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**WTO and Agricultural  
Policy in Karnataka**

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# WTO AND AGRICULTURAL POLICY IN KARNATAKA

**Malini L Tantri\* and R S Deshpande\*\***

## Abstract

The Hong Kong round of the WTO negotiations sharpened the debate on many trade issues and brought forth subsidies and market access under sharp focus. In the Indian federal context, trade policy has remained a prerogative of the Central Government, often taking the State policies for granted. In this paper, an attempt is made to look at the impact of the WTO from the State's perspective and the policy response. Karnataka being one of the States in the forefront, we have taken a case study of Karnataka to highlight the State-specific issues. Trade in agriculture is emerging as a strong growth buster in Karnataka. The participation of Karnataka in international trade is proactive as also the preparations by the State in ascertaining the impact of WTO on its agricultural sector. In order to carry forward the same tempo in the future it becomes essential to fine-tune the balance between domestic demand, exportable surplus and import trends delineating the implications of WTO for its primary producers, traders and consumers. The SWOT analysis based on the interviews of the stakeholders brings forth the future policy paradigm and implications of WTO regime suggesting in-built solutions to the needs of the State's short and long-term perspectives.

## Introduction

The Hong Kong round had stormy sessions focusing on the Agreement on Agriculture. The bone of contention was the trade-distorting subsidies provided by the developed nations to their farmers and the market access. Indian negotiators were satisfied with the outcome and that provided a long time for the developed countries to adjust to the changed circumstances. However, back home the opinion on the outcome of Hong Kong round was divided and not many analysts expressed satisfaction. It is said that in the coming years India's trade in agricultural commodities may get subdued substantially and the country will face an uphill task from the competitors providing their farmers huge trade-distorting subsidies. The trade policy initiatives have tried to accommodate this new challenge in the recent framework (EXIM Policy 2006). In the Indian federal context, this has to be viewed as a challenge for some of those states that are poised to enter into this phase with emphasis on agricultural trade. Karnataka is one such State that has a forward-looking policy towards international trade.

This paper attempts to review the Agreement on Agriculture from the federal perspective. Initially we have appraised the emergence and discussions on the Agreement on Agriculture under the WTO. This is followed by an analysis of the State Agricultural Policy from the viewpoint of the impact of the WTO. The agricultural trade scenario in Karnataka has been analysed to give a broad picture of the trends in trade at the State level in the WTO era. The implications of the Agreement on Agriculture at the State level are marked out and discussed in order to specify the initiatives required at the State level to put the agricultural sector on the growth path. The commodity-wise SWOT analysis in the paper has been attempted to facilitate the identification of the constraints in production and export of each commodity. The objective here is two-fold, namely, to understand the implications of Agreement on

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Agriculture from the perspective of a State in a federal situation and identifying the challenges to locate solutions. In other words, we hypothesise that *"in a federal structure, although the trade policies are decided by the Central power, the provincial governments have enough scope to adjust their policies to deal with the emerging situations."*

## **Travelogue of Agreement on Agriculture**

The inclusion of agriculture in GATT has a long history. During 1982, when protectionist sentiments were escalating in the US due to the competition from Japan, a GATT committee on agriculture was appointed. The main concern of this committee was to remove trade barriers. Earlier, the Tokyo round of 1979 contained nothing strong under agreements on curbing non-tariff import barriers. In the process and over the years, trade in all commodities, including agriculture, benefited a little from the marginal reductions in quantitative restrictions on trade. The negotiations in the Tokyo round could not reach an agreement either on the removal of trade barriers on agricultural commodities or the international management of the grain stock. After the Tokyo round quite a few countries experienced record agricultural export earnings that renewed the concern over traded food stocks in the world market. This initiated the formation of a GATT committee in 1982 to look into the desired changes in the trade scenario. The situation in the world trade of agricultural produce changed significantly by 1986, reducing the exports from the US. Following this, the export subsidy programmes were reintroduced in a few countries. During this period in the European Union, subsidised exports became the main outlet for surplus production at increasingly high costs. By September 1987, when nations met at Punta del Este to consider the next round of GATT negotiations, the necessity of reforms in trade practices and trade liberalisation in agriculture were the two priority items on the agenda. Thus, the new phase of trade liberalisation in agriculture began.

As a prelude to the Uruguay round of GATT negotiations, various trade blocks and countries were discussing different aspects of trade reforms separately. The Cairns group of 14 exporters proposed an immediate freeze on price support for exportables followed by a definitive time bound reduction in non-tariff barriers. The European Union responded to this with their proposals but during the negotiations at Montreal in December 1988, none of these proposals could get through. Following this the proposals made by the US such as: (i) guiding both domestic policies and trade in agricultural products, (ii) conversion of non-tariff import barriers into tariff, (iii) banning export subsidies, and (iv) reforms in domestic agricultural price policies, were discussed and a document was prepared by the chairman of the negotiating group on agriculture in June 1990 taking cognisance of the various proposals. As is well known now, the final draft of the agreement was prepared by Arthur Dunkel (issued in December 1991) and included the tripartite structure consisting of market access, export competition and domestic support as well as an agreement on establishing the World Trade Organisation. The final agreement was reached at Marrakesh in 1994. The first ministerial conference (1996) of the WTO was held in Singapore with the primary purpose to review the implementation of the new rules and undertakings. The proposal to expand the agenda of the WTO by launching negotiations on new issues – trade and competition policy, trade and investment, transparency in government

procurement and trade facilitation and labour standards – was floated. It still remains a controversial proposal that continues to plague the WTO.

During the second ministerial conference (Geneva, 1998) of the WTO, it was acknowledged, for the first time, that the trade agreements established by the Uruguay Round were skewed against the developing and least developed countries. A mechanism for the evaluation of the implementation of individual agreements was devised. However, subsequent demands by the developing countries to have the rules reviewed have not yet yielded results. In the next round of negotiations (Seattle, 1999), the developing countries called for a review of the implementation of the existing agreements and the issues discussed included – core labour standards, agriculture, textiles, anti-dumping and a programme for a new round of negotiations. However, the conference collapsed due to huge demonstrations against the new round and ended without a declaration.

After the collapse of the Seattle trade talks, the WTO held its fourth ministerial conference in Doha where the current round of trade negotiations, called the Doha Development Agenda, was launched. The agenda consisted of seven items – implementation issues, agriculture, services, market access for non-agricultural products, trade and environment, WTO rules, Trade Related Intellectual Property Rights (TRIPS) and dispute settlement. The deadline fixed for arriving at a consensus through negotiations on the first six issues was 2005. The conference produced three main documents – a Ministerial Declaration, a Declaration on TRIPS Agreement and Public Health and a decision on Implementation-Related Issues and Concerns on Uruguay Round Agreements with regard to developing and less-developed countries. The Doha Round was scheduled to conclude by the end of 2005.

The WTO held one of its most open and transparent sessions at Cancun (2003), with a purpose to bring together ministers from all 146 member-countries to review progress of the Doha Development Agenda of 2001. The atmosphere at the conference did not lend itself to consensus-building. While progress was made in some areas under negotiation, differences over the development of new rules on the 'Singapore Issues' (investment, competition, trade facilitation, transparency in government procurement) could not be overcome. Other factors like differences on agricultural trade reform, a weak response to the cotton initiative and uncertainty of the ambition and flexibility that would be provided in modalities for the non-agricultural market access negotiations also contributed to the inability of the members to agree on a direction for further progress in the Cancun Round. The role of the G-23 group of developing countries, led by Brazil, influenced the dynamics of the negotiations at Cancun, as the group effectively co-ordinated to develop a common position on agriculture.

Apart from this, the recent development in the WTO on agricultural issues is related to the regular meeting of the agriculture committee. It focused largely on steps as taken by member countries to meet the obligations as specified in the agreement on agriculture in September 2007. The purpose of this meeting was to seek a clarification on the Domestic Support prices on Green Box subsidies. This meeting was followed by the circulation of the draft modalities (February 2008) by the chairperson of agricultural negotiations and NAMA chairperson aimed at preparing a final draft for the negotiation for agricultural talks in the WTO. This can be considered as an attempt to put forward what member-governments might be able to agree upon – based on what members have proposed and debated in over seven years of negotiations and their responses to the chairs previous papers. This has been

greatly appreciated and welcomed by Director General Pascal Lamy. Nevertheless, since the beginning of 2010 a few more initiatives are taking place to start negotiation. Specifically, Brazil and Pascal Lamy have led this process. Moreover, Under the Chairmanship of David, a meeting was held in the first week of May, 2010 to discuss how the future talks should proceed. It was the first time agriculture negotiators had met since the end-of-March "stocktaking" sessions in the Doha Round. Still the response and its consequences are yet to be looked into carefully.

The three main pillars of the WTO agreement are: (i) market access, (ii) export competition and (iii) domestic support policies. The market access provisions not only included conversion from non-tariff to tariff but also provided targets for such reduction, safeguards against import surge, fall in prices and other such eventualities. A minimum reduction of 15 per cent per tariff was recommended. Export subsidies formed the other important group of recommendations. This covered ceiling on the budget expenditure on export subsidies, restriction on the volume of subsidised exports and undertaking of new measures in place of export subsidies.

## **Agricultural Sector of Karnataka**

The agricultural sector in Karnataka has been characterised by intermittent phases of growth and stagnation. It is a matter of deep concern because this sector relates directly to the overall growth performance of the State economy. Efforts are being made at the policy making and implementation levels to overcome the constraints and encourage growth. The constraints mainly relate to efficient utilisation of natural resources, existing infrastructure facilities, forward and backward linkages and allied supportive activities. Besides this, the current liberalisation process has led to the prominence of allied sectors, e.g., horticulture, floriculture, fisheries, agro-processing etc. These sectors require better quality of supportive infrastructure for sustained development and to contribute significantly to the growth of Karnataka's economy.

Karnataka has a large share of its area under severe climatic constraints and a highly diversified agricultural sector. The State, with a traditional work outlook could not effectively participate in the industrial changes. As a result, it could not make strong forays in industrial development except in the regions surrounding the cities in South Karnataka. Typically, the State has a large proportion of the poor located in rural areas comprising agricultural labourers, the Scheduled Castes and Scheduled Tribes. Despite these constraints, the economy is quite resurgent with an extremely intense potential for growth. The fact that the State has the largest share of drought-prone areas and more than the country's share of poor has not deterred the State from achieving laudable reduction in poverty. The high density of low value and high-risk crops typifies the State's agricultural scenario. At the same time, the State has entered in a big way into high-tech agriculture, next only to a few states in the country.

### **1. Growth in Crop Economy**

Karnataka's recent emergence as an important partner in boosting the growth of exports in the country has also been underlined. As history tells us, Karnataka has always taken the first initiative on many occasions, be it pragmatic land reforms, democratic decentralisation, well-designed anti-poverty programmes, understanding human development (through HDI) at the desegregated level, fresh

initiatives in rain-fed agriculture or rigorous participation in international trade. In most of the cross-section comparisons across states, Karnataka occupies the unenviable position at the average or the median level. From one point of view, this can be interpreted as an average response to the developmental initiatives and not sliding down in the position despite the acute constraints. From another point of view, this can indicate the inability to climb up the developmental hierarchy despite remaining at the average level for a long time. Probably, the developmental efforts are so critically managed that the State continues in the position without sliding down the hierarchy but at the same time unable to climb up in comparison with other States of the country. This directs us to the obvious policy conclusion that it is time to take a fresh look at the developmental efforts and initiate strong measures to cross the barriers that have been keeping Karnataka at an average level for a long time. In the liberalised economic scenario, such impetus should come from private investment as well as efforts towards participating in the market with vigorous market drives. That requires placement of growth in the most crucial sectors (after locating such sectors) that hold promise and finding out new investment avenues in similar areas. The efforts, therefore, must be directed towards optimising value addition and at the same time, not lose sight of the human face of development.

**Table 1: Growth Rates in the Crop Economy: 1955-56 to 1993-94 and 1990-2000**

(Per cent per annum)

Crops	1955-96 to 1993-94			1990-2000		
	Area	Production	Productivity	Area	Production	Productivity
Rice	0.60	2.21	1.60	2.55	2.09	-0.45
Ragi	0.44	2.17	1.72	-3.22	-4.32	-1.14
Jowar	-0.84	1.26	2.12	-1.28	-4.54	-3.3
Bajra	-0.47	2.19	2.67	-1.4	-9.18	-7.89
Maize	10.76	15.52	-	7.75	6.86	-0.83
Wheat	-0.63	2.73	3.38	3.98	4.78	0.77
Total cereals	-	2.13	2.43	0.14	-0.03	-0.17
Tur	1.42	1.94	0.52	1.5	-1.26	-2.72
Total pulses	0.83	1.79	0.95	3.92	-1.11	-4.84
Total food grains	-	2.22	1.31	1.02	-0.12	-1.12
Groundnut	0.65	1.55	0.90	-2.03	-10.4	-8.54
Total oil-seeds	2.18	2.74	0.54	-3.81	-9.56	-5.98
Sugarcane	4.40	4.87	0.45	-0.7	1.49	2.21
Cotton	-1.60	2.39	4.06	-3.01	-3.42	-0.42
Tobacco	-	-	-	5.74	4.75	-0.93

**Source:** Based on the data collected from Directorate of Economics and Statistics, GoK.

The production trends of important crops have been analysed here with the help of compound rates of growth for production and productivity from 1955-56 to 1993-94 and separately for 1990 to 2000. It is observed that the production of cereals in the State has grown at 2.13 per cent per annum from 1955-56 and 1993-94. The entire growth was contributed by the yield as area under cereals in the State decelerated during this period. The expansion in area under cereals from 1955-56 to 1967-68 resulted in significant growth in cereal production in the State.

Except a few areas of irrigated agriculture, most of the State depends on cereals and pulses as major commodities to support the livelihood system. The productivity of these commodities has not been growing at the same pace as that of the neighboring States but the small commercial agricultural sector, comprising of oilseeds, cotton, sericulture, sugarcane, horticulture and floriculture under rain-fed conditions has been keeping the State on the present growth path. It will not be imprudent to design and place the growth of the agricultural sector in this emerging cash-intensive and high-density agriculture. Rain-fed agricultural technology for all these crops is available off the shelf and has shown proven results but needs to be propelled and made farmer-friendly. In that perspective, rain-fed agriculture in Karnataka can still direct the growth of the State in the coming decades.

Karnataka occupies a very important position in the horticultural map of India. The shift from subsistence farming to more remunerative horticultural crops has been a marked phenomenon in the recent past. In recent years, the area under horticultural crops has been growing much faster on account of liberalisation, market changes induced by the New Economic Policy (NEP), availability of infrastructure and the incentive structure. The area under horticultural crops in the State increased to 1.4 million hectares (from 0.8 million ha) registering a growth rate of 4 per cent per annum from 1980-81 to 1995-96. This is higher than the all India growth rate as well as that of China and Brazil. The production had gone up from 5.6 million tonnes in 1978-79 to 11 million tonnes in 1995-96. Karnataka's share accounted for 10 per cent of the area and production during this period.

Floriculture is emerging as an important commercial crop both in Karnataka and across the country owing to its multiple use and export potential. Floriculture in Karnataka has achieved impressive growth. Karnataka occupies the second position both in terms of area and production, next to Tamil Nadu. In Karnataka, the area under floriculture has increased from 4,000 hectares with 21,000 tonnes of production in 1978-79 to 17,419 hectares (46 per cent share in the country area) with 1,02,205 tonnes of production by 1995-96. Export of floricultural produce has impressively increased to 607 tonnes (value Rs 425 lakh) in 1996-97 from just 8 tonnes (Rs 15 Lakh) in 1994-95. The current export of the State forms 7 per cent of the total earnings of the country's floriculture (GoI 1997b).

## **2. Development Imperatives**

Karnataka faces a threefold challenge in the current growth-oriented environment. The agro-climatic situation in the State has divided it into a large number of agro-climatic zones. The crop patterns as well as cultivation practices differ across these zones. Apart from this, the availability of resource endowments and the delivery system of inputs differ across these zones. Directing public investment towards agricultural development across regions has not yielded the desired results -- to merge the differences in developmental initiatives across these regions. Among the five zones classified, based on the agrarian and agro-ecological systems, the un-irrigated plateau zone of North Karnataka and that of South Karnataka are lagging behind other regions of the State even in with regard to investment from public and private sources. Therefore, failure to make investments or to initiate investment in the rural areas of these two regions has impeded growth. In the absence of data on region-wise investment, we cannot make conclusions on the extent of the failure. But sensing the acuteness of the problem, Karnataka has taken the initiative to constitute a committee to investigate the regional imbalances

across the State. It is expected that the recommendations of this committee will help in bringing these areas to the mainstream of growth pattern. But the recommendations have to be graded to concentrate on the various levels of development in the region lagging behind in North Karnataka.

The most important challenge that the State faces presently is facilitating private investment in the backward areas. While initiating such schemes, it is essential to understand the resource endowments and competitive advantages of these regions to participate in the mainstream growth pattern. Unfortunately, the climatic and weather patterns do not support agricultural growth. Therefore, the growth culture has to be created even in the allied sectors. The development of horticulture, especially dry land horticultural crops, looks like a promising alternative. The State government is taking sufficient initiatives to boost horticultural development in these regions. These efforts are, however, concentrated on individual farm households. Efforts to assign the cultivation of horticultural crops to a consortium of small and marginal farmers with assurances to provide proper marketing facilities will go a long way in bringing this group of farmers into the mainstream of the development process.

The second major impediment face by the Government of Karnataka is the lack of funds to initiate agricultural and rural development schemes in the fragile regions. Private initiative either in terms of corporate farming or bulk purchase and marketing facilities is required. The investment in the backward regions can also be met by siphoning excess savings from well-endowed regions to deserving backward areas. This can be achieved by floating low interest investment bonds that can be purchased by the private contributors from the developed regions of the State. Development boards especially set up to guide the process of development of these regions can take the initiative in this respect.

The third important problem faced by the State is in terms of participation in the process of liberalisation by enabling a proper conduit towards the most deserving regions and groups of farmers. The State has been performing well, as far as its participation in international trade is concerned. In the past four years, Karnataka has shown good progress in the export of agricultural products. If this tempo has to be continued and enhanced in future, it is necessary to support the agricultural and horticultural sectors in terms of crucial information as well as creating an enabling environment for participation. The State has set up a Cell to advise farmers and investors on WTO related issues. In its interim report the Cell has noted that the State has a promising potential for participating in international trade (WTO Cell Report 2001). This can be harnessed for fuelling the growth process.

The State is emerging as an important partner in boosting the growth of exports in the country. Considerable adaptations of the State Agricultural Policy in tune with the continuing regime are required to carry forward the same tempo in the future from the viewpoint of the impact of the WTO. Hence, we have analysed the present agricultural trade scenario in Karnataka with focus on delineating the implications of the Agreement on Agriculture (AoA) of WTO at the national and state levels. We hasten to add that the data on agricultural trade at the sub-country level has not been collected properly and a significant share of traded commodities has been recorded only at the port of destination. Therefore, the scenario is only indicative. The data has been collected from the Agricultural and Processed Food Products Export Development Authority (APEDA) and the Karnataka State Agriculture Produce Processing and Export Corporation Limited (KAPPEC). We also draw attention to a bunch of constraints to liberalising agricultural trade in Karnataka, which are inter-regional as well as

intra-regional in nature. The SWOT analysis carried out for the aggregate agricultural sector and for the major crops that also have export potential in the State, clearly brought forth the strengths, weakness, opportunities and threats of the WTO regime. We have also provided specific action for the future to meet the short-term and long-term needs of Karnataka.

## **Agreement on Agriculture**

Under the Agreement on Agriculture (AoA), the negotiations were focused on four main themes. They are: (i) the Agreement on Agriculture; (ii) the concessions and commitments the members are to undertake on market access; (iii) domestic support and export subsidies; (iv) the Agreement on Sanitary and Phyto-sanitary Measures. In addition, the Ministerial Decisions concerning Least Developed and Net Food-Importing Developing countries also feature prominently. Overall, the results of the negotiations provide a framework for the long-term reform of agricultural trade and domestic policies over the years to come. It makes a decisive move towards the objective of increased market orientation in agricultural trade. The rules governing agricultural trade, therefore, need to be strengthened to improve predictability and stability for importing and exporting countries alike.

The agricultural package also addresses many other issues of vital economic and political importance to many members. It includes provisions that encourage the use of less trade-distorting domestic support policies to maintain the rural economy, that allow actions to be taken to ease any adjustment burden and also the introduction of decisively prescribed provisions that allow some flexibility in the implementation of commitments. The specific concerns of developing countries have been addressed including the concerns of net-food importing countries and least-developed countries. The agricultural package provides for commitments in the area of market access, domestic support and export competition. The text of the Agricultural Agreement is mirrored in the GATT Schedules of legal commitments relating to individual countries.

### **Major Points under the Agreement on Agriculture (AoA)**

- Non-tariff barriers such as quantitative restrictions are to be replaced by tariffs.
- Developed countries need to reduce tariffs by an average of 36 per cent over a period of 6 years and developing countries to comply similarly with 24 per cent over a period of 10 years.
- Minimum level of access for import of agricultural products (as a share of domestic consumption) should not be less than 3 per cent. This level is to rise to 5 per cent by year 2000 for developed countries and 2004 for developing countries.
- Reduction of Aggregate Measure of Support (AMS) in developed countries by 20 per cent over 6 years and developing countries comply similarly with 13 per cent over a period of 10 years. Least developed countries are exempted.
- Three types of subsidies distinguished and defined: Prohibited – those having direct influence on trade; Actionable – those having adverse effects on the trade prospects of other signatories; and Non-actionable subsidies – those involving assistance to industrial research and pre-competitive development, also those provided to disadvantaged regions to participate in the main stream of development.

- 'Green Box' and 'Blue Box' measures to be excluded from AMS.
- Special Safeguard provisions against sudden price troughs in domestic market and surges in imports affecting the interest of farmers.
- Agreement on Sanitary and Phyto-Sanitary (SPS) Measures provides ensuring the regulations given under the agreed rules.
- Agreement on Trade Related Aspects of Investment Measures (TRIMS). This seeks to ensure that countries do not invest in order to create artificial advantage and affect the trade interest of other countries (Article III of GATT).
- Agreement on Anti-Dumping.
- Agreement on Trade Related Intellectual Property Rights (TRIP) recognises that there are varying standards of protection and enforcement of IPRs. It is necessary that there is standardisation in the regulations across the countries.

### **Agricultural Trade Scenario of Karnataka**

The trade regime of India prior to 1990 could be categorised as a restrictive regime. Less than 10 per cent of the agricultural goods could be freely imported under OGL. Most commodities were canalised, banned or restricted. The export regime was equally restrictive. About 31 per cent of the agricultural produce was totally prohibited from exports, and a sizeable proportion was subjected to export quota. Consequently, the growth in imports and exports of agricultural products was quite unimpressive. Between 1970 and 1976, agricultural products accounted for 20 to 30 per cent of the total imports. In 1976, the situation changed and the country was net exporter of cereals. In the Eighties edible oils formed a large share of the total imports. The change in long-term trends occurred in 1982-83. A peak could be located in 1988 in imports and a structural shift during the following years. Similarly, in the export trends the structural breaks could be located in 1990 and 1995. The breaks in the exports could be attributed to policy changes during those two years. Sparing the years 1993, 1994 and 1995, the liberalisation process had not brought any significant breakthrough in the trends in India's agricultural trade performance, which called for a fresh look at the policy.

Agriculture plays an important role in the economy of the state. Besides contributing a substantial part of the State Domestic Product (about 28.20 per cent in 1997-98), it is the largest source of employment (about 67 per cent). Karnataka has an advantage due to the existence of ten agro-climatic zones, different soil types, bi-modal rainfall pattern and irrigation potential. The state has potential for growing a wide variety of crops, increasing productivity, cropping intensity in rain-fed/irrigated areas and for increasing area under hybrid/HYV crops.

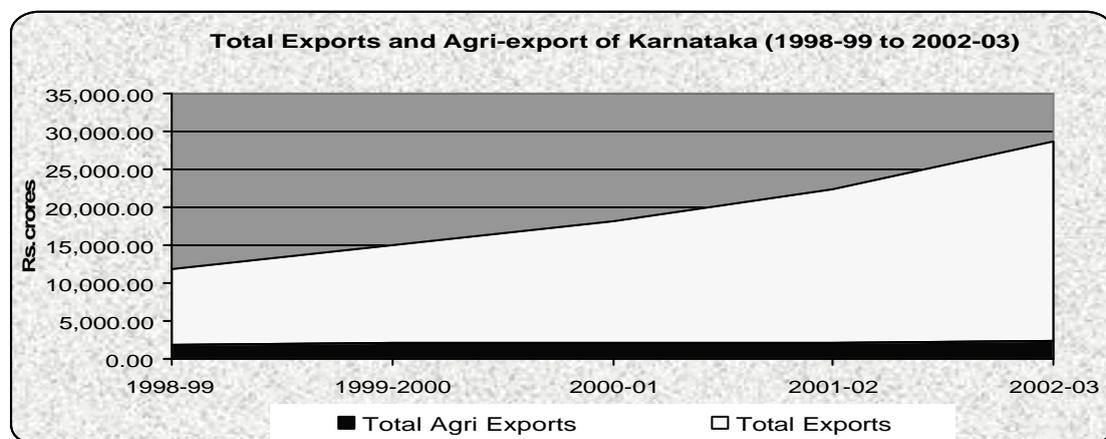
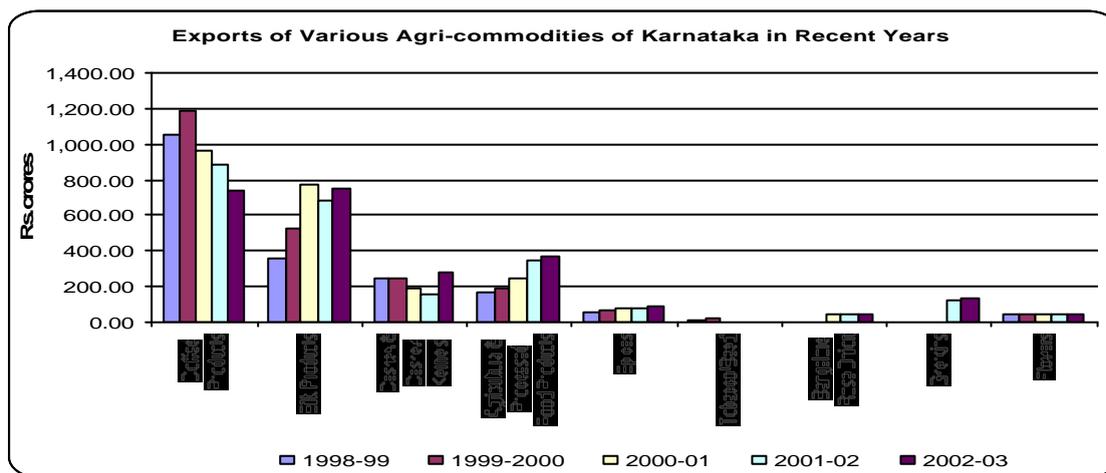
The state achieved self-sufficiency in the production of food grains, cotton and sugar. There was a marginal shortfall in oil seeds and only about 50 per cent of the requirement of pulses was produced. The state's average yield of jowar and bajra was above the national average and that of the neighbouring states. Karnataka occupied the first position in the production of maize in the country. In the case of sugarcane and cotton, the yields were above the national levels.

**Table 2: Karnataka's Trade Performance in the Recent Past**

(Value in Rs. Crore)

Commodity	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05
Coffee Products	1,043.72	1,183.93	957.53	881.42	730.65	757.57	705.65
Silk Products	357.90	521.24	772.39	672.24	746.09	967.99	898.80
Cashew & Cashew Kernels	238.00	251.55	187.98	163.55	279.83	265.72	518.35
Agricultural & Processed Food Products	165.31	195.33	237.91	349.51	366.99	361.25	362.41
Spices	60.00	61.00	73.74	69.12	91.65	99.58	109.54
Tobacco/Beedi	7.79	16.25	3.23	2.70	3.72	--	--
Bangalore Rose Onion	-	-	38.62	48.35	39.38	51.50	52.57
Gherkins	-	-	-	120.00	139.00	140.70	141.30
Flowers**	37.73	40.66	40.00	40.00	42.00	44.00	50.00
Total Agri Exports	1910.45	2269.96	2311.40	2346.89	2439.31	2688.31	2838.62
Total Exports	10039.48	12854.25	16027.46	20145.58	26279.43	41670.24	61764.56
<b>% of agri Exports in Total Exports</b>	<b>19.02</b>	<b>17.66</b>	<b>14.42</b>	<b>11.65</b>	<b>9.28</b>	<b>6.45</b>	<b>4.59</b>

Note: \*\* Quantity in Millions Stems



Karnataka recorded significant gains in the export of some agricultural commodities during the last decade but Table 2 shows that the performance during 2000-2005 has strong as well as weak spots. Trade in tobacco-based products and coffee is a matter of deep concern. However, at the same time, silk products, Bangalore rose onions and gherkins are picking up as favourites. The trends in the other products like spices, cashew and flowers have to be closely monitored. The export earnings improved significantly during the last decade, but the share of agricultural exports to total exports has been declining mainly due to the growth in the export of non-agricultural commodities.

In general, the AOA and the WTO regime did not have great implications at the State level on agricultural trade. Nevertheless, on analysing, one can highlight a few observations, which mark the implications of the Agreement on the State agricultural trade. A few are mentioned below:

- The post-liberalisation era has facilitated a trade-oriented environment in the state for agricultural commodities as a whole. The setting up of SEZs for specific commodities has contributed to this commercialisation to some extent.
- A new trend has been observed in the trade of non-traditional commodities as well. Export of unusual commodities like gherkins, rose onions and silk products has increased.

The last decade has been very important from the point of view of the emergence of horticulture as the most important field for diversification. While the total production of horticultural commodities and the world standing is a matter of great pride, productivity and quality leave much to be achieved. In the era of globalisation, the produce has to be of international quality and globally competitive. The demand for horticultural produce is on the rise due to increasing population, changing food habits, realisation of the high nutritional value of horticultural crops and greater emphasis on post-harvest management and value addition. There is also considerable potential to exploit export opportunities provided challenges like the fast eroding gene pool, rapid population growth, shrinking land and other natural resources, serious production constraints, both biotic and abiotic, and huge post-harvest losses are properly handled.

### **Implications of Agreement on Agriculture**

It is expected that Karnataka will emerge as one of the major states participating in India's agricultural trade. Nevertheless, it is necessary to watch this sector carefully, both import and export, in order to protect the interests of domestic consumers, traders and producers. In such case, it is essential to fine-tune the balance between domestic demand, exportable surplus and imports. Such optimization, therefore, involves a large number of issues that need to be discussed threadbare. Among these issues, the trends in exportable surplus of cereals, pulses and other raw materials used by the processed foods sector need to be observed carefully. Secondly, it is feared by some that the marginal and ultra-marginal agriculture practised particularly in dry land areas is not competitive. The cheap imports of food grains may cause immiserisation of farmers, particularly in backward areas with serious adverse consequences on food security. This could seriously destabilise the domestic production process. Therefore, it is necessary to look into the domestic requirement as against probable spurts in imports. Comparative advantages of certain agricultural products may give a clue but cannot be a final answer to

prevent destabilisation of the production process and the threat to food security. The price differentials between domestic prices in the state, the prices prevailing in the neighbouring states and international prices have to be analysed carefully to protect the interests of consumers and domestic producers. Therefore, the issues emerge in two distinct contexts, namely, (i) national level issues regarding the country's participation as a significant player in the trade sector and (ii) the competitiveness and vulnerability of Karnataka in India's agricultural trade and the implications of WTO for its primary producers, traders and consumers. Here again, the implications are different for food crops compared to plantation crops. There are serious inter-regional and intra-regional implications of liberalising agricultural trade for Karnataka. The constraints are as follows:

- In Karnataka, we do not have raw material growth centres supplying quality raw materials to processing units. It is necessary to create such centres to feed the processing units with the required quality and quantity.
- There are many infrastructure bottlenecks, which need to be attended to urgently. It includes non-availability of water, consistent power supply, good quality roads, proper harvesting facilities like collection and grading centres, washing and packing facilities, refrigerated vans, pre-cooling and cold storages, intermediate cold storages, processing units and an export house. It is necessary to remove all these bottlenecks.
- An unorganised and weak domestic market base.
- High interest rates for agricultural investment as well as export finance.
- Subdivision and fragmented landholdings which make it uneconomical for our farmers to use modern techniques of cultivation.
- Agriculture Produce Marketing Committee (APMC) cess, which is collected in addition to the other cess is a bone of contention to most exporters. The Karnataka State Government can waive this cess for the exporters whose performance exceeds certain pre decided norms. Such measures will act as incentives for the exporter.
- In the Karnataka, there are frequent power outages. The quality of the power supply compels the exporters to depend on captive power generation. This adds to the investment as well as running cost of the exporters. Steps need to be taken seriously to overcome this problem.
- There is a large information gap between the world market and the local exporters. This happens due to communication disabilities as well as lack of availability of information from outside. It is quite possible to improve dissemination of information.
- It is essential to work on short-term, medium-term and long-term plans to enhance the export performance of Karnataka.

**Box 1: Short-Term, Medium -Term and Long-Term Strategies to Enhance the Export Performance**

PLAN TERM	COMPONENTS
Short Term Strategy	Incentive structure in terms of market facilities, information dissemination structure, establishment of small farm export consortiums, facilitating infrastructure, modification in the sales tax structure.
Medium and Long Term Strategy	Establishment of export processing zones, identification of exportable non-traditional products, provision of incentives to export-oriented units, laying down the requirements of sanitary and phyto-sanitary measures, institutional arrangement for continuous monitoring and analysis, infrastructure development.

- It is reported that the rigid governance in the food processing industry results in 90 per cent of the mango produced in Karnataka being diverted to Andhra Pradesh and Tamil Nadu for processing. Urgent steps need to be taken in this respect by ascertaining the bottlenecks.
- In the agro processing industry, a continuous supply of raw materials is an important requirement. Captive plantations need to be provided at various places with proper incentives (especially in the resource-poor regions to avail Green Box exemptions). The State can also provide for contract farming for a pool of small and marginal farmers carefully designed and monitored by a state level agency to safeguard the interests of the farmers.
- Urgent steps need to be taken to facilitate the and develop the Mangalore and Karwar ports.

### Initiatives Needed

Karnataka has been recording a reasonable performance as far as share in agricultural exports is concerned. The exports had increased from about Rs.1,910 crore in 1998-99 to Rs. 2,439 crore by 2002-03. A large number of commodities finding other export destinations, though originating from Karnataka, have not been included. Quite a few commodities originating from Karnataka are exported to destinations outside the State. This export performance can be improved significantly and there can be a further boost to Karnataka's exports. As far as the implications in the WTO regime are concerned, we have analysed them separately under the SWOT analysis.

It is essential to organise, implement and continuously feed information to the State through a nodal agency that will continuously study Karnataka's participation in international trade and at the same time protect the welfare of the domestic producers. As a first step, Karnataka is pioneering a WTO cell to advise the government on related matters. It is necessary that this cell functions continuously and monitors the progress of the trade sector in the State. It is also felt that the span of issues under WTO should be widened incorporating goods from other sectors. Industrial produce, software, gems and jewelry, textile products, other raw materials and all products other than agriculture and horticulture should also be covered under the WTO cell. Currently, it is only catering to the agricultural and horticultural sectors.

**Table 3: Specific Initiatives Required for Exporting Agricultural Produce**

<b>Crop</b>	<b>Present Status</b>	<b>Initiatives Required</b>
MAIZE	Karnataka is exporting maize to Bangladesh, Sri Lanka etc., and there is good potential	To develop a good network of infrastructure facilities for the transportation of this produce and increase productivity.
RICE	The state is not exporting much of the rice grown even though there is good demand for sona masoori variety	To increase the productivity of rice awareness has to be created in the international market about the produce of Karnataka. A brand image should be developed abroad.
GROUNDNUT SEEDS	GN seeds grown in the state have found good market in Malaysia, Singapore, Indonesia and other South Asian countries.	The Mangalore and Karwar ports need to be developed immediately to increase frequency of vessels. Give incentives to State's exporters and increase production of GN seeds.
NIGER SEEDS	Niger seeds grown in the State are exported to USA, Singapore, Mexico & Australia. Some portion of the seed also finds a place in crushing.	Quality and production of Niger seeds have to be improved. Setting up a cleaning plant should be examined immediately.
SAFFLOWER	Safflower grown in the State finds market in USA and other countries.	Quality upgradation and productivity has to be looked into on a war footing to increase the oil content of the product.
BLACK PEPPER	The quality of pepper grown in the state is not up to export standards. However, exporters based at Cochin are buying this pepper for mixing it with Malabar Pepper	Quality improvement has to be undertaken. Create awareness among the growers to export on their own by forming associations.
CHILLIES	Chillies grown in the State are being used for making powders and extracting oleoresins and are exported in a value-added form	Set up an oleoresin plant in the State in a joint venture with a partner abroad who also should underwrite the entire production. Encourage domestic processors to set up powdering units. Develop more value-added products from this product.
MANGOES	Mangoes grown in the state have found markets in Dubai, Singapore, Sri Lanka and Middle East.	The quality of the produce has to be improved. Incentives to the exporters need to be looked at immediately.
POMEGRANATES	Pomegranates grown in the state are being exported to the Middle East, Singapore, UK, etc	Quality and productivity are the two aspects, which need immediate attention. Encourage farmers' consortiums to export on their own.
GRAPES	Grapes grown in the state are being exported to the UK, Middle East, Singapore and other countries	Incentive to growers who produce quality grapes for exports, and steps to grow as per quality standards of Europe & the UK
WATER MELON	Water melons have found place in the Middle East, Singapore and other countries	Incentives to exporters for freight, package etc., and the quality parameters to be made known to the growers' associations
LIME	Lime is being exported to the Middle East and other countries both in fresh as well as in processed forms.	Establishment of a lime dehydration unit at Bijapur because there is demand in the Middle East.
FLOWERS	Exported to Europe, Japan and Australia.	Creation of infrastructure facilities at the airport. Establishing an international airport assumes greater importance. Incentives to exporters.
GHERKINS	Exported to Europe	Create brand awareness in global market. Immediately address the problems faced by the exporters.
CASHEWNUTS	Exported to USA, Singapore, Europe and other countries. Presently, not many cashew processing units are located in the State and whatever is produced is being sent from Cochin	Make available quality raw nuts to small and medium cashew processors in Mangalore. Develop Mangalore Port so that exporters there can make use of the facility.
COFFEE	Exported to USA, UK, Europe and other countries in raw form and to some extent by the MNCs in value-added form.	Develop a brand for Indian (Karnataka) Coffee and encourage exporters exporting value-added products like instant coffee, coffee powder in packed form etc.
ONION	Exported to Sri Lanka, Malaysia, Singapore, Indonesia, Brunei, Mauritius and other countries	Increase productivity and quality of onion.
POTATO	Exported to Sri Lanka, Middle East and other countries	Encourage exporters who export value-added products in the form of chips, powder etc.

**Source:** Government of Karnataka (2001).

**Table 4: Crop-wise SWOT Analysis: Karnataka**

Commodity	Internal Factors		External Factors	
	Strengths	Weakness	Opportunities	Threats
<b>Coffee (For coffee from Karnataka)</b>	<p>Karnataka, the home of Indian coffee, is the largest producer of the finest variety of coffee</p> <p>Conducive climate and altitude is ideal for coffee cultivation.</p> <p>Considerably larger demand in the world both in raw and value-added form.</p> <p>Well-knit institutional structure existing in the form of Coffee Board</p>	<p>Fluctuations in production and marketable surplus of coffee in recent decades.</p> <p>Growers' anticipation of higher prices leading to cancellation of contracts by the exporters</p> <p>Wide differences in prices in the global market and the domestic market owing to fall in prices in Germany, Belgium and Spain, leading to sharp fall in sales.</p> <p>Lack of infrastructure - inadequate credit flow and machinery</p>	<p>Developing a brand for Indian (Karnataka) Coffee and promotion of its exports to world markets.</p> <p>Encouraging exporters to export value added products like instant coffee, packaged coffee powder etc.</p> <p>Promoting market development measures to increase demand.</p> <p>Promotion of non-hybridised tribal coffee (organic coffee with less caffeine) grown without any chemical fertiliser at a higher price in the global market</p>	<p>The export earnings are to be made up by shifting of markets from the Russian Republic to Italy.</p> <p>Brazil as a partner in international scenario under G 21; but competing for coffee trade.</p> <p>Spurious coffee exporter, who import for the purpose of exporting under the name of Indian coffee.</p> <p>Small holding plantations dominating the scene</p> <p>Frequent damage to the crop by white stem borer.</p>
<b>Grapes</b>	<p>Karnataka is prominent grape growing State in the South</p> <p>Large volumes of export of grapes to UK, Middle East, Singapore and other countries.</p> <p>Availability of the technology to produce quality grapes and the double pruning method which allows for harvesting grapes to catch up with the changing period of demand in the Middle East</p> <p>Availability of required manpower for various operations of production, harvest and packaging of grapes for exports</p>	<p>Quality of production</p> <p>Intervention of Commission agents leading to lower profits</p> <p>Fall in yield when cultivated for export.</p> <p>Non-existing marketing institutions</p> <p>Absence of processing units for raisins or other grape-based products.</p> <p>The entire produce of the State is not of export quality even in well-managed gardens.</p> <p>Non-existence of a powerful grape-growers association.</p>	<p>Provision of incentives to growers who produce quality grapes for export</p> <p>Steps to grow grapes as per quality standards of Europe &amp; UK</p> <p>Exploring possibilities of Far East markets and also identifying new varieties to expand the export season</p> <p>Identifying the production belts and employing proper scientific pre-harvest management practices.</p> <p>Improving the post harvest infrastructure for handling, storage and transportation</p> <p>Strengthening the institutional development for the grape sector</p> <p>Development of high-tech wine/raisin industry as agro-based product</p>	<p>Lack of transportation infrastructure</p> <p>Damages to crops due to pests and diseases and sudden temperature changes.</p>

<p><b>Gherkins</b></p>	<p>Karnataka accounts for 80 per cent of exports of gherkins.</p> <p>Cultivation of the crop provides with continuous employment over a three -month crop cycle.</p> <p>The bringing of the exports of gherkins under the AEZs</p> <p>Early entrant in the market</p> <p>Can be grown in any season under controlled conditions.</p>	<p>Lack of brand awareness in global market.</p> <p>Problems faced by exporters not being addressed immediately</p> <p>High duties ranging from 10-12 per cent in US and Europe makes is unattractive in the global market when countries like Mexico and Turkey pay zero duty</p> <p>Lack of proper infrastructure in the form of interrupted power supply, proper roads</p> <p>Institutional structure to co-ordinate the producer and market chain</p>	<p>Concerted efforts by increasing exports to newer markets such as Russia.</p> <p>Markets have to be identified through proper development initiatives and finance.</p> <p>Time to develop an organic brand name.</p>	<p>Tough competition from new entrants in the global arena such as Turkey, Madagascar and Mexico</p> <p>New crop and hence farmers are apprehensive of market.</p> <p>Threats of virus diseases.</p>
<p><b>Rose Onions</b></p>	<p>Good potential for export of rose onions</p> <p>Good markets in Sri Lanka, Malaysia, Singapore, Indonesia, Brunei, Mauritius and other countries</p> <p>The establishment of AEZs for rose onions</p>	<p>Non-existing co-operatives to produce and market the products.</p> <p>Non-availability of quality inputs</p> <p>Proper packaging</p>	<p>Increasing the productivity and quality</p> <p>Capturing the under-explored market</p> <p>Developing Indian brand name and quality</p> <p>Organic rose onion</p>	<p>Not many growers and hence production comes from only some farmers</p> <p>Threats of pests and diseases</p> <p>Other countries entering into market</p> <p>Fluctuations in trade</p> <p>No insurance cover</p>
<p><b>Flowers</b></p>	<p>Fairly good climatic conditions for growing of flowers.</p> <p>State has the higher area under flowers with large number of nurseries as well as other inputs and technology</p> <p>Demand in countries like Europe, Japan and Australia could be centred</p> <p>Low cost of production in view of land, labour and other resources too.</p> <p>Climatic conditions favour cultivation of orchids and other flowers that have good export potential</p>	<p>Lack of improved infrastructural facilities in the nurseries.</p> <p>Fluctuations in prices</p> <p>Loss in carrying the product to the wholesale market</p> <p>Non-availability of air-conditioned carriages</p> <p>Distance between international and domestic market and time lapse in reaching the products to international markets.</p> <p>Bangalore is not the port of export and hence the presence of middlemen from Chennai/Mumbai</p>	<p>Providing proper incentives to the exporters and encourage them to increase exports</p> <p>Establishment of an international airport with infrastructure facilities</p> <p>Promotion of cut flower production intensively which has growing popularity in the global market</p> <p>Need for insurance</p> <p>New schemes for greenhouse farming</p>	<p>Pests and diseases</p> <p>Price fluctuations and quality standards in the international market</p> <p>No insurance cover</p> <p>Big floriculture units have incurred huge loans and repayment is a problem. Units are closing down due to constant pressure from banks</p>

<p><b>Cashew nut</b></p>	<p>Climatic conditions, especially of the Western Ghats favour cashew production</p> <p>Greater demand in USA, Singapore, Europe and other countries</p> <p>Possibility of demand from many other countries.</p>	<p>Shortage of supply so raw cashew is being bought from other States to serve the potential of the processing units</p> <p>Not much of the cashew processing units are located in the State which requires the produce to be sent from Cochin</p> <p>Largely growth on public lands and dearth of commercial plantations</p> <p>Lucrative competing crops like vanilla/spices.</p> <p>Lack of institutional support.</p> <p>Absence of grading has caused large market margin between growers and final exporters.</p>	<p>Increase production of quality cashew with proper incentives</p> <p>Making available quality raw nuts to small and medium cashew processors in Mangalore.</p> <p>Develop the Mangalore Port so that exporters based there can make use of the facility.</p> <p>Making aware to the producers of the techniques like digging of percolation pits and drip irrigation, which can boost the yield and also improve quality</p> <p>Ensuring minimum production levels and extension of cultivation to different geographical regions, utilising varieties suitable to different agro-climatic regions and to the vagaries of nature and pests.</p>	<p>Attack of pests and diseases go mostly unattended.</p> <p>Quality of production is not uniform.</p> <p>Emergence of strong world competitors.</p> <p>Emergence of new export-oriented crops like vanilla</p>
<p><b>Groundnut</b></p>	<p>One of the major groundnut growing States</p> <p>Groundnut seeds grown in the State have found good markets in Malaysia, Singapore, Indonesia and other South Asian countries.</p> <p>Good demand for processed groundnut oil and oilcakes. Grown all over the State and in all seasons.</p>	<p>No significant demand for raw groundnuts due to poor quality</p> <p>High density of processing units</p> <p>Grown only under rain-fed conditions and thus low quality produce</p> <p>Large number of markets remains untapped</p> <p>Oilseed growers associations are not functioning proactively in the interest of producers.</p>	<p>Giving proper incentives to State's exporters.</p> <p>Urgent need to develop Mangalore and Karwar ports so that frequency of vessels is increased to these ports.</p> <p>Efforts to increase the productivity of groundnut seeds.</p> <p>Good marketing institutional framework can boost market presence.</p>	<p>Price fluctuations in international market.</p> <p>Absence of insurance mechanism.</p> <p>Palm oil imports at a cheaper rate and mixing of palm oil with groundnut oil.</p> <p>Taken as a casual crop and not a high value crop. Thus, receives insufficient attention from growers and policy makers.</p>

**Table 5: Stakeholder Responses**

WTO Provision	Stakeholder Response
<b>Market Access</b>	<p>The process of tariffication should be transparent and the States involved must be consulted before finalising the process.</p> <p>Trade sensitive commodities should be monitored at the State level as well as by the Ministry of Commerce.</p> <p>Safeguards against eventualities to be made known to the stakeholders in advance.</p> <p>Surges in imports must have the requisite safety nets.</p>
<b>Export Promotion</b>	<p>Information dissemination on exportables should be in the local languages. A special telecast time should be associated for promoting export link to the producer.</p> <p>Packaging and other infrastructure should be made available to the participating exporters.</p> <p>Information on demand for various products and the requirements of sanitary and phyto-sanitary measures should be made known to all the participants.</p>
<b>Domestic Support</b>	<p>Domestic support in the ecologically fragile regions and economically weaker sections may be stepped up to induce them to participate in trade.</p> <p>Presently, we do not have any actionable subsidies and still we have scope for subsidies under Green Box. However, misuse of Green Box by developed nations has to be strongly objected.</p>
<b>SPS</b>	<p>Basic contours of the SPS measures are not clear to many of the stakeholders. Presently, the existing grey zone causes disincentives.</p> <p>Information sharing and basic requirements of products to be shared with the stakeholders.</p> <p>Product-wise requirements on SPS of the trading partners need to be available.</p>
<b>TRIPS</b>	<p>It is not clear to the stakeholders in India have agreed to all the requirements of TRIPS. Significant information gap exists in this area of WTO for indigenous traders.</p>
<b>TRIMS</b>	<p>India still has a long way to go regarding the TRIMS, but presently the country should be ready to sign agreements on General Agreement on Trade in Services (GATS).</p>

### **Future Action Points**

The following proposals can be placed for consideration in the interest of Karnataka in the national perspective and that of the country at the international level. It is necessary to follow the specific stipulations of the WTO and its implications to the state as well as the country while negotiating with the WTO and finalise the Agreement on Agriculture. It is suggested that the following proposals be taken up with the Government of India in order to obtain the advantages of the present situation.

### **Immediate Points of Action**

- **Participation of the State in Policy Discussions at the Centre:** Agriculture being a State subject it is necessary that the Central government discusses the policies pertaining to the sector with the State. In the Recent past the agriculture policy document released by the Central

government had been criticised because it had not been discussed with the respective State governments. We suggest that the participation of the States' representatives be made compulsory while framing policies pertaining to agriculture so that the State governments can put forth views based on the prevailing circumstances in the interest of the State and that of the nation. Similarly, the State government should also bring forth its policy with full participation from the districts.

- **Priority commodities for the state needing particular attention:** The State of Karnataka has made significant progress during the last 3 years in creating exportable surplus, specifically in horticultural primary commodities and processed products. However, the progress of the State has not been very commendable due to infrastructure bottlenecks and the price disadvantages. Among the commodities that require special attention on production, market channeling and processing, we include maize, groundnut seeds, niger seeds, chillies, mangoes, pomegranates, grapes, lime, flowers, gherkins, cashew nuts, coffee, onion, potato and vegetable seeds. We have indicated elsewhere the specific problems of these commodities. The State should take the initiative to establish Commodity Boards, especially for the targeted commodities to create specific incentive structures and markets. It is necessary to continue State canalisation for some essential commodities like Bangalore rose onion etc. The reason is that these commodities are grown only for exports and the farmers (mainly small and marginal) who are cultivating this crop will be directly affected if their interests are not safeguarded.
- **Utilisation of bound duty to our advantage:** The provisions under bounded duties are not being sufficiently utilised under the pretext of providing stipulated market access. It is imperative to the State here that we do not have any problem as far as AMS or market access is concerned. However, in order to insure the domestic producers against sudden fall in prices, it is necessary to utilise the tariff policy given under the bounded tariffs to the advantage of the country.
- **Domestic Price Advantage:** The Government of India must take into account the domestic cost of production of crops and agricultural commodities while fixing import tariffs. While arriving at import tariffs for various imported commodities we must take into account the cost of production, vagaries of nature and also the minimum standard of living of our domestic producers.
- **Establishment of a Nodal Agency:** Now that our membership in WTO is a given, we must take advantage of the provisions and negotiate for a beneficial trade environment for the country. In order to create such trade environment given the federal character of the country, it is necessary to create a two-tier structure, one at an apex level with the Ministry of Agriculture, Government of India and another at each of the State headquarters linking the export houses in each State with the Agriculture Ministry. Karnataka has taken a step towards establishing a WTO cell in the State. This cell can continuously monitor and discuss various policy options and suggest ways and means to deal with them in the coming years. The nodal agency can also collect and disseminate information to the concerned parties.

## Specific Points for Consideration

The liberalisation of the non-agricultural sector augments welfare in the agricultural sector compared to total liberalisation. The Computable Applied General Equilibrium Model indicates prospects for increase in net exports of wheat, rice, dairy products and non-food agricultural commodities while the import of non-agricultural commodities is likely to increase.

The agricultural sector can be brought under concurrent list so that policy measures can be effectively maneuvered. It is necessary to be fully prepared with the required homework both at Central and State level before entering into the negotiations at the WTO. It is essential to establish a nodal agency at the State level to deal with the emerging situations and continuously monitor the State's role in international trade. The State agency should ensure horizontal integration across departments within the State and vertical integration with the Central agency.

Some of the support measures like crop insurance, drought-proofing expenditure etc., should be considered. It will not inflate the AMS and is essential to intensify investment, especially the private component, in the agricultural sector at the Center and in the State. Investment in research and development has not been up to the mark. The high value specialised crop sector should be developed in order to encourage export orientation. It is felt that the agro-processing and seed industry need more encouragement to participate in the world market.

The spice derivative industry has been facing non-tariff barriers under the sanitary and phytosanitary measures. It is essential to argue the case of these commodities effectively. Indian coffee is also likely to face barriers for ochratoxin contamination. It is necessary to work on the economic and technological fronts to solve the problem. The State can take best advantage in floriculture, sericulture, poultry, oil-seeds, agro-processing and the sericulture sectors. Investment should be directed towards these sectors.

The WTO cell recommends the necessity to adopt a market-friendly approach without government support. The use of marketed inputs, credit and creation of infrastructural facilities will naturally gear up the production process towards attaining better productivity and higher incomes. It will reduce the vulnerability of weaker sections to the market fluctuations. The continuance of State trading enterprises in a relatively uncertain market will be of great significance. Such exercises must be continued and this will help act as buffer between the domestic market distortions and international market demand. The declaration of tariff rates should be more transparent and must be decided in consultation with the state governments, especially when they are major products. The WTO cell plays a considerable role in the knowledge dissemination process to the government, the farmers and traders by translating the required information in the local languages in order to make the trade sector more efficient. Such information should be created and concurrently given to the concerned stakeholders to meet the emerging challenges within the stipulated response time.

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