonesia	0.179	17.494	0.011	0.000	0.025
Malaysia	195.250	31.827	-0.107	0.299	-0.048
Philippines	51.936	15.450	-0.539	0.156	-0.132
Thailand	101.128	27.790	0.107	0.025	0.091
Viet Nam	47.209	-14.404	0.221	0.043	0.166
XASEAN	3.545	-4.690	-0.035	0.006	-0.017
Singapore	23.519	-6.594	0.036	0.003	0.017
Rest of the world	-2.655	-11.787	-0.001	0.000	0.000

Table 4: Impact of the WTO policies on agricultural production

(Unit: Percentage) Sector	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam	XASEAN
padr	0.002	3.810	-4.726	1.172	0.131	2.777	-0.057
wth	-0.002	73.504	2.511	-0.352	3.816	2.936	0.314
cgro	0.000	1.746	0.435	0.134	-0.632	-0.674	0.007
Vef	0.000	0.336	0.676	3.364	-0.395	-1.080	0.041
Osd	-0.015	0.095	1.373	4.647	-1.357	24.639	0.561
scb	0.001	3.438	-0.533	13.062	0.848	-6.819	-0.052
pfb	-0.009	0.050	1.243	-0.990	-0.784	-1.039	0.126
OthAgr	-0.007	-3.490	0.844	-0.856	1.253	-0.482	-0.176
volf	-0.022	1.450	0.516	2.328	-2.141	-26.023	-0.947

Table 3 measure the third objective i.e. impact of WTO subsidy policies on agricultural production. For Indonesia, the negative effects (which are very small) occur for wheat, oil seeds, plant-based fibres, other agricultural commodities and vegetable oil. The impacts of agriculture policies on production in Malaysia, the Philippines and Singapore are positive, with production of most agricultural products showing increases. In fact, in Malaysia, wheat production shows a sharp increase. However, there is a decline in paddy rice and sugar cane in the Philippines, and wheat, plant-based fibres and other agricultural commodities in Singapore. Larger negative effects occur in Thailand and Viet Nam where most products show decreases.

Table4 also shows the effect of WTO policies on agricultural exports, which would vary considerable from country to country. In Indonesia, all sectors (except paddy rice, sugar cane, plant-based fibres) show export declines. The implication of these findings is that Indonesian, XASEAN exports are unable to compete with the same products originating from the other ASEAN members. However, the Philippines primarily benefits from WTO agricultural policies with sharp growth in all sectors. The largest increase in the Philippines' exports is wheat (147.64 per cent). Malaysia also shows an increase in wheat exports (91.48 per cent). Wheat exports by Malaysia, Thailand and Viet Nam also show strong growth.

Suggestions for WTO Policies for Agricultural Sector

However WTO policies also provide increased income opportunities for the rural population in Southeast Asian countries but it also raise the following issues:

- The external factors, including policies of the WTO that contribute to the unfavourable conditions of the rural producers of developing countries like Asean.
- The agricultural exports of ASEAN were heavily oriented towards raw materials and non food processed products during early 1990 but it has changed over time towards exports of agricultural products and processed food products.
- The South East Asian Countries exports of non food processed products such as plantation crops and oil seeds need to be pushed through effective and aggressive export promotion policies as these important foreign exchange earners for ASEAN are rapidly losing ground in international market.
- ASEAN has followed till a policy of growth led exports rather than export led growth. Most of the agricultural exports of ASEAN emerged as residuals left after meeting domestic consumption.
- Instability and growth status of various commodities during seventies confirmed the hypothesis that high instability in the volume of agricultural exports is associated with high growth levels in the volume of agricultural exports. Though the association disappeared during eighties, nevertheless policy makers striving for high growth targets in exports should be cautions of appropriate management of export instability as well.
- Various export promotion incentives given by the governments of Asean members such as export subsidies or cash compensatory support seem to have favourable effect on maintaining a competitive export price and thus increase the export earnings of palm oil, tea, tobacco and rice favourably but the proportionate increase in export earnings is found to be less than the proportionate decline in prices.
- Export demands of coffee, tobacco, tea and rice are inelastic with respect to real incomes of countries importing from ASEAN.
- Domestic demand will have to grow faster and in a stable manner than growth in domestic demand to realize larger exportable surplus of tea and coffee.
- Improvement in production/marketing technology, provision or strengthening of basic infrastructural facilities such as those of packaging, transportation, storage, marketing information etc. and assured factor supplies which improve the comparative advantage can be helpful in increasing the export supply of coffee and tobacco. Policies and programmes which aim at reducing the yield risk in coffee and tea production will be helpful in increasing the export supply.
- In the case of developing country commodities where developed countries are also producing and exporting, unfair competition from the latter in the form of export and domestic subsidies should be phased out as soon as possible.
- Various qualitative and quantitative measures should be taken by the respective governments for making the South East Asian Countries exports of coffee, tea, palm oil, tobacco and rice competitive in international market as high degree of competition prevails in the export markets of these commodities.
- The export subsidies of the developed countries should be eliminated within a specific time frame. On domestic support, for the developed countries, the amber box subsidies should reduced substantially; the blue box subsidies categorised as amber box subsidies and green box subsidies also reduce relevant subsidies.
- Developed countries should significantly reduce their high agricultural subsidy make Southeast Asian countries to provide subsidies to their farmer's rural development needs of these countries.
- Southeast Asian countries should not be subjected to further subsidy reductions, at least for food products and products of small farmers, as long as the high subsidies in developed countries continue. A special safeguard mechanism (SSM) and the designation of special products (SPs) should be established for developing countries, to enable them to deal effectively with the incidence and problems of import surges.
- WTO can assist those commodity-producing Southeast Asian countries to improve their capacity for increasing the value of their commodities by going up the value chain through processing and manufacturing as well as marketing. At the same time, developing countries should press developed countries to reduce subsidy escalation and allow better market access for processed and commodity-based manufactured products, and thus help commodity producers reap better benefits from the trading system.
- Therefore WTO policies impact on Southeast Asian countries is positive as well as negative in some aspects. The agreements significantly improve the stability of market access since they help to eradicate corruption and improve governance without significant losses to government revenues.
- WTO has also played a positive role in strengthening domestic policies for better management of agricultural sector crisis of Southeast Asian countries by making the conducive investment atmosphere over a longer period of time.

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