

Towards Evolving an Agricultural Policy Matrix in a Federal Structure – The Post-WTO Scenario in India

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Abstract

Given generally poor WTO-literacy at the state level, on the one hand, and the constitutional imperative to evolve India's agricultural policy response to WTO based on state level consultations with the local stakeholders, on the other, this study used a semi-structured questionnaire and involved almost all Agro Economic Research Centers to sensitize and record the stakeholder responses from as many as 14 states. The recorded responses together with the progress of India's WTO negotiations till the end of the Hong Kong Round are analyzed together to draw lessons as well as several action points to initiate a move towards evolving India's agricultural policy response to WTO based on assessments and aspirations of the stakeholders at the state level. An epilogue chapter is added at the end to take stock of the developments in the post-Hong Kong scenario and derive a few lessons on how Indian states should strategize their plans in the coming years.

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Foreword

The Center for Management in Agriculture (CMA) is engaged in applied and problem solving research in agribusiness management as well as broader goals of agricultural and rural development since its inception. As a result, over the years, CMA has developed an expertise in a large range of issues in agribusiness sector including agri-input marketing, agro-processing, agri-food marketing, rural and market infrastructure, grassroot innovations, appropriate technologies for arid- and semi-arid regions, international agricultural trade including the WTO issues, global competitiveness, commodity markets, food safety and quality issues. CMA undertakes researches of this kind not only on its own, but also at the request of its clientele group, which includes the Ministry of Agriculture, Government of India.

The present study is undertaken on the request of Ministry of Agriculture to bring out the States' concerns as well as views on the changing economic situation due to India's involvement with the WTO, document their reactive initiatives, if any, to meet the problems and constraints arising out of India's WTO commitments. The study reviews in brief the effectiveness of government interventions in the form of technology adoptions, institutional adaptations, price policy changes and legal policy changes undertaken so far. The study has made important observations on three basic pillars of the WTO Agreement on Agriculture (AoA) – market access, domestic support and exports competition, antidumping measures, TRIPs, SPS issues and special and differential treatment provisions. At micro-level, the study has tried to synthesize different views in the form of a meaningful policy requirement matrix, relating problems/issues to action points suggested/recommended and also trying to spell out the agencies which should undertake such actions. The present study is comprehensive and based on a semi-structured questionnaire as well as involvement of almost all Agro-economic Research Centers (AERCs) spread across the country. In context of the changing policy environment, the study suggests specific policy measures to initiate a move towards evolving India's agricultural policy response to WTO based on assessments and aspirations of the stakeholders at the state level.

I would like to take this opportunity to thank the Ministry of Agriculture, Government of India, for assigning this important study to CMA, and to compliment Professor Samar K. Datta and co-authors, on successful completion of such comprehensive study. I am sure policy planners, trade analysts, academicians, and those engaged in trade negotiations will find this study to be useful in logical pursuit of their interests.

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Preface

Encouraged at successful completion of an earlier study on implications of WTO Agreements on Indian Agriculture, on the one hand, and the critical need for developing healthy avenues for having continuous interaction and dialogue between the state stakeholders of Indian agriculture and the central government, which is representing the country in WTO negotiations, on the other hand, this ambitious study was proposed in the Annual Meeting of the Agro-economic Research Centers (AERCs) held at Krishi Bhavan, New Delhi in 2002. With active encouragement from the then Economic & Statistical Advisor, Mr. Trehan, this study was launched in the same year, while actively involving all AERCs for each preparing a report based on one of the states under their jurisdictions. The Ministry entrusted the responsibility to the undersigned at the Center for Management in Agriculture of IIM, Ahmedabad to provide the background materials as well as consultative inputs to the AERCs to help them undertake their studies as well as to prepare at a later stage a consolidated all-India report based on AERC studies. Accordingly, a National Workshop was held at AERC, Vallabh Vidyanagar, where objectives, methodologies and plans for conducting this study were finalized. The methodology involved identification of important stakeholders including the relevant government departments at the state level, given the intimate knowledge of AERCs with ground realities, to sensitize the relevant stakeholders on critical and emerging issues around the Agreement on Agriculture and seek their consultative inputs in the form of three carefully designed dummy tables, which were explained and provided to the AERCs. The hope was that the process will ultimately culminate in a permanent modus operandi, besides development of expertise at AERCs, to guide India's engagement in successive rounds of WTO negotiations based on continuous consultative inputs from the state level stakeholders – a goal which is perfectly consistent with the constitutional status of Indian agriculture as a state subject. Although the hard realities didn't allow the dreams of the initiators to be fully realized and the targeted time had to be crossed several times stretching the time limit to almost 6 years for various unmanageable reasons, the cause is probably not lost altogether. Important lessons seem to have nevertheless emerged from this highly constrained and over-prolonged study, which are being reported in this manuscript with a firm belief that the Ministry of Agriculture (MoA), at least, will not be tamed by the observed constraints but gather enough courage to pursue the matter to its logical end as per the original vision.

During this long six-year period, the undersigned incurred huge debt to a lot of people and institutions to keep the project and its underlying hopes alive. The AERCs involved in this study, the Ministry, the Center (CMA) and my study team, changing so many times during this long period, deserve maximum thanks for their help, cooperation and patience. While

the undersigned and his most prominent Research Associate, Mr. Rahul Nilakantan, had to remain always busy to hold the fort, important help to update the materials came from Prof. Milindo Chakrabarti and Prof. Nabinananda Sen. Two CMA colleagues, Prof. VP Sharma and Prof. Satish Deodhar deserve special gratitude for their continuous encouragement, advice and sharing of valuable information. The authors are also extremely grateful to Prof. Ramesh Chand of the National Center for Agricultural Policy Analysis and Dr. Rajiv Mehta of the Ministry of Agriculture, Govt. of India for kindly going through an earlier draft of this manuscript and providing valuable inputs, besides drawing attention to some of their own writings. My secretary, Ms. Ramany bore as usual – but this time unusual pains - for maintaining her secretarial service at a high level during this long gestation period.

The authors alone are however responsible for the errors of omission and commission committed in this study.



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IIM, Ahmedabad

Samar K. Datta
on behalf of the co-authors

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Chapter I

Introduction

Section 1: Introduction

1.1 During the last two decades, there were a few attempts to formulate a National Agricultural Policy (NAP), which culminated in the introduction of a Policy document in the monsoon session of the Lok Sabha in July 2000. Barring this, during the last five decades, no serious attempt was made to formulate a meaningful national document on agricultural policy. Agricultural Policy generally followed the framework given under various Plan documents. The same thing cannot, however, be said about the industrial sector, where Industrial Policy resolutions were available since the mid-fifties. However, over the last decade, policy makers, administrators, academics and advisers have contributed to shape the present version of the Agricultural Policy document. This is the first time the Government of India has come out with a national policy on agriculture. Therefore, this could have been a good opportunity to gain from the collective wisdom of professionals, and formal and informal organizations working on agriculture and related aspects. Unfortunately, the ensuing discourse did not last long due to both the overly general nature of the content of the policy and the sustained apathy towards it. It will not be out of place to record that efforts to develop a comprehensive national agricultural policy began only after the country signed almost on the dotted lines of the World Trade Organization (WTO) documents paving way for a 'possible' institutionalization of global free trade in agricultural products. An often repeated argument for not developing a national agricultural policy runs in terms of the fact that agriculture being a component of the State List, any attempt at preparing a National Policy would have compromised with the constitutionally enshrined federal character of the country. However, interestingly, it is realized that maintenance of the 'constitutional sanctity' is no longer a 'sacred cow' now that we have become a signatory to the WTO commitments without even consulting the states in a formal manner.

1.2 Nevertheless, Indian Agriculture has achieved significant goals, in spite of various constraints faced by it. Food security, a major concern when India became Independent, was achieved at least at the macro-level after the Green Revolution. Food-grain production, for example, reached about 210 million tonnes in 2000-01 from a mere 51 million tonnes in the early fifties. The agricultural sector, however, still faces a number of constraints, in its growth pattern such as i) uneven development across regions, crops, and across different sections of the farming community; ii) low levels of productivity; and iii) degradation of natural resources in some areas. The economic viability of the agricultural sector is affected by i) capital inadequacy; ii) lack of infrastructure support; iii) demand side constraints such as controls on

movement, storage and sale of agricultural products, etc. These constraints pulled down the rate of growth of agriculture during nineties. Agriculture has also become a relatively unrewarding profession due to generally unfavourable price regime imposed by the government and low value addition.

1.3 Many of the measures taken in the past were either in response to a situation of crisis management, or for some political gain; otherwise backwardness of Indian agriculture cannot be explained. A High Power Committee Report (namely, Bhanu Pratap Singh Committee Report, GoI, 1990) touched upon the important aspect of improving the human resource base to boost up the sector. The report (p.74) rightly suggests, "Indian agriculture need not remain backward and the rural masses amongst the poorest in the world. Both can be uplifted by improving the human resources base and increasing the farmers' efficiency through greater use of science and technology, suited to their conditions and placing them at par with others in prices, incomes, facilities and opportunities".

1.4 In the present context of liberalization in the trade of agricultural commodities in a severely distorted world market characterized by large fluctuations in world food prices, stiff tariff and non-tariff barriers to imports, and excessive subsidization by developed nations, food sufficiency only in the case of the domestic scenario is not enough. Efforts should be made to take Indian Agriculture to the next level, so that it not only becomes or remains import-competitive – i.e. capable of withstanding competition say from heavily subsidized European and US products, but also remains export competitive by generating enough sustained surpluses for export purposes, rather than being merely a residual exporter. India's share in world exports of agricultural products is abysmally low (1.24% in 2002)¹, contributing to our lack of bargaining power in international trade negotiations.

1.5 It is necessary therefore in this context of possible attack from the participants operating on the global scale to formulate a comprehensive policy with the participation of both Central Government and State Governments along with other interest groups, all together known as stake holders - bankers, farm leaders, academicians, processors and traders, agricultural labor unions, NGO's engaged in agriculture and rural development activities, and others to combat the emerging threats to the livelihoods of millions of hapless Indians who stand exposed as a result of the hasty decisions of the powers that be. The policy statement that emerges out of the felt needs and resource availability at these locales is expected to be a

¹ Source: Adapted from
<http://faostat.fao.org/faostat/form?collection=Trade.CropsLivestockProducts&Domain=Trade&servlet=1&hasbulk=0&version=ext&language=EN> as on 29th Sep, 2004

matrix having the states on the one axis and the felt needs on the other. The cells will speak about the type of initiatives needed for handling the underlying issues.

Section 2: Objectives

1.6 Keeping in view the above-stated background and considerations, the focus of this study was on the following specific themes across states in terms of objectives:

1. To bring out the State's concerns as well as to record the State's views on the changing economic situation due to India's involvement with the WTO;
2. To document the state's reactive initiatives, if any, to meet the problems and constraints arising out of India's WTO commitments and review in brief the effectiveness of government interventions in the form of technology adoptions, institutional adaptations, price policy changes (e.g., through changes in tax and subsidy regimes) and legal policy changes undertaken so far;
3. To discuss with the important stakeholders (as identified above) the requirements for formulation of a policy document at the State level, in response to the country's growing concerns at home and abroad (i.e., in response to challenges arising from WTO or otherwise); and
4. To assemble these views in the form of a meaningful policy requirement matrix, relating problems/issues to action points suggested/recommended and also trying to spell out the agencies which should undertake such actions.

1.7 The twin goals of sensitizing all important stakeholders of State agriculture on the emerging challenges at home and abroad, on the one hand, and on the need for making a continuous and concerted move for appropriate policy changes in today's circumstances on the other, by articulating and even operationalizing the desired policy response of all important stakeholders in the State's agricultural economy assume prime importance in this context. Given the objectives as spelt out above, the present chapter is organized as follows. Section 3 spells out the proposed methodology of the study and the format of the input and output (policy) matrices, as originally contemplated. It also indicates the kind of compromises made in course of the study in view of certain insurmountable difficulties, which stood in the way of smooth working of this study. Section 4 presents the organization of the study report.

Section 3: Methodology

1.8 The methodology for documentation of state government concerns and initiatives involved a thematic review of the existing material at the State level and interview with the stakeholders on crucial issues (primarily by the AER Centers, which were to produce state level reports before their consolidation and integration by the authors from the IIMA side). Conflicts in desired policy changes across stakeholder

groups were thus an essential feature, which the study was to bring out together with feasible prescriptive measures to resolve those conflicts.

1.9 While reviewing the policy issues as well as policy options in the post-WTO scenario, all relevant WTO Agreements impinging on the aspects of (a) the sources of income and employment of the farmer, (b) the farmer's investment opportunities, (c) the farmer's access to knowledge, education, information and skill, and (d) empowerment of the farmer in terms of improvement in his socio-economic standing and decision-making power were covered. Thus, each important stakeholder of State Agriculture was planned to be approached to record their views (both positive and negative together with their reasoning) on the relevant clauses², which have direct or indirect bearings on the farmer.

1.10 The impact of WTO Agreement on Agriculture was assessed by observing the reactions of each stakeholder to each of these clauses (using a format like Table 1.1). Since all stakeholders were not fully aware of the various clauses and their significance for agriculture, they were approached following one of two alternative routes, and sometimes using both the routes simultaneously. The alternative route involved asking each stakeholder how the impact of WTO was being (or, was likely to be) felt by the farmer both as a producer and as a consumer through its implications in the markets for factor inputs/services, agricultural produce (and even processed products), natural resources, and human resources (e.g., employment and intellectual property). The objective was to assess each stakeholder's perception of both threats and opportunities arising out of the WTO Agreements with their reasoning (as exemplified in a format described in Table 1.2), so that these inputs could be utilized to evolve a policy structure through mutual consultations and logical analysis to tap the potential opportunities, while at the same time to guard against the potential threats.

1.11 Identification of the major stakeholders of State Agriculture before detailed interaction with them was thus an important component of this exercise. Maximum inputs were to be availed from government line departments directly and indirectly related to agriculture and allied activities. The responses received from selected state agricultural stakeholders were intended to be categorized as per Table 1.2 below. The ultimate goal, however, was to come up with a Policy Matrix, after necessary analysis and deliberations with the stakeholders of State Agriculture (see Table 1.3).

² The stakeholders may have to be briefed on the meaning and contents of these clauses, before asking them to reveal their opinion on the implications of such clauses.

Table 1.1: Likely Impact of WTO Clauses on the Farmer

Important WTO clauses	Possible favourable effects	Possible unfavourable effects
1. Agreements on Agriculture (AoA): (a) Domestic support (b) Export competition (c) Market access		
2. SPS ³ & TBT ⁴ clauses		
3. TRIPS ⁵ (and possibly TRIMS ⁶)		
4. GATS ⁷		

Table 1.2: Potential threats and opportunities for Indian farmer as perceived by major stakeholders of State agriculture

Sources of threat and opportunities	Potential threats with reasoning	Observed gaps in policy leading to no risk coverage of threats	Potential opportunities with reasoning	Observed gaps in policy leading to inadequate realization of potential gains
1. Market for factor inputs and services (consider each input/service separately)				
2. Markets for agricultural produce and products (consider each produce/product relevant for the state separately)				
3. Natural resources like land, soil, water, air etc.				
4. Human resources				

³ Sanitary and Phyto-Sanitary Measures

⁴ Technical Barriers to Trade

⁵ Trade Related Intellectual Property Rights

⁶ Trade Related Investment Measures

⁷ General Agreements on Trade in Services

Table 1. 3: State level policy matrix for repositioning/restructuring of State Agriculture

Issues	sectors / segments / areas involved	Diagnosis of underlying problem: whether due to:		Policy element (technological, institutional or price policy related) missing	Action points (together with agencies, which should initiate such actions) at:		
		<u>WTO</u>	<u>Other Factors</u>		<u>Inter-national level</u>	<u>National level</u>	<u>State level</u>

1.12 However, the study suffered undue delays due belated submissions of state reports from individual AER Centres. It was very difficult to build up the necessary expertise within the stipulated time period at the Centres - many of which were already suffering from other problems including shortage of staff and funds – especially to interact with frequently ignorant or at best imperfectly informed stakeholders of state agriculture on a topic in which they themselves had hardly any prior background. Though efforts were made from the side of this coordinating centre – not only by organizing a workshop of all participating Centres at Vallabh Vidyanagar soon after the study was launched towards the end of 2002 and then supplying available materials, documents and feedback inputs on earlier drafts, but also by organizing consultation workshops during April-May, 2005 in three exceptional situations with the help of local AER Centres or another local host, it appears the response from most of the state governments left much to be desired – for whatever reasons. The result was inevitable – even after long waiting and prolonged efforts, response received from the stakeholders was mostly general in nature rather than specific so as to facilitate appropriate action. Nevertheless, a conscious effort has been made to illicit, record and interpret the stakeholder responses carefully so as to cover the following four aspects as far as possible:

- A SWOT analysis of the state under review, given the realities about WTO;
- The viewpoints of stakeholders of respective state agriculture with respect to various provisions of WTO (Not reported by some states);
- Action points taken by respective state governments to rise to the new challenge; and
- Action points that ought to be initiated at an appropriate level.

Section 4: Organization of the Study

1.13 The study report is organized as follows. The next chapter has attempted a lucid presentation, together with the authors' interpretations, of the Agreements on Agriculture and other related Agreements, which have implications for Indian agriculture. Materials of this chapter were also shared with the participating AER Centres with instructions to share them further with the stakeholders of state agriculture in order to facilitate their awareness and understanding of the subject, besides helping them articulate their views. Chapter 3 captures the main findings of this study – namely, the responses from the stakeholders of Indian agriculture at state level. Considering that this modest attempt in the face of certain insurmountable hurdles can at best be a partial achievement of the goals set up for this study and above all, the fact that a study of this kind on a dynamic subject like WTO and Indian agriculture ought to be undertaken almost on a continual basis and in a more comprehensive manner, an additional chapter (namely Chapter 4) has been added *ex post facto* to capture the main points arising from the July 2004 Draft and conclusion of the Doha Round at Hong Kong in December, 2005, the idea being that future consultations with the stakeholders of Indian agriculture at state level can pick up the thread from here and pursue the matter further to its logical end. Chapter 5 performs the routine job of summarizing and concluding this study.

Chapter II

Agreement on Agriculture and Other Related Agreements

Section 1: Introduction

2.1 This chapter aims to present the Agreement on Agriculture (AoA) and the other principal agreements of the World Trade Organization (WTO) that pertain to agriculture. The next section outlines the main features of the AoA and then scrutinises these and related provisions and implementation experiences from the perspective of a developing country like India in the next two sections. The last section concludes this chapter.

2.2 The aims of the WTO are lofty¹, but seldom have they been achieved in practice – especially in the case of agriculture where developing countries have been at the receiving end. Their producers are caught between the twin horns of insufficient and poorly targeted domestic subsidies and excessive subsidies by developed countries. They also face a host of other market and trade distortions. This is amply borne out by an investigation of the provisions and implementation experiences of the principal agreements pertaining to agriculture, which are as follows:

- Agreement on Agriculture (AoA)
- Agreement on Application of Sanitary and Phytosanitary Measures (SPS)
- Agreement on Technical Barriers to Trade (TBT)
- Agreement on Textiles and Clothing (ATC)
- Agreement on Anti-dumping Measures
- Agreement on Pre-shipment Inspection
- Agreement on Rules of Origin
- Agreement on Subsidies & Countervailing Measures (SCM)
- Agreement of Safeguards
- Agreement on Trade Related Investment Measures (TRIMs)
- Agreement on Import Licensing Procedures
- Customs Valuation Methods
- Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs)

¹ WTO aims to ensure that trade is (i) without discrimination, (ii) freer, (iii) predictable, (iv) more competitive, and (v) more beneficial to developing countries.

- General Agreement on Trade in Services (GATS)
- Understanding Rules and Procedures Governing the Settlement of Disputes
- Plurilateral Agreements:-
 - International Dairy Agreement (terminated in 1997)
 - International Bovine Meat Agreement (terminated in 1997)

We shall however look into a sample of this maze of agreements only in this chapter.

Section 2: Agreement on Agriculture (AoA)

2.3 The AoA rules and commitments apply mainly to three broad areas: (i) *Market access* – various trade restrictions confronting imports, (ii) *Domestic support* – subsidies and other programs, including those that raise or guarantee farm gate prices and farmers’ incomes and (iii) *Export subsidies* – subsidies and other methods to make exports artificially competitive. We shall present a brief overview of the provisions of these three areas before making our comments in the next section.

Market Access

2.4 The main provisions on market access are summarized below:-

- Tariffication, tariff bindings and reductions
 - Tariffication – converting non-tariff border measures (quantitative restrictions, canalizing, licensing etc.) into tariffs and bound tariffs that provide more or less equivalent levels of protection
 - System of tariff rate quotas introduced
 - Lower tariff rates for quantities imported before the agreement (quota level)
 - Higher tariffs for quantities imported that exceed the quota
 - Tariff reduction commitments
 - Developed countries
 - Cut tariffs (the higher out-of-quota rates in case of TRQs) by an average of 36% over 6 years (1995-2000)
 - Minimum reduction of 15% per tariff line on average
 - Developing countries
 - Cut tariffs by an average of 24% over 10 years (1995-2004)
 - Minimum reduction of 10% per tariff line on average

- Some developing countries used the option of **ceiling tariff rates** where duties were not **bound** (committed) before the Uruguay Round
- Special Safeguards Provision (SSG) for 39 members
 - For tariffed products, **special safeguards** allowed
 - Rules for application of additional duties (special safeguards) up to 1/3rd of duties if imports surge or prices fall below trigger volumes and price levels for products subject to tariffication
- Minimum access provisions
 - Minimum market access commitments as a share of domestic consumption (1-4% for developing and 3-5% for developed countries) for products subject to tariffication.

Domestic Support²

2.5 There are basically two categories of domestic support — support with no, or minimal, distortion effect on trade on the one hand (often referred to as “*Green Box*” measures) and trade-distorting support on the other (often referred to as “*Amber Box*” measures).

2.6 The *Green Box* consists of measures that have no, or at most minimal, trade-distorting effects or impacts on production. They must be provided through a publicly funded government program (including government revenue foregone) not involving transfers from consumers and must not have the effect of providing price support to producers. These measures are exempt from reduction commitments and, indeed, can even be increased without any financial limitation under the WTO. The *Green Box* applies to Member countries -- both developed and developing; country Members, but in the case of developing countries special treatment is provided in respect of the governmental stockholding programmes (for food security purposes and subsidized food prices for urban and rural poor).

2.7 The *Green Box* covers many government service programmes, --particularly in the developing countries -- including general services provided by governments, public stockholding programmes for food security purposes and domestic food aid, as long as the general criteria and some other measure-specific criteria are met by each measure concerned. The *Green Box* thus provides for the continuation (and enhancement) of programmes such as

² This section is reproduced from the WTO website

- *various research & training programmes* including general research, research in connection with environmental programmes, and research programmes relating to particular products;
- *pest and disease control programmes*, including general and product-specific pest and disease control measures;
- *agricultural training services* and extension and advisory services;
- *inspection services*, including general inspection services and the inspection of particular products for health, safety, grading or standardization purposes;
- *marketing and promotion services*;
- *infrastructural services*, including electricity reticulation, roads and other means of transport, market and port facilities, water supply facilities, etc;
- *expenditures in relation to the accumulation and holding of public stocks* for food security purposes; and
- *Expenditures in relation to the provision of domestic food aid to sections* of the population in need.

Many of the regular programmes of governments are thus given the “green light” to continue. The *Green Box* also provides for the use of direct payments to producers, which are not linked to production decisions, i.e. although the farmer receives a payment from the government, this payment does not influence the type or volume of agricultural production (“decoupling”). The conditions preclude any linkage between the amount of such payments, on the one hand, and production, prices or factors of production in any year after a fixed base period. In addition, no production shall be required in order to receive such payments. Additional criteria to be met depend on the type of measure concerned which may include: decoupled income support measures; income insurance and safety-net programmes; natural disaster relief; a range of structural adjustment assistance programmes; and certain payments under environmental programmes and under regional assistance programmes.

2.8 In addition to the *Green Box*, three other categories of domestic support measures are exempt from reduction commitments: (i) *developmental measures*, (ii) *Blue Box support* and (iii) *de minimis levels of support*. Developmental measures include measures of assistance, whether direct or indirect, designed to encourage agricultural and rural development and that are an integral part of the development programmes of developing countries. They include investment subsidies that are generally available to agriculture in developing country Members, agricultural

input subsidies generally available to low-income or resource-poor producers in developing country Members, and domestic support to producers in developing country Members to encourage diversification from growing illicit narcotic crops. Direct payments under production limiting programmes (often referred to as “*Blue Box*” measures) are exempt from commitments if such payments are made on fixed areas and yield, or on a fixed number of livestock. Such payments also fit into this category if they are made on 85 per cent or less of production in a defined base period. While the *Green Box* covers decoupled payments, in the case of the *Blue Box* measures, production is still required in order to receive the payments, but the actual payments do not relate directly to the current quantity of that production.

2.9 The *Amber Box* consists of all other domestic support measures considered to distort production and trade – i.e. measures to support prices, or subsidies directly related to production quantities. These measures are subject to limits known as ‘de minimis’ levels, which are minimum levels of support that are allowed. The ‘de minimis’ levels of support are equal to 5% of agricultural production for developed countries and 10% of agricultural production for developing countries. Members with subsidy levels more than *de minimis* levels at the start of the Uruguay Round have to reduce subsidies as follows:

- Members to calculate support per year for agricultural sector for the base years 1986-88
- Developed countries to reduce subsidy by 20% over 6 years (95-00)
- Developing countries to reduce subsidy by 13% over 10 years (95-04)
- Least developed countries do not need to make cuts.

Export Subsidies³

2.10 Under the Agreement on Agriculture export subsidies are defined as referring to “subsidies contingent on export performance, including the export subsidies listed in detail in Article 9 of [the] Agreement”. As specified in more detail in Article 9.1 of the Agreement, this list covers most of the export subsidy practices which are prevalent in the agricultural sector, notably:

- direct export subsidies contingent on export performance;
- sale of non-commercial stocks of agricultural products for export at prices lower than comparable prices for such goods on the domestic market;

³ This section is reproduced from the WTO website

- producer financed subsidies, such as, government programmes that require a levy on all production which is then used to subsidise the export of a certain portion of that production;
- cost reduction measures such as subsidies to reduce the cost of marketing goods for export: this can include upgrading and handling costs and the costs of international freight, for example;
- internal transport subsidies applying to exports only, such as those designed to bring exportable produce to one central point for shipping; and
- subsidies on incorporated products, i.e. subsidies on agricultural products such as wheat contingent on their incorporation in export products such as biscuits.

All such export subsidies are subject to reduction commitments, expressed in terms of both the volume of subsidized exports and the budgetary outlays for these subsidies.

2.11 The reduction commitments are shown in the schedules of WTO Members on a product-specific basis. For this purpose, the universe of agricultural products was initially divided into 23 products or product groups, such as wheat, coarse grains, sugar, beef, butter, cheese and oilseeds. Some Members took commitments on a more disaggregated level. The volume and budgetary outlay commitments for each product or group of products specified in a Member's schedule are individually binding. The reduction commitments on "incorporated products" (last item in the Article 9 list) are expressed in terms of budgetary outlays only. The ceilings specified in the schedules must be respected in each year of the implementation period although limited "over-shooting" in the second to fifth year of implementation is permitted ("downstream flexibility"). By the last year of the implementation period, Members must be within their final export subsidy ceilings.

2.12 Developed country Members⁴ are required to reduce - in equal annual steps over a period of 6 years - the base-period volume of subsidized exports by 21 per cent and the corresponding budgetary outlays for export subsidies by 36 per cent. In the case of developing country

⁴ The agreement also had a 'front-loading provision' i.e. if subsidized exports were higher in early 1990s, countries could choose to begin their reductions from the 1991-92 levels

Members, the required cuts are 14 per cent over 10 years with respect to volumes, and 24 per cent over the same period with respect to budgetary outlays.

2.13 Developing countries may, during the implementation period, make use of a special and differential treatment provision of the Agreement (Article 9.4) which allows them to grant marketing cost subsidies and internal transport subsidies, provided that these are not applied in a manner that would circumvent export subsidy reduction commitments.

2.14 All in all, 25 Member countries (counting the EC as one) have export subsidy reduction commitments specified in their schedules, with a total of 428 individual reduction commitments.

2.15 The *Agreement on Agriculture* prohibits the use of Article 9.1; export subsidies on any agricultural product which is not subject to a reduction commitment as specified in the relevant part of the Member's schedule (with the exception, during the implementation, period of those benefiting from special and differential treatment).

2.16 In addition to the provisions directly related to the reduction commitments, the Agreement on Agriculture contains provisions which are designed to prevent the use of export subsidies that are not specifically listed in Article 9 of the Agreement in such a way as to circumvent reduction on other export subsidy commitments (Article 10). The anti-circumvention provisions include a definition of food aid in order that transactions claimed to be food aid, but not meeting the criteria in the Agreement, cannot be used to undermine commitments. Food aid that meets the specified criteria is not considered to be subsidised export hence is not limited by the Agreement on Agriculture. The Agreement also calls for the development of internationally agreed disciplines on export credits and similar measures in recognition that such measures could also be used to circumvent commitments. Any Member which claims that any quantity exported in excess of a reduction commitment level is not subsidised must establish that no export subsidy, whether listed in Article 9 or not, has been granted in respect of the quantity of exports in question.

2.17 In summary, Tables 2.1 and 2.2 recall the major provisions of the AoA as well as the commitments made in the AoA.

Table 2.1: Major Provisions of the AoA

Market Access	Domestic Support	Export Competition
Tariffication Bound tariffs Ceiling bindings Market Access Tariff quotas Special Safeguards Trigger Prices Trigger Volumes	Amber box policies Reduction Commitments Green box policies Non-trade distorting Blue box policies Production limiting De-minimis Product and non-product specific Developing Country exemptions	Outlays reductions Volume reductions Front-loading provision

Table 2.2: Commitments made in the AoA

	Developed countries 6 years : 1995-2000	Developing countries 10 years : 1995-2004
Tariffs		
Average cut for all agricultural products	-36%	-24%
Minimum Cut per product	-15%	-10%
Domestic supports		
Cut in total support (AMS) for the sector	-20%	-13.3%
Export competition		
Value of subsidies	-36%	-24%
Subsidized quantities	-21%	-14%

Section 3: Observations on the Agreements on Agriculture

Market Access

2.18 Despite commitments made in the Uruguay Round, tariffs on farm products still remain very high. This is because the base period chosen for the agreement was unrepresentative, with high domestic and low world prices during the base period. Average tariffs on certain commodities such as dairy, meat, sugar, and certain grains continued to be very high. Applied tariffs on these commodities are considerably lower than bound tariffs, which are themselves very high thus allowing considerable room for further protection. However, developed countries as a whole have applied tariffs closer to the bound tariffs than developing countries, indicating higher levels of protection currently in force. Note that these commodities are of interest to the EU, Japan, USA and Canada in that they are inefficient over-producers of these commodities and therefore require high levels of protection. Available information suggest that for developed countries

1. Applied tariffs are very high; for example, while it is 71% for rice compared to 35% in developing countries, the corresponding figures for wheat are 127% in developed countries and only 41% in developing ones.
2. Bound tariffs are even higher, 123% for rice and 139% for wheat, while the rates are 41% and 75% respectively for developing countries!
3. Applied tariffs are much closer to bound tariffs.

They all point towards the ridiculous levels of protection provided through high range of bound rates by EU, Japan, USA and Canada.

2.19 The tariff rate quota (TRQ) mechanism is also unsatisfactory in terms of equitableness – only 37 countries are permitted to use TRQs. Though TRQs cover only 6 percent of tariff lines, they are prevalent in sensitive sectors like dairy, meat, sugar and cereals. There is a lack of transparency in quota allocation with different countries using different methods to allocate quotas (which is in violation of the lofty goal of predictability of trade) such as:

- First-come first-served
- Auctioning
- License on demand
- Historical relations
- STEs (state trading enterprises)
- Farmer/producer groups

For the unlucky few who cannot avail themselves of the quota, high over-quota tariffs are almost prohibitory and too restrictive to trade. Also, the quota fill rates in several commodities are unsatisfactory with several trading opportunities left unavailed of because of unfilled quotas. For example, with all agricultural commodities taken together, the over-quota tariff at 158% is much higher than the in-quota tariff at 20%

2.20 The reduction formula used for tariff reduction – the Uruguay Round (UR) approach too has come in for its share of criticism. Countries negotiated a specified average percentage reduction in tariffs over a specified number of years with the flexibility of a smaller minimum reduction for individual products. This resulted in gentler cuts on high tariffs and a broader range of final tariffs than a harmonizing method such as the Swiss formula. This benefits those countries with higher levels of protection in the base years; and hurts those with lower levels of protection. Table 2.3 depicts this divergence at the end of the tariff reductions and compares the same with the result of the equivalent Swiss formula result.

Table 2.3: UR approach to tariff cuts versus the Swiss approach

	Starting tariff 150%	Starting tariff 125%	Starting tariff 100%	Starting tariff 75%	Starting tariff 50%	Starting tariff 25%	Starting tariff 10%
% cut	36	36	36	36	36	36	36
Year 0	150.00	125.00	100.00	75.00	50.00	25.00	10.00
Year 1	141.00	117.50	94.00	70.50	47.00	23.50	9.40
Year 2	132.00	110.00	88.00	66.00	44.00	22.00	8.80
Year 3	123.00	102.50	82.00	61.50	41.00	20.50	8.20
Year 4	114.00	95.00	76.00	57.00	38.00	19.00	7.60
Year 5	105.00	87.50	70.00	52.50	35.00	17.50	7.00
Year 6							
Annual steps (%age points)	96.00 10.80	80.00 9.00	64.00 7.20	48.00 5.40	32.00 3.60	16.00 1.80	6.40 0.72
Compara son: Swiss formula, year 6,with coefficien t=25	21.43	20.83	20.00	18.75	16.67	12.50	7.14

Source: Courtesy of Prof. Vijay Paul Sharma of CMA, IIMA

2.21 Countries are permitted to impose specific tariffs on farm products which give higher protection in case of a fall in world prices than do ad valorem tariffs. For example, in case of a fall in the world market price of an agricultural commodity from Rs. 2000 per ton to Rs. 1000 per ton, a specific tariff will remain unchanged. However, if an advalorem tariff at 25% is charged, the tariff will fall from Rs. 500 to Rs. 250.

2.22 The special safeguards (SSG) provision is available only to 38 member countries of the WTO out of the 144 members at that time. While SSG coverage was limited to a few commodities it is concentrated on sensitive commodities such as dairy products for US, cereals for Japan, meat, dairy, fruits and vegetables for the EU and almost all commodities for Switzerland and Norway.

Domestic Support

2.23 The fundamental question to be asked in this context is whether the conceptual framework of the domestic support provisions, which distinguishes between measures that are no/minimally distortive of trade and those which distort trade, is theoretically accurate or not. The framework recognizes Green Box measures to be no/minimally distortive of trade and therefore puts no cap on such support. The oft-repeated assertion that green box subsidies are not or at the most minimally trade-distorting requires a careful scrutiny. A liberal interpretation of the nature of subsidies permitted by WTO under the green box support system is that these are in the nature of savings in fixed cost expenditure by business enterprises (which the latter would have to spend in the absence of this support mechanism), which should not have any role in pricing in a long run competitive market system as price is always equal to the marginal cost. Hence, these support measures are claimed as non-trade distorting.

2.24 Unfortunately, however, even if green box support is looked upon as saving in fixed cost, one should not forget the fact that long-run perfectly competitive equilibrium is an welfare ideal available only in economists' textbooks, rather than in the real world! In a non-competitive market and especially in the short run – typical of most international markets in agricultural goods and products - average cost, which also includes fixed cost, always plays a decisive role in price fixation. So, developed countries which have bountiful resources to provide green box support to their agriculture and agri-business enterprises, enjoy an 'unfair' advantage from green box support services as compared to their developing country counterparts in at least two important ways:

- First, through 'green box' support the developed countries absorb a part of the fixed cost or even variable cost of their products, thus adding to their global competitive edge, while the poorer nations can't do the same because of their resource constraints. At this stage, one shouldn't forget the irony that one dollar of taxed resource would involve much greater order of sacrifice by developing country citizens than their developed country counterparts. Continuation of 'green box' support measures, which are beyond the WTO discipline for negotiation or re-negotiation, thus in the ultimate analysis means covert competition between developing and developed nations on which side can provide larger 'green box' support – a fact, which most developing countries don't even realize! A clear example can be provided from the experience of fish exporting units at Verabal, where fishermen utilize under-quality sea water, in the absence of potable water supply by the

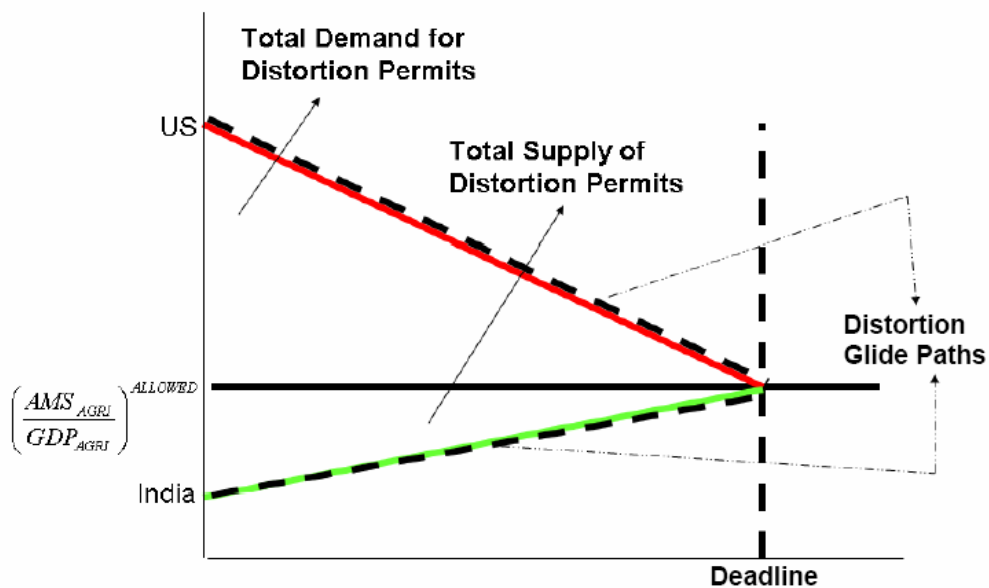
local municipality, to cleanse their fish after they carry the same to the shore. The developed countries supply this water at all their ports and harbors out of local government budget, which can't be treated as a subsidy! If the Verabal fish exporters want to cleanse their fish after the catch in clean water, they have to arrange for the same through addition to their fixed and/or variable cost.

- There is a second dimension to the problem, which can be elaborated with the example of turtle-excluder device (TED), which has been used as a non-tariff barrier by the US to force purchase of such costly device by poor country artisanal fishermen, if they seek to export their fish catch to the US, on the plea of protecting turtle and thus the environment. Given the glorification of 'green box' support measures as non-negotiable instruments by the WTO, a developed country with relative abundance of tax resources can legitimately and quite easily over-invest in R&D – and with much appreciation from the environment-loving population and activists all around the world - to develop such devices, which can ultimately be used not only to strangle poor country economic activities, but also to create further business for them! Isn't it an example of 'fishing in troubled waters'? Clearly, the over-glorification of 'green box' measures is responsible for the resulting plight of the poor and products from the poor countries in this regime of 'free and fair' trade.

2.25 Obviously, a possible solution lies in merging the support boxes of different colors (thus also relieving poor countries of a costly monitoring process to check adverse use of different support measures under different boxes by their developed country trade partners) and designate the sum of support provided through all these boxes as Total Measurement of Support (TMS) followed by agreement on, say, a uniform overall support ratio (if higher ratios are not granted to developing countries, considering the fact that historically they have been the victims rather than net beneficiaries of the support system), against which distortion permits can be bought and purchased by trading partners, exactly in the same manner inn which pollution permits are traded to solve environmental problems by developed industrial nations. In other words, the developed world shouldn't fall short of applying their own and familiar market-based instruments to relieve the now globally-free citizens of the new world under WTO of nasty trade distortions which are polluting the textbook model of free trade!

2.26 Under such an agreement, developing nations like India, which lack resources to provide the stipulated maximum amount of support can sell trade distorting permits to developed countries like the US (as captured in Figure 2.6 below) and utilize the proceeds to eliminate the problems of poverty, hunger, malnutrition, ill-health etc., which constitute the millennium goals of the UN. If some well-wishers of the poor across the world want to participate in the bidding process of trade distorting permits, they should be free to do the same to confer double benefits to the world – first, by supplying money to meet the millennium goals, and second, by destroying those permits, which will help build up a new world of future generations, who wouldn't have to suffer from the irritating trade distortion effects. The same argument ought to be applied with respect to global environmental pollution permits, instead of allowing, as at present, only the developed nations to almost unilaterally fix artificially high product and quality standards under SPS and TBT clauses to squeeze the poor nations.

Figure 2.1: Market for tradable distortion permits



2.27 A look at the shift in support pattern across boxes for the US and EU gives the impression that they fear just this sort of trade! We shall discuss the nature of this gradual shift in support from the Amber Box to the Green Box over the last few years for the US and EU in a greater detail in the final chapter.

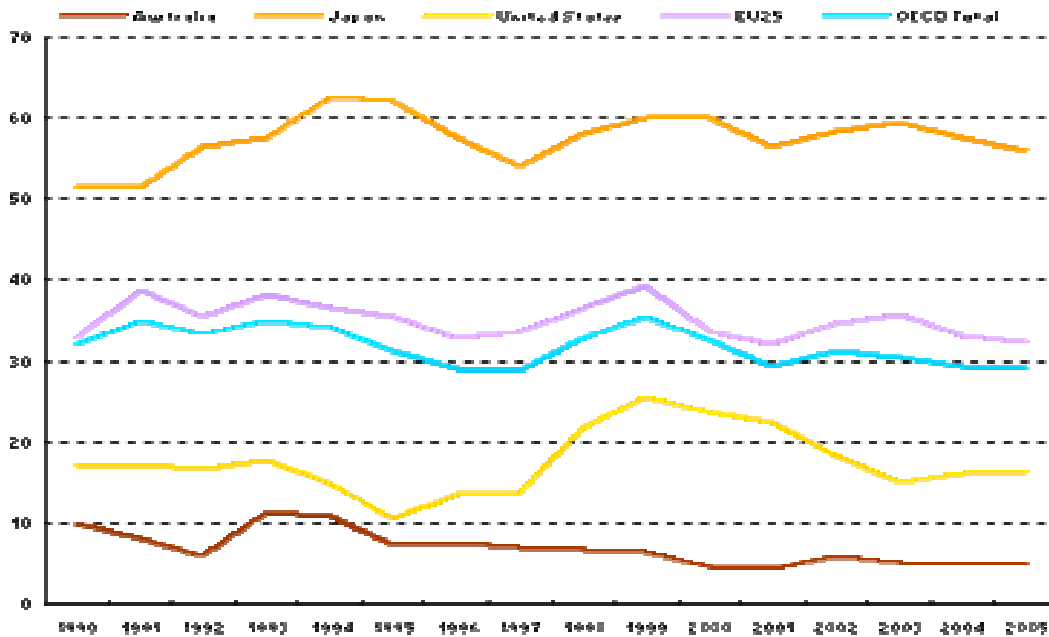
2.28 Having got imaginary assumptions out of the way, let us look at the spending pattern across the globe on domestic support. Shockingly, 89% of domestic support over 1995-98 was concentrated in three economic entities – the EU (with a staggering 44% of the world total), the US (with 24%) and Japan (with 21%), leaving only 11% for the rest of the world! An examination of the producer support estimates (PSE) across some countries reveals the tremendous level of support farmers in developed countries enjoy, even though the extent of subsidy in percentage terms appears declining over time. On the other hand, the extent of PSE offered by the developing countries, though increasing, is well below that observed in the OECD countries. Table 2.4 and Figure 2.2 provide some insights into the issue (detailed & fairly updated country-wise figures are available in Appendices 2.1 - 2.3).

Table 2.4: PSE for Agricultural Commodities in Some Selected OECD Countries

Country	PRODUCER SUBSIDY EQUIVALENT	
	1986-88	2004-06
Canada	36	22
EU	41	34
Japan	64	55
Korea	70	63
Norway	71	66
Switzerland	78	66
USA	22	14
OECD	38	29

Source: Producer and Consumer Support Estimates Database OECD 2007

Figure 2.2 Producer support estimate for selected countries
(As a percentage of value of gross farm receipts)



Source: OECD Factbook 2007: Economic, Environmental and Social Statistics, OECD 2007

Export Subsidies

2.29 The bulk of the world’s export subsidies of US\$4.02 billion are provided by only a few entities: EU (with a staggering 90.3%), Switzerland (with 4.4%), USA (with 2.2%) and Norway (with 1.2%), leaving only a niggardly 1.9% for the rest of the world – and WTO talks about free trade!

2.30 The bulk of the export subsidies are spent on sensitive commodities such as dairy products (33% of total expenditure), bovine meat (21%), wheat (11%), F&V (2%) and coarse grains (2%), with the rest 28% on all other commodities. The sensitive commodities subsidized are done so to a great extent, with subsidies as a percentage of world price as high as 79% (rice), 61% (butter), 51% (bovine meat) and 31% (SMP).

2.31 The “Front loading” provisions are patently unfair and benefit the largest subsidizers by permitting selection of most advantageous base rates between 86-90 and 91-92. The agreement permits rollover of unused subsidies which permits a country to step up subsidization in bad years in return for restraint in good years – definitely going against the grain of disciplining export subsidies.

Section 4: Observations on Other Agreements

2.32 For this section, no overview of the provisions of the various agreements will be presented in the interests of brevity, merely the observations on these provisions.

Agreement on Anti-dumping measures (AADM)

2.33 The AADM disciplines dumping by member countries, loosely defined⁵ as ‘exporting a product at a price lower than the price normally charged on the home market’. AADM specifies what dumping is, how it must be established to have occurred and what remedial measures are available to members to discipline dumping.

2.34 We report some statistics on the use of antidumping measures by some reporting countries both pre and post 1994 (being the year WTO came into being). Data are drawn from WTO (2006) as well as the United States Congressional Budget Office⁶ reports.

2.35 We first look at 3 developed entities (USA, EU and Australia) as well as 3 developing entities (India, Brazil and Mexico) and look at the number of antidumping measures put in place by them at the end of the calendar year in both pre and post WTO eras. Figure 2.3 shows that USA and ECU were the heaviest users and India was the lightest user of AD measures in the pre WTO era. However, Figure 2.4 shows that in the post WTO era, India became the heaviest user of AD measures⁷ followed by USA and ECU; Brazil and Mexico also became significant users.

2.36 Reporting countries can be divided into two groups: developed and developing. Data limitations meant that not all reporting countries were included in the division, but a sizeable number of the major economies in each category were included. Table 2.5 shows the pattern of usage of AD measures in the post WTO era by 25 developing countries and 10 developed countries (treating the EC as a country), which shows the same pattern for a larger group of countries as observed before.

⁵ Adapted from WTO website http://www.wto.org/english/tratop_e/adp_e/adp_e.htm as on 20th Dec, 2006, and referred to as WTO (2006) hereinafter.

⁶ Adapted from <http://www.cbo.gov/showdoc.cfm?index=439&sequence=3> as on 20th Dec, 2006 and referred to as CBO (1998) hereinafter.

⁷ The number of measures reported by WTO (2006) and the Indian Commerce Ministry are at odds, but regardless of which figures are used, India has become one of the heaviest users of AD measures in the post WTO era.

Figure 2.3: Pre WTO era active antidumping measures in place at the end of the calendar year

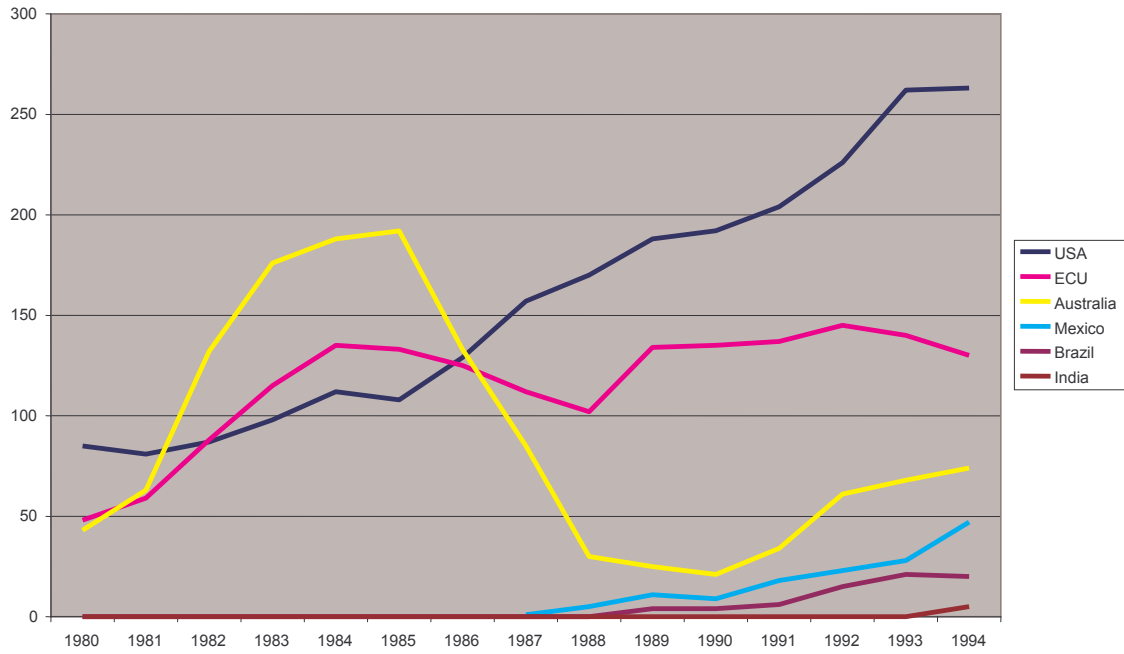


Figure 2.4: Post WTO era active antidumping measures in place at the end of the calendar year

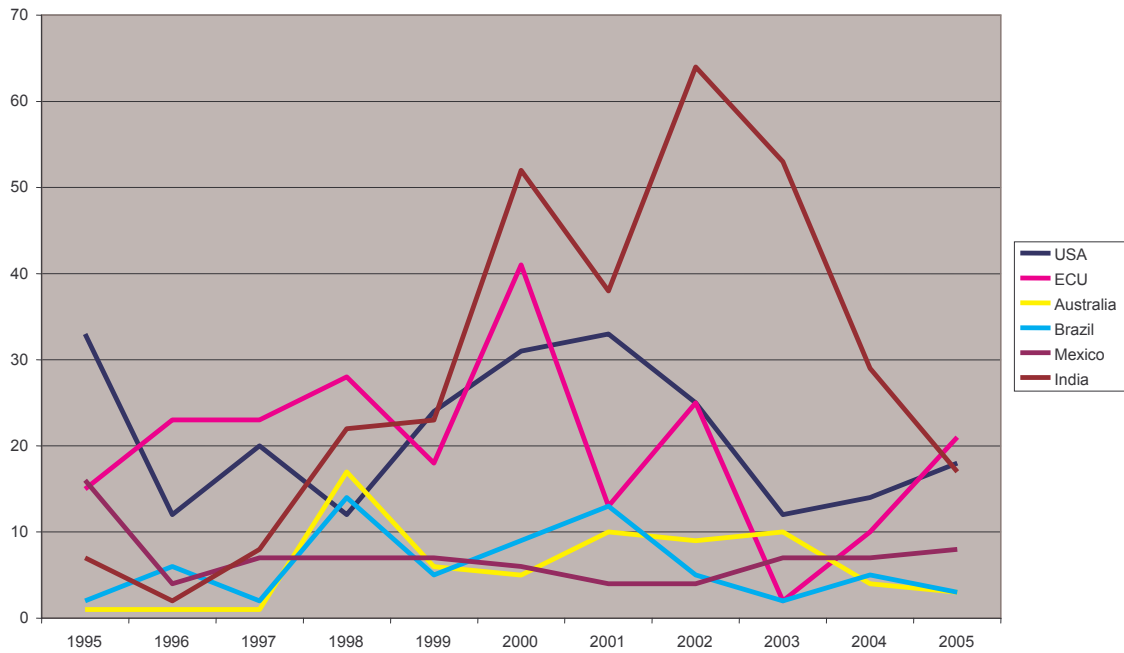


Table 2.5: Anti-dumping Measures by Developing Reporting Member vs Developed Reporting Member from 1995 to 2006

Against	By Developing	By Developed	Total
Developing	411	333	744
Developed	343	160	503
Total	754	493	1247
Data adapted from WTO(2006)			

2.37 Table 2.5 shows that in the post WTO era, developing countries have also become major users of AD measures. However, the majority of AD measures imposed by developing countries are against other developing countries, while the vast majority of AD measures imposed by developed countries are against developing countries. This does not appear to be in the spirit of article 15 of the agreement on special regard to developing countries.

The Dispute Settlement Understanding

2.38 The following observations can be made on this issue:

- As of 13th October 2003, 302 cases have been brought to the DSB, with the number of complaints by developed and developing countries almost equal, though the proportion of developing countries is more than developed ones as members of the WTO. Still the size of developing country complaint cases can probably be interpreted as an indicator of developing country frustrations as well as developing country resurgence.
- Two-thirds of the world's plant species -- at least 35,000 of which are estimated to have medicinal value -- are in the developing countries. Through patents it is feared that developed countries are trying to keep their business edge over the developing countries. A lack of strong patent laws in India and other developing countries is making them vulnerable to bio-piracy. For example, in India, Basmati is protected, but what about *karela, jamun, tamarind, haldi, neem, ginger, anar, pepper, amla* that have also been patented by foreigners? Patented seeds should be allowed to be saved by farmers for the purpose of replanting -- fortunately accommodated by India.
- Life-saving drugs (e.g. AIDS medicine) are patented by firms of developed countries -- this may cause a price rise of such drugs beyond the reach of affected poor people from developing/under-developed nations.

- There are concerns about rapidly mutating drug-resistant new strains of viruses because of rampant over-prescription of drugs by allopathic specialists.
- Chilling attempts by US and Japan to restrict range of diseases defined as public health concerns for developing countries to exclude cancer, heart problems and asthma continue to be matters of serious concern!
- Special 301 sanctions by US against developing countries over patenting rules for medicines contemplated against India, Argentina, Vietnam, Thailand and Dominican Republic are a major concern for public health in resource poor countries
- Compulsory licensing for domestic manufacture in emergencies is possible only after efforts have been made to obtain a regular license on commercial terms from the patent holder, and after compensating him – which may be too costly and/or too late in the case of an epidemic
- The Biodiversity Act, 2002 whittles away protection granted by PVPFR bill, as there are no restrictions on patents based on biological resources and traditional knowledge that can be permitted by National Biodiversity Authority!
- The Patents Act, 2005 passed by Parliament goes beyond WTO requirements in that it protects new uses of known drugs – will this preserve the monopoly of drugs by foreign pharmaceutical MNCs long after the original patent expires? This is an important question.

Agreement on the Application of Sanitary and Phyto-sanitary Measures (SPS) and Technical Barriers to Trade Agreement (TBT)

2.39 The following issues arise in this context:

- Article 14 of AoA clearly states: “Members agree to give effect to the Application of Sanitary and Phyto-sanitary Measures.” Moreover, Article 3.2 of SPS states: “SPS measures which conform to international standards and guidelines shall be deemed to be necessary...” The question is whose guidelines to follow? – The Codex Alimentarius Commission, the International Union for Protection of New Varieties of Plants (UPOV), the International Plant Protection Commission (IPPC), and the International Office of Epizootics (IOE)? Article 3.3 of SPS allows nations to have standards higher than those of Codex (see Table 2.6), thus allowing the countries with the most financial muscle to invest in the highest possible standards, subsidize the adherence to those standards by domestic entities through the Green Box and prevent imports through non-tariff barriers like SPS from poorer countries who cannot comply!

Table 2.6: EU Standards Higher than Codex

S. No.	Food Standards	Cadmium in cephalopods	Mercury in fish	Aflatoxin in Groundnut
1.	Codex	3 ppm	0.47 ppm	15
2.	EU	1ppm	0.3 ppm	2 direct consumption 4 for processed foods
3.	India	Greater than 1 ppm (actual)	0.5-2 (actual)	30(PFA)

Source: Courtesy of Prof. Satish Deodhar of IIMA

- Articles 9 and 11 of SPS and TBT allow for assistance to developing countries to comply but there are no concrete, time-bound commitments.
- Articles 3.4 and 2.6 encourage developing countries to attend Codex meetings to set standards, This is a wishful thinking as many developing countries do not have enough qualified manpower. By creating a semblance of participation the North seeks to take refuge in the defence that the South was a party to the decision making process!
- Article 2.2 allows barriers to be erected to protect the environment. This article was invoked by US to ban the import of Indian shrimp since India's failure to use TED caused damage to the environment and was therefore in violation of article 2.2. The questions here are (i) what does it matter to SPS/TBT if the product is ultimately safe for human consumption – regardless of the environmental effects of its extraction? And (ii) protection of whose environment is encouraged by the article? The dispute settlement board of WTO asked US to give a chance to other countries to show that differing production practices can be consistent with the same level of environmental protection and ruled that banning imports from one country will only lead to trade diversion and defeat the purpose of environmental protection.

Agreement on Trade in Services (GATS)⁸

2.40 There is a view that GATS forces the commercialization of public services like education, health, water supply etc., which can have an adverse impact on equity and access to these services. This is not true because of the following reasons:

⁸ Sub-section thanks to Rupa Chanda of IIM Bangalore

- GATS does not force opening up to foreign competition in any sector given the discretionary commitment process.
- There is a carve out clause for publicly provided services though ambiguities in clause.
- Ultimately it is the government's prerogative to commit or not.
- The role of domestic regulation explicitly recognized for ensuring equity, consumer protection, standards etc. in the provision of public services.

Trade Related Investment Measures Agreement (TRIMS)

2.41 The TRIMs agreement does not apply to services. However, the term “trade related investment measures” is not defined in the agreement. The disciplines of the TRIMs Agreement focus on discriminatory treatment of imported and exported products and do not govern the issue of entry and treatment of foreign investment. Example: A local content requirement imposed in a non-discriminatory manner on domestic and foreign enterprises is inconsistent with the TRIMs because it discriminates between imported and domestic products. Non-discrimination between domestic and foreign investors is irrelevant under the TRIMs.

Rules of Origin (ROO)

2.42 WTO Work Program aims to harmonize non-preferential ROO not the preferential ROO (more trade-impacting/distorting) operating under most bilateral agreements and RTAs. The agreement does not recognize that nationality of product and of producer no more in harmony due to increasingly global trading system. ROOs should no more be applicable as WTO members should anyway follow its basic principles of National Treatment and Most Favored Nation

3 Special and Differential Treatment Provisions (SnD)

General concerns however remain about SOFT LANGUAGE and imprecise use of terms, lack of clear commitments on part of developed members to operationalize SnD benefits to developing country members. The following breakup of SnD measures by type should make it clear that they are nothing but a sop to developing countries – the most tangible kind of concession has only 2 SnD measures! The figures in the parentheses indicate the number of provisions under the particular heads:

- Provisions aimed at increasing the trade opportunities of developing country Members (2);
- Provisions under which WTO Members should safeguard the interests of developing country Members (26);

- Provisions for flexibility of commitments of action and use of policy instruments (22);
- Provisions for transitional time periods (13);
- Provisions for technical assistance for compliance (13); and
- Provisions relating to least-developed country Members (11).

Section 5: Conclusions

2.43 As observed in the introduction, the aims of the WTO are lofty, but seldom achieved in practice – especially in the case of agriculture where developing countries have inevitably been at the receiving end, with their producers being caught between the twin horns of insufficient and poorly targeted domestic subsidies on the one hand and excessive subsidies by developed countries on the other, as well as a host of other market and trade distortions. This fact is amply borne out by an investigation of the provisions and implementation experiences of the principal agreements pertaining to agriculture. It is only hoped that the appropriate authorities as well as civil society structures at different levels take cognizance of these irregularities for the purpose of the required domestic reform as well as the appropriate negotiation strategy at international forums.

Appendix 2.1: OECD: Producer Support Estimate in Agriculture by country

	1986-88	2004-06	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p	
Australia																								
% PSE	8	5	12	9	4	7	11	8	7	11	10	7	7	6	6	6	5	4	6	4	4	4	4	6
PNPC	1.05	1.00	1.09	1.06	1.01	1.05	1.09	1.05	1.03	1.08	1.06	1.03	1.03	1.03	1.03	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PNAC	1.09	1.05	1.13	1.10	1.05	1.08	1.12	1.09	1.07	1.13	1.11	1.07	1.07	1.07	1.07	1.07	1.05	1.05	1.06	1.05	1.04	1.05	1.06	1.06
Canada																								
% PSE	36	22	38	40	30	27	34	35	28	24	21	20	16	14	17	18	20	16	21	25	21	21	22	23
PNPC	1.40	1.13	1.43	1.48	1.30	1.28	1.39	1.34	1.28	1.26	1.21	1.12	1.09	1.11	1.13	1.13	1.13	1.08	1.13	1.16	1.12	1.12	1.15	1.15
PNAC	1.57	1.28	1.62	1.68	1.42	1.37	1.50	1.54	1.40	1.32	1.26	1.24	1.18	1.17	1.20	1.22	1.25	1.19	1.27	1.33	1.26	1.28	1.29	1.29
European Union¹																								
% PSE	41	34	43	42	38	29	33	39	36	38	37	37	33	34	37	40	34	32	37	37	37	36	33	32
PNPC	1.79	1.27	1.87	1.84	1.65	1.42	1.49	1.66	1.50	1.49	1.44	1.39	1.31	1.33	1.41	1.49	1.32	1.26	1.34	1.35	1.33	1.33	1.26	1.22
PNAC	1.69	1.51	1.76	1.72	1.60	1.42	1.49	1.63	1.56	1.61	1.60	1.58	1.50	1.52	1.58	1.66	1.52	1.47	1.58	1.59	1.56	1.49	1.48	1.48
Iceland																								
% PSE	77	66	77	80	74	72	75	77	71	65	61	59	57	59	70	72	67	63	67	66	65	65	67	66
PNPC	4.23	2.60	4.07	4.90	3.71	3.30	3.79	4.23	3.36	2.81	2.57	2.41	2.14	2.26	3.15	3.31	2.75	2.34	2.71	2.57	2.52	2.70	2.60	2.60
PNAC	4.39	2.96	4.27	5.00	3.89	3.54	3.98	4.35	3.42	2.83	2.60	2.45	2.33	2.45	3.39	3.53	3.00	2.70	2.99	2.91	2.84	3.07	2.98	2.98
Japan																								
% PSE	64	55	65	65	62	57	52	52	57	58	63	62	58	54	58	60	60	57	57	57	58	56	55	53
PNPC	2.64	2.13	2.73	2.69	2.50	2.21	1.99	1.98	2.22	2.27	2.60	2.55	2.27	2.10	2.30	2.40	2.39	2.20	2.25	2.26	2.19	2.13	2.06	2.06
PNAC	2.76	2.21	2.84	2.82	2.62	2.32	2.07	2.06	2.31	2.36	2.68	2.65	2.37	2.19	2.40	2.51	2.49	2.30	2.35	2.36	2.27	2.22	2.14	2.14
Korea																								
% PSE	70	63	65	69	75	75	74	74	72	73	73	72	64	63	56	65	66	61	64	61	63	63	63	63
PNPC	3.34	2.55	2.81	3.18	4.02	4.02	3.80	3.73	3.49	3.54	3.57	3.43	2.68	2.60	2.22	2.80	2.85	2.45	2.68	2.43	2.57	2.52	2.56	2.56
PNAC	3.39	2.71	2.89	3.21	4.08	4.07	3.92	3.85	3.61	3.67	3.71	3.57	2.78	2.70	2.30	2.89	2.98	2.55	2.81	2.57	2.68	2.71	2.72	2.72
Mexico²																								
% PSE	28	14	3	7	-2	11	16	26	28	31	23	-5	5	14	17	14	20	15	23	18	11	14	14	17
PNPC	1.34	1.08	0.95	1.00	0.92	1.07	1.16	1.30	1.35	1.37	1.18	0.91	0.98	1.11	1.16	1.23	1.14	1.27	1.13	1.04	1.08	1.08	1.12	1.12
PNAC	1.39	1.17	1.04	1.07	0.98	1.13	1.19	1.34	1.40	1.44	1.29	0.95	1.05	1.17	1.21	1.26	1.18	1.30	1.23	1.12	1.12	1.17	1.21	1.21

Appendix 2.1 (contd...): OECD: Producer Support Estimate in Agriculture by country

	1986-88	2004-06	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
	% PSE	10	1	20	8	3	2	2	1	1	1	2	1	1	1	1	1	1	0	1	1	1	1
New Zealand	PNPC	1.02	1.01	1.02	1.01	1.01	1.01	1.01	1.01	1.00	1.01	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.00
	PNAC	1.12	1.01	1.24	1.09	1.04	1.02	1.02	1.01	1.01	1.01	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.01	1.01	1.01
Norway	% PSE	71	66	72	72	68	65	72	69	69	70	65	66	69	71	72	67	66	75	72	67	66	65
	PNPC	4.22	2.35	4.71	4.43	3.52	3.07	4.13	3.43	3.33	3.19	2.53	2.48	2.76	3.32	3.50	2.60	2.42	3.34	2.74	2.40	2.40	2.25
	PNAC	3.42	2.96	3.53	3.59	3.13	2.88	3.52	3.27	3.23	3.31	2.88	2.96	3.25	3.46	3.57	3.04	2.98	3.95	3.53	3.07	2.98	2.84
	% PSE	77	66	77	78	77	67	73	66	71	73	65	69	70	72	76	70	68	71	69	68	67	63
Switzerland	PNPC	4.88	2.19	4.79	4.99	4.86	3.12	4.23	3.00	3.70	3.77	2.77	2.92	2.97	3.28	3.41	2.80	2.40	2.66	2.39	2.36	2.26	1.95
	PNAC	4.44	2.93	4.42	4.62	4.29	3.00	3.76	3.77	3.51	3.72	2.85	3.18	3.32	3.52	4.15	3.38	3.15	3.46	3.21	3.11	3.02	2.68
	% PSE	16	24	15	21	13	18	21	27	23	14	13	16	25	26	22	21	3	21	29	26	27	20
Turkey	PNPC	1.17	1.28	1.17	1.23	1.13	1.18	1.26	1.31	1.26	1.08	1.07	1.11	1.26	1.33	1.27	1.25	1.03	1.20	1.36	1.30	1.35	1.19
	PNAC	1.20	1.32	1.18	1.26	1.15	1.23	1.27	1.41	1.37	1.31	1.17	1.15	1.19	1.33	1.36	1.29	1.26	1.04	1.27	1.41	1.35	1.25
	% PSE	22	14	24	24	19	22	17	17	17	18	15	10	13	14	22	24	22	18	15	16	16	11
United States	PNPC	1.14	1.06	1.16	1.16	1.10	1.16	1.10	1.10	1.11	1.09	1.05	1.08	1.08	1.08	1.15	1.19	1.16	1.09	1.06	1.08	1.07	1.03
	PNAC	1.29	1.17	1.32	1.31	1.23	1.28	1.21	1.20	1.21	1.17	1.11	1.16	1.16	1.16	1.28	1.34	1.31	1.29	1.23	1.18	1.19	1.12
	% PSE	38	29	39	38	35	32	32	33	35	34	32	29	29	33	35	33	29	32	31	30	29	27
	PNPC	1.51	1.25	1.55	1.54	1.44	1.37	1.38	1.44	1.39	1.40	1.38	1.35	1.29	1.29	1.36	1.42	1.34	1.27	1.31	1.29	1.25	1.21
	PNAC	1.60	1.41	1.64	1.62	1.54	1.46	1.47	1.50	1.53	1.53	1.46	1.41	1.41	1.41	1.49	1.55	1.48	1.46	1.44	1.44	1.41	1.38

p: provisional., %PSE: Producer Support Estimate in Agriculture, PNPC: Producer Nominal Protection Coefficient, PNAC: Producer Nominal Assistance Coefficient.

1. EU12 for 1986-94 including ex-GDR from 1990; EU15 for 1995-2003; EU25 from 2004.

2. For Mexico, 1986-88 is replaced by 1991-93.

3. Austria, Finland and Sweden are included in the OECD total for all years and in the EU from 1995. The Czech Republic, Hungary, Poland and the Slovak Republic are included in the OECD total for all years and in the EU from 2004. The OECD total does not include the six non-OECD EU member states.

Source: OECD, PSE/CSE database 2007.

Appendix 2.2. OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	198	1987	1988	1989	1990	199	199	199	199	199	199	199	200	200	200	200	200	200	2006p		
			6					1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	
Australia																							
Percentage PSE	8	5	12	9	4	7	11	8	7	11	10	7	7	6	6	6	5	4	6	4	4	4	6
Support based on commodity output	52	0	65	59	33	63	77	57	36	63	56	41	40	42	43	41	1	0	1	0	1	0	0
Payments based on input use	31	60	26	26	40	26	23	40	56	30	34	44	47	49	48	51	73	62	51	52	63	54	63
Payments based on current A/An/R/I, production required	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Payments based on non-current A/An/R/I, production not required	17	38	9	15	28	12	0	3	8	7	10	15	13	9	9	7	26	37	48	47	35	44	36
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canada																							
Percentage PSE	36	22	38	40	30	27	34	35	28	24	21	20	16	14	17	18	20	16	21	25	21	22	23
Support based on commodity output	58	46	56	59	59	64	67	55	60	68	70	45	45	65	62	57	53	44	48	47	44	43	50
Payments based on input use	18	8	14	14	28	23	16	14	14	16	15	13	14	15	10	9	8	9	6	6	8	8	7
Payments based on current A/An/R/I, production required	21	29	28	25	11	10	12	28	24	15	14	16	16	18	27	30	25	33	33	37	36	27	25
Payments based on non-current A/An/R/I, production required	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Payments based on non-current A/An/R/I, production not required	0	16	0	0	0	0	0	0	0	0	0	22	23	0	0	0	12	14	12	8	12	22	16
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	2	0	2	2	2	3	5	2	2	1	0	3	1	2	0	3	2	0	1	1	1	0	0

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p	
European Union¹																							
Percentage PSE	41	34	43	38	29	33	39	36	38	37	37	33	34	37	40	34	32	37	37	36	33	32	32
Support based on commodity output	91	52	93	90	86	85	85	78	71	67	63	60	61	65	67	60	54	58	57	58	51	46	46
Payments based on input use	5	10	4	5	6	7	6	8	7	6	5	7	8	6	6	7	9	9	9	9	10	10	10
Payments based on current A/An/R/I, production required	3	24	3	4	6	7	6	12	20	25	30	32	31	29	26	33	37	33	33	32	23	16	16
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	15	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	15	28	28
Payments based on non-commodity criteria	0	1	0	0	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Miscellaneous payments	0	0	0	0	0	0	1	1	1	0	-1	1	0	-1	-1	0	0	0	0	0	0	0	0
Iceland																							
Percentage PSE	77	66	77	80	74	75	77	71	65	61	59	57	59	70	72	67	63	67	66	65	67	66	66
Support based on commodity output	92	77	92	93	91	88	91	93	94	95	96	77	78	83	84	81	74	81	78	78	78	77	77
Payments based on input use	8	7	8	7	8	11	8	6	6	5	4	5	4	5	4	4	5	4	5	6	6	7	7
Payments based on current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	15	0	0	0	0	0	0	0	0	0	18	17	12	12	14	14	13	16	15	15	15	15
Payments based on non-current A/An/R/I, production not required	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	198	1987	1988	1989	1990	199	199	199	199	199	199	199	199	199	199	200	200	200	200	200	200	200	200	200	2006p							
			6					1	2	3	4	5	6	7	8	9	0	1	2	3	4	5												
Japan																																		
Percentage PSE	64	55	65	65	62	57	52	52	57	58	63	62	58	54	58	60	60	57	57	58	56	55							53					
Support based on commodity output	93	93	93	93	93	92	93	93	93	93	95	94	93	93	93	93	93	93	93	93	94	93							93					
Payments based on input use	4	3	4	4	4	4	4	5	4	5	4	5	5	5	5	5	4	4	4	4	3	3						3						
Payments based on current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							1	0				
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0	0			
Payments based on non-current A/An/R/I, production not required	3	3	3	3	3	3	3	3	2	2	1	1	2	2	2	2	3	3	4	4	3	3							4		4			
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0		
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0		
Korea																																		
Percentage PSE	70	63	65	69	75	75	74	74	72	73	73	72	64	63	56	65	66	61	64	61	63	63							63		63		63	
Support based on commodity output	99	91	99	99	99	99	96	96	95	95	95	95	94	94	94	96	96	94	93	91	93	89							90		90		90	
Payments based on input use	1	2																											2		2		2	
Payments based on current A/An/R/I, production required	0	5	0	0	0	0	2	2	2	2	2	1	1	1	1	1	2	3	4	6	4	6							4		4		4	
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0		0		0	
Payments based on non-current A/An/R/I, production not required	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							3		3		3	
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0		0		0	
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0		0		0	

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	198	1987	1988	1989	1990	199	199	199	199	199	199	199	199	200	200	200	200	200	200	2006p	
			6					1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	
Mexico²																							
Percentage PSE	3	14	3	7	-2	11	16	26	28	31	23	-5	5	14	17	14	20	15	23	18	11	14	17
Support based on commodity output	83	45	-162	-30	518	39	42	82	86	82	56	249	-43	64	72	84	88	79	86	56	34	46	55
Payments based on input use	17	28	262	130	-418	61	58	18	14	18	23	-68	74	13	9	15	11	19	12	21	30	28	25
Payments based on current A/An/R/I, production required	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	1	1	2	3	1	1
Payments based on non-current A/An/R/I, production required	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	3
Payments based on non-current A/An/R/I, production not required	0	22	0	0	0	0	0	0	0	0	20	-81	67	23	18	1	1	1	0	19	30	21	16
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Zealand																							
Percentage PSE	10	1	20	8	3	2	2	2	2	1	1	1	2	1	1	1	1	1	0	1	1	1	1
Support based on commodity output	19	52	9	21	28	38	40	57	51	47	50	59	43	49	43	44	11	37	16	57	52	54	51
Payments based on input use	48	37	26	76	43	45	42	30	43	51	50	41	56	51	56	56	81	63	84	43	44	26	43
Payments based on current A/An/R/I, production required	12	10	2	3	29	17	17	13	6	2	0	0	1	0	0	0	7	0	0	0	4	20	6
Payments based on non-current A/An/R/I, production required	21	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	198	1987	1988	1989	1990	199	199	199	199	199	199	199	199	199	200	200	200	200	200	200	200	2006p
			6					1	2	3	4	5	6	7	8	9	0	1	2	3	4	5		
Norway																								
Percentage PSE	71	66	72	72	68	65	72	72	69	69	70	65	66	69	71	72	67	66	75	72	67	66	65	65
Support based on commodity output	72	52	73	73	71	71	75	71	66	65	64	63	63	62	62	61	56	56	61	55	53	53	52	52
Payments based on input use	9	5	10	9	8	8	5	4	4	4	4	4	5	6	5	5	6	6	4	4	5	5	5	5
Payments based on current A/An/R/I, production required	19	29	17	18	21	21	20	24	30	31	32	33	31	32	33	34	39	38	34	26	28	28	30	30
Payments based on non-current A/An/R/I, production required	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	13	13
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland																								
Percentage PSE	77	66	77	78	77	67	73	74	66	71	73	65	69	70	72	76	70	68	71	69	68	67	63	63
Support based on commodity output	83	57	83	83	83	81	84	81	78	77	75	70	66	64	66	66	64	60	61	58	59	58	53	53
Payments based on input use	7	3	7	7	6	5	4	4	4	5	6	6	5	5	5	3	3	3	3	3	3	3	4	4
Payments based on current A/An/R/I, production required	7	15	7	7	8	10	9	12	14	10	10	13	18	19	18	12	12	12	13	14	14	14	16	16
Payments based on non-current A/An/R/I, production required	0	1	0	0	0	0	0	0	0	5	7	8	8	8	8	1	1	1	1	1	1	1	1	1
Payments based on non-current A/An/R/I, production not required	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	15	16	18	18	19	18	19	21	21
Payments based on non-commodity criteria	0	2	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2
Miscellaneous payments	3	3	3	2	3	3	2	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p		
Turkey																									
Percentage PSE	16	24	15	21	13	18	21	29	27	23	14	13	16	25	26	22	21	3	21	29	26	27	20	20	
Support based on commodity output	71	79	74	77	63	70	82	85	81	82	50	51	61	76	82	77	87	56	74	81	81	83	73	73	
Payments based on input use	29	5	26	23	37	30	18	15	19	18	47	48	38	24	18	23	12	32	5	3	3	4	9	9	
Payments based on current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	4	2	1	0	0	0	3	0	0	0	0	0	0	0	
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
Payments based on non-current A/An/R/I, production not required	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	21	16	16	13	19	19	
Payments based on non-commodity criteria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
United States																									
Percentage PSE	22	14	24	24	19	22	17	17	17	18	15	10	13	14	22	26	24	22	18	15	16	16	11	11	
Support based on commodity output	45	33	45	48	42	57	47	50	49	50	50	45	49	47	54	57	52	53	41	36	42	37	20	20	
Payments based on input use	19	25	18	18	22	20	23	23	21	20	23	32	23	23	15	13	15	16	20	24	21	23	33	33	
Payments based on current A/An/R/I, production required	34	11	37	33	33	20	25	22	25	25	21	15	4	4	9	8	10	10	17	14	10	9	13	13	
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Payments based on non-current A/An/R/I, production not required	0	25	0	0	0	0	0	0	0	0	0	0	18	21	18	20	20	17	18	20	22	26	26	26	
Payments based on non-commodity criteria	2	6	0	2	3	3	5	5	5	5	6	9	6	6	4	3	3	3	5	6	5	5	8	8	
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Appendix 2.2. (contd...) OECD: Composition of Producer Support Estimate in Agriculture by country (Percentage share in PSE)

	1986-88	2004-06	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
OECD³																							
Percentage PSE	38	29	39	38	35	32	32	35	33	35	34	32	29	29	33	35	33	29	32	31	30	29	27
Support based on commodity output	82	60	82	83	82	82	81	82	79	77	76	72	69	69	71	72	70	65	65	64	64	60	56
Payments based on input use	8	10	8	8	9	9	10	9	9	9	9	9	10	10	8	8	9	10	9	10	9	10	11
Payments based on current A/An/R/I, production required	8	15	8	8	7	7	7	7	10	12	13	16	17	16	16	14	16	18	19	20	19	14	11
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	1	13	1	1	1	1	1	1	1	1	1	1	3	4	4	5	6	5	5	5	6	14	20
Payments based on non-commodity criteria	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Miscellaneous payments	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

p. provisional.

1. EU12 for 1986-94 including ex-GDR from 1990; EU15 for 1995-2003; EU25 from 2004.

2. For Mexico, 1986-88 is replaced by 1991-93.

3. Austria, Finland and Sweden are included in the OECD total for all years and in the EU from 1995. The Czech Republic, Hungary, Poland and the Slovak Republic are included in the OECD total for all years and in the EU from 2004. The OECD total does not include the six non-OECD EU member states.

Source: OECD, PSE/CSE database 2007.

Appendix 2.3. OECD: Total Support Estimate in Agriculture by country (percent of GDP)

	1986-88	2004-06	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006p
Australia	0.7	0.2	0.9	0.7	0.4	0.6	0.7	0.5	0.5	0.7	0.7	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Canada	1.8	0.8	2.1	1.9	1.4	1.2	1.6	1.6	1.3	1.1	1.0	1.0	0.8	0.7	0.8	0.8	0.8	0.7	0.9	0.9	0.8	0.8	0.8
European Union¹	2.7	1.2	3.1	2.8	2.4	1.9	2.1	2.3	1.9	1.9	1.8	1.6	1.5	1.5	1.5	1.5	1.3	1.2	1.3	1.3	1.3	1.1	1.1
Iceland	5.0	1.6	5.1	4.9	5.1	4.9	4.5	4.4	4.1	2.8	2.3	2.2	1.9	2.0	2.5	2.4	2.0	1.8	2.0	1.8	1.7	1.7	1.5
Japan	2.4	1.2	2.6	2.4	2.2	1.9	1.7	1.6	1.7	1.7	1.9	1.9	1.6	1.5	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.2	1.1
Korea	9.0	3.4	9.2	8.5	9.3	9.2	8.3	7.4	6.7	6.1	5.9	5.5	4.8	4.7	4.4	4.6	4.3	3.8	3.7	3.4	3.5	3.4	3.3
Mexico²	2.8	0.8	1.1	1.2	0.2	1.6	2.1	2.8	2.7	2.9	2.2	0.0	0.5	1.2	1.4	1.0	1.2	0.9	1.2	1.1	0.7	0.8	0.9
New Zealand	1.6	0.3	3.3	1.2	0.7	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Norway	3.6	1.1	3.7	3.7	3.3	3.2	3.3	3.2	2.9	2.8	2.5	2.1	2.0	1.9	2.0	1.8	1.5	1.4	1.6	1.5	1.3	1.1	1.0
Switzerland	3.9	1.6	3.9	3.9	3.8	3.2	3.1	3.1	2.7	2.8	2.7	2.4	2.4	2.3	2.3	2.2	2.0	1.9	1.9	1.8	1.8	1.7	1.5
Turkey	4.0	3.6	4.0	4.9	3.4	4.5	4.7	7.2	5.4	5.2	3.2	3.7	4.3	5.7	7.0	6.5	5.3	2.7	4.3	5.0	3.9	4.1	2.9
United States	1.3	0.8	1.5	1.4	1.2	1.3	1.1	1.2	1.2	1.2	1.1	0.9	1.0	0.9	1.0	1.1	1.0	1.0	0.9	0.8	0.9	0.8	0.7
OECD³	2.5	1.1	2.7	2.5	2.2	2.0	2.0	1.9	1.7	1.7	1.7	1.5	1.4	1.3	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.1	1.0

p: provisional.

1. EU12 for 1986-94 including ex-GDR from 1990; EU15 for 1995-2003; EU25 from 2004.

2. For Mexico, 1986-88 is replaced by 1991-93.

3. Austria, Finland and Sweden are included in the OECD total for all years and in the EU from 1995. The Czech Republic, Hungary, Poland and the Slovak Republic are included in the OECD total for all years and in the EU from 2004. The OECD total does not include the six non-OECD EU member states.

Source: OECD, PSE/CSE database 2007.

Chapter III

Consultations with State Level Stakeholders of Indian Agriculture

Section 1: Introduction

3.1 As mentioned earlier, the main purpose of this study was to seek consultative inputs from the stakeholders of Indian agriculture at state level with the help of the Agro-economic Research Centres (AERCs) from various parts of the country. More precisely, each AERC was asked to choose one of the states under its jurisdiction and seek responses from various stakeholders of state agriculture as per the prescribed format as provided in the first chapter. Most of the materials presented in the preceding chapter were also circulated to the AERCs not only to improve their as well as the various stakeholders' understanding of the various WTO Agreements pertaining to agriculture, but also to facilitate communication between the two sides. Unfortunately, it took a huge amount of time to involve the state level stakeholders and especially the state governments to get some response from them. Ultimately, as many as 14 states could be covered¹, though the nature of response has been far from uniform, which has made the task of exposition in this chapter a very difficult task. As most of the AERCs were unable to generate a comprehensive policy matrix as desired by the study team, the present analysis has restricted its scope to uncover the following four components, based on the inputs available to the authors:

- A SWOT analysis of the state under review;
- The viewpoints of stakeholders of respective state agriculture with respect to various provisions of WTO (Not reported by some states);
- Action points taken by respective state governments to rise to the new challenge; and
- Action points that ought to be initiated.

For clarity in understanding the issues involved in a state-specific manner, we have taken up in the sections which follow one state at a time before moving on to detailed discussion of the issues emerging out of the next state. The states have been arranged alphabetically. The last section concludes this chapter.

¹ Several states were covered directly by the authors on the basis of available state-level documents and/or their direct interaction with the relevant state government (as for example, is the case with the state of Meghalaya).

Section 2: Findings from the State of Andhra Pradesh (AP)

3.2 Table 3.1 summarizes the strengths, weaknesses, opportunities and threats for this state, as identified the stakeholders, when the state's potential is judged from the viewpoint of India's involvement in WTO. Strengths and weaknesses arise from internal characteristics of the state, while opportunities and threats arise from external sources, given internal strengths and weaknesses.

Table 3.1: SWOT Analysis for the State of AP

Strengths	<ul style="list-style-type: none"> • The state has comparative advantage in horticulture, poultry, fisheries, buffalo, meat and some milk products. • The state has comparative advantage in minor crops like maize and green gram.
Weaknesses	<ul style="list-style-type: none"> • Low productivity in a major crop like rice. • Irrigation facilities are not up to the mark. • Storage facilities are not proper, hence number of times; producers of perishable goods have to accept price discounts. • Expenditure on pesticides, fertilizer and human labour are high in the state. • Limited access to organized form of credit. • Post harvest technology is very sub-standard in the state. • SPS norms are not implemented due to high costs.
Opportunities	<ul style="list-style-type: none"> • The state has a potential for increasing the irrigation through watershed management. • Resource endowments of state are conducive for increasing the application of fertilizers. Farmers in the state being knowledgeable and enterprising, they can be trained in use of optimum fertilizer mix and to adopt IPM methods. • Number of organizations and institutions dealing with seed development can provide adequate seeds time to time. • Network for micro credit institutions in the state is very good. Scope for expansion and strengthening of these institutions. • A rich resource base which if exploited properly can turn the state into a major exporter
Threats	<ul style="list-style-type: none"> • Reduction in fertilizer subsidies will hamper their use. It can also lead to use imbalances. Imperfections in pesticide market cause inappropriate and improper use by farmers. • There are imperfections in seed market leading to farmers using unsuitable seeds • The amount of access available to farmers in terms of credit (organized) has decreased. • Under market access agreement, suppliers of commodities will tamper with prices harming farmers' interests. • Under export competition agreement, exports may cause shortage and imports may cause glut in domestic market, in case of some products, harming consumers' interests.

3.3 The responses of different stakeholders to different WTO clauses and agreements have been identified as follows:-

Domestic Support

- Domestic support (product specific and non-product specific) provided to agriculture is very small, so the state government is not only exempted from reduction commitments, but can increase support.
- Due to high domestic support provided by other nation to their agriculture sector under the umbrella of amber box and green box, the state's exports are at a disadvantage.

Export Promotion

- Export subsidies being nil, the state can subsidize the transportation costs (both internal and international) and marketing costs.
- State is a net importer of items like pulses and oilseeds, so reduction in export subsidies will raise their prices and hence the import bill of the state.

Market Access

- If the state products are competitive enough then the exports will increase.
- Due to surge in imports, prices have fallen in domestic market due to which farmers had to incur losses.

SPS

- Such agreements will help the State to preserve her flora and fauna and protect human health.
- Import intensity of state is very low, so benefits will not be so much. The health and safety safeguards and labeling and packing standards of developed nations are very high. Post-harvest technology being very poor in the state, it will reduce the scope of the state's exports.

TRIPS

- A.P, which has a rich bio-diversity, can gain from such an agreement. Import of basic products and technology transfer will become easier if higher IPR standards are adopted.
- State agriculture is based on ingenious technology and local tradition knowledge of farmers. IPR agreements, will erode the food, self sufficiency structures in the state

TRIMS

- The state agriculture will be transformed to capital-intensive which will increase both productivity and production of both major and minor crops. This will also reduce pressure of employment on agriculture, reducing chances of disguised unemployment.
- It will have a negative impact on small and marginal farmers. Capital-intensive agriculture, raises costs of inputs, which small and marginal farmers will not be able to afford, hence will be forced to give up their employment and turn into agricultural laborers.

3.4 To meet the challenges of WTO and also to realize gains from the Agreements, the Government has not taken any special initiative in agriculture and allied sectors. To promote economic and social development, the State has formulated Vision 2020, which includes measures for the above mentioned sectors of agriculture, animal husbandry, fisheries, and sericulture in order to improve productivity, develop marketing and infrastructure facilities and to divert more efforts towards research and development in these sectors.

3.5 The stakeholders identified the following action points, which ought to be initiated. These are presented by sector:-

Crop Economy

- Completing all on going irrigation projects and creating additional sources of irrigation wherever possible and increasing water efficiency. For creating additional sources public investment has to be made in minor and major irrigation schemes in especially dry land areas. Similarly for watershed development programme, so as to create new structures and maintain existing ones. The Government should also promote micro irrigation techniques such as drip, sprinkler and sub-surface pipe irrigation. Regulation of exploitation of ground water is necessary, because of sustainability considerations.
- There should be crop diversification favoring capital-intensive high value crops. It requires regulation of crop pattern according to resource availability in the region, farmer's economic conditions and employment of agricultural laborers. In resource-poor areas, less capital-intensive crops systems like horticulture, coarse and cereal crops are to be encouraged along with animal husbandry and dairying.
- To raise productivity, supply of pure and quality seeds is a prerequisite. Strengthen the research activities of ANGRAU, which is mainly responsible for generation of new technology, disseminating it among farmers and solving location specific problems. Simultaneously, cracking down on spurious traders of seeds so that farmers don't fall into their trap is required.
- Initiative should be taken to educate the farmers on adverse effects of excess and imbalanced use of fertilizers through extension services and other methods; provide information on the

optimum use as per the region and crop and to promote use of organic manures and bio-fertilizers along with chemical fertilizers.

- Pesticides are used excessively and indiscriminately. Farmers should be educated on IPM and IDM methods. Also, there should be strict quality check for the pesticides of various brands, so that traders do not deceive farmers.
- Government should provide cheaper credit through institutional sources, which will ensure effective implementation of various farm credit programmes by financial institutions. Popularize the micro credit programmes by strengthening the new generation financial institutions.

Horticulture

- Increase cold storage facilities and other related infrastructure like transport vehicles, handling equipment, etc. Train people in agro-processing and handling of the products. Improving post-harvest management will increase the export potential of the state's products.

Livestock and Dairy development

- Improvement in feeding, management practices and up gradation of animals through crossbreeding to raise efficiency of milch and work animals. Educate the farmers on selection of breeds and on scientific feeding and management practices.
- Upgrade technology to diversify products and tap the global market for milk and milk products. Identify the products, which have export potential and establish units producing them along with participation of private sector. Promote research and development in handling of milk at the farmer level, suitable to local conditions.
- Marketing facilities are to be improved by establishing units, which will process meat, and by products under private sector. There is need to regulate such units, establishing a proper link among the markets, farmers and units. Livestock marketing should be brought under regulated marketing act and reduce exploitation by middlemen.

Fisheries

- To improve efficiency, strengthen the programmes on scientific management of fish culture and prawn culture units. Technical assistance is to be provided for testing the required parameters.
- To reduce exploitation by middlemen, marketing facilities have to be improved. Up gradation of technology, regulating the operations of traders through proper market management will help achieve the aim. Fishermen have to be trained to handle and process fish on international

standards. To establish proper link between fishermen and businessmen, regulation of private traders is necessary.

Section 3: Findings from the State of Assam

3.6 Keeping the WTO agreements in mind, the stakeholders of Assam agriculture performed a SWOT analysis for their state, which is summarized in Table 3.2 below.

3.7 The responses of different stakeholders have been identified as follows

Market Access

- The dual factors of comparatively higher levels of tariff in most developed countries and stricter compliance with SPS measures has virtually discouraged the export of agricultural commodities from relatively backward states like Assam.
- The stakeholders strongly felt that tariff on import of rice should be preserved as further import of rice would impoverish the rural economy in Assam.

Table 3.2: A SWOT Analysis for the State of Assam

Strengths	<ul style="list-style-type: none"> • Assam is richly endowed with natural resources like abundant rainfall, sandy loam soil, and congenial agro-climatic conditions suitable to grow various field crops, horticultural crops, spices, vegetables and varieties of medicinal and aromatic plants. • Assam ranks sixth in the country in the production of fruits and vegetables. Moreover, bamboo occupies the pride of place amongst all plantation crops cultivated within the state.
Weaknesses	<ul style="list-style-type: none"> • Despite the comparative advantages in natural resources; the current agricultural scenario in Assam can be deemed as underdeveloped, backward and has recorded a very slow growth rate. Following are some of the striking constraints/problems plaguing the agricultural production in Assam. <ol style="list-style-type: none"> I. Sinking land-man ratio due to excessive dependence on agricultural sector. As a byproduct, majority of the land holdings are of small and marginal size. II. Significantly low per capita income (by 57.51%) compared to the national average. III. Traditional cropping pattern (with no substitution in favour of more remunerative crops) and low yield rates for majority of the crops. IV. Absolute lack of implementation of modern farm technology exacerbated by capital scarcity and non-availability of institutional loan. V. Unfavourable land policy and unscrupulous implementation of tenancy reforms in the state. VI. Inadequate irrigation facility despite huge (untapped) irrigation potential within the state. VII. Lack of institutional credit and poor quality of banking services. VIII. Non adoption of HYV seeds and other modern farm

	<p>inputs coupled with inadequate fertilizer use.</p> <p>IX. Insufficient marketing and storage facilities.</p> <p>X. Lack of orientation and awareness about government programmes and policies due to ineffective communication network.</p>
Opportunities	<ul style="list-style-type: none"> • The diverse agro-climatic zones of Assam offer great potential for cultivation and development of plantation and horticulture crops. Such profitable avenues generating substantial revenue for the state ex-chequer need to be duly explored. • The possibility of transferring the un-skilled on-farm labour in Assam to skilled non-farm jobs has to be carefully weight in order to arrest the increasing proliferation of urban slums. • There is a strong need to synthesize the isolated measures taken in each core domain of the agriculture sector into a comprehensive, firm and realistic state policy on agriculture; duly factoring in the developments at the national and international arena. • Assam is going to emerge as the doorway to South-East Asian markets in the near future due to its strategic location. There is great scope for export of agricultural produce of the state/region to these South-East Asian countries. Opening of more border trade and still –well highway will stimulate trade ties with these neighboring countries.
Threats	<ul style="list-style-type: none"> • High frequency of floods and consequent soil erosion are two of the most critical threats faced by the agricultural sector in Assam. • In order to meet the stringent quality control standards imposed by the international community for export of Indian produce, phyto-sanitation and food sanitation will be new, critical dimension of marketing. The indigenous producers cannot afford to overlook the well-defined and necessarily binding SPS restrictions.

- State endeavors to develop marketing and processing infrastructure and to focus on value addition of agricultural produce are deemed to be instrumental in exploiting the strategic location of Assam as a potential gateway for export of agricultural products to neighboring countries and south-east Asian markets.

Export Promotion

- It was collectively felt that Assam has strong potential to emerge as the future doorway to south-east Asian markets owing to its strategic location. Hence targeted export promotion campaigns must be implemented in order to capitalize on this natural advantage thereby stimulating cross-border trade
- Diversification of agriculture sector and agribusiness industries as per the EXIM policy guidelines would facilitate the expansion of agricultural exports originating from Assam.

Domestic Support

- Notwithstanding the myriad of constraints faced by the agricultural scenario in Assam, the farmers in the state should strive to reduce cost of production through appropriate mechanization, adoption of bio-technology and creating sophisticated market infrastructure. In this context, to make the indigenous commodities competitive in the world market, non-product specific domestic support should be extended under Special and Differential Treatment for the resource poor farmer.
- In addition, it was believed that liberal support/subsidy should be made available for processing of fruits, medicinal and aromatic plants to the interested entrepreneurs.

SPS

- Majority of the state stakeholders seemed reliant on the government in creating the necessary infrastructure to provide requisite services on SPS measures to the farmers.
- There was a strong argument asserting that some of the articles (9 out of total 14) of the current SPS agreement; especially the safety issues might be detrimental to India's trade interest in agricultural products.
- The participants also felt that there was a general lack of transparency and harmony in the SPS measure adopted by the WTO member nations.

TRIPS

- The stakeholders rightfully acknowledged the concerted efforts undertaken by the ICAR (through various symposia and workshops) in order to popularize the patenting activity in agriculture and sensitize the farmers regarding core issues emerging out of the TRIPS agreement.. They felt that such effective information dissemination would propel public institutions to develop new technologies and research infrastructure in this direction.

3.8 The state appears to have undertaken the following actions in the domain of agriculture and allied activities:

- NABARD has come up with an innovative financial product called 'Joint Liability Groups (JLG)' which is currently being pilot tested. JLGs are small groups of people (5-10 members) who are incapable of offering collaterals to the banking system for undertaking large scale economic activities. The JLG mechanism increases the flow of credit without concomitant problems of high default, high transactions cost etc. In addition, the Vikas Volunteer Vahini (Farmers' Clubs) introduced by NABARD helps to address the problem of recovery of bad loans. In order to make farmers' access to credit relatively easy, it is imperative that a large number of such farmers' clubs are formed within the state.

- Among the various vegetable crops; ginger offers tremendous scope for commercialization in Assam. In order to exploit this opportunity, Government of India has announced the Agri Export Zone (AEZ) for ginger in 8 districts of Assam. It is prognosticated that if this potential is optimally utilized, the volume of business could be more than Rs. 200 crores per annum.
- Considerable work seems to have been done by NABARD to increase the economic well-being of bamboo farmers. It opened dialogues with two paper mills and developed specific bankable projects covering planting of bamboo in about 500 acres with an outlay of Rs. 5 crore in 6 districts. It has also effectively used the contract farming mode in the bamboo business.

3.9 Based on the inputs available from the stakeholders of Assam agriculture, the following action points need to be initiated for development of agriculture and allied sectors (presented sector-wise):²

A. Crop Husbandry:

Agriculture:

- For the scrupulous formulation of viable agricultural policies in the agro-climatic zone of Assam, a scientifically drafted rainfall map and irrigation map elaborating the cropping pattern should be prepared ideally by the State Agriculture Department.
- The flood period in the state covers predominantly Kharif and Summer Crop. Hence the cropping sequence in flood prone areas should be duly changed to HYV pre-kharif short duration paddy, rabi crops and oilseeds coupled with a provision of supplementary irrigation. Moreover, in low lying flood prone areas, deep water crops like Bao paddy may be promoted.
- Agricultural research on developing appropriate cropping sequence in the context of the existing farming system approach for different agro-climatic zones should be encouraged specifically by the Assam Agriculture University (AAU). Other critical research areas include land reforms, market reforms, development of appropriate rural infrastructure etc.
- Reclamation of degraded soil (80000 hect.) for cultivation of crops and allied activities, for protection of ecology and ensuring sustainability ought to be a top priority on the policymaking agenda.

² This section is primarily adapted from the revised study report prepared by AERC, Assam Agricultural University, Jorhat in June 2005.

- The provision of insurance cover (by GIC and other major players) for crops, livestock, and fisheries has to be vigorously advocated for to provide a security net (risk-absorbent) to the farming community.
- Targeted efforts should be undertaken to ensure timely supply of credit (by nationalized banks and RRBs), HYV seeds of major crop varieties.
- In case of Jute, sophisticated market infrastructure with storage facilities and establishment of jute mills in the state would protect the interest of the most intimate stakeholder (namely the farmer) and create potential for gainful employment.
- Creation of a singly window input delivery system to ensure timely supply of inputs to farmers in rural areas is another focal point.
- The comprehensive agricultural policy encompassing core sub-sectors like irrigation, animal husbandry, extension services, land reforms etc. should be duly synthesized to evolve into a cohesive state policy on agriculture functioning under one umbrella.
- Adoption of contract farming should be facilitated, wherever feasible. Given the present constraints crippling the agrarian scenario in Assam, contract farming models can be viewed as a modern institutional design leading to win-win situation, both for the growers and the processors/exporters. Moreover, strategies and infrastructural support should be furnished for developing organic farming.
- To promote and encourage farmers for crop diversification; suitable cash incentive packages can be designed for farmers willing to venture into cultivation of comparatively more remunerative crops as against the traditional varieties. In addition, special schemes may also be launched to encourage the cultivation of medicinal and aromatic plants and to promote herbal parks with processing facilities.
- Specific schemes may be initiated to enhance agricultural marketing and export of agriculture produce. Supplementary incentives can also be provided for those farmers growing agricultural produce with organic manure and conforming to the SPS measures. Moreover, for control of pest attacks and diseases; integrated pest management (IPM) measures could be promoted by allocating a higher share of plan expenditure in their favor.
- Last but not the least, concrete steps need to be taken to strengthen the agricultural research (R&D), extension services and farmer linkage network in the state of Assam. A holistic rural extension preparing the farmers for an impending technology transformation would bring about the much desired pace of growth in agricultural sector coupled with rural development.

In addition to the above thrust areas, the National Bank for Agricultural and Rural Development (NABARD), in its publication titled “Agrarian Prosperity in Assam- A road Map (May 2004), has also identified numerous strategic areas for the agrarian policy reforms in future. The most important ones are enunciated below:

- In order to encourage the farmers for diversifying into non-food or cash crops; they may be offered incentives for the first three years on the line of cash incentive schemes proposed in Punjab. Moreover, food and agro-processing as a value addition and better commercial proposition (with substantial financial returns) needs to be carefully evaluated and duly explored.
- Efficient use of information, communication and technology (ICT) for bringing farmer closer to the market (e.g. e-Choupals) would definitely culminate into a paradigm shift in the perspective towards transfer of technology. Special emphasis ought to be placed on eco-friendly technologies, intensive integrated farming systems, precision farming technologies and value addition at farm level. ICT should be employed further to create a more comprehensive and more dependable database on all agricultural matters including land records. Kissan Calls centers may be established in Assam to disseminate quantitative information to the farmers.
- With commodity exchanges like National Commodities Derivatives Exchange (a NABARD supported initiative) and others, it is imperative to prepare the farmers in Assam to weather the global challenges in marketing of agricultural products. A two pronged strategy of promoting both production of quality produce and its skillful marketing would help the state to realize its underexploited potential. Moreover, international certifying agencies should be encouraged to open certification centers in the state to offer a wide array of services to the local farmers. The cost of such certification could be partially borne by the state/central government.
- Setting up of food parks, agri-business centers and agri-clinics, establishment of rural agro-industrial complexes based on sophisticated technology would help to accelerate the pace of development of rural economy in Assam.
- Last but not the least, a new generation of Farm Management Councils (FMCs) with a fresh look at their functioning and operational spheres should be developed and utilized as ‘change agents’ in the process of revitalization of the agrarian scenario in Assam. Secondly, the local level voluntary organizations, Self Help Groups (SHGs) should come forward to be instrumental in forming viable and efficient groups and coordinate their access to credit and other non-credit inputs.
- Pani Panchayats (Water users’ associations) may be formed in various areas to organize different irrigation systems on efficient lines thereby ensuring reliable development and distribution of water resources.

Horticulture:

- Selection and production of planting materials of high quality, increase in use of tissue culture for production and planting materials should be duly encouraged. Major emphasis should be placed on the increase in area, production and yield of quality fruits and vegetables in compact belt with a view to assist the establishment of agro-processing industries with cold storage godowns. Moreover, value addition operation should be promoted by encouraging private players to set up fruit and food processing industries.
- Establishment of cold storage facilities in assembly market and in rural areas where fruits and vegetables are grown on commercial scale is a critical requirement. Special thrust must be on post harvest handling, post harvest quality control processing, scientific storage and marketing. The farmers should be well-trained in areas like proper handling, grading and storage practices. Setting up cold chain and cold storages at wholesale market and assembly points is also pivotal in this regard. Private investment, through entrepreneurial expertise, may be encouraged for maintenance and running of the cold storages.
- The state government should actively encourage organic farming practices for production of organic manure and biomass along with Integrated Pest and disease Management practices for promotion of agricultural and horticultural products.
- The state should encourage cultivation of medicinal and aromatic plants in the herbal parks by the unemployed agricultural graduates coupled with provision of well-equipped processing facilities.
- The farmers may be propelled to grow citrus fruits like Khasi Mandarin, Assam lemon and GOI Nimbu on orchards in commercial scale. Banana cultivation like Jahaji, Bor-jahaji, Malbhog, Cheni-champa etc. have significant commercial potential and hence can be grown on reclaimed lands.
- There is also need to diversify the very use of Bamboo, one of the major plantation crops in Assam, from using it for paper manufacturing to other uses that would provide higher value addition benefits. In this context, private sector investments must be welcomed in bamboo based industries. (NABARD, 2004).

B: Animal Husbandry & Dairy

Cattle:

- There is an urgent need to evolve a cattle breeding program for the genetic improvement of indigenous non-descript animals through cross breeding with superior germ plasm and

subsequent interse mating with FIS. In this context, upgrading of indigenous buffaloes through improved breeding of Indian origin is also equally critical.

- To develop good quality replacement stock, calf rearing should be popularized in the state. This would be economical in places where availability of fodder is abundant (NABARD, 2004).
- The dairy farming with cross breed animals is an attractive proposition for the educated unemployed youth. Hence such interested persons must be encouraged in this direction by offering requisite institutional credit facilities.
- Area based projects of dairy covering all the aspects like introducing quality animals, provision of breeding and veterinary aid, milk procurement and supply of feed and fodder should be developed so that the processing plants already in operation can be utilized to their optimum capacity (NABARD, 2004).
- The state government should permit the livestock farmers in order to cultivate green fodder in the fallow and grazing land. Moreover, it should encourage the private parties in favor of establishment of compound feed manufacturing unit and for exploring the non-conventional feed sources.
- Establishment of necessary network for timely prophylactic measures and emergency services for the treatment of livestock is a critical requirement. Special efforts should be geared towards undertaking intensive epidemiological studies of the livestock infection-diseases in order to control and eradicate the same. In addition, the facilities for A.I and pregnancy test/diagnosis need to be ideally located at the farmers' fields.
- Improvement in feeding, management, housing and animal health care ought to be promoted by creating awareness amongst the farmers via education, demonstration etc.
- Marketing facilities have to be established with upgraded technology to diversify the milk and milk products business. In tune with this, careful identification of products which have strong (but hitherto untapped) export potential and setting up processing units for such items through collaboration with the private sector is also equally critical.

Poultry Farming:

- The favorable prospects of poultry farming in Assam need to be duly exploited. In this connection, a group of trained educated unemployed youth may be formally organized and encouraged to open up hatcheries thereby raising the commercial parent stock of birds and hybrid chicks.
- Production and marketing of live broiler, dressed varieties and packaging of broilers can be taken up on a commercial scale thus generating employment and income.

- The essential poultry feed ingredients like rice polish, rice bran, maize, oil-cake, fish-meal, bone meal etc. may be collected and stored. The other necessary ingredients may be imported from other states to manufacture balanced poultry feed.
- To develop a competitive poultry structure in Assam, creation of basic facilities relating to hatching (hatchery cum breeding units or custom hatching units) and feed mixing centers are essential (NABARD, 2004).

Piggery Farming:

- A coordinated development programme for breeding, feeding, management and disease control needs to be taken up for the development of piggery on commercial lines. Training programmes revolving around scientific breeding, feeding, rearing and management may be organized for the pig farms in the state.
- There is a strong need to formulate balanced feed based on locally available feed stuff. Pig breeding may be encouraged in areas having surplus grain and by-products available at cheaper rate. Necessary credit facilities should be at easy disposal of the interested pig rearers for purchase of piglets, construction of sheds for pig breeding in small units etc.
- Efforts ought to be also made to set up organized marketing facilities. Also, possibilities for creation of export market should be duly explored by setting up Bacon factories.
- Setting up of nucleus piggery farms and multiplier farms in the private sector need to be encouraged. These can rightly act as supply point for good quality piglets for breeding as well as fattening for piggery farmers (NABARD, 2004)

C. Fisheries:

- Development of *beels* can be achieved by de-silting, deepening of connecting canals, de-weeding and suitable changes in leasing policies. Private entrepreneurs should be encouraged to take up fisheries in *beels* by providing long term lease. In addition to the existing water bodies, low lying/water logged lands and brick kiln areas under private ownership can be transformed into fish ponds with less investment for scientific fish culture (NABARD, 2004)
- Development of ornamental fisheries for export and indigenous market required targeted measures involving sustainable exploitation of existing natural resources and breeding of native and exotic varieties under controlled conditions. Moreover, culture of fresh water prawn can be successfully undertaken in Assam. Private entrepreneurs have to be encouraged for engaging in poly-culture of prawn with fish (NABARD, 2004).

Section 4: Findings from the State of Gujarat

3.10 The stakeholders of Gujarat agriculture identified the following strengths, weaknesses, opportunities and threats for it in view of India's involvement in WTO as a member, which are captured in Table 3.3 below.

Table 3.3: A SWOT Analysis for the State of Gujarat

Strengths	<ul style="list-style-type: none"> • Is a producer of high value crops which also have high productivity • Good infrastructure network of communication and transport. • Being a coastal state the export producers have easier access to ports. • Farm community is enterprising and responsive to changes at national and international level.
Weaknesses	<ul style="list-style-type: none"> • Irrigation facilities are inadequate causing heavy dependence on rainfall. • Non-presence of proper marketing facilities for agricultural products. • Use of fertilizers is at low level of efficiency. • Large number of small and marginal farmers who cannot go in for capital intensive agriculture because of lack of economies of scale. • Erosion of co-operatives and other institutions working in the agriculture sector
Opportunities	<ul style="list-style-type: none"> • The state has a fairly high share of world production in major oilseeds and hence there is a good scope in export trade. • Efficient utilization of already present good extension network can help to widely adopt the technological changes in agriculture. • Due to presence of small and marginal farmers there is requirement of finance. Financial institutions like, NABARD, Regional Rural Banks and Commercial banks can play a crucial role. • In respect of animal husbandry the state being a leader in dairy development, can emerge as a good export trader in the ensuring period. • Long coastline gives adequate scope of earning substantial foreign exchange through expansion in fisheries trade.
Threats	<ul style="list-style-type: none"> • Surge in imports of oilseeds due to increased consumption caused by lower prices after trade liberalization. • Huge amount of subsidies given by developed nations reduce competitiveness of exports, leading to dominance of few rich nations in world market. • Due to few players minor changes in production and consumption conditions, causes substantial impact on prices, leading to volatility in prices • Threat of transmission of volatility in world prices to domestic market. • High quality standards in world market, which are difficult to come up to.

3.11 The action points already initiated by the state are presented below by sector:

Oilseeds (General)

- Gujarat Agricultural University along with government research stations is working to develop effective high grade HYV. Research to be focused on technology related to

production, marketing and other needs of the sector. Extension network to be made active so that research results reach the farm level.

- Establishment of Special Board to look after and advice exporters in their trading with IT market.

Castor

- Research work has been undertaken by government and private sector to look into technological development in this sector.

Groundnut

- Government research centres and GAU are involved in evolution and adoption of export suitable varieties.
- Provision of protective irrigation, watershed recharging and other facilities to groundnut area.

Mustard

- Action taken by government research centres and GAU to evolve high grade, high nutritional content mustard variety.

Sesamum

- Supervision is done by Government Board of the processing stage to reduce high race contents. The quality of exportable sesamum will be checked.

Sugar

- Encouraging large scale application of bio-fertilizers and tissue culture in sugarcane.
- Reforms in tax policy to provide relief to sugar and sugar product industries in terms of finance and other resources.
- To reduce the problem of shortage of supply of cane and under utilization of capacity, amalgamation of industries is being encouraged.

Spices

- Improvement in pre-harvest practices and scientific handling of post-harvest management of spices.
- Improved yields through necessary research and extension network.

Cotton

- Initiatives have been taken by government's extension department to ensure effective applications of already available superior varieties at farm level.
- Supervision of processing stage to remove high trash contents in cotton.

- Government and co-operative institutions are working together to provide market infrastructure to help farmers realize reasonable prices

Dairying

- Improvement and expansion of breeding facilities, improved health services, control of diseases through strengthening research and extension services
- Providing financial and infrastructural facilities so as to strengthen small holders' dairying.

3.12 The stakeholders feel that the following action points (indicated sector-wise) ought to be initiated in the near future:

Oilseeds

- Efforts should be in the direction of facilitating higher grades of products and raising standard in respect of each element.
- A cell should be established which can give advice on standards and price differences to export units.
- India can also give subsidies on marketing and transport of oilseeds and oils within the WTO framework and thereby support export of oilseed sector products.
- Demand for organically grown oilseeds is fast increasing. This market can be exploited by the Indian oil sector by rapidly promoting organic agriculture. A strong extension services like providing training to farmers, offering incentives to farmer' adopting organic farming can serve useful purpose.
- There is also a need for removal of disparities in purchase and sales-tax structure for rationalization and for encouraging value added products' exports.

Sugar

- Negotiations should be taken up so as to remove the restrictions imposed by developed nations. Sugar Export Promotion Board may be created to take up the task to boost up sugar exports.

Spices

- There is a need for undertaking promotional brands so as to have uniform quality of our spices in IT market.

Cotton

- Continuous research to increase production at lower cost is a principal measure to be taken up to boost exports

- Import tariff which is 5% at present needs to be raised up to a level of 25%.
- Marketing of cotton needs to be improved.

Dairying

- Effective steps in the direction of improvement and expansion of breeding facilities, improvement in health services, control of diseases through strengthening of research and extension activities can bring down milk production cost in Gujarat and India.

Section 5: Findings from the State of Haryana³

3.13 Performance of a SWOT analysis based on the documents available yielded Table 3.4, which is given below.

Table 3.4: A SWOT Analysis for the State of Haryana

Strengths	<ul style="list-style-type: none"> • Haryana is one of the most prosperous States in the country with one of the highest per capita income. It enjoys the unique distinction of having provided electricity, metalled roads and portable water to all its villages within a record time. • Agriculture is the mainstay of the state economy. Haryana is viewed as the grain bowl of India, being one of the largest contributors of food grains to the Central pool. Moreover, it ranks first in the country in the export of basmati rice. • Green revolution in the state has been synonymous with farm mechanization and development of irrigation infrastructure. Consequently, the overall productivity has grown by leaps and bounds. • Since the introduction of High Yielding Varieties, the consumption of chemical fertilizers has been increasing steadily thereby enhancing the overall agricultural productivity. • Recent changes in the structural composition of the state GDP hints at a calculated move towards becoming a developed economy. The financial management of Haryana has been termed as one of the best in the country by both the Planning Commission and the Eleventh Finance Commission. • The diverse agro-climatic conditions of the state are conducive for cultivation of fruits crops like citrus, grapes, mango, guava etc. • Animal husbandry sector also has a significant place in the rural economy of this state. Haryana is the milk pail of India and is famous for having the germ plasm of Haryana cows and Murrah buffaloes. Furthermore, the state also boasts of good quality livestock and sophisticated infrastructure for collection, proceeding and marketing of livestock products. • The State is now on the threshold of 'Blue Revolution' in the field of fish production after the Green and White Revolution. The farmers have started adopting pisciculture as a secondary occupation. From the status of a non-traditional area for fish farming, the state has achieved the distinction of producing highest average productivity per hectare among all other states.
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³ This state profile is based on the State Focus Paper 2005-06 prepared by NABARD regional office, Chandigarh, for the state of Haryana.

Weaknesses	<ul style="list-style-type: none"> • There is limited scope for expanding the cultivable area within the Haryana as they state has already reached saturation level as far as the net sown area is concerned. • The total availability of water from both surface and sub-surface s much below the current requirement. The problem is exacerbated by the dominance of wheat-paddy rotation causing serious soil degradation and further fall in groundwater level. • Availability of good quality planting material, mushroom spawn and pasteurized compost is restricted thereby posing problems for the plantation and horticulture sector. • Productivity of cattle is considerably low. Moreover the generic potential of milch animals is not duly exploited. The existing supply of veterinary aid, extension services and on-farming training facilities for entrepreneurs and farmers is grossly inadequate. • There is a lack of proper organized market for the poultry sector coupled with shortcomings like high cost of feed, unorganized processing.
Opportunities	<ul style="list-style-type: none"> • As one third of the state territory falls within the geographical coverage of the National Capital Region; there is tremendous scope for establishment of agro-processing industries and for commercial cultivation of vegetable crops, flowers etc by the indigenous farmers.. Especially owing to its proximity to Delhi, there is vast potential for processing of milk and vegetables. • Fish culture offers considerable potential in the state that needs to be duly studies and exploited. Fish culture is being increasingly regarded as a supplementary income generating source and is also endorsed by the state government through appropriate financial assistance. • Substantial scope exists in the state of Haryana for creation of Agri-Export zones for promising exportable crops not hitherto covered.
Threats	<ul style="list-style-type: none"> • Erratic fluctuations, volatility in the market for agricultural inputs and outputs can pose a serious threat to the local farmers and traders alike. • The agricultural sector is extremely sensitive to vagaries of weather and equally vulnerable to natural calamities like floods, droughts etc. These unanticipated occurrences increase the risk exposure within the areas prone to such contingencies.

3.13 The state of Haryana reported the following actions points undertaken / schemes implemented, which are presented below in a sector-wise manner:

Crop Husbandry

- The State Govt. is currently carrying out the ground water assessment based on the recommendations of the Ground Water Estimation Committee. The exercise will help to have a fresh look at the status of the resources. The government is also promoting water conservation devices through subsidy assistance.
- Furthermore, a number of land development activities can be undertaken through institutional finance viz. sand scrapping, land leveling, water harvesting tanks / check dams, watershed management, compost making / vermi compost, seeds production and processing.

- The Haryana Government is providing subsidy for various farm implements like zero till seed cum fertilizer drill, rotavator, potato planter, bed planter, potato digger, castor thresher, power-weeder etc to lubricate the spread and pace of farm mechanization practices.

Horticulture

The State Government has planned to bring an additional area of 10,000 hectares under different fruit crops during 10th Five Year Plan (2002-07). To achieve this objective, the state government has planned to adopt following schemes:

I. Area expansion

- Timely supply of quality planting materials, certified and hybrid vegetable seeds
- Motivation of farmers with the latest technology for growing horticulture crops by arranging Gyan Gosthies, Field days, Seminars, Trainings and Exhibitions.
- Demonstrations on agro technology of various horticulture crops
- Popularization of Drip/Sprinkler irrigation

II. Increasing production/productivity

- Introducing latest high yielding varieties and popularizing the use of hybrid vegetable seeds
- Organizing trainings on pruning of different horticulture crops for achieving higher productivity.
- Strengthening existing Govt. Garden nurseries for propagating quality fruit plants and production of quality seeds of vegetables and flowers.
- Popularizing use of improved horticulture tools and implements like vegetable transplanter, vegetable seed thresher, seed extracting machine, garlic planter, self propelled boom sprayer etc.

III. Quality improvement

- Popularizing use of growth hormones and growth regulators.
- Popularizing use of drip irrigation for quality improvement, early ripening and weed control
- Identifying high quality mother plants in their nurseries and propagating quality planting material to meet the needs of the farmers
- Popularizing integrated nutrient management and integrated pest management
- Strengthening existing tissue culture lab at HTI, Karnal for production of tissue culture plants

IV Generation of more income for farmers

- Introduction and popularizing novel crops like strawberry, medicinal & aromatic plants, spices like ginger, garlic, turmeric, chilly, coriander, fennel, fenugreek etc. and exotic vegetables
- Popularizing use of plastics: green house, shade net, low tunnel etc.
- Promoting organic farming systems like vermi compost.

V. *Earning of foreign exchange*

- Encouraging vegetable crops with significant export potential like Peas, Bhindi, Onion, Cauliflower etc.
- Popularizing floriculture by capitalizing on the advantage of nearness to international airport at New Delhi.

Animal Husbandry, Dairying and Poultry

- The Department of Animal Husbandry and Dairying (DAHD) has been actively involved in augmenting crossbreeding programme in the state.
- DAHD has instituted an insurance programme in the state to provide Insurance cover to all the milch animals yielding more than 12 litres milk per day. The department has also introduced Centrally Sponsored backyard poultry scheme in the state by strengthening of existing government Hatchery at Ambala to fulfill its social responsibility of weaker sections.
- With respect to dairy development, DAHD is providing self-employment opportunities to the unemployed people by establishment of dairy units, arranging for farmers training and organizing milk yield competitions.
- In order to provide the necessary fillip to the dairy sector, the DAHD is planning to introduce sophisticated quality control measures for cattle feed, concentrate, mineral mixtures and testing equipment by the State Dairy Laboratory, Rohtak for the 10th Five Year Plan.
- A Pilot scheme for providing breeding cover has been launched by the Haryana Dairy Development Cooperative Federation Ltd. (HDDCF) in Narayangarh (Ambala), Rania (Sirsa) and Ladwa (Kurukshetra). In addition, the federation also strives to enlarge the coverage of their existing clean milk production programmes. Last but not the least, a centrally sponsored scheme for establishing 200 Women Dairy Cooperatives is on the verge of operationalization.

Fisheries

- The entire fisheries sector is covered by the extension services of the FFDAs. Furthermore, the schemes supported by FFDAs are also covered by a wide gamut subsidy programs. At present subsidy is available for Composite Fish Farming, Fresh Water Prawn Farming, Circular Hatcheries, Fish Seed Rearing Units, and Fish Feed Units etc.
- NABARD R.O through a joint effort with the Department of Fisheries (Haryana) has introduced fresh water prawn farming for the first time in the region.
- The FFDAs are providing basic training on fish farming for prospective fish farmer, the stipulated duration being 15 days. Similarly refresher training program (5 days) for practicing fish farmers and introductory training program (3 days) for prospective prawn farmers are available at

Aquaculture Research and Training Institute (ARTI), Hissar. Moreover, the department also conducts study cum exposure tours for prospective prawn farmers at Nellore (Andhra Pradesh).

3.14 The stakeholders of Haryana agriculture suggested the following action points (given sector-wise), which ought to be initiated by the state government:

Crop Husbandry

1. Strategies for Risk Management during Natural Calamities:

- Research and Development efforts in the state may be strengthened for developing drought/flood resistant seed varieties.
- There is a need to start a water literacy movement in the state for which Panchayat leaders should be adequately trained and sensitized.
- Water harvesting measures need to be adopted and popularized.
- Targeted efforts ought to be made to conserve ever-depleting ground water resources and increase its level by adopting alternate and modern irrigation systems like, drip and sprinkler.

2. Land Development:

- Certification of organic products for promotion and propagation of organic farming ought to be arranged for and undertaken by the concerned department.
- Demonstration of vermiculture technology at district (micro) level is also recommended.
- Financing of zero tillage machine, bed planter, rotavator and modern farm implements and equipments for soil tillage needs to be stimulated.

3. Setting up of Food Parks:

- Food Parks should be made a hub for Food and Agro processing units. The setting up these parks should be ideally based on potential of the area and requirements of the processing units to tap the potential. This would help to utilize the infrastructure effectively.
- Advanced management and marketing methods ought to be introduced. In addition, extension and dissemination of information through mass media, technical development, research activities as well as training programmes need to be improved.
- The forward linkages from agriculture sector to agro- processing need be duly exploited and developed through a focused approach by way of continued Research & Development efforts.

Plantation and Horticulture

- There is growing need to emphasize promotion of shorter gestation vegetables and fruit crops, medicinal & aromatic plants, commercial flower crops, mushrooms and exotic fruits & vegetable production.
- Timely availability of good quality planting material, mushroom spawn and pasteurized compost is one of the major bottlenecks. Unemployed agricultural graduates may be duly encouraged to set up agri-clinics and agri-business centres for providing quality planting material and other extension services.
- Post-harvest facilities like packaging, efficient transportation (reefer vans), cold storage, pre-cooling, processing, canning etc. need to be routed through private sector participation in potential districts.
- Identifying potential crops having export potential and declaring those districts as Agri Export Zones (AEZs) with the help of APEDA and NABARD could be immediately taken up by State Govt. to help the farmers in enhancing their income levels.

Animal Husbandry

- A massive extension program is required to be launched by all the concerned players of the sector to create awareness among the farmers about balance feed practices.
- A centrally sponsored dairy development scheme is in vogue in Punjab which provides incentive for fodder cultivation. A model scheme on fodder cultivation under irrigation conditions formulated by NABARD may be adequately popularized.
- Sensitization and networking of farmers and SHG groups is also a preferred path.
- Proposal for modernization needs to be firmed up in Public sector duly supplemented by another proposal for setting up retail units in private sector.
- DAH may draw up specific plans for establishing polyclinics in key districts to start with (on a pilot basis).

Fisheries

- There is a need to consolidate the ongoing multi agency efforts in promoting innovative and export oriented investments like fresh water prawn culture, Cat Fish farming.
- Formulation of projects for Village Ponds Development under the domain of Rural Infrastructure Development Fund may facilitate further development of this sector.

Section 6: Findings from the State of Himachal Pradesh (HP)

Table 3.5: A SWOT Analysis for the State of HP

Strengths	<ul style="list-style-type: none"> • The state has a comparative advantage in production of Fruits and Vegetables. • Due to climatic advantage, the state can produce winter crops during summer. • It is very near to national market like Delhi, from where the produce can be exported easily. Less transaction cost, conferring a price advantage.
Weaknesses	<ul style="list-style-type: none"> • Sub-optimal use of fertilizers by farmers. • Scanty irrigation facilities provided by the state. • Producers are not aware of proper grading, packaging and marketing of their produce. • The share of agriculture in State NDP has fallen, but the amount of people employed in this sector hasn't, leading to low productivity of crops and disguised unemployment.
Opportunities	<ul style="list-style-type: none"> • Export potential for newly planted apple variety. There is good demand for them in the neighboring nations. • Cultivation of hop, a high value crop can be grown in the state, which has high demand in the international market. • Availability of low cost, highly effective insecticides/pesticides. • Availability of low cost, good quality fertilizers. Input costs being low, would provide a price advantage. • New market and production technologies, which are cost-effective and productive. • Producers can organize themselves into co-operatives to promote branded and high quality apples through super-market chains. • Producers have easy access to credit at low interest rates.
Threats	<ul style="list-style-type: none"> • Surge in imports of apples from foreign markets due to change in domestic consumer preferences. • SPS measures implemented on crops using the insecticides/pesticides and fertilizers will show high levels of toxicity • Implementation of production and grading technology to come up to level of SPS measures is going to increase costs

3.15 Table 3.5 above provides a SWOT analysis of the state based on available materials and inputs from the stakeholders of HP agriculture.

3.16 The stakeholder responses to WTO clauses and agreements - received mainly from the apple orchard operators, probably the most important stakeholder of HP agriculture – are outlined below:

Domestic Support

- Government can go for programs, providing relief to farmers affected by natural calamities. Income Insurance, Crop Insurance and Income Safety net programs can be provided under Special and Differential treatment for developing countries. To low income groups investment subsidy and agricultural input can be provided. They are free from reduction commitments.
- Two components of Amber Box subsidies are product specific and non-product specific. So financing of subsidies on inputs-fertilizer, electricity and irrigation will not be much. This will raise production costs.

Export Promotion

- Export subsidies of the kind mentioned in the AOA are not provided in India, so Government can go for subsidizing exports to make them internationally competitive.
- AMS limit is 13% and the cost of production in the state is quite high. The products of the state sometimes do not qualify for export as it does not satisfy SPS norms.

Market Access

- The state is deficient in cereals, pulses and oilseeds. They should be imported. Efforts and resources should be diverted towards production of fruits and vegetables which have high export potential.
- Even with tariff barriers the imported goods' costs will not be much different from domestic goods leading to imports replacing the domestic production.

SPS

- Help in meeting the sanitary and phytosanitary standards and boosting the exports of fruits and vegetables from the state. These clauses include promises of financial and technical assistance for the developing countries so it does not have any threat for H.P.

TRIPS

- Provides protection to ethnic varieties of plants and H.P. has a huge gene pool of such plants
- The state lacks scientific capability to innovate as well as the expertise and necessary institutional development to use the IPR as a tool for development.

3.17 The above-mentioned stakeholders identified the following action points for implementation:

- The fruits which are being presently produced are unfit for export as per SPS norms. Alternative technology to control pests and insects need to be introduced and popularized. The institutional mechanism needs to be made more effective for transfer of IPM and other eco-friendly technologies at farm level. The State Government with co-operation from chemical suppliers and co-operatives should popularize IPM bio-fertilizer and organic manure.

Section 7: Findings from the State of Karnataka

3.18 Table 3.6 performs a SWOT analysis of the state's strengths, weaknesses, opportunities and threats as perceived by the stakeholders of Karnataka agriculture in view of India's involvement in and commitment to WTO.

3.19 The stakeholders of Karnataka agriculture presented the following viewpoints regarding India's response to the challenge of WTO.

Market Access

- The process of tariffication should be transparent and the States involved must be consulted before finalizing the process
- Trade sensitive commodities should be monitored at State level as well as by the Ministry of Commerce.
- Safeguards against eventualities are made known to stakeholders in advance.
- Surges in imports must have the requisite safety nets.
- Export Promotion Information dissemination about the exportables should be in the local languages.
- Packaging and other infrastructure be made available to the participating Exporters.
- Information about demand for various products and the requirements of sanitary and phyto-sanitary measures be made known to all the participants

Table 3.6: A SWOT Analysis for Karnataka

Strength	<ul style="list-style-type: none"> • State's topography is varied and its agricultural products range from horticulture to food grains • The state has gained self-sufficiency in food grains, cotton and sugar production. • Coffee is its major export commodity followed by cashew and processed food products. • State has a very conducive climatic pattern and investment atmosphere to encourage trade. • Is the pioneering state in starting a WTO Cell
Weakness	<ul style="list-style-type: none"> • Fragmented land holdings and low productivity. • There is non-availability of proper infrastructure causing price spreads which don't benefit the grower killing their incentive. • There are no institutional mechanisms to set up a chain from producer to the consumer • Lack of raw material growth centers to feed the processing units. • High interest rates for agriculture investment as well as export finance. • Information gap between world market and local producers and exporters due to existence of unorganized marketing system.

Opportunities	<ul style="list-style-type: none"> • Vast scope exists for export for cotton, sugar, tobacco and to some extent for maize. • Has potential in animal product floriculture and coarse cereals. • Can take advantage of Backward Area development Exemption under the “Green Box” measures by providing infrastructure in poor districts of the state and tapping export potential. • Has comparative advantage in horticultural and forest products which has market in East Europe, OECD nations and number of developing countries. • Captive plantations can provide the necessary raw materials to agro-processing industries. They can be provided with incentives under Green Box provisions. • Agreement on Textiles is coming into effect in 2005 resulting in lifting of quotas.
Threat	<ul style="list-style-type: none"> • With lifting of QRs, sudden import surges of agricultural, horticultural or floriculture products are likely to create losses for the producers. • Imports of technology like terminator seeds will have a debilitating effect on food security and sustainability of local genetic stock. • Huge amount of subsidies received by agriculture sector of developed nations harming the competitiveness of state’s products • Sanitary and Phyto-Sanitary measures used as NTB. • The impact of Agreement on Textiles on textile trade is unpredictable.

Domestic Support:

- Domestic support in the economically fragile regions and economically weaker sections may be stepped up to induce them to participate in trade.
- Presently we do not have any actionable subsidies and still we have scope for providing subsidies under Green Box. But, the misuse of Green Box by developed nations has to be strongly objected.

SPS :

- Basic contours of the SPS measures are not clear to many of the stakeholders. Presently existing grey zone causes disincentives.
- Information sharing and basic requirements about products be shared with the stake holders.
- Product-wise requirements about SPS of the trading partners are needed to be made available.

TRIPS:

- It is not clear to the stakeholders if India has agreed to all the requirements of TRIPS. Significant information gap exists in this area of WTO for the indigenous traders.

TRIMS:

- India still has a long way to go about the TRIMS, but presently the country should be ready to face agreement on GATS.

3.20 The stakeholders identified the following action points, which they felt ought to be initiated by the state to meet the challenge of WTO.

- It is necessary to prepare fully with the required homework before entering into negotiations in WTO. Such discussions can be held both at the Central and State level agencies.
- Participation of State 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 as well as that of nation. Similarly, the State Government also prepares for its policy with full participation from district levels.
- The declaration of tariff rates should be more transparent and must be decided in consultation with the state governments, especially those states which have these products as major products.
- It is essential to establish a Nodal agency at the State level to deal with the emerging situations and continuously monitoring the State's role in international trade.
- There exists a large information gap in the prevailing provisions under safeguard measures, sanitary and phyto-sanitary measures. The State should take steps in order to educate the exporters in terms of these requirements specifically from the point of view of the destination countries.
- Marginalization of agricultural holdings necessitates cooperative or corporate agriculture by providing quality seeds and inputs. Such policy steps should be taken with full participation from the farmers
- Investment in research and development has not been up to the mark. It is necessary to step up R & D investment to compete with the efficient production processes.
- Investment should be directed towards sericulture, floriculture, poultry, oilseeds and agro-processing sectors.
- The government and other specific agencies in the field of developing the trade sector should initiate studies on crop genetics, new varieties, post harvest technologies and trade requirements, trade prospects of different agricultural and dairy products.
- The WTO cell should collect, analyze and disseminate information pertaining to trade related aspects and product specific domestic trade related data for the purpose of enhancing the trade environment. Such information should be created and concurrently given to concerned stakeholders to meet the emerging challenges within stipulated response time. The cell should translate the required information into local language for the use of traders and farmers

3.21 Based on the inputs from stakeholders, the AER centre in Karnataka also pointed out a few sector-specific action points, which are summed up in Table 3.7 below.

Table 3.7: Crop-specific Action Points for Karnataka

CROP	PRESENT STATUS	INITIATIVES REQUIRED
MAIZE	Exporting to neighboring countries Bangladesh and Sri Lanka	Improve productivity and transportation facilities
RICE	Not much export even though there is demand for Sona Masoori variety	Increase the productivity of rice. Develop a brand image abroad for the rice variety.
GROUNDNUT SEEDS	Good market in South Asian markets	Improve port facilities at Mangalore and Karwar
NIGER SEEDS	Exported to U.S.A, Singapore, Mexico, and Australia.	Quality and productivity of Niger seed has to be increased
SAFFLOWER	Has market in USA and other countries	Quality up gradation and productivity has to be looked into on war footing to increase oil content of the product.
BLACK PEPPER	Quality doesn't meet the export standards	Quality improvement needs to be done and creating awareness among growers to export on their own by forming associations
CHILLIES	Exported in value added form	To develop more and more value added products from this product
MANGOES	Have markets in Dubai, Singapore, Sri Lanka and Middle East	Quality of product to be increased. Incentives to exporters need to be given a serious look
POMEGRANATES	Exported to Middle East, Singapore, UK etc.	Quality and Productivity are two aspects which need to be looked into. Encourage farmer consortiums to export on their own
GRAPES	Exported to UK, Middle East, Singapore, etc.	Incentive to quality grape growers.
WATERMELON	Watermelons have found place in Middle East, Singapore and other countries	Incentives to be given to exporters and quality parameters have to be made to growers' associations
LIME	Exported to Middle East and other countries in fresh and processed form	Establishment of lime dehydration unit at Bijapur.
FLOWERS	Exported to Europe, Japan and Australia	Creation of infrastructure facilities especially an international airport.
GHERKINS	Exported to Europe	Creation of brand image.
CASHEWNUTS	Exported to USA, Singapore, Europe and other countries.	To make available quality raw nuts to small and medium cashew processors.
COFFEE	Exported to USA, UK, Europe and other countries in raw form and to some extent by MNCs in value added form	Develop a brand for Indian coffee and encourage exporters exporting value added product like instant coffee, coffee powder etc.
ONION	Have markets in Sri Lanka, Malaysia, Singapore, Indonesia, Brunei, Mauritius and other countries	Increase productivity and quality of onion
POTATO	Presently exported to Sri Lanka, Middle East and other nations	To encourage exporters who export value added products like chips form, powder form.

Table 3.8: A SWOT Analysis for the State of Kerala

<p>Strengths</p>	<ul style="list-style-type: none"> • Kerala has one of the richest bio-diversities in the world. In addition, this state ranked first in the Human Development Index consecutively in 1980-81, 1990-91 and 2000-01. The infrastructure network of the State is fairly well developed. It occupies third position in the rate of infrastructure penetration. Transport and communication network is good with cent percent connectivity in roads and electrification. There is no distinct urban-rural divide. • The State is blessed with fairly heavy rainfall averaging about 3000 mm. Further, the rainfall is spread almost throughout the year due to the southwest and northeast monsoons. • The State has one of the lowest per capita distribution of agricultural land in the country, but the per hectare yield (in value terms) is the highest in the country. • Plantation and Horticulture crops have a major stake in Kerala's economy as 80 per cent of the total cropped area is under these crops. Cultivation of medicinal and aromatic crops is also deemed to be a future thrust area.
<p>Weaknesses</p>	<ul style="list-style-type: none"> • The productivity of major plantation crops in the State is lower than all India position. Moreover, the horticulture sector is beset with problems like indiscriminate addition of areas under cultivation, high cost of production, occasional glut in the market resulting in unremunerative prices etc. • The fisheries sector (marine, aquaculture) encounter serious problems like lack of quality fish seed available, poor marketing network and inadequate extension/awareness.
<p>Opportunities</p>	<ul style="list-style-type: none"> • There is also immense scope for mini lift irrigation schemes in the state that needs to be duly exploited. Considerable potential also exists for watershed development, reclamation of marshy and water logged lands and promotion of organic farming. Such innovative ideas need to be carefully evaluated and then adopted. • Commodity-oriented land development activities also have a good potential in the State. These could include cultivation of Agave on the field bunds as a live-fencing measure and fibre extraction, jatropha on waste lands and railway track-sides for bio-fuel extraction, fruits and ethnic vegetables in AEZs, medicinal and aromatic plants
<p>Threats</p>	<ul style="list-style-type: none"> • Severe land degradation is one of the most critical threats that the state is grappling with. Undulating topography with high intensity of rainfall and indiscriminate, unscientific soil/water management practices have exacerbated this problem. • The major ecological hazards occurring in wetlands are: Eutrophication, contamination by toxic chemicals, accelerated sedimentation, excessive water diversion, fish resource depletion and encroachment as well as habitat alteration etc. • The people of Kerala have started mining sand from riverbanks and flood plains due to the non-availability of sand in river channel. This could possibly result in slumping/caving and widening of the riverbank, declining water table and saline water intrusion into wells of the adjacent areas. • The erratic fluctuations in the prices of different perennial crops like arecanut, coconut, pepper and rubber are a cause for concern to the farmers of the state as they have adverse ramifications for their international competitiveness.

Section 8: Findings from the State of Kerala⁴

3.22 Table 3.8 above has summarized a SWOT analysis for the state of Kerala based on the inputs received. It appears that the following actions have already been undertaken by the state and suitable programs are being implemented to strengthen the state's agriculture in this context:

Crop Husbandry:

- The State Government has played a significant role in natural resource conservation for their sustainable exploitation. 114 watershed projects during the VIII plan and another 156 during the IX plan period have already been successfully completed. The programme mainly focuses on low cost conservation and production technologies together with awareness creation for adoption of improved technologies.
- Government of Kerala is promoting farm mechanisation through different developmental and promotional programmes under the Small Farm Mechanisation Scheme like 'Adoption of new suitable equipments/ machineries and its popularisation', and 'Research and development support to develop prototypes for special purpose', etc.

Plantation and Horticulture:

The State Government has initiated many developmental efforts in promotion of cultivation and processing of horticultural produces. Some of the initiatives of the state government are:

- Kerala Horticulture Development Programme (KHDP): Joint venture of the European Union and the Government of Kerala. This has led to establishment of Vegetables and Fruits Promotion Council of Kerala (VFPCCK).
- Kerala State Horticulture Products Development Corporation Ltd., (HORTICORP): Fully owned Govt. company established in the year 1989 to achieve multifaceted developments in the field of procurement, processing and marketing of vegetables and fruits.
- Intensive Vegetable Development Programme: Being implemented by the State Agricultural Department.
- Kerala Agricultural Markets Project (KAMP): It is being assisted by European Union for constructing 6 Agricultural Wholesale Markets (AWM) at a cost of Rs.71.51 crore. Three out of six markets have already become functional.

⁴ This State Profile is adapted from the State Focus Paper for the state of Kerala prepared by NABARD regional office, for the year 2005-06.

- Export Promotion Committee has nominated KINFRA as nodal agency for promoting food-processing sector. Government of India has approved three food parks under KINFRA for implementation.

Animal Husbandry:

- Animal Husbandry Department is implementing Kamadhenu medical insurance scheme covering both cattle and the client farmer. The Department of Animal Husbandry is conducting Goraksha camps, infertility camps and upgrading laboratory facilities with the intention to improve the quality of cattle.
- The Dairy Development Department is undertaking programmes like setting-up of mini dairy farms, indigenous milk products, manufacture/demonstration programmes, assistance to dairy co-operatives for purchase of milk testing equipments, milk cans and Azola cultivation under fodder development.
- Formation of large number of SHGs in the recent years has contributed greatly for development of poultry. Many NGOs are promoting backyard poultry farming among the Self-Help Groups. In addition, Kerala State Poultry Development Corporation is providing inputs like quality chicks, feed and technical guidance to the poultry farmers. The Corporation is also implementing egg cart and egg nursery schemes.

Fisheries:

- The State Government as a part of its programme for decentralization and participatory implementation of development projects at Panchayat level initiated a scheme called Janakeeya Matsya Krishi Programme (JMKP) in the year 1997. This programme has aroused considerable enthusiasm among local bodies and the people to take up inland fisheries as an avocation. Awareness has been created among local bodies and public regarding utility of water bodies and necessity of fish culture activities, which can be taken up by them.
- Sustainable development of shrimp culture is being undertaken by the State Government under the 'Oru Nellum Oru Meenum' programme.
- Fish landing centres in Neendakara, Munambam, Puthiyappa, Mopla Bay and Chombal have been commissioned and construction is progressing for landing centres in Thankassery, Munambam and Neendakara. Vizhinjam harbour has been commissioned while work is progressing for Muthalapozhi, Ponnani and Kayamkulam.

3.23 The stakeholders of Kerala agriculture have identified the following action points for future implementation:

Crop Husbandry

- Some of the potential land development activities for Kerala are soil & water conservation, water harvesting and other drought-proofing measures, drainage/flood protection works, development of wastelands, land reclamation, etc. Furthermore, treatment measures in the high-fertile crop areas, drought-prone areas and ecologically fragile wetlands in the State need to be given priority.
- Implementation of projects for rainwater harvesting/artificial recharge scheme, expediting energization of pump sets and popularization of micro irrigation schemes are some of the critical steps that need to be initiated for operationalization of efficient irrigation for agricultural activities.
- Adoption of organic manures like vermi-compost, city waste compost and infrastructure support like lab set up for quality control/ certification, marketing, etc. should be taken up to encourage organic farming.
- Use of bio-fertilizers, bio-pesticides, etc. may be popularized among farmers through the setting-up of agri-clinics and agri-business centers. Department of Agriculture and banks may extend necessary support to entrepreneurs for setting-up such units especially in irrigated tracts and other potential areas.
- Innovative activities like green house farming, biotechnology, organic agriculture, hydroponics, bio-fertilizer, bio-pesticides, mixed farming, etc. involve relatively high capital and sophisticated technology and tools. Initial support from Govt. is required in the form of inputs, incentives and infrastructure. There is a need for forging tie up of forward and backward linkages and it will be better if group ventures with the support of NGOs/farmers' organizations are set up.
- Kerala Agricultural University may develop model contingency crop plans for various agro-climatic zones of the State as a part of Agriculture Disaster Management to minimize the impact of erratic rainfall pattern.

Plantation and Horticulture

- encouragement of production of export quality varieties, ensuring availability of certified seed materials, systematic re-plantation of old plantation crops, evolving disease-resistant pepper varieties, implementation of projects for establishment of seed banks for medicinal plants, setting-up of more agro processing units, steps to promote cultivation of orchids and anthurium, etc. There is also need to evolve a suitable leasing policy/legal framework for contract farming by State Government.

- Agriculture Department and Kerala Agricultural University may initiate necessary steps to popularize cultivation of exotic vegetables under low cost greenhouses (tunnel) made up of bamboo structure.
- Based on market intelligence, improve quality parameters as per the provisions of Codex Alimentarius commission of WTO and by adopting ISO and Hazard Analysis Critical Control Point (HACCP). Government of Kerala may encourage setting-up of such quality testing labs.

Animal Husbandry, Dairying and Poultry:

- Adequate encouragement to be provided for fodder production programmes like Azola cultivation and fodder cultivation as intercrop in coconut and rubber plantations.
- Expansion of backyard poultry units and small goatery units through SHGs involving NGOs.
- Establishment of small dairy units through dairy co-operatives involving major milk unions and NGOs in the area.
- Strengthening of infrastructure for training the entrepreneurs in milk products, meat and meat products through Agriculture University and Kisan Vikas Kendras.
- Strengthening of cattle breeding farms and other livestock farms of the Department.
- Establishment of regional referral clinics for livestock and,
- Strengthening of veterinary biological institute.

Fisheries:

- Commercial viabilities and marketability of innovative technologies like crab fattening culture, oyster culture, mussel culture, and ornamental fish breeding/rearing need to be duly assessed and exploited.
- The State Government in consultation with the General Insurance Corporation may evolve a comprehensive insurance product suitable for aqua culture farms covering all risks. In order to make it attractive to the farmer, the policy may indemnify against crop loss rather than cover only the input costs.
- There should be a mechanism to enforce marine fishing regulations strictly in order to conserve our marine fishery resource. In order to avoid overcrowding in near shore water, mechanized boats may be provided with navigational, communication and safety equipments so that the skilled fishermen can venture into deeper areas.
- Reservoir fisheries estates may be established at all major reservoir heads in Kerala as a measure to bring in area based community development and employment generation.

Section 9: Findings from the States of Madhya Pradesh & Chhatishgarh

3.24 Table 3.9 performs a SWOT analysis of these two states in the light of India's involvement in and commitments to WTO. The viewpoints of several stakeholders who have provided specific comments and observations in this context are summed up below:-

Department of Post Harvest Technology and Value Addition, J.N. Agriculture University, Jabalpur

1. Identification of farmers who are producing crops with the help of organic manures.
2. Encouragement of use of bio-fertilizers.
3. Special training for processing of farm produces keeping in mind the export point of view.
4. Establishment of modern agro-processing centres at district H.Q. for training the farmers and small entrepreneurs.
5. Establishment of centers for export of farmers' produce.

Table 3.9: A SWOT Analysis for Madhya Pradesh & Chhatishgarh

Strengths	<ul style="list-style-type: none"> • The agro-climatic zones constituting the state territory are blessed with the best quality soil ranging from alluvial to mixed red and black. Due to varied topography and rainfall, the state grows cereals, pulses, oilseeds, spices, fruits and vegetables, with comparative advantage in soybean, oilseeds and pulses. • There is low level of consumption of agro-chemicals, organic production of agricultural and horticultural products have great export potential. • Well-developed research facilities in the state: Agricultural University, Regional Stations, KVK, CIAE and CISS are available which cater to location specific needs. • Cost-Benefit ratio in case of horticulture is more favorable than agriculture.
Weaknesses	<ul style="list-style-type: none"> • Productivity of crops is very low due to low percentage of irrigation (70% is rain fed farming) and low per hectare consumption of fertilizers. • Dominance of rain-fed agricultural area, large proportion of low value crops in the crop portfolio, inadequate technology development for certain identified regions of the state, low investment capacity of the tribal population and small & marginal farmers are some of the critical lacunae in the state agriculture. • Poor availability of electricity for agriculture. • Public investment in agriculture is low and declining. • Two-third of farmers is small and marginal, leading to lack of investment in technology. They are also unaware of WTO provisions. • Poor infrastructure and post-harvest management facilities. • High freight charges and import duties.

Opportunities	<ul style="list-style-type: none"> • There is growing global market for organic foods, which can be grown in the state due to low consumption of agri-chemicals. • Return to R and D expenditure is high. • Irrigation development in the state offers possibilities of growing wide range of crops. The food grain dominated agriculture will become more cash crops oriented. • There is considerable scope for creating additional storage capacity within the State. Further, potential for this sector would increase due to setting of five agri-export zones in the State.
Threats	<ul style="list-style-type: none"> • Undulating topography, uneven distribution of rainfall, unscientific management of land and water resources, and increasing deforestation due to many natural and man-made reasons have caused severe erosion of soil and water resulting in large scale damages to soil wealth and moisture stress for crop growth in the State. • Reduction in tariff and free trading of agricultural products will adversely affect the domestic market especially that of raw and processed agro-industries. • Low efficiency in production raises costs, adversely affecting state exports. • Unstable demand and price fluctuations in international market may put producers in loss under glut situation. • Imperfections in input markets of seeds, fertilizers, etc. Free trade will further injure the interests of farmers, as market imperfections leads to supply of spurious inputs at high prices, which will eventually raise cost of production.

Madhya Pradesh State Cooperative marketing Federation Ltd

1. Some more protection should have been given to the farmers relating to agricultural subsidy. Customs duty barriers should have been imposed for a longer period so as to insulate domestic agriculture from international competition until indigenous industry became more competitive. Reduction in input subsidies may affect production. Imported agricultural produce and imports may be cheaper hence fertilizer industry may suffer.
2. WTO provisions shall make farmers more progressive and cost conscious and shall open up more areas for competition. It provides the opportunity to make the business cost more effective by opening it up to international trade competition. Imports help to meet the shortage of particular commodity and also remove distorting high domestic prices.

M.P. State Seed Certification Agency

1. In response to WTO provisions, this agency can perform the certification of organic production in addition to the existing work of seed certification without any hindrance.
2. M.P. State Cooperative Oilseed Growers' Federation Ltd Emphasis should be given on safflower cultivation, as in the case of soyabean. As the subsidy in developed nation is more,

imported oil is cheaper causing losses to farmers. Efforts should be made on economic farming of oilseeds and to increase the quality of oilseeds in the state by adopting SPS standards. By increasing the area under safflower the availability of oil in the state as well as in the country will increase, reducing dependency on imports and farmers will receive a better price.

3. There is possibility of export of durum wheat and DOC (De-oiled cake) from state. India is small exporter of DOC in the international market, therefore, unable to influence the international price. The main hindrance in production of crops in the state is lack of better infrastructure facilities.
4. M.P. State Agro Industries Development Corporation Ltd 1. Agri-Export Zones will provide opportunities to the farmers of the state to produce exportable varieties besides entrepreneurs to set up processing units and widening the export opportunities. The constraints in export of agricultural products/ crops may be
 - a. poor quality and productivity
 - b. handling in sorting, grading, packing and movement in the markets
 - c. lack of cold chain infrastructure, and
 - d. lack of specialized transport
5. With regards to IPR M.P. agricultural policy does not have adequate provisions for patenting domestic products. Thus, IPR are not protective.

3.25 These states seem to have undertaken the following actions in this context:-

Agriculture

- Three Agri Export Zones (AEZs) have been set-up for six crops covering seventeen districts, for enabling farmers to face the global challenges confidently. Some more AEZ are under consideration.
- In response to WTO Agreement, M.P. State Agricultural Marketing Board has developed website, www.mpmandiboard.com in Hindi and English, to provide information of daily arrivals and prices, and the latest information related to markets for the state farmers.
- To provide financial assistance to farmers, in case of natural calamities, National Agricultural Insurance scheme has been launched. This scheme will be free from reduction commitments.
- Measures taken to protect the IPR with regard to species, the product and its uses:
 - A cell has been created at JNKVV to deal with relevant issues.
 - Two scientists, one each from agriculture and agricultural engineering have been nominated for effective operation of the cell.

- Oilseed production program (centrally sponsored scheme) is operated in all the districts of state for increasing production and productivity of oilseeds.
- Production and distribution of organic manure to reduce dependence on costly fertilizers as also to improve physical characteristics (structure, texture and humus) of the soil has received high focus in the agricultural developmental strategies of the State Government. In addition, the State Govt. has initiated implementation of a Central Sector Scheme on Development of Organic and Sustainable Agriculture during 2003-04. The scheme envisages promotion of bio-fertilizers, use of bio-mass for production of compost and training on organic farming.
- Indian Tobacco Corporation (ITC) has established about 1700 e-chaupals in the State. Concrete efforts are on for financing 20 Sachalaks of e-Chaupals, on pilot basis, for stocking of agricultural inputs like seeds, fertilizers, pesticides, etc.
- “Scheme for setting up of Agri-clinics /Agri-business Centres by Agriculture Graduates” is being propagated to enhance scope of extension services to farmers and self employment.

Plantation & Horticulture

- An Agricultural and Processed Food product Export Development Authority (APEDA) has approved two new Agricultural Export Zones for Oranges and Pulses in Madhya Pradesh. There already exist three AEZs notified in the state for (i) Onion, Garlic and Potatoes (ii) Seed spices- Coriander and Fenugreek and (iii) Wheat. In addition, State Govt. has constituted an advisory committee to promote agriculture exports and coordinate activities of Agri- Export Zones.
- A Sericulture Federation has been formed at the State level with the sericulture farmers’ cooperative societies around the State as members for integrated development of the sector.

Animal Husbandry

- There is one Agricultural University and two Veterinary Colleges in the State to provide animal health care to the cattle and technical support and training to the farmers involved in animal husbandry activities in the State.
- The National Project for Cattle & Buffalo Breeding spearheaded by GOI for restructuring and reorienting cattle and buffalo breeding operation is being implemented in the State. Beside this, the Veterinary Department is implementing the Special Livestock Production Program as well as crossbred female calf rearing program.

3.26 The stakeholders have identified the following action points which ought to be initiated:-

- Emphasis needs be given on cash crops identified for exports.
- To increase the availability of breeder and foundation seeds, suitable to particular area. JNKVV and State farms shall be strengthened and Beej Nigam Farms will be privatized. Use of hybrid seeds will be encouraged. Research will be focused on high yielding pest resistant pulse varieties. Emphasis will be on farmer oriented profitable technologies for various agro-climactic and socio-cultural conditions.
- Fertilizer consumption to be steadily increased to reach the national levels.
- IPM will be promoted by providing higher allocation.
- Encourage fish seed production and introduce prawn culture in private sector.
- Improved agricultural implements and technology will be popularized among farmers.
- Providing farmers with adequate mechanical farm power for timely completion of farm operations.
- Encouraging industries to adopt BIS/ISO specifications for production of quality agricultural machinery.
- Effective strategy will be put in place for facilitating the agricultural credit availability.
- Contract Farming will be promoted for such commodities, which have export potential like pulses, wheat, soybean, spices, onion, garlic and potato.
- Adequate training will be provided to producers, processors, and exporter etc. on quality production, pre and post harvest management, etc.
- Necessary infrastructure like electricity, warehousing, grading, sorting, packaging, cold storages etc. will be created in AEZ areas by obtaining central assistance.
- To promote organic farming, balanced and integrated use of biomass, organic and inorganic fertilizers and controlled use of agro chemicals will be encouraged for sustainable agricultural production. A statewide programme to sensitize the farming community will be launched.
- On export of agri-produce from AEZ areas, a subsidy of 50% to the cost of transport up to port, will be provided to the exporters.
- In order to give a boost to horticultural activity, a cold chain infrastructure will be developed, through private participation. In addition, specialized infrastructure for fruits and vegetables like grading, sorting, pack houses, cold storages etc. will be created in mandis through private sector.
- Targeted efforts may also be made to develop agro-processing industries under AEZs in the state duly supplemented by appropriate linkage between production, processing and marketing network.
- More importantly, introduction of a special Marketing Unit (MU) within the Horticulture department is required. It may prepare a State Horticultural marketing policy/master plan and strategies for improvement of Horticulture marketing for inter and intra state markets.

- State Government must strive to ensure adequate availability of essential veterinary services and breeding services as well as good quality fodder seeds for the farmers. In addition, it also needs to encourage establishment of private veterinary clinics with artificial insemination facility, private cattle and buffalo breeding farms in rural areas by providing requisite incentive and financial support to unemployed veterinary graduates.
- Extension machinery of the govt. dept. needs to be strengthened for promoting the activity on a large scale by initiating following measures
 - Enhanced use of audio-visual aids like clip boards, documentaries, films, time slot on leading TV channels.
 - Use of various platforms like Kisan Clubs, SHG, gram sachivalaya, progressive farmers association etc., to motivate farmers to take up fish farming activities.
 - Conducting workshops for the benefit of bankers and also hands-on training programs for farmers.

Section 10: Findings from the States of Meghalaya

3.27 A SWOT analysis performed for this state is captured in Table 3.10. Some of the prominent measures already undertaken to strengthen the state agriculture are outlined below⁵:

- The Meghalaya State Cooperative Marketing and Consumers Federation Ltd., popularly known as MECOFED has been engaged in diverse operations like opening branches and retail outlets in different parts of the state, agro-customs hiring centres, constructing godowns and owning transport vehicles etc.

Table 3.10: A SWOT Analysis for Meghalaya

Strengths	<ul style="list-style-type: none"> • The variation in altitude of the state ranges from 1300 to 2500 meters embracing mild temperate to sub-tropical climate. There is also wide variation in the rainfall intensity. Due to extended rainy season, the atmospheric humidity remains considerably high throughout the year. The unique diversity of agro-climate owing to topographical variations and altitudinal differences coupled with fertile, well-drained soil enables cultivation of large number of large number of horticulture and plantation crops possible. Ginger and turmeric grown in the state are reportedly of best quality. • Tea can be intensively grown in the state. Presently, area under tea is being expanded in villages around tea nurseries. Tea specialists are employed to ensure supply of good planting materials thereby assisting farmers in marketing green tea leaves. • Though deficient in terms of goof grain production, the state has marketable surplus in a number of cash, commercial and horticultural crops such as potato, jute, turmeric, arecanut, banana, pineapple, various vegetables etc. In addition,
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⁵ This section is adapted from the state focus paper prepared by NABARD, regional office, Shillong for the year 2005-06.

	<p>there is substantial potential within the state for cultivation of oilseeds-mustard, groundnut, soyabean etc.</p> <ul style="list-style-type: none"> • The geo-physical and agro-climatic conditions of the state offers immense potential for the development of traditional sectors viz. handicrafts, handloom, promoting hi-tech export oriented avenues like orchid production, mushroom cultivation, tissue culture etc. • The state is blessed with vast potential for inland fisheries both culture and capture activities.
Weaknesses	<ul style="list-style-type: none"> • Agricultural activities, though constituting a major occupation in the state, are largely confined to subsistence farming thereby devoid of any commercial orientation. Consequently, productivity is abysmally low. In addition, the lack of scientific education of the farmer is leading to adoption of indigenous method of cultivation. • The existing agro-processing units within the state are not in a position to make optimum utilization of the available surplus in food and vegetable produce. • There is a complete lack of regulated marketing facility for horticultural crops resulting often in distress sale by the local growers. the major constraints refer to inferior transportation infrastructure, monopoly of private traders, weak cooperative structure etc.
Opportunities	<ul style="list-style-type: none"> • The vast area in the hills presently used for shifting cultivation provides significant scope for expansion of horticulture and plantation activities in phased manner via rehabilitation of Jhumias. This requires a paradigm shift in the prevalent farming practices with stress on scientific methods targeted towards land development. • Due to the abundance of Bamboo species in the north eastern region, it is being looked upon as a catalyst for rural development. Bamboo is a natural element of the sustainable and integrated farming system with vast untapped potential for income and employment generation. Hence its commercial viability needs to be carefully evaluated and duly exploited. • There is a good scope for setting up nurseries for various plantation and horticulture crops to supply superior quality planting material. Moreover, the possibility of establishing cooperative processing units for tea growers needs to be carefully analyzed. • Poultry is one of the major activities which could be taken up on commercial lies under the animal husbandry sector. As 90% of the population in Meghalaya is non-vegetarian, this activity offers substantial scope. • Dietary habits of the people of Meghalaya offer ready market for the livestock reared for consumption particularly piggery production. In addition, the state is endowed with abundant natural resource thereby making livestock rearing a viable subsidiary occupation.
Threats	Not perceived any

- Meghalaya State Agricultural Marketing Board was set up in 1983 to ensure financial returns and remunerative prices for the farmers' produce. As a logical successor to this policy initiative, secondary regulated markets and primary market yards in different locations of the state are scheduled be established in a phased manner.

- Meghalaya Commercial Crops Development Board (MCCDB) has been set up by the government with a view to facilitate and promote the cultivation, procuring and marketing of various horticultural and plantation crops.
 - Meghalaya Small Farmers Agri-business Consortium has been established with the key objective of serving as a nodal agency for technology implementation and channelizing agro-industrial growth in different parts of the state based on principles of ecological sustainability, economic efficiency and social equity.
 - Various institutional measures have been successfully initiated by the state government of Meghalaya.
- A pilot project for augmenting the yield of turmeric in Meghalaya is being undertaken by north eastern council.
 - The north eastern council has recently taken up as scheme to support marketing of horticultural produce of this region. Financial support under this scheme would be available for setting up storage, processing, packaging and transporting infrastructure, training studies etc. Furthermore, the government has formulated a credit-cum subsidy programme for enlarging area under selected commercial crops like orange, cashewnut and pineapple.
 - A regional centre for training and production of mushrooms was sponsored by the north eastern council for identifying marketable varieties of mushroom and providing training sessions to the local growers.
 - The commercial banks operating within the state have taken initiative of promoting Kisan Credit Card scheme and consequently the ground level credit flow for crop loan has shown significant improvement.
 - Under the policy of agricultural mechanization; the government of Meghalaya has launched a loan-cum-subsidy scheme for the purchase of power tillers since 1983-84. Its effective implementation would augment production and productivity standards through efficient utilization of irrigation potentials and modern techniques of cultivation.
 - The soil conservation department of the state is formulating and implementing soil and water conservation projects in the state with support from the central government. Recently, it has also conceived a few micro-watershed projects with accent on soil conservation that are to be executed with farmers' participation.

3.28 The stakeholders of Meghalaya agriculture identified the following action points, which ought to be undertaken in the future (presented sector-wise)⁶

⁶ This section is also adapted from the State Focus Paper: 2005-06 prepared by NABARD, regional office, Shillong.

Crop Husbandry

- State government needs to assess the ground water and surface water potential on priority basis to facilitate the implementation of commensurate irrigation measures. A state level ground water board needs to be set up in this regards to aid proper exploitation of the ground water potential.
- More watersheds ought to be developed and institutional finance should be made available to this end, The valuable experience gained by the state in design and implementation of integrated watershed development proposals in two districts viz. Ri Bhoi and East Khasi Hills could very well be extended to other districts.
- The state Government, along with its extension machinery, should ensure that farmers are exposed to scientific methods of farm cultivation and in turn should promote its commercialization.

Horticulture and Plantation

- Prevalent land tenure system in hill districts and absence of a system of legalized ownership rights have to be duly addressed by the policy making body of the state government.
- Encouragement needs to be provided for setting up of nurseries. This would ensure supply of adequate quantity of quality planting material in time during the planting season.
- Suitable incentives need to be provided for promotion of storage facilities, cold chain, processing facilities etc. in the private sector so as to enable the farmers to fetch remunerative prices for their produce.
- Eco friendly and sustainable techniques of production should be embraced in the ambit of plantation crops to produce good quality products fetching a high premium in the international market. Introduction of diversification of cropping system would also enable the local farmers to harness sizeable economic returns from unit area.
- Various agro-processing activities ought to be given a boost considering the high potential of growth in fruits and vegetables sector. Several commercial possibilities under the ambit of medicinal and aromatic plants, floriculture, sericulture, organic farming etc need to be carefully evaluated and explored.

Animal Husbandry

- The artificial insemination facilities for cattle breeding need to be further encouraged. In addition, veterinary facilities also need a strengthening / expansion.
- Availability of green fodder provides considerable scope for rearing CB bred cows and hence this activity could be encouraged via institutional credit support.

- Poultry development is still in its nascent stage due to serious problems pertaining to the availability of critical inputs. In this connection, private enterprise in hatching and feed milling needs to be encouraged to provide fillip to the poultry sector.
- Furthermore, private veterinary clinics can be promoted with assistance from the banking sector to duly supplement the government efforts.

Fisheries

- Extension machinery for fisheries development needs to be strengthened to ensure adoption of scientific technology at the farmers' level.
- The concept of commercial fish farming has to be sufficiently popularized from that of homestead farming practices that are currently adopted by the farmers.
- Establishment of nurseries should be encouraged to ensure regular and adequate supply of fingerlings to indigenous fish farmers.

Section 11: Findings from the Punjab

3.29 Table 3.11 performs a SWOT analysis of this state. The stakeholder responses to WTO agreements and clauses are given below:-

Table 3.11: A SWOT Analysis for Punjab

Strengths	<ul style="list-style-type: none"> • Major producer of two staple foods, wheat and paddy. • Effective price policy of government ensuring income of farmers • Widespread use of capital-intensive machinery in inputs • Presence of properly channelled irrigation system.
Weaknesses	<ul style="list-style-type: none"> • Stress only on wheat and paddy cultivation, no diversification. • Land degradation and depletion of underground water resources. • High intra-country transportation costs and marketing costs. • The agricultural workforce is very large. • Inability to adjust to swings in demand and supply of agri-exports.
Opportunities	<ul style="list-style-type: none"> • Non-product specific support-input subsidies are 3% to 4% of total agricultural production. Since they fall within the de minimis limits, they are exempted from reduction commitments. • Adjustment expenditure through farmer organizations is exempted from reduction commitments. This will help in diverting funds towards Producer's Group. • Payments under regional assistance programs given to producers in disadvantaged regions will be exempted. The volume of funds used for such purposes can be increased. • Mountainous regions are suitable farm forestry and tree crops. Scope for medicinal plants and organic chemicals which are in high demand in western nations. • Scope for increasing milk production, shifting the labor on land to dairying. High value commodities can be grown in specified agro-climatic zones, having benefits of low costs and specialized infrastructure.

	<ul style="list-style-type: none"> • To bring in more private investment in agriculture, the farmers are being encouraged to go for contract farming more strongly. • Production of certified seeds can be done by integrating research done by Universities and the State Seed Corporation managing the supply.
Threats	<ul style="list-style-type: none"> • Cheap imports have increased unsold food stocks, lowered market prices resulting in loss of income for farmers. It has also harmed diversification efforts especially in cotton and sugar. • Heavy fluctuations in world prices have caused alternate years of deficit and surpluses in wheat production. Price of imports was always higher than of exports. • Contract Farming has its own defects like, farmers complain of receiving less than the market price from firms and low yields has resulted in losses. • Stricter sanitary measures under WTO provisions, will lead to higher expenditure on technological infrastructure to be used for such tests.

Domestic Support:

- AMS for India is below 10 %, but is likely to rise due to falling international prices. Government should substitute non-exempted category subsidies with exempted category subsidies (green box).
- Food subsidies for PDS and buffer stock holdings are exempted from inclusion in AMS; the Government should ensure the clause remains. Many stakeholders were in favor of increasing the subsidy levels at national and state levels, wherever it can be increased.
- Bharatiya Kisan Union expressed the viewpoint that if developed nations honestly reduce their domestic support, Punjab farmers due to cost efficiency, will have an edge in the international market. Many stakeholders feel that green box and blue box subsidy systems are oriented to help the developed nations.
- Traders were in favor of reforming the policies distorting the domestic marketing of agricultural commodities, abolishing levies, stocking limits, monopoly procurement and ensuring free movement of agriculture products within the country.

Export Promotion:

- Many stakeholders felt that the huge subsidies given by developed nations lower the price of their exports below that of India's domestic prices. The maximum gains of free trade have been devoured by rich nations.
- As a result of export competition, farmers will try to improve the quality of agricultural produce and reduce cost of production. The prospects for export of basmati rice, durum wheat and cotton will increase. Implementation of WTO provisions has brought the common man access to cheaper, quality, and variety of goods.
- The farmers' union was of the view that most of Punjab farmers were not aware of various SPS measures. They felt it is the responsibility of Punjab Agricultural University to supply

good quality seeds and extend the proper package of practices for maintenance of these standards. They suggested that many nations prefer coarse rice; hence research should be diverted towards evolution of varieties depending upon the taste and requirement of importing country.

- The Cane Commissioner feels that the Government of India should relax the existing taxes/duties/cesses being imposed on sugar and sugarcane to compete in the global market.

Market Access

- Antidumping measures are preventing the export of agricultural commodities to other countries. Lowering the tariff walls would provide better access to the markets. It was also felt that India is deficient in pulses production, so she needs to import these.
- Compulsory import of 3 to 5 percent of the total food grain production in the country is not in India's interest. It would affect trade adversely with developed countries, who keep their tariffs at high rates. The traders sought the ceiling on tariff holdings at 40% and abolition of tariff quota.
- Inefficient fertilizer units may collapse or shut down and India would have to depend on the imported fertilizers, increasing the cost of production. Some Economists were of the view that seed particularly GMO and hybrid would cost more, due to entry of MNCs in domestic seed market. Some were conscious that if more cheap and efficient machinery comes into Indian market, then local manufacturing units may have to shut down.
- The Department of Agriculture and Credit Institutions were optimistic that competition among different credit institutions, due to establishment of private, national and international banks in India, the farmers in Punjab would be benefited due to easy terms and conditions, and will ultimately lower production cost because of lower rate of interest. But the stakeholders feared that it would harm Indian banking industry.

SPS

- Most of the stakeholders asserted that it helps in protecting the human, plant and animal health of any importing country.
- They feel that the developed countries exploit the poorer nations by introducing arbitrary standards and create more hindrance to trade. Farmers' leaders were advocating that the package of practices of Punjab Agricultural University should be consistent with the different SPS measures.
- The farmers should be quality conscious and they should maintain hygienic conditions at their farms. The processing of milk and meat should be strictly on scientific lines. Some expressed

pessimism that the quality standards of the developing countries couldn't come at par with the developed countries.

TRIPS

- Regarding the expected benefits from this clause, some feel that research should be suitably rewarded and it would encourage researchers for further research. It would encourage the participation of private sector in Research and Development.
- Many had reservations that the developed countries having enough money to invest in R & D would benefit more by developing better technology. It is also feared that most of the patents will be in the hands of MNCs. They felt that the royalty period of 20 years is long and should be reduced to 5 years
- The Department of agriculture feels concerned that this clause allows introduction of isolated transgenic genes into the newly invented commodities, inhibiting their free use. The users would have to visit the inventor time and again for the use of new technology.
- The developed countries are creating distortions by exploiting the geographical bio-diversity of the poor countries.

GATS

- The farmers' leaders advocated that the legal formalities in the exchange of persons should be minimized and be made easy.
- Some feel GATS is useful for poor skilled people but at the same time apprehended that there will also be brain drain from the poor countries. It will encourage competition but may adversely affect the employment opportunities for the professionals in the developing countries.

3.30 The state is reported to have undertaken the following two major actions in the context of WTO:

- Compared to international prices, domestic prices of wheat, sugar, rice, etc. has exhibited lower instability. This means that government intervention in protecting the domestic markets from international price swings has been successful.
- The Government of Punjab started its own scheme known as "Contract Farming Scheme", for bringing about diversification in Punjab Agriculture. Diversification is necessary to reduce farmers' dependence on a few crops and their prices. There is also danger of glut in the market along with the lands turning fallow. To achieve diversification it is necessary integrate agricultural produce with non-farm enterprises (Ghuman 2003).

3.31 The Y.K. Alagh Committee on WTO recommended the following measures in the context of Punjab:

- Under the WTO regime, Punjab has to evolve a concrete program of diversification of its farm sector through setting up of Agricultural Adjustment Fund, which will be compatible with green box. It will be used to provide interest rate subsidy for exports, transport subsidy in the form of freight equalization to neutralize the competitive disadvantage suffered by Punjab farmers due to their distant location from markets from produce.
- The development of export-oriented marketing infrastructure and system should be given a big push. A farmers' agency may be created to represent farmers' group, producer companies, cooperatives which would collectively represent them in the market, looks after their skill and information needs, marketing and credit facilities.
- Government should regulate export prices by providing export subsidy when international prices are low and imposing a duty when international prices are high. It was also proposed that in next round of WTO negotiations, India should seek clubbing of all types of support and subsidies to agriculture in one category and seek parity among developed and developing countries in subsidy/support reduction schedules and commitments.
- To counter wheat surplus and deficits, there are two approaches. One is to export the surplus and import wheat in subsequent years. The other one is to hold the surplus wheat stock to meet deficiency in subsequent years. The comparative costs of these two approaches need to be worked out to arrive at a sound policy decision.
- The present regime of farm subsidies in Punjab is not compatible with WTO agreement. A gradual and planned phasing out of these subsidies would be made acceptable to Punjab farmers and will not adversely affect their resource use efficiency and incomes. In addition Punjab must insist that in negotiations, grains must be included for S and D treatment.
- State Trading Enterprises should ensure that exports of a product of a government enterprise do not take place at a price less than the price at which it is sold to domestic producer. There is need to set up empowered machineries and support mechanisms, World Trade Policy Centres-India chapter and State chapter to study, evaluate, make projections, monitor and suggest measures to implement the trading situation conducive and supportive to the interests of Indian farmers should be established.
- It is necessary to have a committee of senior secretaries to GOI including Secretary Agriculture and Secretary DARE to decide policies for import of agricultural products, of which the WTPC will be a supportive agency. To assess the latest trends and have access to the requisite expertise and trading experience, the WTPC's should be autonomous and professional agencies in the transparent public regime.

- Adjustment Expenditures by parastals will not be WTO compatible; Punjab should set up Agricultural Adjustment Board, consisting of five experts of high integrity.
- The AAB would develop a detailed long-term plan as well as short-term actionable program for each agro-climatic region of the state for diversification of agriculture.
 - It would develop organizational structures to support farmers to set up producers' cooperatives that enter into strategic alliance with corporate sector for contract farming. The problem with contract farming is that the produce will cater only to the urban society not to rural population. In this case it becomes more necessary that PDS expenditure be exempted from reduction commitments. Further, contract farming will involve growing of a particular crop in a large area, thus hindering diversification and supplanting crops that are demanded by the corporate sector.
 - It will work to build markets, develop information systems of available economic opportunities, and provide finances for processing, standardization, quality up gradation and trade. The AAB would ensure that farmers get market-supplied inputs at internationally competitive prices and do not suffer losses because of inefficiency and high amount of protection enjoyed by the domestic suppliers of these inputs.
 - It has to become a tariff advisory board that will suggest monetary and tax policy changes for transition to trading agriculture. It will monitor domestic and global demand and price trends to help farmers to take rational decisions. It will also meet the upfront costs of technology, marketing and infrastructure required for transition process. The Board will liaise with commerce and finance ministries and with RBI to mould the tariff and credit policies to make agriculture competitive-to make the state an integral part of decision making process in WTO negotiations.

Table 3.12: A SWOT Analysis for Rajasthan

Strength	<ul style="list-style-type: none"> • There is great variation in respect of climate and soil and opens up opportunities for growing variety of crops. • Horticultural crops grow well in the state due to presence of dry and less humid climate. • The state has access to international airports and is well connected to major cities through rail, road and air. • Exports spices to USA, EU, Middle East and South East Asian markets where they are demanded mainly as flavoring agent. • It has also been successful in exporting kinnows and oranges • The state government is promoting KUMS (Krishi Upaj Mandi Samities) exclusively for export marketing. Each KUMS cater to particular commodity or crop.
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Weakness	<ul style="list-style-type: none"> • Majority of landholders are either marginal or small farmers with low value addition. • Inadequate spread of retail output for agricultural input. • Very deficient irrigation facilities are not up to the mark • The power scenario is very bad and the state is not self-sufficient in production capacity. • Low credit facilities. • Lack of post-harvest marketing and processing infrastructure support like cold storage, grading, cleaning, container services. • Poor research and agro-processing support
Opportunities	<ul style="list-style-type: none"> • Has the potential to grow and export Soybean, spices, medicinal plants, mushrooms, and asparagus. • The state has comparative advantage over other states with respect to coarse grains. Research should be directed towards developing varieties for international market • There are four major research institutes currently undertaking research on agriculture and allied activities which can provide valuable feedback to policy makers and information to producers. • There are NGOs engaged in agriculture and rural development activities. Their resources need to be harnessed for further growth of agriculture and allied activities in particular and rural development in general.
Threats	<ul style="list-style-type: none"> • Huge Subsidies given by developed countries to their respective agriculture sector will harm the competitiveness of state's exports. It will in turn adversely affect farmers' income. • The State doesn't have adequate infrastructure to meet the quality standards of foreign countries. State exports may not be able to cross this barrier in the international market. It affects the export potential of all commodities. • To produce exportable surplus, there is requirement to increase production of agricultural goods, which is possible through further exploitation of natural resources. Water is one of them. Being a water-deficient state and lack of proper irrigation facilities, over-exploitation of ground water resources will create serious water scarcity in the state.

Section 12: Findings from the States of Rajasthan

3.35 While Table 3.12 above has performed a SWOT analysis of Rajasthan, the stakeholders of state agriculture have pointed out in Table 3.13 the favourable and unfavourable effects of WTO clauses on agricultural practices in Rajasthan.

Table 3.13: Perceived Favourable & Unfavourable Effects of WTO

	Possible Favourable Effects	Possible Unfavourable Effects
Domestic Support	<ul style="list-style-type: none"> AMS for India will rise due to falling international prices, hence government should substitute non-exempted category subsidies for exempted category Food subsidies for PDS and buffers stockholdings are exempt from inclusion in AMS. Government should take advantage of the clause and see to it the clause remains so in future. Income Insurance, Crop Insurance and Income Safety net can be provided under S & D Treatment to developing countries. As they are free from reduction commitments, so different agencies should use this to help poor farmers of the State State farmers low use of agro chemicals can be converted into an advantage in respect of global agricultural trade. 	<ul style="list-style-type: none"> Green Box and Blue Box subsidies are oriented to help the developed nations. This viewpoint has been strongly expressed by research institutes.
Export Competition	<ul style="list-style-type: none"> Implementation of WTO provisions will widen the market; provide greater variety to customer and at lower prices. WTO Agreement will induce the farmers to become more quality and cost conscious. The farmers are not much aware of SPS measures. It was felt that State Agricultural Universities, CAZRI and concerned government agencies should provide good quality seeds and educate farmers about proper practices to meet WTO standards. The demand for coarse grains has increased in international markets and the state can exploit the advantage they have. To have an edge in the market, research should be directed towards evolution of varieties depending upon the taste and requirement of importing countries and domestic market. 	<ul style="list-style-type: none"> Huge subsidies given by developed nations give their exports a price advantage compared to India's exports. Export subsidies of the kind mentioned in AOA are not provided in India, so government can go for subsidizing exports to make the state farmers internationally competitive.

Market Access	<ul style="list-style-type: none"> • Competition among different credit institutions due to establishment of private, national and international banks in India, the State farmers will benefit due to lower rate of interest as also easy terms and conditions. It will help in reducing production cost. • In case of import duties: <ol style="list-style-type: none"> 1. reduction commitment should be on aggregate level not on individual commodity 2. Maximum reduction committed should not exceed 25% of bond rates. 3. India should commit to reduction from bound rates and not from actual rates at any point of time. 4. In respect of edible oils, India may commit to reduce the average import tariff from bound rates by 25% and raise bound rates on soybean oil and mustard oil to at least 100%. 	<ul style="list-style-type: none"> • GMO and hybrid variety will cost more with the entry of MNCs in domestic market • The local manufacturing units may face difficulty in selling their products in the open market due to presence of foreign machinery with MNC brand names
SPS	State farmers should be quality conscious and should maintain high standard in respect of hygiene while processing of milk and meat.	<ul style="list-style-type: none"> • Quality of product and the hygienic conditions may not be able to match that of developed countries at least in future • To meet the SPS requirements calls for substantial investment in developing quality standards and infrastructure facilities by the State. Some stakeholders feel it is not possible in near future.
TRIPS	The farmer needs protection on ethnic varieties of plants. The state has rich biodiversity and can benefit from the Agreement	<ul style="list-style-type: none"> • Unless Indian government takes urgent action regarding patent rights, most of the patents will be in the hands of MNCs. The royalty period should be reduced from 20 years to 7-8 years. • State has invested very less in R & D and hence will suffer under the new regime. • State stakeholders are concerned that the

		clause allows introduction of isolated transgenic genes into newly invented products but prohibits others to use it freely. The users who want to use new technology will have to approach the inventor every time they want to use the technology. For poor producers of state this will be very huge burden on cost front.
TRIMS	Farmers will become more progressive and agriculture will become capital intensive which will help increase productivity and production of major crops and minor crops. It will reduce pressure of disguised unemployment	<ul style="list-style-type: none"> • Will have negative impact on small and marginal farmers. Capital intensive agriculture will raise costs of inputs which small and marginal farmers will not be able to afford and will be forced to join the ranks of agricultural laborers.
GATS		<ul style="list-style-type: none"> • Though the Agreement is supposed to encourage competition amongst nations, in actual practice it may adversely affect developing nations like India in the form of brain drain.

3.36 The AER Centre for Rajasthan has been able to generate a precise policy matrix table as suggested by the coordinating centre, which relates sector and issues to action points suggested through a brief diagnosis of the problem and the nature of policy action required. This is given in Table 3.14 below.

Table 3.14: State Level Policy Matrix for Repositioning of State Agriculture

Sector/Issues Involved	Diagnosis of the problem	Policy element required	Action Points to be initiated
Low growth rate of major crops in respect of area, production and yield	Crops like bajra, jowar, total kharif cereals, total pulses etc. have negative area growth rate over the last two decades. Production/yield growth rates are either negative or positive but very low.	To accelerate the growth through area and yield expansion with special attention for the crops which have the comparative advantage over other states.	The Government of Rajasthan as well as the State Research Institutes like State Agriculture Universities and CAZRI should come out with crop specific studies and give them wide coverage so that the ideas percolate to the concerned farmers.

Table 3.14 continues..

Sector/Issues Involved	Diagnosis of the problem	Policy element required	Action Points to be initiated
Water Resources	It is the most water deficient State in the country. The State has in adequate irrigation facilities with the existence of untapped potential and over exploitation of ground water resources	Efficient water management is a vital concern. Completion of all on going projects, creation of additional sources of irrigation wherever possible and increasing water efficiency	People/farmers will be involved in maintenance of canal, distribution of irrigation water and regulation of water distribution in command area. A Drainage Technology Transfer Centre will be established to recommend appropriate drainage technologies for different areas. State Govt. will provide adequate incentive on water saving devices such as sprinklers, piped, water channels and water storage tanks.
Fertilizer	Application of balanced quantity of nutrients is a major concern for the State	Encourage use of composts, bio-fertilizer and vermiculture.	To educate farmers regarding Integrated Nutrient Management through application of organic manures such as composts, crop residues, green manure and bio-fertilizers along with chemical fertilizers. The literature should be in local vernacular. Private entrepreneurs will be encouraged to install municipal waste and garbage processing plants to produce compost on commercial lines.
Pesticides	Indiscriminate use of pesticides	Popularizing IPM, IDM methods.	To educate the farmers on IPM and IDM methods through extension services. Integrated pest management centers to be established in every zone. A State level bio-control laboratory for carrying out research and guiding the Integrated Pest Management Centers will be set up with the Central assistance.
Farm Machinery	Inadequate stock/use of farm machinery	Selective mechanism of farm operation to educate farmers regarding the benefits to use modern farm machinery and implements.	To develop less expensive but more efficient farm machinery and implements suitable for local use and to popularize their use.
Credit	Limited access to institutional sources of credit and higher dependence on non-institutional sources. Preparedness in respect of WTO.	Provision of easy and cheaper credit through institutional sources and more flow of credit. State co-operative sector has yet to cover lot of ground.	Reinforcement and strengthening of banking network Promotion of export oriented agro industries. Issues in rural credit and infrastructure need to be addressed immediately .

Table 3.14 continues..

Sector/Issues Involved	Diagnosis of the problem	Policy element required	Action Points to be initiated
Marketing and Processing	The price trends over the last few years have shown considerable variations between various years. Fruits and vegetables being perishable in nature, cultivators cannot store their produce by traditional method for long.	To put agriculture on sound footing, it is essential that excessive fluctuations in agricultural prices are minimized. Possible only when farmers are assured of minimum prices for their produce. If the agricultural produce is processed and packed to increase its suitability for different tastes and requirements as well as to increase its self life.	State Govt. policy to create fund to offset the losses in procurement of agriculture produces below MSP by RAJFED should become functional as early as possible. To create adequate facilities for storage of agricultural produces in warehouses and their grading, packing and marketing within the State and outside it. In the villages, co-operative institutions to be developed for marketing and value addition of agriculture produce.
Modernizing research	Limited Knowledge and literature in local language available to the farmers in particular and to concerned parties in general.	State government recognizes that the key to rapid agricultural development lies in research and development of modern technologies which provide the competitive edge to agriculture	State government will enter into contracts with universities and research organizations for research and development of technologies in areas identified by the government on payment basis. A system of continuous inflow of information regarding identification and screening of research done within the state, outside the state and abroad and make it available to farmers from time to time.

Section 13: Findings from the States of Tamil Nadu⁷

3.37 A SWOT analysis of the state, prepared on the basis of available documents is presented in Table 3.15 below. The stakeholder responses⁸ to the various WTO clauses and agreements are summarized below:-

Market Access

- Careful attention needs to be paid to reduce the complexity of the structure of agricultural tariff.
- Total elimination of tariff escalation is suggested.

⁷ This State Profile Documentation is based on the State Focus Paper prepared by NABARD regional office, Chennai for the year 2005-06.

⁸ Adapted from Ethiraj K., 'Agriculture Policy in Tamil Nadu- A Policy Matrix in a Federal System, Agro Economic Research Centre, University of Madras, 'Research Study No. 136, 2003-2004.

Table 3.15: A SWOT Analysis of Tamil Nadu

<p>Strengths</p>	<ul style="list-style-type: none"> • Agriculture is the mainstay of rural people in Tamil Nadu with almost 60% of the population dependent on agriculture for livelihood. Paddy crop in the state has a unique three season format viz. Kuruvai, Thaladi and Navarai unlike the two season cropping pattern found in the rest of the country. • Tamil Nadu enjoys a unique status with respect to the plantation and horticulture sector in view of the physiography and the diverse agro-climatic factors. The state is a traditional producer of fruits and vegetables. The wide raw material base and feasibility of sustained cultivation of horticulture crops throughout the year has rightly facilitated promotion of fruits and vegetable processing industry. • The state occupies second position in the country, next only to Karnataka, in the ambit of area and production of flower crops. Traditional floriculture predominates in the state. • Commercial cultivation of numerous varieties of exportable medicinal and aromatic plants is quite in vogue owing to the varied agro-climatic conditions offered in the state. • Tamil Nadu is one of the leading players in the production of eggs and broilers within the country. Contract farming in broilers has taken deep roots in the state by enveloping 98% of the business. This institutional innovation has minimized the risk burden accruing to the poultry farmers. • It is one of the major coastal states in the country with considerable potential for fisheries development under all the major sub-sectors viz. inland, marine and brackish water. Moreover it is a leading marine products exporting state. It also boasts of a fairly good infrastructural network for supporting aquaculture and post-harvest technology.
<p>Weaknesses</p>	<ul style="list-style-type: none"> • Almost all the irrigation sources in the state have performed unsatisfactorily due to poor storage in surface irrigation system and depletion of groundwater owing to poor rainfall. • The inadequacy of farm power and machinery with the farmers is one of the major impediments for augmenting agricultural production and productivity. • Indiscriminate use of chemical fertilizers is leading to serious deterioration of soil health of the state. Furthermore, the extension services provided by the state are woefully inadequate to meet the burgeoning demand of around 82 lakh households. A similar problem is encountered by the state fishermen and fisheries sector entrepreneurs. • The plantation and horticulture sector is also plagued with a plethora of problems enlisted below: • The existing cold storage facilities in the state are inadequate to handle the production of perishables. This paves way for seasonal gluts in the markets and distress sales by growers at unremunerative prices. • There is no well-defined system in place to check the quality of plant materials produced by the abundant plant nurseries operating within the state. • Scientific post harvest handling of fruits and vegetables like sorting, grading and packing are totally absent resulting in substantial transport losses. • The existing marketing network is totally unorganized with predominance of middlemen. • Even the medicinal plants sector is beset with bottlenecks such as non-availability of inputs, improved cultivars, scientific packages of practices and adequate market intelligence.

Opportunities	<ul style="list-style-type: none"> • The state has a large extent of cultivable wastelands, underutilized land and sizeable area under other fallow lands. This yields immense potential for the development of the horticulture sector and cultivation of crops like cashew, tropical orchids, coconut etc. In addition, there are good prospects for commercial cultivation of oil-palm which need to be duly exploited. • Given the raw material availability, considerable cope exists for the production of multi-product based processing units for better capacity utilization of processing infrastructure. • The state offers substantial scope for the cultivation of several species of medicinal and aromatic plants that is hitherto untapped. Targeted efforts to explore and utilize the same ought to be undertaken. • Enormous potential exists for mariculture or coastal aquaculture activities like pearl culture, sea weed culture etc. Commercial viability of such innovative ventures has to be duly assessed and accordingly translated into action.
Threats	<ul style="list-style-type: none"> • Unanticipated natural calamities like the Tsunami catastrophe (2004) has led to severe irreparable damage to the natural resources and human life. Such potential tragedies pose a major threat to the state agriculture and allied activities.

- All the developing countries should be involved in the formulation of standards so that the developed economies do not in a somewhat unilateral manner decide product standards among themselves and force the developing countries to meet these expensive standards.
- To achieve higher standards in the commodities produced by developing countries, technical assistance may be provided by developed countries.
- Regarding special safeguard provision it is suggested that restrictions on any sudden and large imports from developing countries should be stiff than on imports from developed countries.

Domestic Support

- The aggregate measure support (AMS) must be both product specific and total. AMS for each product must not exceed 15%. AMS support covering both product as well as non-product specific components must not exceed 15% of the total value of production. This should be applicable to all members.
- All developing countries should be able to use a positive test approach to declare which agricultural products or sectors they would like to be put under discipline under Agreement on Agriculture provisions.
- Blue box measures ought to be totally eliminated.

Export Subsidies

- Export credit subsidy may be allowed for developing countries.

- Dumping in any form must be prohibited. All forms of export subsidies by developed countries must be eliminated.
- Rolling over of export subsidies is to be completely eliminated. In addition, import of pulses under OGL must be continued.

3.38 The state is reported to have undertaken the following policy initiatives:

- There have been numerous welcome developments implemented by the state government under the ambit of the agriculture:
 - The government of Tamil Nadu has launched two new crops viz. sweet Sorghum and Jatropha. Cultivation of these crops has been extensively supported by the state by administering subsidy for nursery development, cultivation and for extraction units. The state has also introduced an alternative cropping strategy to optimally utilize the inadequate and unevenly distributed water resources.
 - The department of agriculture is producing and distributing certified seeds (via agricultural extension units) as per the approved seed replacement rate. This arrangement ensures timely and sufficient availability of quality seed to farmers. The department is offering guaranteed supply of fertilizers, pesticides, farm equipments to mitigate any uninvited production glitches.
 - Understanding the crucial role played by market intelligence in the marketing of agricultural produce, establishment of agricultural production and marketing information centre is in progress in 9 unregulated markets with proposed extension to other five markets in the pipeline.
- The government of Tamil Nadu has announced several policies and well-crafted programmes steered towards development of the plantation and horticulture sector. The key initiatives are listed below:
 - Setting up of Mission for Horticulture Development called 'Horticulture Mission' with an objective to double the production of horticulture crops.
 - Establishment of Agriculture Export Zone (AEZ) for mango, flowers, cashew etc with proposed AEZ for certain other major crops.
 - A Commercial Floriculture Policy to ensure comprehensive development of tradition and non-traditional flower crops.
 - Specific policy architecture to promote small agro-based industries. In addition, a comprehensive wasteland development scheme has been instituted aimed at

transformation of cultivable wastelands into productive use, especially with perennial horticulture crops.

- Formation of Horticulture SHGs for promotion of high value vegetables, tissues culture banana etc.

- Department of Animal Husbandry has taken concrete steps to strengthen the basic veterinary infrastructure in the state through RIDF support from NABARD. In addition, the Tamilnadu Livestock Development Agency is implementing the National Project on Cattle and Buffalo Breeding to improve the existing breeding programme.

3.39 The policy actions that need to be initiated are presented below (arranged sector-wise):-

Crop Husbandry

- The state government might want to invite private participation in the establishment of agri-clinics and agri-business centers to supplement their efforts.
- An efficient post-harvest marketing infrastructure is the need of the hour to attenuate critical problems pertaining to storage, warehousing and profitable distribution of the produce.
- Well-designed mechanism to prevent distress sales by ensuing Minimum Support Price for all the commodities ought to be in place.
- The agencies extending institutional finance need to expand their insurance coverage to include all the crops stipulated in the National Agricultural Insurance Scheme.

Plantation and Horticulture

- Promotion of high-tech nursery units by private entrepreneurs and ensuring steady supply of quality planting materials through some statutory regulation ought to be the topmost priority for state horticulture department. In addition, adequate cold storage units should be provided throughout the state so as to minimize the post-harvest losses, in particular for perishable commodities.
- R&D efforts need to be channelized towards developing/shortlisting the most appropriate horticultural crops having substantial export potential. Targeted measures must be sought to standardize the scientific pre-harvest and post-harvest management practices for producing crops befitting the international standards. This is more critical in the wake of recent multilateral negotiations under the auspices of WTO and the policy stance of the developed nations (core) towards the products manufactured by third-world countries (periphery).

- Organic farming needs to be widely endorsed and popularized as an eco-friendly cultivation method yielding sizeable dividends in the international market.
- A single window clearance for quarantine, customs etc. may be effected as the right incentive scheme for export of horticultural products.

Animal Husbandry and Poultry

- Special attention needs to be paid to the harmful pollutants and contaminants in the feed and water being fed to the birds. Owing to the hazardous ramifications due to chemical/environmental pollution; the ultimate product targeted for export may not stand the scrutiny of strict phyto-sanitary measures (SPS). This barrier would in turn deny an opportunity to the indigenous farmers to carve a niche in the overseas export markets.
- There seems to be an increased interest in minor species of poultry like Turkey rearing in recent years, which have immense commercial/export potential in the European and US markets. Bankers need to duly encourage such activities at least on a smaller scale (pilot project basis) by making them well-equipped with institutional credit support.

Fisheries

- Notwithstanding the tremendous scope for mariculture in the state, suitable policy design should be adopted for leasing of coastal waters for undertaking mariculture activities. Moreover, institutional finance should also be directed towards the development of brackish water aquaculture (shrimp farms) so as to vigorously tap the international market.
- Promotion of aquaclinics on the lines of agri-clinics, with adequate credit support from banks, should be accorded high priority in the policymaking agenda to mitigate the widespread extension failure within the state.

Section 14: Findings from the States of Uttar Pradesh⁹

3.40 Table 3.16 performs a SWOT analysis of the state, while the policy initiatives undertaken by the state are reported below.

⁹ This State Profile is an adaptation of the State Focus Paper 2005-06 prepared by NABARD Regional Office for the state of Uttar Pradesh.

Table 3.16: A SWOT Analysis for UP

<p>Strengths</p>	<ul style="list-style-type: none"> • The state of Uttar Pradesh displays varied topography and climate as evidenced by nine agro-climatic zones with significant variations in terms of soils, rainfall, temperature, etc. The perceptible variations in agro-climate offer scope for different land uses and dependent enterprises. • The diverse agro-climatic conditions in UP are conducive for commercial cultivation of various sub-sectors of horticulture viz. fruit crops, vegetables flowers, medicinal and aromatic plants, spices, mushrooms, sericulture, beekeeping etc. It is the largest producer of mango, aonia, peas and sweet potato and ranks 6th and 8th in vegetable and fruit production respectively. • UP is the largest producer of milk in India contributing 18%of the total national milk production. • Uttar Pradesh is one of the largest states in the country which is endowed with vast fisheries resources. It is the forth largest player in the ambit of inland fisheries. In addition, the state is achieving significant progress in fish production (both from culture and capture resources) and fish seed production over the years.
<p>Weaknesses</p>	<ul style="list-style-type: none"> • The excessive fragmentation of land holdings in the state has resulted in small/unviable plot size in turn, reducing scope for large scale farm mechanization. • Unbalanced use of fertilizers has had negative ramifications on the soil quality and health. • Poor availability of power is a serious bottleneck thwarting the growth of both farm and non-farm sectors within the state. Non-availability of sufficient and economic storage facilities have compelled farmers to resort to distress sales at relatively unremunerative rates. • Till now, the major accent in the state has been on augmenting production of various agricultural and horticultural commodities thereby relegating agro-processing to the background. Lack of agro processing and milk processing units hamper the all-round development of farm units. • The road network connecting most of the villages in UP is still in backward state posing yet another infrastructural impediment. • Good and timely supply of HYV seeds, fertilizers and other inputs along with veterinary and medical services are not available to most farmers within the state confines causing a critical extension failure. • The existing stamp duty on agricultural loans above Rs. 1 lakh is abnormally prohibitive. In addition, the coverage of Kisan Credit Cards is abysmally low. • In terms of human resource development (including education, health and employment), UP has been the most backward state among all the major states of India. • Numerous infrastructural and institutional gaps prevail in the horticulture sector namely: <ul style="list-style-type: none"> ○ Lack of quality tissue cultured planting materials. ○ Absence of an organized wholesale or retail fruit & vegetable marketing infrastructure. ○ Lack of crop production and price forecasting system. ○ Lack of sufficient efforts in linking producers to the cold storage or marketing infrastructure. • The per animal productivity in UP is excessively low. Paucity of green fodder intensifies the problem of adequate nutrition. Moreover, the existing diagnostic, therapeutic and preventive services are grossly ineffective. • Current availability of modern fishing inputs like quality fishing feed, aerators, soil and water testing equipments leaves much to be desired.

Opportunities	<ul style="list-style-type: none"> • Horticulture and Floriculture hold immense potential in terms of high value addition to the farmers. Western UP, (being in vicinity of Delhi) with higher degree of urbanization, has well-developed floriculture with better cold storage, marketing & processing facilities. However there exists considerable latent potential in the middle Gangetic planes as far as horticulture development is concerned, which needs to be unleashed. • The market for traditional dairy products in the state far overshadows that of non0traditional products. Demand for traditional products with long shelf-life is on a surge. The growing popularity of ready to eat and ready to serve foods is unprecedented. Hence, targeted efforts ought to be taken to tap this market through improved packaging and distribution through FMCG routes.
Threats	<ul style="list-style-type: none"> • Rapid depletion of surface and groundwater due to exploitative farm practices could prove to be hazardous for the agricultural activities in the long run. • High degree of infertility and sterility amongst the cattle population is a major threat looming large over the animal husbandry sector. • Environmental pollution is another serious problem plaguing the state of Uttar Pradesh. Quality of air, soil and water has deteriorated terribly. Consequently, the ecosystem (specially the aquatic life) is in danger.

Crop Husbandry

- The irrigation activity in Uttar Pradesh is basically carried out under 2 broad heads Viz. State Sector Plan and Private Sector Plan. State Sector Plan is executed from the Government's budgetary support and supplemented by bank loans. Under this activity, Irrigation Department has undertaken the construction of public tube wells, lift irrigation schemes, bundhies etc. The Minor Irrigation Department is entrusted primarily with the implementation of free boring program apart from construction of deep tube wells for individual beneficiaries in different parts of the State, blasting of wells in hard rock areas, in-well drilling, construction of gullies and bundhies. Under Private Sector Plan individuals develop minor irrigation facilities by availing bank loans.
- The Department of Agriculture (DoA) has successfully launched a programme of organizing demonstrations of vermi-composting and NADEP composting methods in order to train the local farmers on numerous composting methods thereby facilitating large-scale production of organic inputs.
- In addition, the DoA is consistently implementing the centrally sponsored land reclamation schemes in various districts coupled with other externally aided sodic soil reclamation projects.
- To promote use of mechanized farm equipments, a GoI scheme is being implemented with subsidy of Rs. 30,000/-. In addition, many commercial banks & Regional Rural Banks (RRBs) have already extended financial help for purchase of combine harvesters, thus opening a new field of financing under Farm Mechanization. Recently, some new farm equipments have been introduced in the State. There are paddy transplanters by Escorts and Mini power tiller or power plough by Greaves.

Plantation and Horticulture

- The Directorate of Horticulture (DoH) has 133 nurseries producing about 50000 fruit plants per year. Additionally, five model nurseries with modern infrastructure like mother plant block, mist chambers, green houses, and net houses have been established. Furthermore, the Directorate of Horticulture (DoH) has three Beekeeping Centers and 14 Beekeeping sub-centers for imparting training on commercial beekeeping and supply of bee colonies.
- Presently, there is one fruit preservation and canning Institute located at Lucknow. Besides this, 103 community canning centers and 10 food science Institutes are engaged in imparting training to the prospective beneficiaries.
- UPSIDC (UP State Infrastructure Development Corporation) is promoting three agro-parks, with requisite infrastructure like CA cold stores, quality testing labs, post harvest infrastructure for fruits and vegetables, for promoting export oriented horticulture in the State.
- Four AEZs have been established for promotion of mango, potato and Basmati rice exports. UP Horticulture Produce Marketing Federation is organizing horticulture producers as user-groups / SHGs /Primary societies for facilitating marketing of perishable produce.
- Unit costs/Scales of finance has been approved for medicinal plants like Kalmeg, Sarpagandha, Safed Musli, Bach, Aonla and the banks have started funding medicinal plants. Other medicinal plants like Coleus, Stevia, Satavar, Chitrak, Isabgol etc., have been taken up on an experimental basis in the state.

Animal Husbandry, Dairying and Poultry

- A project on generation of rural employment and sustainable livelihood through cattle development in Eastern UP has been sanctioned by the Ministry of Rural Development, GOI. The main objective of the project is to improve productivity of cattle through cross breeding by setting up of 100 Artificial Insemination (AI) centres. These centers will be manned by local village youth who will be trained in all aspects of breeding activities and will be also given practical exposure in health and nutritional management of cattle and buffaloes.
- Model schemes have been formulated with a view to establish small scale processing/preservation/value enhancement units, which are economically viable and commercially bankable.

Inland Fisheries

- Renovation and development of village ponds for composite fish culture has been the most popular activity in the state. The concerned department has identified some innovative areas in the ambit of fisheries sector viz. Development of mini fish seed hatcheries in the private sector, Development of hi-tech fish farming or intensive culture of carps, Promotion of fish marketing,

development of integrated fish farming and fresh water prawn farming and Development of reservoir fisheries etc.

3.41 The sector-wise action pointed suggested for implementation are indicated below:-

Crop Husbandry

- The farmers of the UP State still follow the traditional farming practices and require effective extension support for adoption of the latest crop production and other technologies.
- Financial Institutions should be presented with attractive incentive schemes thereby propelling them to provide institutional finance for the land and water development works facilitating the ultimate objective of sustainability of development. Clear land title is a prerequisite to this programme with active participation by the beneficiaries. Non-Availability of clear title with the farmer adversely affects the efficacy of this programme.

Plantation and Horticulture

- The State Govt. may consider leasing of degraded lands / wastelands to the farmers and user industries to meet their requirements.
- Forest Development Corporation may take up the development of degraded forest areas through afforestation (including raising of medicinal and aromatic plants / tree borne oil seeds etc.) involving institutional finance.
- Considering the impetus given by the Planning Commission on production of Bio-Fuel, the Forest Corporation may take up a lead role in planting species like Jatropha, Pongamia etc.
- In keeping with the "Action Plan" for The National Mission for Bamboo Technology and Trade Development to upgrade the Bamboo economy, necessary initiatives may be taken up in the State by the Forest Department, Forest Corporation, particularly in the potential areas of Bundelkhand and Vindhyaachal region. Bankers may explore the possibility of financing Bamboo cultivation under Agro forestry. In tune with the priorities and policies of GoI, NABARD has drawn a "Bamboo Policy" to promote the sector as an essential component of rural development linked with forestry and agri-business.
- Cultivation of aromatic and medicinal Plants on a large scale by the Forest Corporation as well as by the individual farmers on their fields/ private wastelands would be a good proposition for employment and income generation. The Forest Development Corporation being the nodal agency for the State Medicinal Plant Board (SMPB), may revitalize the functioning of the Board and chalk out a feasible action plan for large scale cultivation of medicinal plants by farmers as per the guidelines of the National Medicinal Plant Board.

- Farm forestry and Agro- forestry programmes hold good promise in the state. Relaxation in felling and transportation of produces grown under Farm forestry / Agro - forestry project may be given by the state Govt.

Animal Husbandry, Dairying and Poultry

- A wide variety of traditional dairy delicacies drawn from different regions of the state are produced using processes such as heat and/ or acid coagulation, desiccation and fermentation. However, the tremendous economic potential of this sector has remained untapped because of the fact that the manufacture of traditional dairy products has remained confined to small level operation, which is manual and energy intensive. Furthermore, quality control measures are rarely followed during manufacture or marketing chain. These critical issues need to be addressed by the concerned state departments.
- In the state, the market for traditional products far exceeds that of non-traditional dairy products. The demand for traditional products having long shelf-life is on the increase. The growing popularity of ready to eat and ready to serve foods is bringing forth incredible changes in the consumption pattern. It is, therefore, necessary to tap this market through improved packaging and distribution through the FMCG distribution channels.

Fisheries

- *Fish farming in unutilized village ponds:* The FFDA's may formulate suitable schemes for these ponds. They need to also introduce schemes for low-lying, water logged areas and abandoned brick kilns so as to utilize them for fish farming. Apart from this excavation of new ponds in farm land will provide rural employment and enhance the fish production through diversification.
- *Production of adequate quality seed to achieve self sufficiency:* The hatcheries under the control of UP Matasaya Nigam need to be modernized to achieve better quality seed in required quantity. Similarly, there is a need to promote mini fish seed hatcheries in private sector.
- *Lack of extension support:* The extension services need to be improved and necessary forward and backward linkages have to be established by the FFDA's. The shortage of extension personnel can be met out by imparting training in fish farm management to the ADO (Agri)/ADO (Co-op) posted at the blocks.
- *Setting up of demonstration farms:* In order to make various schemes under fish farming popular in the district including new areas like integrated fish farming, fresh water prawn farming and ornamental fish culture, etc. it is necessary to give wide publicity to these schemes and also to set up some demonstration farms by the Department of Fisheries/FFDA.

- *Enhancement of productivity and production in reservoirs:* The Government. may like to formulate a scheme for development of such type of reservoirs.
- *Setting up of appropriate marketing mechanism:* In order to realize better price and to provide best protein to consumers, it is necessary to modernize marketing system by financing transport vehicles, setting up of cold storages and ice plants for appropriate preservation as well as value addition and improvement in packaging and marketing stalls etc.

Section 15: Findings from the State of West Bengal

3.42 Table 3.17 performs a SWOT analysis of the state of West Bengal, whereas Table 3.18 highlights the favourable and unfavourable effects of India's involvement in and commitments to WTO, as perceived by the state level stakeholders.

3.43 The state is reported to have undertaken the following actions to strengthen its agriculture:¹⁰

- Five AEZs (agri-export zones) for horticulture crops have been identified in this state. Special training programmes are being conducted by the state horticulture department and NABARD to create awareness on various pre and post-harvest technology issues for the identified crops (viz. pineapple, litchi, mango, potato and vegetables).
- Specific measures for soil and water conservation like field bunding, field leveling, bench terracing, afforestation, water harvesting structures, run-off detention tanks, sweat water ponds etc. are being implemented.
- The state government has adopted a multi-pronged strategy in the domain of indigenous fisheries. It primarily consists of bringing new water bodies under scientific pisciculture through extension service, improving the productivity of existing fisheries, encouraging scientific fish farming practices through well organized training programmes and promoting the use of improved technology. This has resulted in stupendous rise in the production of fish as reflected in the current statistics.
- In addition, the conspicuous rise in milk production in the state can be rightly attributed to the large-scale artificial insemination programmes carried out by the state authorities that have resulted in significant improvement in the quality of the cattle population.
- There are 733 farmer clubs in the state assisting the outreach of extension services, improving recovery climate by aiding bankers in appraisal, recovery and identification of good borrowers, propagation of successful packages of agricultural practices, working as SHPI for promotion of SHGs and organizing other social causes like vaccination, planting of trees, supervision of RIDF projects etc. In addition, Joint Liability Groups (JLGs) are also

¹⁰ Adapted from the State Focus Paper 2005-06 on West Bengal prepared by NABARD, Regional Office, Kolkata.

becoming increasingly popular with the bankers due to high recovery rate and hence can be fruitfully explored.

- In 2003-04, a total of 481868 Kisan Credit Cards were issued with a sanctioned amount of crop loans worth Rs. 86871.63 lakh which is more than double the amount sanctioned in the previous year.
- Efforts are being made to promote SHGs in the areas of Joint Forest Management and Tea Gardens. Moreover, targeted measures are being sought to organize the vegetable growers into SHGs to assure them a remunerative price.

3.44 The action points that need to be initiated for development of agriculture and allied sectors in this state are presented below in a sector-wise fashion¹¹. The AER Centre, Visva-Bharati has also summed up its prescriptions in the form of a policy matrix relating sectors and issues to action points suggested through a brief diagnosis of the problem and identification of the nature of policy gap. This is done in Table 3.19.

Table 3.17: A SWOT Analysis for West Bengal¹²

<p>Strengths</p>	<ul style="list-style-type: none"> • The state of West Bengal is basically riparian, i.e. situated at the heart of the extremely fertile Gangetic Delta. It is bestowed with six diverse agro-climatic zones ranging from tropical to the arctic. • Equipped with excellent reserves of surface and underground water, wide range of flora-fauna, large pool of educated farm labour available at competitive wage rates and a large hinterland; the state has vast potential to produce a wide range of agricultural products. With its thrust of land reforms and agriculture; the state government has transformed the state into a leading producer of food-grains and horticulture produce in the country. • Total agricultural production in the state has witnessed a secular rise which can be attributed to sharp increase in cropping intensity. This, in turn, has augmented the purchasing power in the rural pockets. • West Bengal is internationally famous for its superior quality tea produced in Darjeeling district. In addition, indigenous cash crops like Jute and Mesta also dominates the scene. • With abundant availability of agricultural produce in the state, the food processing sector has automatically gained centre-stage. The state displays significant fruit diversity and is a significant player in vegetable production. Moreover, its estuarine area is ideal for cultivation of variety of aquaculture products like shrimps, tiger prawns etc. In addition, tea plantation, betelvine, floriculture and sericulture are major activities prevalent in the state. • Lastly, the state occupied pole position in production and consumption of poultry products. It is the largest producer of eggs and second largest producer of meat. It is also credited as being the leader in fish cultivation.
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¹¹ Also adapted from the State Focus Paper 2005-06.

¹² This section is summarized from an analytical report prepared by ICICI-West Bengal Infrastructure Development Corporation Limited for the Department of Food Processing Industries and Horticulture, Government of West Bengal and duly supplemented by the State Focus Paper 2005-06 on West Bengal contributed by NABARD regional office, Kolkata and the Agricultural Policy Matrix study conducted at AERC, Visva-Bharati, West Bengal.

Weaknesses	<ul style="list-style-type: none"> • The major impediment perceived by the farming community is the lack of infrastructural support services. • High cost of inputs, unremunerative prices of farm produce, scarcity of water for irrigation, distress sale due to lack of proper storage facilities, non-availability of timely credit, lack of sophisticated marketing infrastructure (i.e. cold storage,/godowns), woefully inadequate connectivity are some of the major weaknesses plaguing the state agricultural scenario that need immediate attention.
Opportunities	<ul style="list-style-type: none"> • The state boasts of substantial quantum of marketable surplus that can be effectively channelized into the processing industry for further value addition. Such profitable prospects need to be duly evaluated and exploited. • Despite its enviable position in terms of agricultural production; West Bengal today has tremendous scope for improvement of yield through introduction of modern farming methods and sophisticated techniques to reduce production cost. • The state is a net importer in the area of dairy, poultry and related fields. This offers significant opportunities for boosting production levels in these sectors.
Threats	<ul style="list-style-type: none"> • Severe water logging in flood affected areas, salinity of soil constitute significant threats to the sustained and profitable agricultural operations within West Bengal, a state extremely susceptible to natural calamities like flood.

Table 3.18: Favourable & Unfavourable Effects of WTO Clauses & Agreements

	Possible Favourable Effects	Possible Unfavourable Effects
Domestic Support	Stakeholders believe that the implementation of these domestic supports will help the resource poor farmers ultimately helping the enhancement of production and crop productivity.	Many stakeholders expressed that in the real world. As distinct from the imaginary or inhibited by free traders, survival in agriculture hinges less on comparative cost advantage than on comparative access to subsidies. Liberalizing local food markets in the face of unequal competition is not exactly a prescription for improving efficiency, but a recipe for absolute destruction of livelihood. (Premised on the inherent asymmetry wherein developing countries like India are not allowed to increase their negligible level of domestic support while developed countries are permitted to maintain 64% of their subsidy outlays at the base.
Export Subsidies	West Bengal exporters of agricultural products cannot avail of direct subsidy. The only support they get are in the form of i) exemption of export profits from income tax ii) subsidies on cost of freight one export shipments of certain products like fruits, vegetables etc. These constitute the two listed subsidies for which India is exempted from reduction commitments. The aggregate value of subsidies given to farmers is well below the ceiling prescribed by GATT. Thus, stakeholders believe that GATT stipulations	It is collectively felt that the real (tangible) effects of these policy initiatives on agricultural exports would depend upon how far the policy package is successful in not only creating a climate conducive for agricultural exports, but also providing consistency and stability to them by moving away from a stage of incidental activity (peripheral/residual operations) to a more planned, deliberate effort.

	<p>framed in the subsidies code in the domain of export subsidies wouldn't have an adverse impact on agricultural exports from West Bengal. They also endorse the view that India may continue with the present subsidy framework and even has scope to enhance the same, if required. Moreover, they feel that the reduction of subsidy by developed countries may lead to improvement world prices of agricultural exports, thereby stimulating exports from the state.</p>	
Market Access	<p>The replacement of all non-tariff barriers by tariff barriers and gradual (phased) detariffication would certainly enhance the opportunities for indigenous exports. Some stakeholders argued that countries ought to provide access opportunities to imports of at least 4% of their total consumption; except for those primary products that are considered staple food for traditional diet of the said country (e.g. wheat and rice for India). For the latter set of commodities, the minimum access window would have to be 1% of the corresponding domestic consumption to begin with. The access opportunities for non-staple products would have to be increased annually by 0.8% between the first and the sixth year. For staple commodities, they could be incrementally increased by 2% at the beginning of the fifth year of implementation and up to 4% of domestic consumption at the beginning of the tenth year after the enforcement of the agreement.</p>	<p>Some stakeholders believe that reduction commitments should be on an aggregate level and not on individual commodity. Otherwise, it would culminate into a dramatic price fall in the domestic market, ultimately affecting the poor farming community.</p>

Table 3.18 continues..

	Possible Favourable Effects	Possible Unfavourable Effects
SPS	The agreement emphasizes that the application of SPS measures should be strictly on the basis of scientific justification or risk assessment in order to avoid their (mis)use for protection of domestic industries. Hence, in due course an international standard will be developed, which ultimately would help the producers to get remunerative prices for their products as well as safeguard the consumer interests in crucial areas like health and hygiene.	There is a growing apprehension among the stakeholders that various SPS measures might be used as possible non-tariff barriers thus bringing about application- distortions. They are being increasingly promulgated with the deliberate purpose of shielding domestic producers from international competition. However, it is felt that certain nations introduce such restrictions not to prevent health hazards based on scientific investigation but in response to public activism from interested parties.
TRIPS	West Bengal has huge amount of traditional knowledge in the form of herbal wealth and it is high time to undertake necessary documentation about the use of its herbal treasure with the help of TRIPS agreement.	Few stakeholders opine that the TRIPS as embodies in the GATT agreement will have disastrous effect for the national economy, especially for agriculture. They argue that a dangerous provision has been introduced in the patent protection relating to change in the philosophy of patent regime whereby products, imported or locally produced, would be enveloped under patent shield without any discrimination. This would in turn perpetuate both; manufacturing and import monopolies.
TRIMS	The chief provision under the ambit of TRIMS text ensures that government shall not discriminate against foreign capital. Majority of the stakeholders believe that this agreement will ultimately help the poor farmers to adopt capital intensive technologies in order to augment production and crop productivity.	Some stakeholders in West Bengal asserted that once the decision is taken to allow foreign investment in certain strategic domains, the country would lose much of the autonomy to insulate the national economy from its negative ramifications. It would amount to a compromise on out sovereignty; thus adversely affecting the interest of small and marginal farmers.
GATS	GATS has made certain concrete proposal to liberalize trade of textiles and clothing that would prove to be critical for the cotton growing belts and textile exporting pockets of India.	Since West Bengal is not predominantly a cotton growing area, there is no perceptible adverse effect in this regard. However, some academicians argued that GATS would cause a havoc brain-drain from India in general and West Bengal in particular.

Crop Husbandry

- West Bengal being the second most important potato producing state in the country, additional storage space is required to preserve the final produce. State government may

consider removing potato from rental control so as to enable provision of subsidy to the borrowers in respect of cold storage units.

- Timely availability of fertilizers, superior quality seeds pesticides, extension services etc. is of paramount importance to enhance crop productivity within the state. This would also facilitate optimal utilization of other resources like irrigation, agricultural credit etc. thus culminating into higher level of agricultural production.
- There is a greater need for regulation of agricultural markets under Regulated Markets Committees (RMCs). The other aspects of regulation of primary producers' markets viz. efficacy of the existing regulatory mechanism, adequate provision of basic infrastructural services in markets etc. leave much to be desired in the state. Inter-related requisites like licensing of unauthorized traders, comprehensive levy of market fee, provision of adequate basic facilities in the markets within notified area in to the fold of RMCs are also concomitants to effective market regulation.

Plantation & Horticulture

- Inadequate cold storage facilities at ground level as well as in the airports act as a hindrance to facilitate storage and export. Hence state government's rent control over such storage infrastructure indeed needs a relook.
- The training and extension service ought to be strengthened.
- The small tea growers are compelled to sell their leaves to the processing/factory owners at prices dictated by the latter. Therefore, some system of price fixation, acceptable to both the growers and the manufacturers, has to be established. In addition, the tea industry on the whole needs to reorient itself by focusing on quality improvement through concrete interventions rather than sustaining existing production levels.
- The major constraints identified in the development of sericulture in West Bengal include non-availability of quality planting materials and indigenous reeling machines. Moreover, many farmers are identified as defaulters with the banks. To add to this, the marketing arrangements are not adequate to ensure proper, consistent returns to the sericulturists. Even the extension facilities are woefully inadequate due to dearth of skilled technical personnel to take care of production of quality silk. These are some critical areas that need to be urgently addressed in the policymaking agenda.

Livestock and Dairy

- Private participation in setting up feed-mixing units in various parts of the state needs to be encouraged.

- Revitalization of Dairy Cooperative Societies to take care of the marketing requirements of farmers with crossbreed milch cattle is the need of the hour. Such cooperatives ought to be provided with adequate infrastructure facility (e.g. milk houses, chaff cutters, milk coolers, automatic milk collection units, generators etc.)
- The state government in collaboration with Paschim Banga Go-Sampad Bikash Sanstha (PBG SBS) should hold regular health camps to treat infertility problems, vaccination etc. Such camps can be viewed as an instrument to educate the farmers regarding good breeding/feeding management practices, need for improved nutrition and balanced feeding etc. In addition, more artificial insemination (AI) centers need to be established within the state.
- Scientific training must be imparted to farmers on milking technique, heat detection, pre and post-natal care, care of new born calves, feeding practices etc. To this end, information brochures may be circulated widely in the regional language (Bengali).

Poultry

- Poultry development can be accelerated through establishment of poultry resource centers with the help of government department of hatcheries and private entrepreneurship (a case of in public-private partnership). Such centers or central grower units should be in a position to provide all necessary backward and forward linkages to satellite units in their respective areas of operation. The state government may identify such potential clusters (core-periphery) and either set up mother units themselves or encourage private entrepreneurs to extend such facilities.

Fisheries

- The state government needs to set up seed banks to ensure steady supply of fish prawn/shrimp seeds.
- Common infrastructure may be developed by the state authorities for tapping the large water bodies in *Khas* land and for facilitation of fish culture.
- Agri-clinics may also be established in private sector for promotion of shrimp farming to meet quality inputs and technology transfer needs.

Section 16: Concluding Remarks

3.45 Lack of awareness about WTO provisions of the stakeholders of agriculture in almost all the states is a major hindrance in making the states ready to face the challenges and avail of the opportunities of WTO. Educating and training the stakeholders about WTO provisions is thus a very important prerequisite to stay alive in the global race. For example, even if the states generate exportable surpluses at prices which will give their products an edge in the international markets, non-

conformity with SPS measures can throw everything off the gear. Hence, proper grading and labeling systems should be in place.

3.46 State governments need to negotiate with the national government on matters of special products and subsidies. Also, producers of various crops can negotiate with their respective state governments, putting forth their problems and asking for concessions in the form of tax relief or subsidies, which will help them not to lose international markets. All these will help the national government in gauging the ground situation and improving the knowledge about the areas on which India should bargain with member nations in WTO meetings.

3.47 A tripartite negotiation process involving central government, state government and other stakeholders of respective state agriculture is required to formulate a National Agricultural Policy. Each should provide the other two parties with feedback on the policies which are implemented and suggestions and recommendations for improvement in performance or introduction of new methods or policies. All three need to work on building up a strong cooperation among them. This will help in boosting production and improving bargaining skills at international meets.

3.48 Producing internationally approved agricultural products at globally competitive prices is only one part of the process. Bargaining and negotiation power and skills are the other part of the globalization process, which does come from a nation's share in world tradet. Concentrating on both these components is equally necessary, for which the three parties must work cohesively.

Table 3.19: State Level Policy Matrix for Repositioning of State Agriculture

Sector/ Issues	Diagnosis of the problem	Policy Prescription	Action Points to be initiated
<p>I. Land and Soil More than 40% of the total area is under arid and semi arid tracts where soils have poor fertility, low water holding capacity and high infiltration rate.</p>	<p>There is a specific tract in the state where acidic soil, red laterite soil and slime soil are not suitable for specific crop varieties.</p>	<p>In case of acidic soil, measures targeted at soil and water conservation along with cultivation of cash crops which are efficient for water and soil conservation, change in cropping pattern and use of land for seed production may be encouraged.</p> <p>For red and lateritic soil, variation in cropping pattern, cultivation of coarse cereals and pulses instead of paddy on kharif season and selecting those crop variants that can endure a prolonged dry spell (15-20 days) may be encouraged.</p> <p>With reference to saline soil, selection of deep water rice, conservation on rivers; bunds, improvement of drainage system coupled with expansion of area under land shaping may be recommended.</p>	<p>Since this is deemed to be a technological problem, Department of Agriculture, Government of West Bengal in collaboration with the state agricultural universities, Krishi Vigyan Kendras and central agricultural institute may formulate a comprehensive policy plan to implement the area specific technologies to tackle this problem.</p>

<p>II. Crop Husbandry</p> <p>(a) Food Crops</p> <p>Low growth rate of food grains in respect of area, production and yield except rice.</p>	<p>Food grain crops like pulses, wheat etc. have very slow growth rate over the last two decades. It is evident that the area under pulses cultivation is experiencing a secular decline since the eighth plan onwards.</p>	<p>Special component plan may be formulated to accelerate the growth in area and production of food grains specially pulses.</p>	<p>Department of Agriculture, Government of West Bengal in collaboration with the state agricultural universities, Krishi Vigyan Kendras and central agricultural institute may articulate a multi-pronged reform approach for percolation of area specific technologies facilitating the crop cultivation in the state.</p>
<p>(b) Non-food Crops</p> <p>West Bengal is deficit in terms of production of oilseeds. The per hectare yield of oilseeds is abysmally low in comparison to the other states in India. In case of jute, wide fluctuation in prices is adversely affecting the growth in area as well as production.</p>	<p>Oilseeds are grown mainly in marginal land with un-irrigated condition. The production and productivity are very low. It has been observed that when irrigation is guaranteed, oilseeds area is transformed into summer cultivation of paddy. There is absolutely no control over prices by the state government.</p>	<p>Special efforts may be undertaken to tackle this multifaceted problem. Focus could be on some selected varieties. State machinery can envisage a definite policy agenda in the event of bumper production of this crop.</p>	<p>Department of Agriculture, Government of West Bengal in collaboration with state oilseeds and pulses research station located at Murshidabad district may take the requisite initiative backed with a well-charted action plan to disseminate the appropriate technologies for increasing the yields in rabi season. Department of marketing and inspection can play a leading role in collaboration with Jute Corporation of India.</p>
<p>(c) Fruits & Vegetables</p> <p>A large number of horticultural crops suffer from low yields as compared to other Asian countries and the general world average.</p>	<p>Lack of human capital development and inadequacy of basic infrastructure and non-availability of producer (economic) services are the impediments to public investment.</p>	<p>Increase in public investment will lead to increase in productivity of this sector.</p>	<p>In the plan periods, most of the infrastructure sectors have performed well below the target. Ministry of Finance, Government of West Bengal could take the necessary initiative to provide adequate infrastructure and producer services.</p>

Table 3.19 continues..

Sector/ Issues	Diagnosis of the problem	Policy Prescription	Action Points to be initiated
<p>III. Animal Husbandry</p> <p>This sector has very high potential for employment generation and contribution to the net domestic product. West Bengal is the third largest state with respect to total goat population.</p>	<p>In this state, the goat population is raised on sedentary system. The pattern of growth in livestock population reveals that there has been a shift away from bovines towards goats reflecting the increased pressure on grazing resources. Evidently, the area under total grazing land showed a diminishing trend over the years as reflected by the growth rates. Furthermore, during the same period; the number of goats as well as total livestock population grew at compound rates of 8.2 and 7.23%. This, in the event of continuous shrinkage of grazing land over the decades will certainly affect the availability of feeds for the livestock. This deficit, if left unchecked, is expected to grow to unwieldy proportions in the future.</p>	<p>As the state is regarded as the producer of excellent and superior quality of skin having a substantial marketability in India as well as abroad, the investment in this sector may be stepped up to exploit the full potential of this sector.</p>	<p>Department of Animal Resource in association with the central government may undertake specific schemes to increase the area under grazing land for the availability of feeds for livestock. Special research attention may be paid by the Animal Husbandry and Fisheries University for improvement of the indigenous breed of Black Bengal.</p>
<p>IV. Food and Nutritional Security</p> <p>In the event of growing population and large proportion of poverty stricken people, West Bengal should look after their food security concerns.</p>	<p>Due to high pressure on population, fragmented land structure and erratic nature of rainfall, it would be useful to understand the growth of state's food [production in the Indian context to gauge whether we have to augment the quantum of food output commensurately.</p>	<p>Selection of area specific varieties, particularly food crops, with higher nutritional value, development of reinfed irrigation, horticulture, floriculture, roots and tubers, plantation, development of animal husbandry, poultry, dairying, aquaculture, cultivation of fodder crops and fodder trees are to be included in the prospective crop plan.</p>	<p>Special efforts ought to be undertaken by joining the different departments like agriculture, horticulture, animal resource, marketing etc. along with the existing universities for preparation of a blueprint (perspective plan) for the coming years. Special monitoring groups can be formed to oversee and evaluate the situation periodically in order to enhance the growth.</p>

Table 3.19 continues..

Sector/ Issues	Diagnosis of the problem	Policy Prescription	Action Points to be initiated
<p>V. Efficient use of Productive Resources In West Bengal the major challenge is how to intensify sustainable agriculture since appropriate land resources do not exist for horticultural expansion.</p>	<p>The problem of waste is universal. While unused land and water resources are often looked upon as reserves in reality, their idleness represents a loss of the services which they could not render to humanity if not managed well.</p>	<p>Intensification could be achieved not only by using resources more efficiently. Improved efficiency should reduce waste and loss. A comparative growth study of agricultural growth by adapting a strategy of full use of resources by waging war on waste is the need of the hour. New arable land could be created through terracing and leveling of undulating land.</p>	<p>Water investigation and development along with land use planning department could chalk out a comprehensive plan in this regard.</p>
<p>VI. Cropping Pattern Allocation of crops in accordance with soil structure is called for in the current scenario.</p>	<p>There is no comprehensive micro-level survey report in relation to land situation, soil types etc.</p>	<p>Efforts need to be made to carry out micro level surveys for systematic identification of the extent, location and nature of lands suitable for cultivation of different crops. At the same time, definite projects should be identified, which would deal with area specific work.</p>	<p>Socio-economic evaluation Branch in collaboration with Bureau of Applied Economics and Statistics may take initiative in this regard by utilizing the manpower of EARAS scheme.</p>
<p>VII. Generation and transfer of Technology A major cause of low productivity of major crops is the inefficiency in the generation and transfer of technology.</p>	<p>There is a serious lack in the development of art for duly exploiting / utilizing rivers and irrigation canals for raising food, organic matter, fed, soil amelioration, fish, ducks and geese.</p>	<p>The policy of full use of resources along with land also extends to water conservation and recycling of organic wastes. Conservation of water and soil should be carefully nurtured. The practice of organic recycling constitutes a key ingredient for yield augmentation. Encouragement in application of bio-technology, remote sensing technologies, pre and post harvest techniques for environmental protection may be incorporated in the policy agenda. Empowerment of woman, capacity building initiatives along with improved access to inputs, technology and other farming resources should be duly ensured.</p>	<p>Water investigation and development department in association with the department of non-conventional energy resources, department of science and technology could map a comprehensive strategy in this regard.</p>

Table 3.19 continues..

Sector/ Issues	Diagnosis of the problem	Policy Prescription	Action Points to be initiated
<p>VIII. Investment in Agriculture Efficiency in the use of investment has often been low in the past because of delays in implementation and insufficient attention paid to efficient management.</p>	<p>A major cause of low productivity in agriculture in West Bengal is the inefficiency in the channeling (usage) of investment due to flawed project implementation.</p>	<p>Improvement in capacity utilization and efficient project implementation in all areas, especially in irrigation, power transport and food processing units may be enveloped within this realm of the policy mandate. Betterment of terms of trade for agriculture and removal of quantitative restrictions on inputs should be focused upon.</p>	<p>Planning and Monitoring Directorate, Government of West Bengal in collaboration with irrigation, transport and marketing departments may take the necessary steps in consultation with the directories of agriculture for the benefit of poor farmers in particular and the agricultural sector in general.</p>
<p>IX. Institutional Structure (a) Land Ceiling</p> <p>(b) Credit Facilities Poor banking facilities</p>	<p>The state was rather late to adopt the new technology including irrigation, HYV seeds and injection of chemical fertilizers. Due to the numerous uneconomic and heterogeneous holdings and fragmented, scattered land parcels, the adoption of the new technology has been seriously thwarted and become slow as well as patchy. The new technology is a capital intensive package, which the poor peasants cannot afford and avail of. This problem is exacerbated by the over-supply of ever increasing surplus labour power in the rural sector.</p> <p>It has been observed that only 36.8% of the total population in the state is availing of the banking services.</p>	<p>The policy document should ideally include the relevant changes in the land ceiling act in case of horticultural cultivation for capturing the interest of big entrepreneurs. Consolidation of land-holdings on the pattern of north-western states can be done in this regards. Impetus ought to be provided for the development of market for increasing the size of holdings.</p> <p>Banking facilities could be strengthened in consultation with the central government.</p>	<p>Department of land and land reforms, Government of West Bengal may take the appropriate measures in this domain.</p> <p>Finance Ministry, Government of West Bengal can take proper initiative in this regard.</p>

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Chapter IV

Issues Arising from the July 2004 Draft and Hong Kong Ministerial Conference

Section 1: Introduction

4.1 The Uruguay Round agreements set up a framework of rules and started reductions in protection and trade-distorting support. But this was only the first phase of the reform. Article 20 of the Agreement on Agriculture committed members to start negotiations on continuing the reforms at the end of 1999 (or beginning of 2000). Those negotiations are now continuing with Article 20 as their basis. The November 2001 Doha Ministerial Declaration set a new mandate by making the objectives more explicit, building on the work carried out thus far, and setting deadlines. Further substantial reductions in tariffs, domestic support and export subsidies are prominent issues in the negotiations. The negotiations are now in their sixth year, but under a reformulated mandate — the Doha Declaration that Ministers of Member countries issued in Doha, Qatar, in November 2001. Negotiators missed the 31 March 2003 deadline for producing numerical targets, formulas and other “modalities” for Member countries’ commitments. A revised draft “modalities” paper was put on the negotiating table in March 2003, and although it was not agreed upon, it was used to discuss the technical details in subsequent months. A number of “framework” proposals dealing with the main points of the modalities were submitted and discussed before and during the Fifth Ministerial Conference in Cancún, Mexico, September 2003, but it was not until 1 August 2004 that a “framework” was agreed upon. The next stage was to agree on full “modalities”, which will in turn be used to work out the final agreement on revised rules, and individual countries’ commitments. So, it was suggested that the negotiations might unofficially aim to complete the “modalities”, by the Hong Kong Ministerial Conference in December 2005.

4.2 After the September 2003 Cancún Ministerial Conference ended in a deadlock, WTO members in Geneva began efforts to put the negotiations and the rest of the work program back on track. The General Council’s decision on the Doha Agenda work program (the “July package”), agreed on 1 August 2004, contains frameworks and other agreements designed to focus on the negotiations and raise them to a new level. The next two sections of this chapter will present the main provisions of the July Draft relevant to agriculture, besides recording our

observations on these provisions from the viewpoint of a developing country like India. The next two sections will summarize the concerns expressed during the Hong Kong Ministerial Conference and the progress achieved therein. The final section will attempt to extract the lessons learnt from the concluding session of DDA at Hong Kong.

Section 2: July Draft Provisions¹

a) DOMESTIC SUPPORT

4.3 The Doha Ministerial Declaration calls for "substantial reductions in trade-distorting domestic support". With a view to achieving these substantial reductions, the negotiations in this pillar were aimed at ensuring the following:

- Special and differential treatment remains an integral component of domestic support. Modalities to be developed will include longer implementation periods and lower reduction coefficients for all types of trade-distorting domestic support and continued access to the provisions under Article 6.2.
- There will be a strong element of harmonization in the reductions made by developed Members. Specifically, higher levels of permitted trade-distorting domestic support will be subject to deeper cuts.
- Each such Member will make a substantial reduction in the overall level of its trade-distorting support from bound levels.
- In addition to this overall commitment, the Final Bound Total AMS and permitted *de minimis* levels will be subject to substantial reductions and, in the case of the *Blue Box*, will be capped as specified in paragraph 3.11 below in order to ensure results that are coherent with the long-term reform objective. Any clarification or development of rules and conditions to govern trade distorting support will take this into account.

Overall Reduction: A Tiered Formula

4.4 The overall base level of all trade-distorting domestic support, as measured by the Final Bound Total AMS plus permitted *de minimis* level and the level agreed in paragraph 8 below for *Blue Box* payments, will be reduced according to a tiered formula. Under this formula, Members

¹ The provisions are adapted from the text of the July Draft available on the WTO website.

having higher levels of trade-distorting domestic support will make greater overall reductions in order to achieve a harmonizing result. As the first instalment of the overall cut, in the first year and throughout the implementation period, the sum of all trade-distorting support will not exceed 80 per cent of the sum of Final Bound Total AMS plus permitted *de minimis* plus the *Blue Box* at the level determined in paragraph 3.11 below.

4.5 The following parameters will guide the further negotiation of this tiered formula:

- This commitment will apply as a minimum overall commitment. It will not be applied as a ceiling on reductions of overall trade-distorting domestic support, should the separate and complementary formulae to be developed for Total AMS, *de minimis* and *Blue Box* payments imply, when taken together, a deeper cut in overall trade-distorting domestic support for an individual Member.
- The base for measuring the *Blue Box* component will be the higher of existing *Blue Box* payments during a recent representative period to be agreed and the cap established in paragraph 3.11 below.

Final Bound Total AMS: A Tiered Formula

4.6 To achieve reductions with a harmonizing effect:

- Final Bound Total AMS will be reduced substantially, using a tiered approach.
- Members having higher Total AMS will make greater reductions.
- To prevent circumvention of the objective of the Agreement through transfers of unchanged domestic support between different support categories, product-specific AMSs will be capped at their respective average levels according to a methodology to be agreed upon.
- Substantial reductions in Final Bound Total AMS will result in reductions of some product-specific support.

4.7 Members may make greater than formula reductions in order to achieve the required level of cut in overall trade-distorting domestic support.

De Minimis

4.8 Reductions in *de minimis* would be negotiated taking into account the principle of special and differential treatment. Developing countries that allocate almost all *de minimis* support for subsistence and resource-poor farmers will be exempt. Here too the stipulation is that the members may make greater than formula reductions in order to achieve the required level of cut in overall trade-distorting domestic support.

Blue Box

4.9 Members recognized the role of the *Blue Box* in promoting agricultural reforms. In this light, Article 6.5 will be reviewed so that Members may have recourse to direct payments under production-limiting programmes, or direct payments that do not require production if:

- such payments are based on fixed and unchanging areas and yields; or
- such payments are made on 85 per cent or less of a fixed and unchanging base level of production; or
- livestock payments are made on a fixed and unchanging number of head.

4.10 The above criteria, along with additional criteria will be negotiated. Any such criteria will ensure that *Blue Box* payments are less trade-distorting than AMS measures, it being understood that:

- Any new criteria would need to take account of the balance of WTO rights and obligations.
- Any new criteria to be agreed upon will not have the perverse effect of undoing ongoing reforms.

4.11 *Blue Box* support will not exceed 5 per cent of a Member's average total value of agricultural production during an historical period. The historical period will be decided in the negotiations. This ceiling will apply to any actual or potential *Blue Box* user from the beginning of the implementation period. In cases where a Member has placed an exceptionally large percentage of its trade-distorting support in the *Blue Box*, some flexibility will be provided on an agreeable basis to ensure that such a Member is not called upon to make a wholly disproportionate cut.

Green Box

4.12 *Green Box* criteria will be reviewed and clarified with a view to ensuring that *Green Box* measures have no, or at most minimal, trade-distorting effects or effects on production. Such a review and clarification will need to ensure that the basic concepts, principles and effectiveness of the *Green Box* remain and take due account of non-trade concerns. The improved obligations for monitoring and surveillance of all new disciplines foreshadowed in paragraph 3.30 below will be particularly important with respect to the *Green Box*.

b) EXPORT COMPETITION

4.13 The Doha Ministerial Declaration calls for "reduction of, with a view to phasing out, all forms of export subsidies". As an outcome of the negotiations, Members agree to establish detailed modalities ensuring parallel elimination of all forms of export subsidies and disciplines on all export measures with equivalent effect by a credible end date.

End Point

4.14 The following will be eliminated by the end date to be agreed upon:

- Export subsidies as scheduled.
- Export credits, export credit guarantees or insurance programmes with repayment periods beyond 180 days.
- Terms and conditions relating to export credits, export credit guarantees or insurance programmes with repayment periods of 180 days and below which are not in accordance with disciplines to be agreed. These disciplines will cover, *inter alia*, payment of interest, minimum interest rates, minimum premium requirements, and other elements which can constitute subsidies or otherwise distort trade.
- Trade distorting practices with respect to exporting state trading enterprises (STEs) including eliminating export subsidies provided to or by them, government financing, and the underwriting of losses. The issue of the future use of monopoly powers will be subject to further negotiation.
- Provision of food aid that is not in conformity with operationally effective disciplines to be agreed upon. The objective of such disciplines will be to prevent commercial displacement. The role of international organizations as regards the provision of food aid

by Members, including related humanitarian and developmental issues, will be addressed in the negotiations. The question of providing food aid exclusively in fully grant form will also be addressed during the negotiations.

4.15 Effective transparency provisions for paragraph 2.14 will be established. Such provisions, in accordance with standard WTO practice, will be consistent with commercial confidentiality considerations.

Implementation

4.16 Commitments and disciplines in paragraph 2.14 will be implemented according to a schedule and modalities to be agreed upon. Commitments will be implemented by annual instalments. Their phasing framework will take into account the need for some coherence with the internal reform steps of Members. The negotiation of the elements in paragraph 2.14 and their implementation will ensure equivalent and parallel commitments by Member countries.

Special and Differential Treatment

4.17 The presumption expressed is that the developing country Members will benefit from longer implementation periods for the phasing out of all forms of export subsidies. Specifically, the developing countries will continue to benefit from special and differential treatment under the provisions of Article 9.4 of the Agreement on Agriculture for a reasonable period, to be negotiated, after the phasing out of all forms of export subsidies and implementation of all disciplines identified above are completed.

4.18 It is stipulated that the Members will ensure that the disciplines on export credits, export credit guarantees or insurance programs to be agreed upon will make appropriate provision for differential treatment in favour of least-developed and net food-importing developing countries as provided under the clause of the Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries. Improved obligations for monitoring and surveillance of all new disciplines as foreshadowed in paragraph 3.30 will be critically important in this regard. Provisions to be agreed upon in this respect must not undermine the commitments undertaken by Members under the obligations in paragraph 3.14 above. It is further stipulated that STEs in developing country Members which

enjoy special privileges to preserve domestic consumer price stability and to ensure food security will receive special consideration for maintaining monopoly status.

Special Circumstances

4.19 It is argued that In exceptional circumstances, which cannot be adequately covered by food aid, commercial export credits or preferential international financing facilities, ad hoc temporary financing arrangements relating to exports to developing countries may be agreed by Members. Such agreements must not have the effect of undermining commitments undertaken by Members in paragraph 3.14 above, and will be based on criteria and consultation procedures to be established.

c) MARKET ACCESS

4.20 The Doha Ministerial Declaration had called for "substantial improvements in market access". So, Members also agreed that special and differential treatment for developing Members would continue to be an integral part of all elements in the negotiations.

The Single Approach: A Tiered Formula

4.21 To ensure that a single approach for developed and developing country Members meets all the objectives of the Doha mandate, it is stipulated that tariff reductions would be made through a tiered formula that takes into account their different tariff structures. To ensure that such a formula will lead to substantial trade expansion, the following principles will guide its further negotiation:

- Tariff reductions will be made from bound rates. Substantial overall tariff reductions will be achieved as a final result from negotiations.
- Each Member (other than LDCs) will make a contribution. Operationally effective special and differential provisions for developing country Members will be an integral part of all elements.
- Progressive tariff reductions will be achieved through deeper cuts in higher tariffs with flexibilities for sensitive products. Substantial improvements in market access will be achieved for all products.

4.22 The number of bands, the thresholds for defining the bands and the type of tariff reduction in each band would continue to remain under negotiation. The role of a tariff cap in a tiered formula with distinct treatment for sensitive products will be further evaluated.

Sensitive Products

4.23 On selection of sensitive products, the stipulation is that, without undermining the overall objective of the tiered approach, Members may designate an appropriate number, to be negotiated, of tariff lines to be treated as sensitive, taking account of existing commitments for these products. The following principles would be followed on treatment of such sensitive products:

- The principle of ‘substantial improvement’ will apply to each product.
- ‘Substantial improvement’ will be achieved through combinations of tariff quota commitments and tariff reductions applicable to each product. However, balance in this negotiation will be found only if the final negotiated result also reflects the sensitivity of the product concerned.
- Some MFN-based tariff quota expansion will be required for all such products. A base for such an expansion will be established, taking account of a coherent and equitable criteria to be developed in the negotiations. In order not to undermine the objective of the tiered approach, for all such products, MFN based tariff quota expansion will be provided under specific rules to be negotiated taking into account deviations from the tariff formula.

d) OTHER STIPULATIONS

4.24 Other elements that will give the flexibility required to reach a final balanced result include reduction or elimination of in-quota tariff rate, and operationally effective improvements in tariff quota administration for existing tariff quotas so as to enable Members, and particularly developing country Members, to fully benefit from the market access opportunities under tariff rate quotas. It was further stipulated that

- Tariff escalation would be addressed through a formula to be agreed upon.
- The issue of tariff simplification would remain under negotiation.
- The question of the special agricultural safeguard (SSG) too would remain under negotiation.

Special and differential treatment

4.25 Having regard to their rural development, food security and/or livelihood security needs, special and differential treatment for developing countries will be an integral part of all elements of the negotiation, including the tariff reduction formula, the number and treatment of sensitive products, expansion of tariff rate quotas, and the implementation period. So, it was stipulated that proportionality would be achieved by requiring lesser tariff reduction commitments or tariff quota expansion commitments from developing country Members.

4.26 Developing country Members will have the flexibility to designate an appropriate number of products as Special Products, based on criteria of food security, livelihood security and rural development needs. These products will be eligible for more flexible treatment. The criteria and treatment of these products will be further specified during the negotiation phase and will recognize the fundamental importance of Special Products to developing countries. So, it was planned to establish a Special Safeguard Mechanism (SSM) for use by developing country Members.

4.27 It was recognized that full implementation of the long-standing commitment to achieve the fullest liberalisation of trade in tropical agricultural products and in products of particular importance to the diversification of production from the cultivation of illicit narcotic crops was long overdue. So, these issues were planned to be addressed effectively in the market access negotiations.

Least- developed countries

4.28 As per the July Draft, Least-Developed Countries, having full access to all special and differential treatment provisions above, would not be required to undertake reduction commitments. Developed Members, and developing country Members in a position to do so, should provide duty-free and quota-free market access for products originating from least-developed countries. It was further stipulated that work on cotton under all the pillars would reflect the vital importance of this sector to certain LDC Members.

Recently acceded members

4.29 It was decided that the particular concerns of recently acceded Member countries would be effectively addressed through specific flexibility provisions.

Monitoring and surveillance

4.30 On monitoring and surveillance, the July Draft stipulated that Article 18 of the Agreement on Agriculture would be amended with a view to lending rigor to monitoring so as to effectively ensure full transparency, through timely and complete notifications with respect to the commitments in market access, domestic support and export competition. It was promised that the particular concerns of developing countries in this regard would be addressed.

Other issues

4.31 Although there were no agreements, the July Draft nevertheless noted down the issues of interest like sectoral initiatives, differential export taxes, geographical indications (GI). It further stipulated that disciplines on export prohibitions and restrictions in Article 12.1 of the Agreement on Agriculture would be strengthened.

Section 3: A Critique of July Draft Provisions

4.32 It is gratifying that a harmonizing outcome is being targeted in order to level the playing field and prevent historical differences in subsidization levels from causing too much divergence between countries at the final level of subsidization. This is a clear advance over the Uruguay Round approach where historical differences in subsidization levels ensured large divergence between countries in final subsidization levels. However, the first instalment cut of 20 per cent of the sum of Final Bound Total AMS plus permitted *de minimis* plus the *Blue Box* at the level determined in paragraph 3.11 above is not a meaningful gesture as support levels of major subsidizers such as the US and EU were already below or near this 80 per cent level! An Oxfam report (Oxfam, 2004, p.3) notes that the head negotiator of the United States, Robert Zoellick, has already told the US Senate that “this (the first installment cut) will not require cuts in farm programs” as the US is already fulfilling this commitment. This could also be the case for the EU

after its CAP-reform. What will be much more decisive will be the size of cuts *after* the down payment (a matter still to be negotiated)².”

4.33 Also, by reviewing the contents of the colored boxes, it appears that the WTO is tacitly conniving at their continuance instead of working to phase them out of existence. Based on the unrealistic assumption of perfect competition in product and factor markets, which is only to be observed in the imagination of the economist rather than the world around us, these boxes are permitting rampant and continuous trade distortion as well as continuing an inequitable system where ability to subsidize and not market forces determine trade outcomes.

4.34 The *de minimis* provision whereby developing countries that allocate almost all such support to subsistence and resource poor farmers will be exempt from reduction commitments puts the onus on the developing countries to better target their subsidies and provide proof that they reach the intended recipients. While this might work towards domestic reform of our messy and inefficient subsidy programs, it still does not change the fact that the developed countries are free to target their *de minimis* support at their largest and most ‘efficient’ farmers and thereby retain their trade advantage. In fact, as Martin Khor (2004) observes, the developing countries rightly argue that they do not have huge subsidies (unlike the developed countries) and yet they are bound not to increase their presently low levels of domestic subsidies; for many of these countries, they can only increase their *Amber Box* subsidies in future through the use of the *de minimis* up to the permitted level. If the permitted level were to be reduced, that would limit their possible use of domestic subsidies further. Thus, it is only fair that they should not have to reduce their *de minimis* support.

4.35 The *Blue Box* has been continued but this time it is being capped at 5 per cent of the member’s average total agricultural production during a historical period – there will therefore be no surprises if the period is chosen such that the US and EU experienced peak production with high ruling prices! The provision for flexibility in order to avoid the necessity for huge cuts by exceptionally large *Blue Box* subsidizers is nothing but a device for the developed world to de-link subsidies from production levels (therefore making them eligible for *Blue Box* treatment) and shift them all to the *Blue Box* and then petition for their continuance under this ‘flexibility’ provision. In fact Oxfam (2004, p.3) raises this possibility in the case of USA’s counter-cyclical payments. The *Green Box* review and clarification is a token gesture because until the flawed

² Items in parenthesis added

assumption behind the boxes is removed, no amount of review or clarification is going to accept the fact that the *Green Box* is trade distorting!

4.36 As far as our observations on Export Competition are concerned, elimination of export credits, export credit guarantees and insurance programs with repayment periods of greater than 180 days is no doubt an important step forward since these constitute a major component of such support offered. However, the absence of a clear time frame for such elimination could mean that such subsidies continue substantially into the foreseeable future. In fact, as Kalenga (2004) observes, the issue of “parallelism” with measures such as export credits, export guarantees and insurance support measures and those affecting provision of food aid is likely to prolong the process of eliminating export subsidies. In a nutshell, this ‘parallelism’ leads to a potential delay in the elimination of export subsidies. Therefore, the question of a credible time table for the elimination of export subsidies should be a key issue in the forthcoming negotiations.

4.37 We now turn to our observations on market access stipulations in the July Draft. The reduction of tariffs from bound rates will not have much impact on trade since the bulk of applied tariffs are well below the bound tariff rates (see chapter 1) – this means that there will be no substantial improvement in market access in the initial phases of the implementation stage. Members may also designate an “appropriate number, to be negotiated”, of tariff lines to be treated as sensitive – this means that there is no cap on the number of tariff lines to be declared sensitive. In the case of developed countries with much less diversity in agriculture a small number of tariff lines may well seal off a substantial portion of the domestic market! S & D provisions in this regard for developing countries continue to be vague and ‘subject to negotiation’ as to their specifics, which as everyone knows is little better than a motherhood statement. ‘Substantial improvement’ in market access is to be achieved through tariff quota commitments as well, but there is no mention of how to increase transparency and equity in access to these quotas (see chapter 1). The concerns of recently added members (read China) are going to be addressed through special ‘flexibility’ provisions – this could mean less market access to China while China enjoys more market access elsewhere – an unfair state of affairs!

4.38 Under the July 2004 Framework, tariff reductions will be effected on *bound rates* (and not *applied rates*). In India, there is a substantial gap, also called *tariff water*) between *bound tariff* and *applied tariff* in most of the agriculture tariff lines. Unless the tariff reduction formula leads to very sharp reduction in *bound* rates, India may not have to significantly reduce its

applied tariff on most agricultural products. However, there are a few tariff lines with no *tariff water* as the *applied tariff* is at the level of *bound rate*. For example, edible oils (soybean, olive and mustard), rice, wheat, maize, garlic, peas, oranges, grapes, grape fruits, apples, etc. Unless these tariff lines are subject to flexible treatment as SPs, India would be required to reduce the *applied rate* of tariff on these tariff lines. The actual extent by which the *applied tariffs* would need to be reduced would depend on the formula adopted on the flexible treatment to SPs agreed upon during the negotiations. (Center for Trade and Development (CENTAD), 2005, *Demystifying WTO and Development, Frequently Asked questions*).

Section 4: Conclusion of Doha Development Round and Hong Kong Declarations

4.39 The Doha Development Round was launched during the 4th Ministerial Meeting of the WTO in Doha, Qatar in 2001 with the objective of generating new agreements to replace the earlier ones on agriculture, services, non-agriculture market access, among others, which were set to expire by the year 2005. The central point of the Doha Development Agenda (DDA) was that least developed and developing countries should benefit most from trade through correction of the imbalances in the current agreements, especially in the Agreement on Agriculture (AoA), which was felt to be highly skewed in favour of the developed countries as it allowed them to maintain high levels of trade distorting subsidies to render many developing country products non-competitive in the international market. Although WTO had earlier tried to conclude the Doha Development Round in Cancun, Mexico during its 5th ministerial meeting, it failed miserably as developed and developing countries were not able to reach consensus on many issues, including the primary issue - the removal of trade-distorting domestic and export subsidies. So, the Hong Kong Ministerial declaration attempted to provide a general blueprint through which the WTO would proceed to achieve its objectives of trade liberalization and removal of trade distorting subsidies in the near future. The central points of this fresh blueprint are reproduced below from Ministerial Declarations (source: WT/MIN(05)/DEC 22 December 2005).

4.40 On ***domestic support***, the document argues: “There will be three bands for reductions in Final Bound Total AMS and in the overall cut in trade-distorting domestic support, with higher linear cuts in higher bands. In both cases, the Member with the highest level of permitted support will be in the top band, the two Members with the second and third highest levels of support will be in the middle band and all other Members, including all developing country Members, will be in the bottom band. In addition, developed country Members in the lower bands with high relative levels of Final Bound Total AMS will make an additional effort

in AMS reduction. We also note that there has been some convergence concerning the reductions in Final Bound Total AMS, the overall cut in trade-distorting domestic support and in both product-specific and non product-specific *de minimis* limits” (paragraph 5).

4.41 It continues to argue that ““The overall reduction in trade-distorting domestic support will still need to be made even if the sum of the reductions in Final Bound Total AMS, *de minimis* and Blue Box payments would otherwise be less than that overall reduction. Developing country Members with no AMS commitments will be exempt from reductions in *de minimis* and the overall cut in trade-distorting domestic support. Green Box criteria will be reviewed in line with paragraph 16 of the Framework, *inter alia*, to ensure that programs of developing country Members that cause not more than minimal trade-distortion are effectively covered” (paragraph 5).

4.42 On *export subsidies*, the document says: “We agree to ensure the parallel elimination of all forms of export subsidies and disciplines on all export measures with equivalent effect to be completed by the end of 2013. This will be achieved in a progressive and parallel manner, to be specified in the modalities, so that a substantial part is realized by the end of the first half of the implementation period” (paragraph 6). On export subsidy measures the document clearly stipulates that “..such programs should be self-financing, reflecting market consistency, and that the period should be of a sufficiently short duration so as not to effectively circumvent real commercially- oriented discipline. ...The disciplines on export credits, export credit guarantees or insurance programs, exporting state trading enterprises and food aid will be completed by 30 April 2006 as part of the modalities, including appropriate provision in favor of least-developed and net food-importing developing countries as provided for in paragraph 4 of the Marrakesh Decision. The date above for the elimination of all forms of export subsidies, together with the agreed progressivity and parallelism, will be confirmed only upon the completion of the modalities” (paragraph 6).

4.43 The document also talks of *trade-distorting STEs* and food aid in the context of export subsidies. It argues : “As a means of ensuring that trade-distorting practices of STEs are eliminated, disciplines relating to exporting STEs will extend to the future use of monopoly powers so that such powers cannot be exercised in any way that would circumvent the direct disciplines on STEs on export subsidies, government financing and the underwriting of losses” (paragraph 6).

4.44 On *food aid*, the Declaration argues: “..we reconfirm our commitment to maintain an adequate level and to take into account the interests of food aid recipient countries. To this end, a "safe box" for bona fide food aid will be provided to ensure that there is no unintended impediment to dealing with emergency situations. Beyond that, we will ensure elimination of commercial displacement. To this end, we will agree effective disciplines on in-kind food aid, monetization and re-exports so that there can be no loop-hole for continuing export subsidization” (paragraph 6).

4.45 On *market access*, the Declaration notes “..the progress made on *ad valorem* equivalents. We adopt four bands for structuring tariff cuts, recognizing that we need now to agree on the relevant thresholds — including those applicable for developing country Members. We recognize the need to agree on treatment of sensitive products, taking into account all the elements involved” (paragraph 7). In this context it also talks of Special Products (SPs) and Special Safeguard Mechanism (SSMs): “ We also note that there have been some recent movements on the designation and treatment of Special Products and elements of the Special Safeguard Mechanism. Developing country Members will have the flexibility to self-designate an appropriate number of tariff lines as Special Products guided by indicators based on the criteria of food security, livelihood security and rural development. Developing country Members will also have the right to have recourse to a Special Safeguard Mechanism based on import quantity and price triggers, with precise arrangements to be further defined. Special Products and the Special Safeguard Mechanism shall be an integral part of the modalities and the outcome of negotiations in agriculture” (paragraph 7).

4.46 Recalling the earlier mandate to address cotton ambitiously, expeditiously and specifically, within the agriculture negotiations in relation to all trade-distorting policies affecting the sector in all the three pillars of market access, domestic support and export competition, the Declaration makes the following three stipulations:

- “All forms of export subsidies for cotton will be eliminated by developed countries in 2006.
- On market access, developed countries will give duty and quota free access for cotton exports from least-developed countries (LDCs) from the commencement of the implementation period.
- Members agree that the objective is that, as an outcome for the negotiations, trade

distorting domestic subsidies for cotton production be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable. We commit ourselves to give priority in the negotiations to reach such an outcome” (paragraph 11).

4.47 With regard to the development assistance aspects of *cotton*, the Declaration welcomed the Consultative Framework process initiated by the Director-General to implement the earlier decisions of 1st August 2004. We take note of his Periodic Reports and the positive evolution of development assistance noted therein. In this context, it talks about the following several steps:

- “..We urge the Director-General to further intensify his consultative efforts with bilateral donors and with multilateral and regional institutions, with emphasis on improved coherence, coordination and enhanced implementation and to explore the possibility of establishing through such institutions a mechanism to deal with income declines in the cotton sector until the end of subsidies.
- Noting the importance of achieving enhanced efficiency and competitiveness in the cotton producing process, we urge the development community to further scale up its cotton-specific assistance and to support the efforts of the Director-General.
- In this context, we urge Members to promote and support South-South cooperation, including transfer of technology.
- We welcome the domestic reform efforts by African cotton producers aimed at enhancing productivity and efficiency, and encourage them to deepen this process.
- We reaffirm the complementarity of the trade policy and development assistance aspects of cotton.
- We invite the Director-General to furnish a third Periodic Report to our next Session with updates, at appropriate intervals in the meantime, to the General Council, while keeping the Sub-Committee on Cotton fully informed of progress.
- Finally, as regards follow up and monitoring, we request the Director-General to set up an appropriate follow-up and monitoring mechanism” (paragraph 12).

4.48 Regarding the mandate for *negotiations on market access for non-agricultural products (NAMA)*, the Hong Kong Declaration reaffirmed all the elements of the NAMA Framework adopted by the General Council on 1st August 2004. This Declaration highlighted the importance of a balance between Agriculture and NAMA by arguing that : “..it is important to advance the development objectives of this Round through enhanced market access for developing countries in both Agriculture and NAMA. To that end, we instruct our negotiators to ensure that there is a comparably high level of ambition in market access for Agriculture and NAMA. This ambition is to be achieved in a balanced and proportionate manner, consistent with the principle of special and differential treatment” (paragraph 24).

4.49 Regarding *negotiations on trade in services*, Hong Kong Declaration confirmed that these “shall proceed to their conclusion with a view to promoting the economic growth of all trading partners and the development of developing and least-developed countries, and with due respect for the right of Members to regulate” (paragraph 25).

4.50 With respect to *TRIPS negotiations*, the Declaration took “... note of the report of the Chairman of the Special Session of the Council for TRIPS setting out the progress in the negotiations on the establishment of a multilateral system of notification and registration of geographical indications for wines and spirits, as mandated in Article 23.4 of the TRIPS Agreement and paragraph 18 of the Doha Ministerial Declaration, and agree to intensify these negotiations...” (paragraph 29).

4.51 On *environmental negotiations*, the Declaration affirmed the Doha mandate “aimed at enhancing the mutual supportiveness of trade and environment and welcome the significant work undertaken in the Committee on Trade and Environment (CTE) ... (i) based on Members' submissions on the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs), ...(ii) towards developing effective procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and criteria for the granting of observer status. and (iii) through numerous submissions by Members and discussions in the CTE in Special Session, including technical discussions, which were also held in informal information exchange sessions without prejudice to Members' positions”. It instructed Members to complete the work expeditiously under paragraph item (iii). (paragraph 30-33).

4.52 On *S & D treatments*, the Declaration reaffirmed that S & D provisions were an integral part of the WTO Agreements, thus renewing its determination to review all such provisions with a view to “strengthening them and making them more precise, effective and operational.” (paragraph 35). It also took note of the work done on the Agreement- specific LDC proposals, though it was prompt to point out that substantial work still remained to be done. However, it reaffirmed its commitment to address the development interests and concerns of developing countries, especially the LDCs, in the multilateral trading system, and thus to complete the task set at Doha .The Declaration accordingly instructed the Committee on Trade and Development in Special Session to expeditiously complete the review of all the outstanding Agreement-specific proposals and report to the General Council, with clear recommendations for a decision, by December 2006 (paragraph 36).

4.53 On *outstanding implementation-related issues*, the Declaration took “note of the work undertaken by the Director-General in his consultative process on all outstanding implementation issues under [the Doha Ministerial Declaration](#), including on issues related to the extension of the protection of geographical indications provided for in Article 23 of the TRIPS Agreement to products other than wines and spirits and those related to the relationship between the TRIPS Agreement and the Convention on Biological Diversity. We request the Director-General, without prejudice to the positions of Members, to intensify his consultative process on all outstanding implementation issues under paragraph 12(b), if need be by appointing Chairpersons of concerned WTO bodies as his Friends and/or by holding dedicated consultations” (paragraph 39).

4.54 With respect to the *least-developed countries (LDCs)*, the Declaration reaffirmed WTO’s commitment to effectively and meaningfully integrate LDCs into the multilateral trading system and to implement the WTO Work Programme for LDCs adopted in February 2002. Building upon the commitment in the Doha Ministerial Declaration by both developed and developing-country Members agreeing to implement duty-free and quota-free market access for products originating from LDCs (as provided for in Annex F to Hong Kong Declaration), it was hoped that the “Members would take additional measures to provide effective market access, both at the border and otherwise, including simplified and transparent rules of origin so as to facilitate exports from LDCs”. It also reaffirmed WTO’s commitment to enhance effective trade-related technical assistance and capacity building to LDCs on a priority basis to enable LDCs to maximize the benefits resulting from the Doha Development Agenda (DDA)” (paragraph 47).

4.55 The Declaration continued to attach high priority to effective implementation of an Integrated Framework (IF), which is also endorsed by the Development Committee of the World Bank and IMPF. So, the Declaration welcomed the establishment of a Task Force composed of donor and LDC members to provide recommendations by April 2006 (so that enhanced IF can be in force no later than 31st December 2006) on the following three aspects (paragraph 50):

- providing increased, predictable, and additional funding on a multi-year basis;
- strengthening the IF in-country, including through mainstreaming trade into national development plans and poverty reduction strategies; more effective follow-up to diagnostic trade integration studies and implementation of action matrices; and achieving greater and more effective coordination amongst donors and IF stakeholders, including beneficiaries;
- improving the IF decision-making and management structure to ensure an effective and timely delivery of the increased financial resources and programmes.

4.57 The Declaration noted with appreciation the substantial increase in trade-related technical assistance through both bilateral and multilateral programmes. It felt that that a strategic review of WTO's technical assistance was to be carried out by Members, so that the conclusions and recommendations of the review can be suitably accommodated in future planning and implementation of training and technical assistance (paragraph 52).

4.58 Given dependence of several developing and least-developed countries on the export of specific commodities and the problems they face because of the adverse impact of the long-term decline and sharp fluctuation in the prices of these commodities, the Declaration took note of the work undertaken in the Committee on Trade and Development on commodity issues, and instructed the Committee, within its mandate, to intensify its work in cooperation with other relevant international organizations and report regularly to the General Council with possible recommendations (paragraph 55).

4.59 On aid for trade, the Declaration puts its views in this manner: "Aid for Trade should aim to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade. Aid for Trade cannot be a substitute for

the development benefits that will result from a successful conclusion to the DDA, particularly on market access. However, it can be a valuable complement to the DDA. We invite the Director-General to create a task force that shall provide recommendations on how to operationalize Aid for Trade. The Task Force will provide recommendations to the General Council by July 2006 on how Aid for Trade might contribute most effectively to the development dimension of the DDA. We also invite the Director-General to consult with Members as well as with the IMF and World Bank, relevant international organisations and the regional development banks with a view to reporting to the General Council on appropriate mechanisms to secure additional financial resources for Aid for Trade, where appropriate, through grants and concessional loans” (paragraph 57).

Section 5: An Examination of Hong Kong Declaration

4.60 The continued commitment of the WTO to aggressively push for its agenda of aggressive trade liberalization became crystal clear from the Hong Kong Declaration. Thus, tariff reduction still continued to be the norm of progress in negotiations, and it is despite continued assertion by developing countries on the negative impact of trade liberalization on their economies, particularly on their agriculture.

4.61 It is therefore no surprise that In line with the so called harmonization principle of the WTO, where the objective is to "harmonize" or bring tariff rates closer to each, in which a tiered approach was adopted in reducing tariffs. The declaration provided four bands - each for developed and developing countries. Each band corresponds to a particular tariff range and a prescribed tariff cut, in which products with lower tariff rates will have lower tariff cuts and those with higher tariffs are expected to have higher or bigger tariff cuts. The Ministerial Declaration, however, did not prescribe the tariff ranges, or the degree of tariff cuts for each band, thus leaving these to subsequent negotiations in Geneva in 2006. This failure to provide detailed modalities on tariff reduction is probably indicative of the remaining wide divergence of positions between the different negotiating blocks. Prior to the Hong Kong meeting, the US, for instance, was proposing very aggressive tariff cuts, ranging from 50% to 90%, with little differentiation between developed and developing countries. The EU on the other hand, took a more conservative stand, when it was pushing for the development of modalities for sensitive products through which it hoped to protect some of its crucial sectors from liberalization. On the other extreme, the G20, a group of developing countries prescribed tariff cuts ranging from 25% to 40%.

4.62 In the context of reduction in domestic support, the Declaration continued to assert that “Developing country Members with no AMS commitments will be exempt from reductions in de *minimis* and the overall cut in trade-distorting domestic support. Green Box criteria will be reviewed in line with paragraph 16 of the Framework, *inter alia*, to ensure that programs of developing country Members that cause not more than minimal trade-distortion are effectively covered” (paragraph 5). Thus, developing countries were not given any credit for reaching the stage of no AMS reduction commitment as compared to others – a proposition which is quite contrary to the principle of incentive-compatible arrangements. In fact, drawing a parallel with the market for pollution permits, developing countries with no AMS reduction commitments ought to have been paid those still having such reduction commitments. Thus, the proclaimed practitioners of the market principles seem to have silently buried one of the glorifying principles of the strict market logic! Similarly, the Declaration on Green Box criteria only ensured that “programs of developing country Members that cause not more than minimal trade-distortion are effectively covered” without making a similar assertion with respect to developed country programs covered under Green Box criteria and without clearly and precisely defining what ‘minimal trade-distortions’ meant to different groups of countries. It cannot be described anything less than a complete sell-out of the developing country interests if such nice but inherently discriminatory and manipulative language in the Declaration escapes attention and avoids suitable counter-measures by developing country negotiators!

4.63 Obviously, one main criticism against the resulting text of the Hong Kong Declaration is absence of clear disciplines on the issue of domestic subsidy reduction. In particular, absence of sufficient disciplines on the types of domestic support like the new blue box, as defined by the July framework, is likely to enable countries like the US to shift some of their domestic support from the amber box to the blue box in order to evade the expected reduction in the former. It may be recalled that previously the blue box was limited to production limiting programs or domestic support measures having the effect of limiting production such as the EU's land set aside programs, and so developing countries were pushing for tighter disciplines on the blue box in order to help block the box -shifting tactics of countries like the US. Probably in its bid to avoid another failure like Cancun, the WTO postponed much of the contentious and finer issues, thus leaving these details for discussion in the coming Geneva negotiations. However, it did set an end date for the elimination of export subsidy reduction. As critics argue, this end date of 2013 is way too long, given the fact that export

subsidies are acknowledged as absolutely trade distorting and ought to have been eliminated ten years ago.

4.64 Provisions relating to special products (SPs) and special safeguards mechanisms (SSM) no doubt constitute one of the so called gains of developing countries from the Hong Kong Ministerial Declaration. In a coup sort of things for the developing countries like India, two windows -- special products and special safeguards mechanism -- have been allowed to prevent rich countries from dumping their farm products in developing country markets. SPs are defined as commodities that will be given market access flexibilities or protection from liberalization - maybe in the form of exemption from tariff reduction or lower tariff cuts compared to the normal tariff cuts. The SSM provision, on the other hand, allows developing countries to apply additional tariffs or duties on imports in cases of import surges or price depression. Thus, the Hong Kong declaration seems to have affirmed the right of developing countries to self-designate products to be given SP status, as long these products meet the general criteria of food security, livelihood security and rural development. It also established the use of price and volume triggers for the application of SSM. Despite these apparent gains, however, one cannot escape pointing out that the Hong Kong declaration is vague about the treatment of special products. The Hong Kong declaration is also vague about the number of products that will be declared as SPs, despite the G33 insisting that SPs should cover at least twenty (20%) of a developing country's agricultural tariff lines. Every time developing countries ask for any special and differential treatment in a piece-meal manner, they will have to make some huge sacrifices elsewhere in a negotiation process which is far from competitive. As it has happened this time too during Hong Kong meeting, the developing countries' homework can hardly satisfy and promptly win over the opinions of the developed countries in favour of their proposals (see, paragraph 4.52 above). Anyway, the developing countries seem to have sealed their future and are bound to continuously fight for piece-wise fair and clear deals from the developed countries, the moment they fell in love for their one-track craze for special and differential treatment towards them, rather than doing sufficient homework to strike in one go a crystal-clear, solid and uniform framework equally applicable to all members of this august body!

4.65 In response to developing country concerns that food aid, as a trade facility, is often used by developed economies to dump excess produce into developing country markets, resulting in displacement of local agricultural producers and thus undermining the livelihood and survival of many small farmers in recipient countries, the Hong Kong Ministerial declaration provided for the creation of a so-called "safe box" for bona fide food aid. However, this safe box should "contain"

food aid for emergency situations, that will not result in displacement of local producers. So, the declaration also called for effective disciplines for other food aid modalities such as in-kind food aid, monetization and re-exports – all geared toward ensuring that food aid can't be used as a mechanism to subsidize exports. Unfortunately, the details of the disciplines, including those of the "safe box" are scheduled for completion only by April 2006. It may be pointed out in this context, as done by the UN World Food Program's representative in course of the deliberations, global food aid at this stage amounted to 0.3 percent of the world's food production – which was 'like going to the beach and focusing on a single grain of sand'! What is disgraceful and outrageous is that, while the debate on form of food aid and new disciplines on it is scheduled to be continuing in the future, an estimated 18,000 children are reported as dying of hunger every day - and every one of them dying a preventable death!

4.66 Given the fact that services now-a-days account for nearly 70% of the global economy, but only about 20% of world trade due to restrictions on foreign ownership and entry barriers, it is no wonder that there will be strong demand for opening up of trade in services – especially from developed countries. While the group of 90 developing countries fear that opening key sectors like telecommunications to well-established US and EU companies would force them to engage in 'unequal' trade, EU and US are insisting on opening new markets for their services companies and manufacturers to offset the painful cuta they may have to make on the agricultural side. So, to be pragmatic, developing countries like India, China, Brazil, Argentina etc. must prepare and evolve strategies to conduct agricultural trade negotiations alongside negotiations for opening up trade in services. It is important to note that Australia has become the largest destination for education-related travel after the US and the UK. At the same time India has been the Mecca of education for centuries, and has produced top-notch engineers, doctors and managers who have made a mark worldwide. So, there is a growing feeling that making education a part of the services sector where it can be offered worldwide would be timely. India's interest in services also stems from a fast growing Business Process Outsourcing (BPO) sector. So, there is also a call by several private educational service providers to make education in India a part of the services sector to be offered as part of the WTO agreement on trade and services, though the issue is split wide open since education is often considered a basic right in the country,

4.67 With respect to trade in environmental products, India needs to consistently lobby with the various environmental groups that WTO should not force anybody to eat genetically modified foods. The right of individual countries to decide whether or not to allow GMOs in their food

chains or their environment is a key element of the democratic principles, which ought not to be sacrificed before WTO. Indian Ecologist Vandana Shiva has rightly pointed out the worst face of WTO in the context of transatlantic trade dispute. When UN Bio-safety Protocol allows countries to use the Precautionary Principle to ban import of GMOs, the WTO can't impose GMOs on them. On the issue of trade in environmental goods and services, India ought to consistently oppose the "list approach" for seeking tariff reduction on environmental goods. The "list approach" is not beneficial for developing countries. As it focuses only on goods and is, in fact, seen as a backdoor method to bring in NAMA. India has submitted an alternate approach called "environmental project approach", wherein it has been proposed that all environmental goods and services in the project should get tariff concessions.

4.68 Given increasing popular discontent among developing countries over bio-piracy and the misappropriation of their traditional knowledge for commercial gain by developed country companies, there is an acute need from developing countries side for re-negotiations on the issues pertaining to the relationship between the TRIPS agreement and the convention on bio-diversity. Since Hong Kong Declaration has postponed decision-making on this important issue, countries like India, which are rich in bio-diversity must consistently lobby for this amendment to pave the way for an international legally-binding regime. Three elements — namely, "disclosure of country of origin", "prior informed consent", and "benefit sharing" arrangement, which are together called "disclosure requirements", ought to be incorporated in the TRIPS agreement. Moreover, patenting natural life forms like seeds, genetic resources for food and agriculture and naturally occurring micro-organism ought to be excluded from the provisions of TRIPS.

4.69 The WTO Secretariat and especially the developed country negotiators are smart enough to include a number of promises as ornaments to get the developing country members hooked to further expectations from the WTO. This is a smart delaying tactic to perpetuate the historical advantages the developed countries are enjoying further into the future – at least as much as possible. It can be seen if one carefully goes through the text of the Declaration and traces what happened over successive rounds of negotiations to the agreements over opening up trade in cotton at par with other agricultural commodities/products, or agreements over technical assistance. The promises extended to the least developed countries (LDCs) provide a more glaring case. It may be recalled that among the 149 WTO members, 32 fall into the category of least developed, with per capita incomes of less than \$750. But the Hong Kong Declaration came only after negotiators from the least developed countries dropped their demand that all of their

products should be allowed duty-free access. It is learnt that In return the negotiators from the U.S. and Japan agreed to limit the exemptions to a fixed percent that will be worked out later. Moreover, they maintained that such exemptions would be purely transitory and must end by a set date. On the other hand, developing economies like India, Brazil and China promised more flexibility than the rich nations towards the LDCs. To make sure that the promises made don't eventually end up in smoke the developing country negotiators must carefully control the happenings inside the Integrated Framework Steering Committee (IFSC) not only through participation, but also, and more importantly, through appropriate lobbying inside World Bank and IMF.

4.70 Developing countries need to be careful about another apparently lucrative offer from the developed ones – namely, aid for trade. When the benefits from trade are invariably distributed unequally between developed and developing country partners, it is quite expected that monopoly capital in the developed nations would be willing to forego in advance a small part of their trade gains in favor of a selected few developing countries to ensure larger gains in the future – even by resorting to a ‘divide and rule’ principle.

Section 6: Lessons from Culmination of Doha Development Agenda at Hong Kong

4.71 Apparently, there are two groups of people simultaneously in existence in the developing countries at least – one favoring a “Reform the WTO” framework and the other following “Out of the WTO” framework. It is becoming increasingly important to take both the groups alongside, besides having continuous dialogue with them, on the one hand, and an international network, on the other, so as to develop an inside-outside strategy with respect to WTO to achieve twin goals. The first goal is to place WTO on liberal logical reasoning associated with traditional neo-classical economics, rather than allowing it to be hijacked by the proponents of monopoly capitalism, while the second goal is to preserve and develop a WTO with a human face for the prosperity of the mankind as a whole. There seems to be a world of difference between words and deeds in WTO. Although never made so explicit, WTO on paper seeks to maximize world welfare through the most efficient utilization of world's resources as in the famous Coase Theorem for value-maximization, but without putting enough efforts to fulfill the three important pre-conditions – (i) unambiguous property rights on all resources to start with, (ii) near zero transaction costs on negotiating on alternatives, and (iii) no wealth effect – that is, because of superior powers of one party over others, whether economic, political, social, cultural, ideological or otherwise, the former can't bully the rest. In other worse, the famous Coase Theorem and its

counterpart, we are considering – that is, maximizing the total welfare of the mankind, as WTO seems to doing on paper - are based on the premise of a competitive bargaining process. Unfortunately, the way successive rounds of negotiations are progressing, WTO seems to moving further and further away from fulfilling these Coase conditions. So, in spite of the lucrative promises and flowery language in which the negotiating clauses are being wrapped up, the developing countries - at least – must realize that it is not a Coasian competitive negotiating process, but a hard, rocky bargaining framework through which they have to tread all the way, and they must be doing their preparations accordingly.

4.72 As chief economist for the World Bank in 1994, Stiglitz spoke out against what was then the Uruguay round of trade talks, and opined that they discriminated against developing nations. "Today's 'development' round doesn't deserve its name," once said this Nobel Prize-winning economist. So, the problem – it seems - isn't too much globalization, but too little of it. If free trade and globalization are problems, it's only because the parts of the world that most need them aren't getting enough of either. So, all efforts need to be directed towards extending the benefits of free trade and capital flows to the world's poorest nations, not halting them. The relevant question one should pose in this context is: Is it a pure coincidence that the nations that tend to be ardently following free-trade and those most intertwined with the global economy are the richest? The answer is 'no'. It's because until now, the wealthiest nations called the shots, while the poorer ones largely fell in line. So, a solution must emerge if and only if the developing nations – backed up by enough research-knowledge, beautiful minds and operational tools - can gather the conviction that globalization is less the problem than the fact the global elites get to make the rules. In other words, to reverse the fortunes of the world's poor, what is needed is to begin a process by which one can put the instruments of control in their hands and in the hands of their trusted lieutenants. It is understood that in the Doha Round, the G20, of which both India and China are members, stood up to the pressures from US and the European Commission to demand that the manifestly unfair trading system in agriculture should not be perpetuated. The unprecedented unity shown by developing and poor countries through the G-110 grand alliance during the Hong Kong deliberations, if carefully nourished and articulated, seem to hold the key to changing the dynamics in trade diplomacy. So, the lessons we derive at the end of this study and the action points we propose in conclusion are aimed at achieving this goal – on which hopefully no stakeholder of Indian agriculture at the grass root level will disagree. We propose below an inside-outside strategy to deal with the alleged ill-effects of the WTO and to convert the existing challenges into an opportunity for the developing nations.

4.73 As WTO is composed of states and it considers only the official views of states, the most important component of any WTO related campaign has to be a national advocacy work targeting the state. More specifically, farmer bodies and civil society groups must exert pressure on national governments at all levels to adopt policies that truly reflect the interest and concerns of their constituency and stakeholders. It is precisely where the utility of an exercise like the present study lies, irrespective of all its limitations. This national advocacy activity directed towards national governments at all levels is absolutely necessary for three reasons.

- First, farmers and civil society groups must work together to build up a critical mass that will make it hard for any government to ignore the growing dissent against indiscriminate opening up of markets. This advocacy exercise must be targeted to all three branches of government: executive (particularly the department/ministries of agriculture, fisheries, environment, trade, industry and commerce), as well as the legislative (assembly or parliament) and judiciary. The more the number of states that refuse unfair trade rules, the more would be the chances that farmers' rights and livelihoods will be protected during WTO negotiations.
- Second, appropriate pre-emptive must be undertaken by national governments, in stead of allowing things to drift such that international bodies can easily chip in and impose things from outside. For example, governments, and not the International Standards Organisation, should be regulating the social responsibility of corporations within the national boundaries, while the WTO should be adopting measures to ensure that no country can routinely use corporate social irresponsibility to secure unlawful competitive advantage in global markets. Hence, there is an urgent need for stronger government commitment to shaking up the way they legislate and enforce/monitor legislations. It also highlights at the same time the need for global norms to prevent comparative advantage becoming dependant on a race to the bottom where worker abuse and exploitation would replace corporate ingenuity in the form of innovation, quality and marketing as hallmarks for success. The WTO working alongside other international agencies like the ILO would probably be the best guides to provide those norms. So, the real question is how to do this balancing act between the roles of national governments, on the one hand, and those of international bodies like the WTO, on the other, besides bringing the matter to the grasp of the respective sides.

- Third, the farmer groups and their allies, sympathizers and patrons must be able to perform policy research, analysis as well as proposal-making and articulation skills. To broaden their perspective, to get the support from other sectors and also to have a bigger political force to push pro-farmer policies on agricultural trade, they must be able to coordinate their actions with those of multi-sector organizations – such as those working on women, migrant workers, industrial labour, environmentalists, who are likely to be their natural allies. To facilitate this task, the various Departments must not only coordinate their activities on equal footing (rather than in a hierarchical manner, if at all, as prevailing at present) at various levels of the government, but also disseminate the materials produced or information collated by them among these stakeholder organizations (in stead of sharing such materials with a limited number of favoured Departments, organizations and people surrounding the Department put at the forefront of the negotiations deal (The Ministry of Commerce in the Indian context). It is difficult to imagine evolution of a broad-based national preparation for WTO negotiations when all relevant discussion papers are not even routinely circulated to the heads of the so-called elite organizations like IITs and IIMs for further deliberations. The kind of inside-outside strategies being suggested is probably best developed if not merely one Department or a handful of people, but a much broader coalition inclusive of civil society groups are involved in developing outside strategies – at least until things reach a final stage to be concretized by a smaller set of people at the helm of affairs, who need not belong to only one Department, but may come from different backgrounds depending upon their proven and demonstrated abilities.

4.74 It must be remembered that the gains on SP and SSM during the Hong Kong Meeting – however limited these might be - were made possible due to the advocacy activities of the G33. In fact, developing country formations like the G33 and the G20 took a more active role after Cancun in trying to influence the outcome of the negotiations. Appropriate lessons must be drawn from this experience to build up more and more effective international networks and evolve strategies for the negotiations. Regional and international public and non-government networks, in particular, are in a position to undertake international and regional campaigns alongside simultaneous national campaigns. These campaigns must be targeted at influencing these developing country formations to undertake joint researches and preparations to echo their trade advocacies. While developing their future strategies, the developing countries' network may seriously consider FAO's twin-track approach to ensure that the poor and food insecure developing countries realize the full potential

of trade, as elaborated during the Hong Kong Meeting. According to FAO, the first track calls for increased investment in agriculture and rural areas in order to improve productivity and build competitiveness, especially in food production for domestic markets. Such investments would have multiple payoffs, not the least of which is the increased capacity of developing countries to participate more effectively in the international economy. The second track calls for safety nets to protect vulnerable groups from trade-related shocks and to allow the poor to take advantage of the economic opportunities arising from trade. Such two-track approach is necessary as, according to FAO, agricultural growth and greater trade prospects do have the potential to contribute significantly to improve food security and promote wider economic growth in poor countries, but the gains from freer trade are neither automatic nor universal. So, FAO has very rightly called for establishment trade rules in WTO that would contribute to the reduction of global hunger and malnutrition, while moving the world towards a fairer and more development-friendly agricultural trading system.

4.75 In spite of all criticisms and angers directed against it, it must be appreciated that WTO is a relatively more visible and transparent system compared to bilateral and regional trade agreements. The latter provide an apparent point of attraction because they are essentially more aggressive in terms of trade liberalization commitments. So, it is quite possible that the gains from the WTO, for example, in the form of SPs and SSM will be eroded through bilateral and regional trade agreements. It is important therefore to extract another lesson to guide future action points – namely, to engage governments on all these type of trade arrangements and to promote policy coherence in a way that promotes the economic viability of small farmers and agricultural producers. It is extremely important to monitor and even strategically corner governments that circumvent multilateral trade efforts with one-to-one deals. The trend is dangerous for two reasons. First, unless constrained and possibly stopped, weaker and especially smaller developing economies will be left out in the process whereas the big boys would continue to cherry-pick the nations they negotiate with. Second, it could actually lead to more protectionism, not less. Hence, the civil society framework of the developing nations – maybe sometimes in line with sane elements from the developed nations – together with their governments must not merely shame but also confront with carefully developed alternative structures the wealthy nations that promise free trade and then use gimmicks and technicalities to avoid it. In ultimate analysis, the problem isn't the WTO – but its hypocrisy often fuelled by developed country manipulations and abject surrender of developing country negotiators!.

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Chapter V

Summary and Recommendations

Section 1: Background

5.1 Encouraged at successful completion of an earlier study on implications of WTO Agreements on Indian Agriculture, on the one hand, and the critical need for developing healthy avenues for having continuous interaction and dialogue between the state stakeholders of Indian agriculture and the central government, which is representing the country in WTO negotiations, on the other hand, this ambitious study was proposed in the Annual Meeting of the Agro-economic Research Centers (AERCs) held at Krishi Bhavan, New Delhi in 2002. With active encouragement from the the-then Economic & Statistical Advisor, Mr. Trehan, this study was launched in the same year, while actively involving all AERCs for each preparing a report based on one of the states under their jurisdictions, while entrusting the responsibility to the a senior faculty at the Center for Management in Agriculture of IIM, Ahmedabad to provide the background materials as well as consultative inputs to the AERCs to help them undertake their studies as well as to prepare at a later stage a consolidated all-India report based on AERC studies. Accordingly, a National Workshop was held at AERC, Vallabh Vidyanagar, where objectives, methodologies and plans for conducting this study were finalized. The methodology involved identification of important stakeholders including the relevant government departments at the state level, given the intimate knowledge of AERCs with ground realities, to sensitize the relevant stakeholders on critical and emerging issues around the Agreement on Agriculture and seek their consultative inputs in the form of three carefully designed dummy tables (Tables 1.1 to 1.3), which were explained and provided to the AERCs with the hope that the process will ultimately culminate in a permanent modus operandi, besides development of expertise at AERCs, to guide India's engagement in successive rounds of WTO negotiations based on continuous consultative inputs from the state level stakeholders – a goal which is perfectly consistent with the constitutional status of Indian agriculture as a state subject. Although the hard realities didn't allow the dreams of the initiators to be fully realized and the targeted time had to be crossed several times stretching the time limit to almost 6 years for various unmanageable reasons, the cause is probably not lost altogether as important lessons have still emerged from this highly constrained and over-prolonged study, which are being reported in this manuscript with a firm belief that the Ministry of Agriculture (MoA), at least, will not be tamed by the observed

constraints but gather enough courage to pursue the matter to its logical end as per the original vision.

Section 2: Study Objectives

5.2 The focus of this study was on the following specific themes for each relevant state in terms of objectives:

1. To bring out the State's concerns as well as to record the State's views on the changing economic situation due to India's involvement with the WTO;
2. To document the State's reactive initiatives, if any, to meet the problems and constraints arising out of India's WTO commitments and review in brief the effectiveness of government interventions in the form of technology adoptions, institutional adaptations, price policy changes (e.g., through changes in tax and subsidy regimes) and legal policy changes undertaken so far;
3. To discuss with the important stakeholders (as identified above) the requirements for formulation of a policy document at the State level, in response to the country's growing concerns at home and abroad (i.e., in response to challenges arising from WTO or otherwise); and
4. To assemble these views in the form of a meaningful policy requirement matrix, relating problems/issues to action points suggested/recommended and also trying to spell out the agencies which should undertake such actions.

Section 3: Methodology

5.3 Due to undue delay in receipt of most AERC reports or revised reports – partly because the study was on an altogether new subject, which demanded a sharp departure from the styles they were traditionally following and also partly because of certain reasons beyond their control, and also due to very general rather than WTO-specific response received from most state level stakeholders, a compromise had to be made at the stage of collating the materials to prepare this consolidated report. A large number of research assistants had to be involved over a fair long period of time, who were instructed to make conscious efforts to record and interpret carefully heterogeneous stakeholder responses from non-uniform AERC reports so as to achieve some kind of uniformity to facilitate exposition and try to cover the following four aspects as far as possible:

- A SWOT analysis of each state under review, given the realities about WTO;

- The viewpoints of stakeholders of respective state agriculture with respect to various provisions of WTO (though not reported by some states);
- Action points taken by respective state governments to rise to the new challenge (which often turned out to be general, rather than WTO-specific); and
- Action points that ought to be initiated at an appropriate level as per perceptions of the stakeholders of state agriculture.

Section 4: A Critique of WTO Clauses used to provoke response from Stakeholders

5.4 Although not originally intended to provide any words to the mouth of the state stakeholders, given weak WTO-related education of most AERCs and especially of the stakeholders, some materials relating to a critique of the WTO agreements had to be supplied to the AERCs for their use and circulation to local stakeholders at the state level. The authors too were required to use the same device while seeking response from stakeholders in three special consultation workshops in Kolkata, Guwahati and Shillong during April-May, 2005, which had to be held considering availability of extremely scanty amount of materials from the eastern and north-eastern pockets of the country. This feeding process may have biased the views of some stakeholders, but it couldn't be prevented. The main point made in this context, while describing various agreements governing the negotiation process, is that the WTO are lofty, but seldom achieved in practice – especially in the case of agriculture where developing countries are often at the receiving end, with their producers being caught between the twin fires of insufficient and poorly targeted domestic subsidies, on the one hand, and excessive subsidies by developed countries as well as a host of other market and trade (both tariff and non-tariff) distortions, on the other.

5.5 The following observations were made on *Market Access* agreements:

- Despite commitments made in the Uruguay Round, tariffs on farm products still remained very high because of choice of a base period with high domestic and low world prices in the developed countries.
- Average tariffs on certain commodities such as dairy, meat, sugar, and certain grains continued to be very high, while applied tariffs were considerably lower than bound rates, allowing considerable room for further protection to the developed countries for commodities of interest to countries like the EU, Japan, USA and Canada.

- The tariff rate quota (TRQ) mechanism was unsatisfactory in terms of equitableness – only 37 countries are permitted to use TRQs on sensitive sectors like dairy, meat, sugar and cereals.
- Lack of transparency was also observed in quota allocation with different developed countries using different methods to allocate quotas in violation of the lofty goal of predictability of trade. For the unlucky few developing nations, who couldn't avail this opportunity, high over-quota tariffs were almost prohibitory and too restrictive to trade.
- The reduction formula used for tariff reduction was found faulty. Countries negotiated a specified average percentage reduction in tariffs over a specified number of years with the flexibility of a smaller minimum reduction for individual products, resulting in gentler cuts on high tariffs and a broader range of final tariffs than a harmonizing method such as the Swiss formula and benefiting those countries with higher levels of protection in the base years and hurting those with lower levels of protection.
- Countries were permitted to impose specific tariffs on farm products which gave higher protection in case of a fall in world prices than that provided by ad valorem tariffs.
- The special safeguards (SSG) provision available only to 38 member countries of the WTO out of the 144 members were limited to a few sensitive commodities such as dairy products for US, cereals for Japan, meat, dairy, fruits and vegetables for the EU and almost all commodities for Switzerland and Norway.

5.6 The following points were made on *Domestic Support* clauses to sensitize the stakeholders:

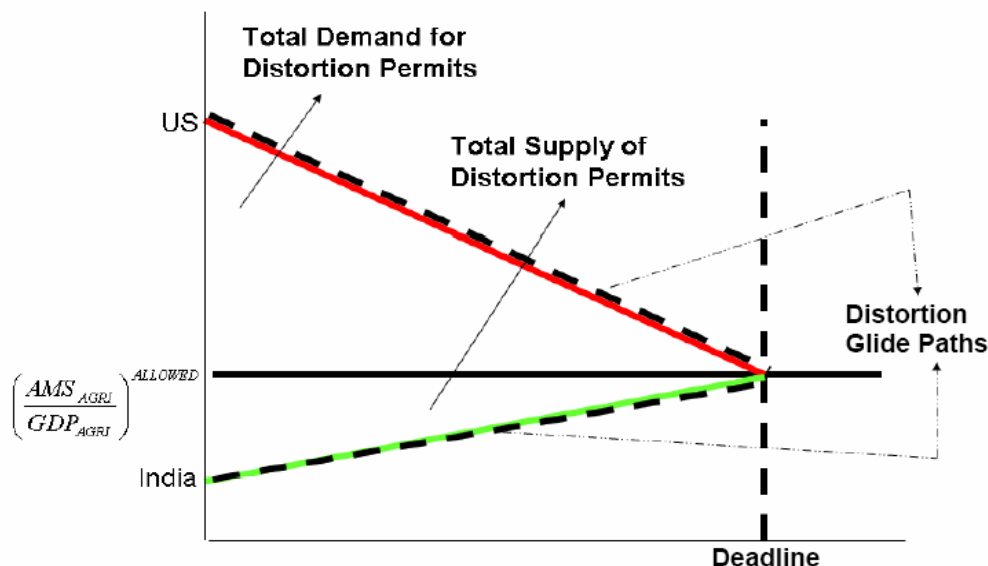
- As Green Box measures are claimed to be no/minimally trade-distorting, no cap is put on such support. However, even if Green Box supports are looked upon as savings in fixed cost expenditure by business enterprises and not influencing marginal costs in a long-run competitive equilibrium, in a non-competitive market and especially in the short run – typical of most international markets in agricultural goods and products - average cost, which inclusive of lower fixed cost due to Green Box support would always confer a competitive advantage to those countries, which could afford such kind of support. Thus, developed countries with bountiful resources to provide green box support to their relatively smaller-sized agriculture and agri-business enterprises (as % of their GDP and employment contribution), would enjoy an 'unfair' advantage as compared to their developing country counterparts in at least two important ways. First, continuation of 'green box' support measures, being beyond the WTO discipline for negotiation or re-

negotiation, would mean covert competition between developing and developed nations depending on which side can provide larger ‘green box’ support. Second, a developed country with relative abundance of tax resources can legitimately and quite easily over-invest in R&D – and with much appreciation from the environment-loving population and activists all around the world - to develop such devices like say, turtle-excluder device (TED), which can ultimately be used not only to strangle poor country economic activities, but also to create further business for them! A possible solution, of course lies in merging the support boxes of different colors (thus relieving poor countries of a costly monitoring process to check adverse use of different support measures under different boxes by developed countries) to come up with Total Measurement of Support (TMS) followed by agreement on, say, a uniform overall support ratio (even if higher ratios are not granted to developing countries considering that historically they have been the victims rather than net beneficiaries of the support system), against which distortion permits can be bought and purchased by trading partners, exactly in the same manner in which pollution permits are traded to solve environmental problems by developed industrial nations. Under such an agreement, developing nations like India, which lack resources to provide the stipulated maximum amount of support can sell trade distorting permits to developed countries like the US (as captured in Figure 5.1 below) and utilize the proceeds to eliminate the problems of poverty, hunger, malnutrition, ill-health etc., which constitute the millennium goals of the UN. If some well-wishers of the poor across the world want to participate in the bidding process of trade distorting permits, they should be free to do the same to confer double benefits to the world – first, by supplying money to meet the millennium goals, and second, by destroying those permits, which will help build up a new world of future generations, who wouldn’t have to suffer from the irritating trade distortion effects. The same argument can be applied with respect to global environmental pollution permits, instead of allowing, as at present, only the developed nations to almost unilaterally fix artificially high product and quality standards under SPS and TBT clauses to squeeze the poor nations.

- A look at the shift in support pattern across boxes for the US and EU gives the impression that they fear just the sort of trade, as elaborated in the preceding paragraph!
- The spending pattern across the globe on domestic support shockingly reveals that 89% of domestic support during 1995-98 was concentrated in three economic entities – the EU (with a staggering 44% of the world total), the US (with 24%) and Japan (with 21%), leaving only 11% for the rest of the world!

- A glance at the producer subsidy equivalent (PSE) across selected countries – whether across commodities or per farmer for the same commodity also reveals tremendously uneven level of support to farmers in developed countries.

Figure 5.1: Market for tradable distortion permits



5.7 Some of the critical points noted about *Export Subsidy* clauses, which have been shared with the stakeholders of state agriculture, are summarized below;

- The bulk of the world's export subsidies of US\$4.02 billion are provided by only a few entities: EU (with a staggering 90.3%), Switzerland (with 4.4%), USA (with 2.2%) and Norway (with 1.2%), leaving only a niggardly 1.9% for the rest of the world.
- The bulk of the export subsidies are spent on sensitive commodities such as dairy products (33% of total expenditure), bovine meat (21%), wheat (11%), fruits and vegetables (2%) and coarse grains (2%), with the rest 28% on all other commodities.
- The “Front loading” provisions seem patently unfair and benefit the largest subsidizers by permitting selection of most advantageous base rates between 1986-90 and 1991-92..
- The agreement permits rollover of unused subsidies thus allowing a country to step up subsidization in bad years in return for restraint in good years.

5.8 On *Anti-dumping Measures*, it was noted that (a) as tariffs have fallen, the use of anti-dumping measures has increased, (b) while the total number of anti-dumping actions increased, the incidence of such actions against developing countries has been steadily increasing over time, thus making a mockery of Article 15 requirements for developed countries.

5.9 On *TRIPS* agreements, the following concerns were expressed to sensitize the state level stakeholders:

- Lack of strong patent laws in India and other developing countries is often making them vulnerable to bio-piracy.
- Life-saving drugs (e.g. AIDS medicine) being patented by developed country firms may cause price rise of such drugs beyond the reach of affected poor people from developing/under-developed nations.
- There are concerns about rapidly mutating drug-resistant new strains of viruses because of rampant over-prescription of drugs by allopathic specialists.
- Attempts by US and Japan to restrict range of diseases defined as public health concerns for developing countries, for example to exclude cancer, heart problems and asthma, continue to be matters of serious concern.
- Special 301 sanctions contemplated by the US against developing countries like India, Argentina, Vietnam, Thailand and Dominican Republic over patenting rules in medicines are a major concern for public health in resource poor countries
- The Biodiversity Act, 2002 whittles away protection granted by PVPFR bill, as there are no restrictions on patents based on biological resources and traditional knowledge that can be permitted by National Biodiversity Authority!

5.10 On *SPS Measures*, the following concerns were expressed:

- While WTO members agreed to give effect to SPS Measures, the question remained whose guidelines to follow – the Codex Alimentarius Commission, the International Union for Protection of New Varieties of Plants (UPOV), the International Plant Protection Commission (IPPC), and the International Office of Epizootics (IOE)?
- As Article 3.3 of SPS allows nations to have standards higher than those of Codex, it allows countries with the strongest financial muscle to invest in the highest possible standards, subsidize the adherence to those standards by domestic entities through the Green Box and prevent through SPS measures imports from poorer countries who cannot comply!
- Articles 9 and 11 of SPS and TBT allow for assistance to developing countries to comply but there are no concrete, time-bound commitments.
- Although Articles 3.4 and 2.6 encourage developing countries to attend Codex meetings to set standards, this is often a wishful thinking as many developing countries do not have enough qualified manpower to make any meaningful contribution in such meetings, while

by creating a semblance of participation the developed nations can always take refuge in the defence that the developing nations too were a party to the decision making process!

- Article 2.2 allows barriers to be erected to protect the environment. This article was invoked by US to ban the import of Indian shrimp because of India's failure to use TED to prevent damage to the environment.

5.11 On *Special and Differential Treatment (SnD) Provisions*, general concerns were expressed about SOFT LANGUAGE and imprecise use of terms, lack of clear commitments on part of developed members to operationalize such benefits to developing country trading partners.

Section 5: Findings from State Level Consultations

5.12 Against the above-stated background, the stakeholders of state agriculture were asked to perform a SWOT analysis of their respective states, clearly stipulating that while strengths and weaknesses would flow from inherent internal structural features of their states, opportunities and threats should emerge from external sources – precisely from India's involvement in WTO. While Table 5.1 and Table 5.2 summarize respectively the reported strengths and weaknesses of the participating states, Table 5.3 reports the opportunities and threats as perceived by these stakeholders.

Table 5.1: Inherent strengths of states as identified by stakeholders

<i>AP</i>
<ul style="list-style-type: none"> • Claims to have comparative advantage in horticulture, poultry, fisheries, buffalo, meat, some milk products, and also in minor crops like maize and green gram; • A number of organizations and institutions dealing with seed development; • Network for micro credit institutions very good; • A rich resource base, which if exploited properly, can turn the state into a major exporter.
<i>Assam</i>
<ul style="list-style-type: none"> • Richly endowed with natural resources like abundant rainfall, sandy loam soil, and congenial agro-climatic conditions suitable to grow various field crops, horticultural crops, spices, vegetables and varieties of medicinal and aromatic plants; • Ranks sixth in the country in production of fruits and vegetables; • Bamboo occupies the pride of place amongst all plantation crops cultivated within the state.
<i>Gujarat</i>
<ul style="list-style-type: none"> • A producer of high value crops which also have high productivity; • Good infrastructure network of communication and transport; • Being a coastal state, exporters have easier access to ports;

<ul style="list-style-type: none"> • Farm community is enterprising and responsive to opportunities at national and international level; • Has a fairly high share of world production in some oilseeds (e.g., castor) and hence good scope in export trade with bargaining power; • Efficient utilization of already present good extension network to facilitate technological change; • Being a leader in dairy development, can emerge as a good export trader; • Long coastline gives adequate scope for expansion of fisheries trade.
<i>Haryana</i>
<ul style="list-style-type: none"> • As one of the most prosperous states in terms of per capita income, enjoys the unique distinction of having provided electricity, metal roads and portable water to all its villages;. • Viewed as the grain bowl of India, being one of the largest contributors of food grains to the Central pool; Ranks first in the country in the export of basmati rice; • Green revolution in the state synonymous with farm mechanization and development of irrigation infrastructure, resulting in overall productivity growth by leaps and bounds; • Financial management of the state has been termed as one of the best in the country by both the Planning Commission and the Eleventh Finance Commission; • Diverse agro-climatic conditions conducive for cultivation of fruits crops like citrus, grapes, mango, guava etc; • Haryana famous for the germ plasm of Hariyana cows and Murrah buffaloes, besides having good quality livestock and sophisticated infrastructure for collection, proceeding and marketing of livestock products; • State now on the threshold of ‘Blue Revolution’ in the field of fish production after the Green and White Revolutions, as pisciculture being adopted as a secondary occupation and already achieving the highest average productivity per hectare among all states; • As one third of the state territory falls within the geographical coverage of the National Capital Region; tremendous scope for establishment of agro-processing industries and for commercial production of vegetable crops, flowers, milk etc ; • Substantial scope for creation of Agri-Export Zones for promising exportable crops.
<i>HP</i>
<ul style="list-style-type: none"> • Believed to have a comparative advantage in production of fruits and vegetables; • Due to climatic advantage, the state can produce winter crops during summer; • Proximity to the national market like Delhi conferring a price advantage to producers; • Low input costs provide further price advantage.
<i>Karnataka</i>
<ul style="list-style-type: none"> • State’s topography is varied and its agricultural products range from horticulture to food grains; • Coffee is its major export commodity followed by cashew and processed food products; • State a very conducive investment atmosphere to encourage trade; • IThe pioneering state in starting a WTO Cell.
<i>Kerala</i>
<ul style="list-style-type: none"> • Kerala has one of the richest bio-diversities in the world; • State ranked first in the Human Development Index consecutively in 1980-81, 1990-91 and 2000-01; • State occupies third position in the rate of infrastructure penetration with cent percent connectivity in roads and electrification and no distinct urban-rural divide; • State blessed with fairly heavy rainfall averaging about 3000 mm spread almost throughout the year due to the southwest and northeast monsoons;

<ul style="list-style-type: none"> • Plantation and horticulture crops have a major stake in Kerala's economy with 80% total cropped area under these crops; • Cultivation of medicinal and aromatic crops also deemed to be a future thrust area; • Commodity-oriented land development activities and also cultivation of Agape on the field bunds as a live-fencing measure for fiber extraction, Jatropha on waste lands and railway track-sides for bio-fuel extraction, fruits, ethnic vegetables, and medicinal and aromatic plants in AEZs, have good potential under WTO.
<p><i>MP & Chhatishgarh</i></p> <ul style="list-style-type: none"> • Agro-climatic zones blessed with the best quality soil ranging from alluvial to mixed red and black; Due to varied topography and rainfall, the state grows cereals, pulses, oilseeds, spices, fruits and vegetables, with comparative advantage in soybean, oilseeds and pulses; • With low level of consumption of agro-chemicals, organic production of agricultural and horticultural products have great export potential; • Well-developed research facilities to cater to location specific needs; • Cost-Benefit ratio for horticulture more favorable than for agriculture.
<p><i>Meghalaya</i></p> <ul style="list-style-type: none"> • Unique diversity of agro-climate owing to topographical variations and altitudinal differences coupled with fertile, well-drained soil enables cultivation of a large number of horticulture and plantation crops possible, with ginger and turmeric grown in the state reportedly of best quality; • Tea can be intensively grown in the state in villages around tea nurseries, with tea specialists being employed to ensure supply of good planting materials – with possibility of establishing cooperative processing units for tea growers; • Though deficient in terms of food grain production, the state has marketable surplus in a number of cash, commercial and horticultural crops such as potato, jute, turmeric, arecanut, banana, pineapple, various vegetables etc; • Substantial potential within the state for cultivation of oilseeds-mustard, groundnut, soyabean etc. • Geo-physical and agro-climatic conditions of the state offers immense potential for the development of traditional sectors viz. handicrafts, handloom, promoting hi-tech export oriented avenues like orchid production, mushroom cultivation, tissue culture etc; • Vast potential for inland fisheries both culture and capture activities; • Vast area in the hills presently used for shifting cultivation provides significant scope for expansion of horticulture and plantation activities in phased manner via rehabilitation of <i>Jhumias</i>; • Given abundance of Bamboo species, its commercial viability can be carefully evaluated and duly exploited; • As 90% of the population in Meghalaya is non-vegetarian, poultry as one of the major activities offers substantial scope; • Dietary habits of the people and abundant natural resource for livestock rearing, piggyery has immense scope as a viable subsidiary occupation.
<p><i>Punjab</i></p> <p>A major producer of two staple foods, wheat and paddy;</p> <ul style="list-style-type: none"> • Effective price policy of government ensuring income of farmers; • Widespread use of capital-intensive machinery in inputs; • Presence of properly developed and effective irrigation system; • Mountainous regions suitable for farm forestry and tree crops – especially for medicinal plants and organic chemicals which are in high demand in western nations; • Scope for increasing milk production, shifting the labor on land to dairying;

<ul style="list-style-type: none"> • High value commodities can be grown in specific agro-climatic zones, having benefits of low costs and specialized infrastructure; • Contract farming being used extensively to bring in more private investment; • Large scale production of certified seeds by integrating research done by Universities and the State Seed Corporation managing the supply.
Rajasthan
<ul style="list-style-type: none"> • Large variation in climate and soil and opens up opportunities for growing a variety of crops; • Horticultural crops grow well in the state due to presence of dry and less humid climate; • State has access to international airports and is well connected to major cities through rail, road and air; • Already exporting spices to USA, EU, Middle East and South East Asian markets where they are demanded mainly as flavoring agent; • State successful in exporting kinnows and oranges; • State government is promoting KUMS (Krishi Upaj Mandi Samities) exclusively for export marketing - each KUMS catering to a particular commodity or crop; • Has the potential to grow and export soybean, medicinal plants, mushrooms, and asparagus; • State believed to have comparative advantage in production of coarse grains, which can be strengthened through research by developing varieties for international market; • A good network NGOs already engaged in agriculture and rural development activities, which can be utilized further.
TN
<ul style="list-style-type: none"> • Paddy crop in the state has a unique three season format viz. Kuruvai, Thaladi and Navarai unlike the two season cropping pattern found in the rest of the country; • State enjoys a unique status with respect to plantation and horticulture crops in view of physiographic and diverse agro-climatic factors; • State occupies second position in the country, next only to Karnataka, in the ambit of area and production of flower crops; • Commercial cultivation of numerous varieties of exportable medicinal and aromatic plants quite in vogue; • One of the leading players in the production of eggs and broilers within the country; Contract farming in broilers has taken deep roots in the state by enveloping 98% of the business; • One of the major coastal states in the country with considerable potential for fisheries development under all the major sub-sectors viz. inland, marine and brackish water; • Also good infrastructural network for supporting aquaculture and post-harvest technology. • State has large tracts of cultivable wastelands, underutilized land and sizeable area under other fallow lands, providing immense potential for development of horticulture and cultivation of crops like cashew, tropical orchids, coconut etc; • In addition, there are good prospects for commercial cultivation of oil-palm; • State offers substantial scope for cultivation of several species of medicinal and aromatic plants that is hitherto untapped; • Enormous potential exists for mariculture or coastal aquaculture activities like pearl culture, sea weed culture etc.
UP
<ul style="list-style-type: none"> • The state of has nine agro-climatic zones with significant variations in terms of soils, rainfall, temperature, etc. offering scope for different land uses and sub-sectoral

<p>enterprise on fruit crops, vegetables, flowers, medicinal and aromatic plants, spices, mushrooms, sericulture, beekeeping etc;</p> <ul style="list-style-type: none"> • State also the largest producer of mango, aonia, peas and sweet potato; • Also the largest producer of milk in India contributing 18% of the total national milk production; • State fourth largest player in the ambit of inland fisheries, achieving significant progress in fish production both from culture and capture resources and in fish seed production over the years; • Western UP, being in vicinity of Delhi with higher degree of urbanization, has well-developed floriculture with better cold storage, marketing & processing facilities. Considerable latent potential in the middle Gangetic plains as far as horticulture development is concerned.
<i>WB</i>
<ul style="list-style-type: none"> • Basically riparian state situated at the heart of extremely fertile Gangetic Delta and bestowed with six diverse agro-climatic zones ranging from tropical to the arctic; • Equipped with excellent reserves of surface and underground water, wide range of flora-fauna, large pool of educated farm labor available at competitive wage rates and a large hinterland; • With its thrust of land reforms, the state claims to have transformed it into a leading producer of food-grains and horticulture produce in the country; • State internationally famous for its superior quality tea produced in Darjeeling district; • In addition to tea plantation, betel-vine, floriculture and sericulture are major activities prevalent in the state. • Indigenous cash crops like Jute and Mesta also dominate the scene; • State's estuarine area is ideal for cultivation of a variety of aquaculture products like shrimps, tiger prawns etc. • State occupies pole position in production and consumption of poultry products; • Also the largest producer of eggs and second largest producer of meat; • State still has tremendous scope for improvement of yield through introduction of modern farming methods and sophisticated techniques to reduce production cost. • The state being a net importer in the area of dairy, poultry and related fields, significant opportunities for boosting production levels in these sectors.

Table 5.2: Inherent weaknesses of states as identified by stakeholders

<i>AP</i>
<ul style="list-style-type: none"> • Low productivity in a major crop like rice; • Irrigation facilities not up to the mark; • Storage facilities not adequate, resulting in frequent crash in prices of perishable goods; have to accept price discounts. • Expenditure on pesticides, fertilizer and human labor high; • Limited access to organized form of credit; • Post harvest technology sub-standard; • SPS norms not implemented due to high costs.
<i>Assam</i>
<ul style="list-style-type: none"> • Sinking land-man ratio due to excessive dependence on agriculture resulting in rapid decline in size of land holdings; • Traditional cropping pattern and low yield rates for majority of the crops; • Absolute lack of implementation of modern farm technology exacerbated by capital

<p>scarcity and non-availability of institutional loan;</p> <ul style="list-style-type: none"> • Unfavorable land policy and unscrupulous implementation of tenancy reforms; • Inadequate irrigation facility despite huge (untapped) potential; • Non adoption of HYV seeds and other modern farm inputs coupled with inadequate fertilizer use; • Insufficient marketing and storage facilities; • Lack of orientation and awareness about government programs and policies due to ineffective communication network; • High frequency of floods and consequent soil erosion.
<i>Gujarat</i>
<ul style="list-style-type: none"> • Irrigation facilities inadequate causing heavy dependence on rainfall; • Still absence of proper marketing facilities for agricultural products; • Use of fertilizers at low level of efficiency; • Large number of small and marginal farmers can't go in for capital intensive agriculture to enjoy economies of scale; • Erosion of co-operatives and other institutions working in the agriculture sector.
<i>Haryana</i>
<ul style="list-style-type: none"> • Very limited scope for expanding cultivable area; • Total availability of water from both surface and sub-surface sources much below the current requirement - a problem further exacerbated by dominance of wheat-paddy rotation; • Availability of good quality planting material, mushroom spawn and pasteurized compost restricted thereby posing problems for plantation and horticulture sectors; • Productivity of cattle considerably low, generic potential of milch animals not duly exploited, supply of veterinary aid, extension services and on-farm training facilities for entrepreneurs and farmers grossly inadequate; • Lack of proper organized market for poultry sector coupled with shortcomings like high cost of feed, unorganized processing; • Agriculture extremely sensitive to vagaries of weather and vulnerable to natural calamities like floods, droughts etc.
<i>HP</i>
<ul style="list-style-type: none"> • Sub-optimal use of fertilizers by farmers; • Scanty irrigation facilities; • Producers not aware of proper grading, packaging and marketing for their produce; • Share of agriculture in State NDP has fallen, but number of people employed in this sector hasn't, leading to low productivity of crops and disguised unemployment.
<i>Karnataka</i>
<ul style="list-style-type: none"> • Fragmented land holdings and low productivity; • Non-availability of proper infrastructure causing price spreads and killing farmer incentives; • No institutional mechanisms to set up a chain from producer to the consumer; • Lack of raw material growth centers to feed the processing units; • High interest rates for agriculture investment as well as export finance; • Information gap between world market and local producers and exporters due to existence of unorganized marketing system.
<i>Kerala</i>
<ul style="list-style-type: none"> • Productivity of major plantation crops lower than all India position; • Horticulture sector beset with problems like indiscriminate addition of areas, high cost of

<p>production, and occasional glut in the market;</p> <ul style="list-style-type: none"> • Fisheries sector (marine, aquaculture) facing serious problems like lack of quality fish seed available, poor marketing network and inadequate extension/awareness; • Severe land degradation; • Mining sand from riverbanks and flood plains due to its non-availability in river channel could possibly result in slumping/caving and widening of riverbank, declining water table and saline water intrusion into wells of e adjacent areas.
<p><i>MP & Chhatishgarh</i></p> <ul style="list-style-type: none"> • Productivity of crops very low due to low percentage of irrigation (70% rainfed farming) and low per hectare consumption of fertilizers; • Large proportion of low value crops in crop portfolio, inadequate technology development for certain identified regions, low investment capacity of the tribal population and small & marginal farmers; • Poor availability of electricity for agriculture; • Public investment in agriculture low and declining; • Poor infrastructure and post-harvest management facilities; • High freight charges and import duties; • Severe erosion of soil and water.
<p><i>Meghalaya</i></p> <ul style="list-style-type: none"> • Agriculture largely confined to subsistence farming, productivity abysmally low; • Lack of scientific education of the farmer leading to adoption of indigenous method of cultivation; • Existing agro-processing units not in a position to make optimum utilization of the available surplus in food and vegetable produce; • Weak transportation infrastructure, monopoly of private traders, weak cooperative structure and complete lack of regulated marketing facility for horticultural crops.
<p><i>Punjab</i></p> <ul style="list-style-type: none"> • Stress only on wheat and paddy cultivation, no crop diversification; • Land degradation and depletion of underground water resources; • High intra-country transportation costs and marketing costs; • Inability to adjust to swings in domestic demand and demand for exports; • Contract farming though popularized, farmers still complain of receiving less than the market price from contracting firms.
<p><i>Rajasthan</i></p> <ul style="list-style-type: none"> • Majority of landholders marginal or small farmers with low value addition; • Inadequate spread of retail outlet for agricultural input; • Deficient irrigation facilities; • Power scenario dismal; • Poor credit facilities; • Lack of post-harvest marketing and processing infrastructure support like cold storage, grading, cleaning, container services;
<p><i>TN</i></p> <ul style="list-style-type: none"> • Almost all irrigation sources performed unsatisfactorily due to poor storage of surface irrigation system and depletion of groundwater owing to poor rainfall; • Inadequacy of farm power and machinery impeding rise in agricultural production and productivity; • Indiscriminate use of chemical fertilizers leading to serious deterioration of soil health; • Extension services woefully inadequate for agric the production of perishables;

- No well-defined system in place to check quality of planting materials;
- Scientific post harvest handling of fruits and vegetables - sorting, grading and packing totally absent;
- Existing marketing network totally unorganized with predominance of middlemen;
- Medicinal plants sector beset with bottlenecks such as non-availability of inputs, improved cultivars, scientific packages of practices and adequate market intelligence;
- Unanticipated natural calamities like the Tsunami catastrophe (2004) pose a major threat.

UP

- Excessive fragmentation of land holdings reducing scope for large scale farm mechanization;
- Unbalanced use of fertilizers having negative ramifications on the soil quality and health;
- Poor availability of power a serious bottleneck;
- Non-availability of sufficient and economic storage facilities leading to distress sale by farmers;
- Lack of agro processing and milk processing units hamper all-round development of farm units;
- Road network still in backward state posing yet another infrastructural impediment;
- Good and timely supply of HYV seeds, fertilizers and other inputs along with veterinary and medical services not available to most farmers;
- Existing stamp duty on agricultural loans above Rs. 1 lakh abnormally prohibitive;
- Coverage of Kisan Credit Cards abysmally low;
- In terms of human resource development (including education, health and employment), UP still the most backward state among all the major states of India;
- Numerous infrastructural and institutional gaps - lack of quality tissue cultured planting materials, absence of an organized wholesale or retail marketing infrastructure, lack of crop production and price forecasting system, lack of sufficient efforts in linking producers to the cold storage or marketing infrastructure;
- animal productivity excessively low with paucity of green fodder intensifying the problem;
- Existing diagnostic, therapeutic and preventive services grossly ineffective;
- Inadequate availability of modern fishing inputs like quality fishing feed, aerators, soil and water testing equipments;
- Rapid depletion of surface and groundwater due to exploitative farm practices;
- High degree of infertility and sterility amongst the cattle population;
- Quality of air, soil and water deteriorating terribly - the ecosystem & aquatic life is in danger.

WB

- Lack of infrastructural support services perceived as the major impediment;
- High cost of inputs, un-remunerative prices of farm produce, scarcity of water for irrigation, distress sale due to lack of proper storage facilities, non-availability of timely credit, lack of sophisticated marketing infrastructure (i.e. cold storage,/godowns), woefully inadequate connectivity are major weaknesses;
- Severe water-logging in flood-prone areas, salinity of soil, susceptibility to natural calamities.

Table 5.3: Perceived Opportunities & Threats of States under WTO

OPPORTUNITIES	THREATS
<i>AP</i>	
	<p>Reduction in fertilizer subsidies will hamper their use - leading to imbalances.</p> <p>Under market access, domestic suppliers will tamper with prices harming farmers' interests.</p> <p>Under export competition, exports may cause domestic shortage and imports may cause glut in domestic market.</p>
<i>Assam</i>	
<p>As emerging doorway to South-East Asian markets in the near future due to its strategic location, great scope for border trade with neighboring countries.</p>	<p>The indigenous producers cannot afford to overlook, but still finds it too costly to implement the well-defined and necessarily binding SPS restrictions.</p>
<i>Gujarat</i>	
	<p>Surge in imports of oilseeds due to increased consumption caused by lower prices after trade liberalization.</p> <p>Huge amount of subsidies by developed nations reduce competitiveness of exports, leading to dominance of few rich nations in world market.</p> <p>Due to few players in international markets, minor changes in production and consumption conditions causing substantial volatility of prices.</p> <p>High quality standards in world market difficult to come up to.</p>
<i>HP</i>	
<p>Export potential of newly planted apple variety in the neighboring nations.</p> <p>Cultivation of hop, a high value crop, has high demand in the international market.</p>	<p>Surge in imports of apples from foreign markets, sometimes changing domestic preferences.</p> <p>SPS measures implemented on crops using insecticides/pesticides and fertilizers showing high levels of toxicity.</p> <p>Implementation of SPS measures is going to increase costs.</p>
<i>Karnataka</i>	
<p>Cotton, sugar, tobacco, animal products, floriculture, and maize identified strong exportable.</p> <p>Can take advantage of Backward Area Development Exemption under the "Green Box" measures to provide infrastructure in poor districts and tap their export potential.</p> <p>Horticultural and forest products have market in East Europe, OECD nations and a number of developing countries.</p> <p>Captive plantations can be encouraged under Green Box to provide the necessary raw materials to agro-processing industries.</p> <p>Lifting of quotas on textiles offers good potential for cotton exports.</p>	<p>With lifting of QRs, sudden import surges of agricultural, horticultural or floriculture products likely to create losses for the producers.</p> <p>Imports of technology like terminator seeds will have a debilitating effect on food security and sustainability of local genetic stock.</p> <p>Huge amount of subsidies in developed nations harming competitiveness of state's products.</p> <p>Sanitary and Phyto-Sanitary measures used as NTB.</p>

OPPORTUNITIES	THREATS
<i>Kerala</i>	
	Erratic fluctuations in prices of different perennial crops like arecanut, coconut, pepper and rubber in global market cause for concern to the farmers.
<i>MP & Chhatishgarh</i>	
Due to low consumption of agri-chemicals, good prospects for their products in the growing global market for organic foods.	Reduction in tariff and free trading of agricultural products will adversely affect domestic market for raw and processed products. Unstable demand and price fluctuations in international market may put producers in loss under glut situation. Given input markets imperfections, free trade will further injure the farmers through supply of spurious inputs at high prices.
<i>Punjab</i>	
Adjustment expenditure through farmer organizations, exempted from reduction commitments, will help in diverting funds towards Producers' Group. As payments under regional assistance programs given to producers in disadvantaged regions are exempted, the volume of funds used for such purposes can be increased.	Cheap imports have increased unsold food stocks, lowered market prices resulting in loss of income for farmers. It has also harmed diversification efforts especially in cotton and sugar. Heavy fluctuations in world prices have caused alternate years of deficit and surpluses in wheat production. Price of imports was always higher than of exports. Contract Farming has its own defects like, farmers complain of receiving less than the market price from firms and low yields has resulted in losses. Stricter sanitary measures under WTO provisions, will lead to higher expenditure on technological infrastructure to be used for such tests.

5.13 The participating stakeholders of state agriculture were also asked to reveal their hopes and fears around each of the main clauses of the WTO agreements pertaining to agriculture. The responses are captured in summarized form in Tables 5.4 to 5.9, notwithstanding the fact that most stakeholders were yet to have a firm grip or understanding over the WTO matters and the recent happenings.

Table 5.4: Hopes and Fears of States on Domestic Support Measures

HOPEs	FEARs
AP	
Product specific and non-product specific support being very small, the state can increase support level.	Due to high domestic support provided by other nations under the umbrella of amber box and green box, the state's exports are at a disadvantage.
Assam	
Non-product specific domestic support may be extended under Special and Differential Treatment for the resource poor farmer. Believed that liberal support/subsidy can be extended for processing of fruits, medicinal and aromatic plants to the interested entrepreneurs.	
Gujarat	
HP	
Crop insurance and income safety net programs can be provided under Special and Differential treatment for developing countries. On the same ground, investment subsidy and agricultural input subsidy can be provided to low income groups w/o reduction commitments.	Withdrawal of subsidies on inputs - fertilizer, electricity and irrigation will raise production costs.
Karnataka	
Domestic support in the economically fragile regions and economically weaker sections can be stepped up to induce them to participate in trade. Presently we don't have any actionable subsidies and still we have scope for providing subsidies under Green Box.	Misuse of subsidies under different boxes by developed nations has posed problems to developing countries.
MP & Chhatishgarh	
Important to identify farmers who are producing crops with the help of organic manures, besides further encouraging use of bio-fertilizers. WTO provisions may be utilized for establishment of modern agro-processing centres at district H.Q. for training farmers and small entrepreneurs.	Tariff barriers should have been imposed for a longer period so as to insulate domestic agriculture from international competition until indigenous industry became more competitive. Reduction in input subsidies may affect production. Imported agricultural produce and inputs may be cheaper - hence fertilizer industry may suffer.
HOPEs	FEARs
Punjab	
AMS for India being below 10%,but likely to rise due to falling international prices, government can use this opportunity to substitute non-exempted category subsidies with exempted category subsidies (green box). Government must ensure that food subsidies	C Many stakeholders feel that green box and blue box subsidy systems are oriented to help the developed nations.

<p>for PDS and buffer stock holdings continue to remain exempted from inclusion in AMS. Bharatiya Kisan Union expressed hope that if developed nations honestly reduce their domestic support, Punjab farmers, due to cost efficiency, will have an edge in the international market.</p> <p>Traders in favor of using this opportunity to reform policies distorting domestic marketing of agricultural commodities by abolishing levies, stocking limits, monopoly procurement and ensuring free movement of agriculture products within the country.</p>	
Rajasthan	
<p>Income Insurance, Crop Insurance and Income Safety Net can be provided under S & D Treatment to help poor farmers in developing countries.</p> <p>Low use of agro chemicals in the state can be converted into an advantage in respect of global agricultural trade in organic products.</p>	<p>Green Box and Blue Box subsidies are oriented to help only the developed nations.</p>
TN	
	<p>AMS for each product must not exceed 15%. AMS support covering both product as well as non-product-specific components must not exceed 15% of the total value of production. This should be applicable to all members. All developing countries should be able to use a positive test approach to declare which agricultural products or sectors they would like to be put under Agreement on Agriculture discipline. Blue box measures ought to be totally eliminated.</p>
WB	
<p>Stakeholders believe that the implementation of these domestic supports will help the resource poor farmers ultimately helping the enhancement of production and crop productivity..</p>	<p>Many stakeholders expressed that in the real world, as distinct from the imaginary one inhabited by free traders, survival in agriculture hinges less on comparative cost advantage than on comparative access to subsidies. Liberalizing local food markets in the face of unequal competition is not therefore a prescription for improving efficiency, but a recipe for absolute destruction of livelihood. This fear is premised on the inherent asymmetry wherein developing countries like India are not allowed to increase their negligible level of domestic support while developed countries are permitted to maintain 64% of their subsidy outlays at the base.</p>

Table 5.5: Hopes and Fears of States on Export Competition Measures

HOPEs	FEARS
AP	
Export subsidies being nil, the state should subsidize the transportation costs (both internal and international) and marketing costs.	The state being a net importer of items like pulses and oilseeds, reduction in export subsidies will raise their prices and hence the import bill of the state.
Assam	
Diversification of agriculture and agribusiness industries as per the EXIM policy guidelines would facilitate the expansion of agricultural exports under WTO.	
HP	
Government must find some way out to subsidize exports from this state, which are not currently price-competitive.	
Kerala	
	Erratic fluctuations in prices of different perennial crops like arecanut, coconut, pepper and rubber in global market cause for concern to the farmers.
MP & Chhatishgarh	
WTO provisions will make the farmers more progressive and cost-conscious, thus opening fresh areas for international competition. Export of Durham wheat and de-oiled cake are distinct possibilities, if necessary infrastructure is provided.	
Punjab	
The prospects for export of basmati rice, durum wheat and cotton will increase as farmers will try to improve the quality of agricultural produce and reduce cost of production. Implementation of WTO provisions has improved the common man's access to cheaper, quality, and variety of goods. Farmers' Union was of the view that as most Punjabi farmers were not aware of various SPS measures, it is imperative to fix responsibility on Punjab Agricultural University to supply good quality seeds and extend the proper package of practices for maintenance of international standards. As many nations prefer coarse rice; research should be diverted towards evolution of varieties depending upon the taste and requirements of importing countries.	Huge subsidies given by developed nations would lower the prices of their exports below that of India's domestic prices, resulting in maximum gains of free trade flowing to rich nations.

The Cane Commissioner feels that the Government of India should relax the existing taxes/duties/cess being imposed on sugar and sugarcane to enable this sector to compete in the global market.	
HOPES	FEARS
Rajasthan	
Implementation of WTO provisions will widen the market; provide greater variety to customer and at lower prices. WTO Agreement will induce the farmers to become more quality and cost conscious. As demand for coarse grains has increased in international market, the state can exploit the advantage they have.	As farmers are not much aware of SPS measures, they would be in trouble unless State Agricultural Universities, CAZRI and concerned government agencies can provide good quality seeds and educate farmers about proper practices.
TN	
Export credit subsidy may be allowed for developing countries. Import of pulses under OGL must be continued.	Dumping in any form must be prohibited. All forms of export subsidies by developed countries must be eliminated. Rolling over of export subsidies is to be completely eliminated.
WB	
Felt that reduction of subsidy by developed countries may lead to improvement in world prices of agricultural exports, thereby stimulating exports from the state.	The success of the relevant agreement would depend on whether or not consistency and stability of our exports away from a stage of incidental activity (peripheral/residual operations) are achieved.

Table 5.6: Hopes and Fears of States on Market Access Clauses

HOPES	FEARS
AP	
.	Due to surge in imports, prices have fallen in domestic market due to which farmers had to incur losses.
Assam	
	The dual factors of comparatively higher levels of tariff in most developed countries and demand from them for stricter compliance with SPS measures has virtually discouraged export of agricultural commodities from relatively backward states like Assam. The tariff on import of rice should be preserved as further import of rice would impoverish the rural economy in Assam.
HP	

WTO provides a scope for cheap imports of cereals, pulses and oilseeds, where supply is deficient. Thus, efforts and resources can now be diverted towards production of fruits and vegetables, which have high export potential.	Even with tariff barriers, cost of some imports will not be much different from domestic prices, leading to imports replacing domestic production, unless effective alternatives are thought of..
HOPES	FEARS
<i>Karnataka</i>	
Safeguards against eventualities must be made known to all stakeholders in advance. Surges in imports must have the requisite safety nets. Export Promotion Information should be available in local languages. Information about demand for various products and the requirements of sanitary and phyto-sanitary measures be made known to all domestic market participants.	The process of tarrification won't be transparent unless and until the states involved are consulted before finalizing the process. Appears there's no mechanism to monitor trade-sensitive commodities at state level as well as by the Ministry of Commerce.
<i>MP & Chhatishgarh</i>	
Imports would help meet shortage of particular commodities and also remove distortions in domestic prices.	
<i>Punjab</i>	
Lowering tariff walls would provide better access to the markets for such commodities like pulses, where India is deficient in production. Competition among different credit institutions, due to establishment of private, national and international banks in India, would benefit the farmers in Punjab in terms of easier terms and conditions and lower rate of interest, and thus lower cost of production, though it would harm the Indian banking industry.	Antidumping measures are preventing export of agricultural commodities to other countries. Compulsory import of 3 to 5 percent of total food grain production in the country would affect trade adversely with developed countries, who keep their tariffs at high rates. The traders sought the ceiling on tariff holdings at 40% and abolition of tariff quota. Inefficient fertilizer units may collapse or shut down and India would have to depend on the imported fertilizers, increasing the cost of production. There is a view that seed - particularly GMO and hybrid they can provide a cheaper and more efficient distribution machinery, then local manufacturing units may have to shut down.
<i>Rajasthan</i>	
In case of import duties, (a) reduction commitment should be on aggregate level not on individual commodities, (b) maximum reduction committed should not exceed 25% of bond rates; (c) India should commit to reduction from bound rates and not from actual rates at any point of time; (d) in respect of edible oils, India may commit to reduce the average import tariff from bound rates by 25%	GMO and hybrid variety will cost more with the entry of MNCs in domestic market The local manufacturing units may face difficulty in selling their products in the open market due to presence of foreign machinery with MNC brand names

and raise bound rates on soybean oil and mustard oil to at least 100%.	
HOPES	FEARS
<i>TN</i>	
Total elimination of tariff escalation is suggested. All the developing countries should be involved in formulation of standards so that the developed economies can't unilaterally decide them to force the developing countries to meet these expensive standards. To achieve higher standards in the commodities produced by developing countries, technical assistance must be effectively provided by developed countries. As special safeguard against any sudden and large surge in imports into developing countries, developing country tariffs must be stiffer than their counterparts for developed countries.	Careful attention needs to be paid to reduce the complexity of the structure of agricultural tariff.
<i>WB</i>	
For those primary products considered staple food for traditional diet of the said country (e.g. wheat and rice for India), the minimum access window should be 1% of domestic consumption to begin with, while the same for non-staple products would have to be increased annually by 0.8% between the first and the sixth year, beginning from 4%.	Reduction commitments should be on an aggregate level and not on individual commodities to avoid dramatic price fall in the domestic market, ultimately affecting the poor farming community.

Table 5.7: Hopes and Fears of States on SPS Measures

HOPES	FEARS
<i>AP</i>	
	The health and safety safeguards and labeling and packing standards of developed nations being very high, on the one hand, and post-harvest technology being very poor in the state, on the other, it will reduce the scope for the state's exports.
<i>Assam</i>	
State stakeholders absolutely dependent on the government for creating the necessary infrastructure to provide requisite services on SPS measures to the farmers.	There is general lack of transparency and harmony in the SPS measures adopted by the WTO member nations. Some of the articles, especially the safety related issues, might be detrimental to India's trade interest.
HOPES	FEARS
<i>HP</i>	
If the promises of financial and technical assistance for the developing countries are kept, SPS measures would not pose any	

threat for H.P. Such assistance would help meet the sanitary and phyto-sanitary standards and boost up exports of fruits and vegetables from the state.	
Karnataka	
.	Basic contours of the SPS measures not clear to many of the stakeholders. Grey zone causing disincentives. Product-wise requirements about SPS of the trading partners must be made available.
Punjab	
Most stakeholders asserted SPS measures would help protect human, plant and animal health of any importing country. Package of practices of Punjab Agricultural University should be consistent with the different SPS measures.	Developed countries exploiting the poorer nations by introducing arbitrary standards and creating more hindrance to trade.
Rajasthan	
State must make farmers quality conscious to maintain high hygiene standard especially while processing milk and meat.	Substantial investments needed by state to raise quality standards and infrastructure facilities, which may not be possible in near future.
WB	
SPS measures should be strictly on the basis of scientific justification or risk assessment in order to avoid their (mis)use for protection of domestic industries.	Felt that certain nations introduce such restrictions not to prevent health hazards based on scientific investigation but in response to public activism from interested parties.

Table 5.8: Hopes and Fears of States on TRIPS

HOPES	FEARS
AP	
Import of basic products and technology transfer will become easier if higher IPR standards are adopted. The state's rich bio-diversity can also gain from such an agreement.	State agriculture being based on ingenious technology and local traditional knowledge. IPR agreements will erode food self sufficiency of the state.
Assam	
Stakeholders feel that the concerted efforts undertaken by the ICAR (through various symposia and workshops) to popularize patenting activity and sensitize the farmers regarding core issues would propel public institutions to develop new technologies and research infrastructure in this direction.	
HOPES	FEARS
HP	
Would provide protection to the huge gene pool of ethnic varieties of plants in the state.	The state lacks scientific capability to innovate as well as the expertise and necessary institutional development to use the IPR as a tool for development.
Karnataka	

	Not clear to the stakeholders if India has agreed to all the requirements of TRIPS. Significant information gap exists in this area.
<i>MP & Chhatishgarh</i>	
	M.P agricultural policy does not have adequate provisions for patenting domestic products. Thus, IPR not protective..
<i>Punjab</i>	
If research is suitably rewarded, it would encourage participation of private sector in Research and Development.	The developed countries having enough money to invest in R & D would benefit more by developing better technology. Also feared that most of the patents will be in the hands of MNCs. Felt that the royalty period of 20 years is too long and should be reduced to 5 years The Department of Agriculture feels concerned that this clause allows introduction of isolated transgenic genes into the newly invented commodities, inhibiting their free use, forcing the users to visit the inventor time and again for use of new technology. The developed countries are creating distortions by exploiting geographical bio-diversity of poor countries.
<i>Rajasthan</i>	
The state can achieve protection on ethnic varieties of its rich biodiversity.	Unless Indian government takes urgent action regarding patent rights, most of the patents will be in the hands of MNCs. The royalty period should be reduced from 20 years to 7-8 years. State has invested very little in R & D and hence will suffer under the new regime. State stakeholders are concerned that the clause allows introduction of isolated transgenic genes into newly invented products but prohibits others to use it freely.
<i>WB</i>	
It is high time to undertake necessary documentation about use the state's huge amount of traditional knowledge in the form of herbal wealth with the help of TRIPS agreement.	A dangerous provision has been introduced in the philosophy of patent regime whereby products, imported or locally produced, would be enveloped under patent shield without any discrimination.

Table 5.9: Hopes and Fears of States on TRIMS & GATS

HOPEs	FEARS
AP	
The state agriculture will be transformed into a capital-intensive activity, increasing both productivity and production of both major and minor crops thus disguised unemployment.	As capital-intensive agriculture would raise costs of inputs, which small and marginal farmers will not be able to afford, they will be forced to become agricultural laborers.
Karnataka	
	India still has a long way to go about the TRIMS
Punjab	
The legal formalities in the exchange of persons should be minimized and be made easy.	GATS is useful for poor skilled people but there will also be brain drain from the poor countries, adversely affecting availability of professionals in the developing countries.
Rajasthan	
	GATS may adversely affect developing nations like India in the form of brain drain.
WB	
The chief provision under the ambit of TRIMS that government shall not discriminate against foreign capital agreement will ultimately help the poor farmers to adopt capital intensive technologies in order to augment production and crop productivity.	Once the decision is taken to allow foreign investment in certain strategic domains, the country would lose much of the autonomy to insulate the national economy and its small farmers from its negative ramifications.

5.14 Table 5.10 below summarize in broad terms the action points suggested by the state level stakeholders of Indian agriculture for the crop sector. Given limited WTO-literacy of the stakeholders, it is no surprise that action points directed towards domestic policy reforms to strengthen Indian agriculture, irrespective of WTO, rather than those in response to India's involvement in WTO, have figured prominently in their agenda.

Table 5.10: Action Points made by State Stakeholders for the Crop Sector

Segment	Action Points
Irrigation & water-shed	<p>Completing all on going irrigation & watershed projects;</p> <p>Creating additional sources of irrigation wherever possible;</p> <p>Increasing water-use efficiency through organizing water-users under <i>Pani Panchayets</i>;</p> <p>People/farmers to be involved in maintenance of canal, distribution of irrigation water and regulation of water distribution in command area;</p> <p>A Drainage Technology Transfer Centre to be established to recommend appropriate drainage technologies for different areas;</p> <p>Use of micro irrigation techniques such as drip, sprinkler and sub-surface pipe irrigation:</p> <p>Regulation of exploitation of ground water for sustainability considerations.</p>

Seeds	Timely supply of pure and quality seeds keeping in mind location specific problems; Cracking down on spurious traders of seeds so that farmers don't fall into their traps.
Fertilizer	Educating farmers on adverse effects of excess and imbalanced use of fertilizers through extension services; Promoting use of organic manures and bio-fertilizers along with chemical fertilizers; Demonstration of vermiculture technology at district (micro) level; Private entrepreneurs to be encouraged to install municipal waste and garbage processing plants to produce compost on commercial lines.
Pesticide	Educating farmers on IPM and IDM methods; Strict quality check for the pesticides of various brands, so that traders can't deceive farmers; State level bio-control laboratory for carrying out research and guiding the Integrated Pest Management Centers to be set up with central government assistance.
Machinery	Financing of zero tillage machine, bed planter, rotavator and modern farm implements; Encouraging industries to adopt BIS/ISO specifications for production of quality agricultural machinery.
Extension	A modern extension system with enhanced use of audio-visual aids like clip boards, documentaries, films, time slot on leading TV channels; Use of various platforms like Kisan Clubs, SHG, <i>gram sachivalaya</i> , progressive farmers' association etc., To motivate farmers; conducting workshops for the benefit of bankers and also hands-on training programs for farmers; Field trips of farmers and extension staff with leadership qualities across the country to experience innovative performances face to face and learn from each other.
Credit	Popularizing micro credit programs by strengthening new generation financial institutions;
Insurance	Insurance cover (by GIC and other major players) for all crops, livestock, and fisheries;
Land development	Completing all potential land development activities; Reclamation of degraded soil for cultivation of crops and allied activities, for protection of ecology and ensuring sustainability;
Crop diversification	A scientifically designed rainfall and irrigation map to decide on the optimum cropping pattern; Crop diversification also requires regulation of cropping pattern according to other resource availability – e.g., though it should favour capital-intensive high value crops in general, resource-poor areas ought to practise less capital-intensive crops systems like horticulture, coarse cereal crops along with animal husbandry and dairying; Suitable cash incentive packages, e.g., as prevalent in Punjab to promote and encourage farmers for crop diversification; Crop specific studies and giving them wide coverage in local languages, so that the ideas percolate to the concerned farmers; Contingency crop plans for various agro-climatic zones of each state as a

	part of Agriculture Disaster Management to minimize the impact of erratic rainfall pattern.
New institutional backup	<p>Creation of a singly window input delivery system;</p> <p>Efficient use of information, communication and technology (ICT) to bring farmer closer to the market (e.g. through e-Chaupals) and also to create a more comprehensive and more dependable database on all agricultural matters including land records;</p> <p>Kissan Call Centers to be established to disseminate information to farmers, following on the example of the state of AP; Establishment of a new generation of Farm Management Councils (FMCs) with a fresh look at their functioning and operational spheres to act as ‘change agents’;</p> <p>Setting up of food parks, agri-business centers and agri-clinics,</p> <p>Establishment of rural agro-industrial complexes based on sophisticated technology;</p> <p>Ministry of Agriculture, Government of India’s unique program for the large pool of agriculture graduates to help them set up Agri-clinic or Agribusiness Centre to offer paid professional services for enhancement of agricultural production and income of farmers needs a closer review and further popularization¹.</p>
Crop-specific & for exports	<p>India should subsidize marketing and transport of certain oilseeds like castor and oils to support export of oilseed sector products²;</p> <p>To fight for removal of restrictions imposed by developed nations on imports of sugar; Sugar Export Promotion Board may be created to take up the task to boost up sugar exports.;</p> <p>Need for undertaking promotional brands so as to have uniform quality of our spices in export market;</p> <p>Continuous research to increase production at lower cost to boost up cotton exports; import tariff which is 5% at present on cotton imports needs to be raised up to a level of 25%.;</p> <p>For HP apples alternative technology to control pests and insects needs to be introduced and popularized.</p>
Area-specific	<p>Cropping sequence in flood prone areas should be duly changed to HYV pre-Kharif short duration paddy, Rabi crops and oilseeds coupled with a provision of supplementary irrigation; in low lying flood prone areas, deep water crops like Boro paddy to be promoted;</p> <p>To help Jute producers in Assam, sophisticated market infrastructure with storage facilities and establishment of jute mills in the state;</p> <p>To hedge against wide fluctuation in Jute prices, Department of marketing and inspection to play a leading role in collaboration with Jute Corporation of India;</p> <p>Special schemes to encourage cultivation of medicinal and aromatic plants and to promote herbal parks with processing facilities in states like Assam.</p> <p>Sensitive area-specific crops like apples for Himachal Pradesh or mustard for Rajasthan need identification and special protective</p>

¹ Currently, Small Farmers Agribusiness Consortium, New Delhi, the implementing agency is providing free start-up training to graduates in Agriculture, or any subject allied to Agriculture. National Institute of Agricultural Extension Management, Hyderabad, is coordinating two months training program for agri-entrepreneurs. M.R. Morarka-GDC Rural Research Foundation is acting as a Training cum Resource Centre and a member of the "Network of Agri-clinics and Agribusiness Centers by Agriculture Graduates Scheme" of the Government of the India.

² It is learnt that, as of today, only export of soy meal enjoys this advantage.

	measures against unfair competition, in the interest of preserving domestic income and employment opportunities.
WTO-related general	<p>It is high time to recalculate AMS based on more recent data of 1990s and even 2000's, rather than remaining complacent with the earlier calculations based on 1986-88 data. In all probability AMS calculations for India may have become positive in recent years.</p> <p>To prevent distress sale, a well-designed mechanism to ensure Minimum Support Price for all commodities; although currently about 27 agricultural commodities are covered under this scheme, implementation continues to be a serious problem, especially in certain parts of the country.</p> <p>To evolve a concrete program of agricultural diversification through setting up of Agricultural Adjustment Fund, preferably compatible with Green Box provisions, which can be used to provide interest rate subsidy for exports, transport subsidy in the form of freight equalization to neutralize the competitive disadvantages of farmers located far off from markets;</p> <p>As direct regulation of export prices, for example, by providing export subsidy when international prices are low and imposing a duty when international prices are high, is not possible, India needs to explore indirect devices like freight subsidy, following on the examples of developed nations, to safeguard her interests;</p> <p>If Agricultural Adjustment Expenditures by parastals not WTO compatible; an Agricultural Adjustment Board (AAB) consisting of five experts of high integrity to be set up to develop a detailed long-term plan as well as short-term actionable program for each agro-climatic region;</p> <p>India should seek clubbing of all types of support and subsidies to agriculture in one category and seek parity among developed and developing countries in subsidy/support reduction schedules and commitments;</p> <p>A gradual and planned phasing out of all WTO-incompatible subsidies so as not to seriously and suddenly affect farmers' incomes and resource use efficiency;</p> <p>Need for removal of disparities in purchase and sales-tax structure for rationalization and for encouraging value added products' exports;</p> <p>As APEDA is yet to have a good reach, international certifying agencies to be encouraged to open certification centers in states to offer a wide array of services to local farmers, the cost of such certification being partially borne by state/central government.</p> <p>State Trading Enterprises to ensure that exports of a product of a government enterprise do not take place at a price less than the price at which it is sold to domestic producer; need to set up empowered machineries and support mechanisms, World Trade Policy Centers (WTPC) - India chapter and State chapter to study, evaluate, make projections, monitor and suggest measures to implement trading situations conducive and supportive to the interests of farmers;</p> <p>Although there is already a committee of senior secretaries to GOI, including Secretary, Agriculture and Secretary, DARE to decide on various policies including those for import of agricultural products, the functioning of this committee need to be continuously supported and also followed up by the studies and researches of WTPC;</p> <p>To assess the latest trends and have access to the requisite expertise and trading experience, the WTPCs should be autonomous and professional agencies in the transparent public regime;</p>

	<p>Contract Farming to be promoted for such commodities, which have strong export potential like wheat, soybean, spices, onion, garlic, potato etc.</p> <p>Necessary infrastructure like electricity, warehousing, grading, sorting, packaging, cold storages etc. to be created in AEZ areas under central assistance;</p> <p>For export from AEZ areas, a subsidy of 50% to the cost of transport up to port may be provided to the exporters;</p> <p>Each state must have a WTO cell to perform continuous homework with full participation from district level stakeholders; such cells should collect, analyze and disseminate information pertaining to trade related aspects and product specific strategies; the central government must consult these bodies before entering into negotiations in WTO.</p>
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5.15 Although a National Horticulture Mission (NHM) already exists, its functioning demands much more to be achieved. The broad pattern of action points suggested by stakeholders at state level for plantations and horticulture sector, where probably NHM needs to pay more effective attention, are listed below:

- R&D efforts towards developing/short-listing the most appropriate horticultural crops having substantial export potential;
- Identifying potential crops having export potential and declaring those districts as Agri Export Zones (AEZs) with the help of APEDA and NABARD;
- Selection, production and timely availability of good quality planting materials; Increase in use of tissue culture planting material, mushroom spawn and pasteurized compost;
- Improving quality parameters as per the provisions of Codex Alimentarius commission of WTO and by adopting ISO and Hazard Analysis Critical Control Point (HACCP).
- Leasing of degraded lands / wastelands to the farmers and user industries to meet their requirements;
- Cultivation of medicinal and aromatic plants in the herbal parks by the unemployed agricultural graduates coupled with provision of well-equipped processing facilities;
- Promotion of shorter gestation cum exotic vegetables and fruit crops, medicinal & aromatic plants, commercial flower crops, mushrooms;
- Cultivation of orchids and anthurium, etc. in potential areas;
- Introduction of a special Marketing Unit (MU) within the Horticulture department;
- Increase cold storage facilities and other related infrastructure like packaging facilities, efficient transportation (reefer vans), processing, canning and handling equipment, etc, especially at wholesale market and assembly points and use of private-public-community partnership approach;

- Training people in post-harvest management;
- In North-eastern states, farmers may be propelled to grow citrus fruits like Khasi Mandarin, Assam lemon and GOI Nimbu on orchards on commercial scale, besides growing banana types like Jahaji, Bor-jahaji, Malbhog, Cheni-champa etc.
- Diversification in the use of Bamboo to achieve higher value addition benefits;
- Necessary initiatives by the Forest Department In keeping with the "Action Plan" for the National Mission for Bamboo Technology and Trade Development to upgrade the Bamboo economy in the potential areas
- Cultivation of exotic vegetables under low cost greenhouses (tunnel) made up of bamboo structure.
- Forest Development Corporation may take up the development of degraded forest areas through raising of medicinal and aromatic plants, planting of oilseed- producing trees and bio-fuels like Jatropha, Pongamia etc.
- Cultivation of aromatic and medicinal Plants on a large scale on contractual basis through public-private-community partnership involving Forest Corporations, private corporate bodies as well as individual farmers not only on farmer fields/ private wastelands, but also on large tracts of degraded forest land.
- Establish a system of legalized ownership rights and land tenure system in hill districts of North Eastern states to boost up horticulture & plantations.
- A single window clearance for quarantine, customs etc. may be effected as the right incentive scheme for export of horticultural products.

5.16 The suggested action points towards the animal husbandry and poultry sector are as follows:

- While up-gradation of animals through crossbreeding to raise efficiency of milch and work animals is a must, it is also necessary to conserve indigenous breed, which are suitable for local conditions – hence, there is need for only selective cross-breeding;
- Educating farmers on selection of breeds and on scientific feeding and management practices;
- Upgrading technology to diversify products and tap the global market for milk and milk products.
- Establishing units, which will process meat, and by products under private sector, but subject to appropriate regulation of such units;

- Livestock marketing should be brought under regulated marketing Act to reduce exploitation by middlemen;
- Incentives for cultivation of green fodder in fallow and grazing land;
- Encouraging private parties for establishment of compound feed manufacturing unit and for exploring non-conventional feed sources;
- Undertaking intensive epidemiological studies of the livestock infection-diseases in order to control and eradicate the same;
- Improvement and expansion of breeding facilities, improvement in health services, control of diseases through strengthening of research and extension activities necessary to bring down milk production cost;
- Although the DAH has already a network, it must improve its efficiency and expand its jurisdiction by drawing up specific plans for establishing polyclinics in key districts to start with (on a pilot basis) and also involving the private sector at the same time.
- Opening up hatcheries, thereby raising the commercial parent stock of birds and hybrid chicks, while keeping a close eye on the associated feed shortage and disease (e.g., bird flu) problems.
- Production and marketing of live broiler, dressed varieties and packaging of broilers on a commercial scale;
- Essential poultry feed ingredients like rice polish, rice bran, maize, oil-cake, fish-meal, bone meal etc. may be collected and stored, while the other necessary ingredients may be imported to manufacture balanced poultry feed;
- Special attention needs to be paid to the harmful pollutants and contaminants in the feed and water being fed to the birds;
- To take advantage of increased interest in minor species of poultry like Turkey, which have immense commercial/export potential in the European and US markets;
- Improvement of the indigenous breed of Black Bengal;
- Pig breeding may be encouraged in areas having surplus gain and by-products available at cheaper rate;
- Setting up of nucleus piggery farms and multiplier farms in the private sector, which can rightly act as supply point for good quality piglets for breeding as well as fattening for piggery farmers;
- Breeding, feeding, management and disease control needs to be taken up for development of piggery on commercial lines, especially in the North-eastern states.

5.35 Although fisheries was not a part of the Agreements on Agriculture, the stakeholders were in favor of looking upon fisheries as an integral part of agriculture, and hence they favored certain action points towards this sector, which are listed below:

- Development of *beels* by de-silting, deepening of connecting canals, de-weeding and suitable changes in leasing policies –private entrepreneurs to be encouraged to take up fisheries in *beels* by providing long term lease;
- Village Ponds Development to be brought under the domain of Rural Infrastructure Development Fund;
- Reservoir fisheries estates to be established for area based community development and employment generation;
- Promotion of aqua-clinics on the lines of agri-clinics, with adequate credit support from banks,;
- Setting up of demonstration farms under FFDA;
- Concept of commercial fish farming to be sufficiently popularized from that of homestead farming practices that are currently adopted by the farmers in most North-eastern states;
- Establishment of nurseries should be encouraged to ensure regular and adequate supply of fingerlings to indigenous fish farmers especially in North-eastern states;
- Effective mechanism to enforce marine fishing regulations strictly – mechanized boats may be provided with navigational, communication and safety equipments so that the skilled fishermen can venture into deeper areas;
- Suitable policy design for leasing of coastal waters for undertaking mariculture activities.
- Institutional finance should to be directed towards development of brackish water aquaculture (shrimp farms) so as to vigorously tap the international market;
- Development of ornamental fisheries with adequate protection to domestic species;
- Private entrepreneurs to be encouraged through technical assistance for engaging in poly-culture of prawn with fish, cat fish farming;
- Innovative technologies like crab fattening culture, oyster culture, mussel culture, and ornamental fish breeding/rearing to be imparted;
- Regulating operations of traders through proper market management, while fishermen to be trained to handle and process fish as per international standards;
- Comprehensive insurance product suitable for aqua culture farms covering all risks – policy must indemnify against crop loss rather than cover only the input costs.

Section 6: A Post-Hong Kong Stock-taking on WTO Negotiations in Agriculture

5.18 Although this component was not a part of the original study design, it was added subsequently by the authors, who were following the developments while they were waiting for completion and subsequent processing of state level studies, the underlying thought being these materials would be of considerable help in future consultations with the state level stakeholders of Indian agriculture.

5.19 A close examination of the Hong Kong Declaration in December, 2005 confirms that tariff reduction continues to be the norm of progress in WTO negotiations, despite continued assertion by developing countries on the negative impact of trade liberalization on their economies, particularly on their agriculture. Although the declaration provided four bands – separately for developed and developing countries – each band corresponding to a particular tariff range and a prescribed tariff cut, the Ministerial Declaration did not prescribe the tariff ranges, or the degree of tariff cuts for each band, thus leaving these to subsequent negotiations in Geneva in 2006.

5.20 In the context of reduction in domestic support, the Declaration continued to assert exemption from reductions in *de minimis* and the overall cut in trade-distorting domestic support for developing country members with no AMS commitments, developing countries were not given any credit for reaching the stage earlier as compared to others – a proposition quite contrary to the principle of incentive-compatibility. A review of Green Box criteria was promised without clearly and precisely defining what ‘minimal trade-distortions’ meant to different groups of countries.

5.21 One main criticism against the resulting text of the Hong Kong Declaration is absence of clear disciplines on the issue of domestic subsidy reduction. True, it did set an end date for the elimination of export subsidy reduction, but as critics argue, this end date of 2013 is way too long, given the fact that export subsidies are acknowledged as absolutely trade distorting and ought to have been eliminated ten years ago.

5.22 Provisions relating to special products (SPs) and special safeguards mechanisms (SSM) no doubt constitute one of the so called gains of developing countries from the Hong Kong Ministerial Declaration. However, the Hong Kong declaration is vague about the treatment of special products as well as the number of products that will be declared as SPs, despite the G33 insisting that SPs should cover at least twenty (20%) of a developing country’s agricultural tariff lines.

5.23 In response to developing country concerns that food aid, as a trade facility, is often used by developed economies to dump excess produce into developing country markets, the Hong Kong Ministerial declaration provided for the creation of a so-called “safe box” for bona fide food aid. Unfortunately, the details of the disciplines, including those of the “safe box” are scheduled for completion only by a later date. While the debate on form of food aid and new disciplines on it is scheduled to be continuing in the future, an estimated 18,000 children are reported as dying of hunger every day – and every one of them dying a preventable death!

5.24 With respect to trade in environmental products, India is consistently lobbying with the various environmental groups that WTO should not force anybody to eat genetically modified foods. Moreover, India ought to consistently oppose the “list approach” for seeking tariff reduction on environmental goods. The “list approach” is not beneficial for developing countries as it focuses only on goods and is, in fact, seen as a backdoor method to bring in NAMA. India has submitted an alternate approach called “environmental project approach”, wherein it has been proposed that all environmental goods and services in the project should get tariff concessions.

5.25 Given increasing popular discontent among developing countries over bio-piracy and the misappropriation of their traditional knowledge for commercial gain by developed country companies, there is an acute need from developing countries side for re-negotiations on the issues pertaining to the relationship between the TRIPS agreement and the convention on bio-diversity. Since Hong Kong Declaration has postponed decision-making on this important issue, countries like India, which are rich in bio-diversity must consistently lobby for this amendment to pave the way for an international legally-binding regime. Three elements — namely, “disclosure of country of origin”, “prior informed consent”, and “benefit sharing” arrangement, which are together called “disclosure requirements”, ought to be incorporated in the TRIPS agreement. Moreover, patenting natural life forms like seeds, genetic resources for food and agriculture and naturally occurring micro-organism ought to be excluded from the provisions of TRIPS.

5.26 The WTO Secretariat and especially the developed country negotiators are smart enough to include a number of promises as ornaments to get the developing country members hooked to further expectations from the WTO. This is a smart delaying tactic to perpetuate the historical advantages the developed countries are enjoying further into the future – at least as much as possible. It can be seen if one carefully goes through the text of the Declaration and traces what happened over successive rounds of negotiations to the agreements over opening up trade in cotton at par with other agricultural commodities/products, or agreements over technical

assistance. The promises extended to the least developed countries (LDCs) and subsequent qualifications imposed by the US and Japan provide a more glaring case.

5.27 Developing countries need to be careful about another apparently lucrative offer from the developed ones – namely, aid for trade. When the benefits from trade are invariably distributed unequally between developed and developing country partners, it is quite expected that monopoly capital in the developed nations would be willing to forego in advance a small part of their trade gains in favor of a selected few developing countries to ensure larger gains in the future – even by resorting to a ‘divide and rule’ principle.

Section 7: Lessons & Recommendations

5.28 Though this study has been a long-drawn one beset with a number of hurdles, many of which couldn’t be overcome with limited resources in hand, it gave enough time to the authors to think of the implications of state level consultations, on the one hand, and to further review the literature and trace the happenings at WTO, on the other, to extract necessary lessons and recommendations for a developing country like India. An attempt is being made in the following paragraphs to sum up these lessons and recommendations.

5.29 An exercise of this kind, namely, a serious and probably a tedious process to gain access to state level stakeholders of Indian agriculture and to evoke their interest on the subject to extract a few suggestions from their end – in spite of all shortcomings – is not a lost cause by any stretch of imagination. If these stakeholders express their fears and hopes, even though in not so articulated form, besides making several policy prescriptions – again mostly inward-looking rather than directly addressing the WTO – these are no small gains. Hence, all relevant quarters at states and at the center, especially the Ministry of Agriculture (MOA), which launch this study in its wisdom, must gather enough strength, courage and resources to carry on this task in an unabated manner. Several action points may be considered in this context, as listed below:

- Even though Ministry of Commerce (MOC) has been unfortunately put at the helm of affairs in a hierarchical structure, MOA must not lose initiative on WTO matters, as WTO is the most pressing force these days for policy changes. It must strengthen its WTO cell by having a few dedicated WTO-specialists as a part of this permanent body, which will attend all WTO-related meetings at MOC and other Ministries and Departments, gather, analyze and disseminate information, besides doing a great deal of

coordination job to develop a national and even international network, both horizontally as well as downwards to all important state level stakeholders. Only this way, it can gain prominence and elevate its status vis-à-vis the MOC, for real good of the country. If due to bureaucratic pressures it is not possible to house such a powerful cell within the MOA, it can be located in a dedicated premiere institute of the country with regular participation of relevant MOA officials.

- A similar exercise ought to be done by NABARD, if it wants to wake up now. It has immense resources and a good network up to district level, where fairly good district credit plans are prepared. It must be admitted that the present authors benefited quite a lot from NABARD's state focus papers and district level documents, besides from valuable participation of NABARD officials in the three consultation workshops, the authors had conducted at Kolkata, Guwahati and Shillong under desperate conditions. If NABARD drags its feet even now, RBI or SBI or any other national bank can snatch the initiative and bring laurels to itself as well as to the country.
- This proposed national-level WTO Cell ought to actively help development, empowerment and activation of similar WTO Cells in all states (many of which don't have any), encouraging them to do a similar job at district level – transmitting and disseminating knowledge and information, on the one hand, and collecting, analyzing, collating and crystallizing valuable feedback inputs, on the other, in a true democratic spirit to convert the challenge of WTO into an opportunity to consolidate all progressive forces in a bottom-up approach. If performed properly in good earnest, a lot of beautiful minds can be identified, attracted and groomed to serve the national cause, thus facilitating a broad canvass covering the length and breadth of the country rather than encompassing a few favored elites from national and state capitals!
- Instead of forgetting this kind of study, the Directorate of Economics and Statistics alongside the AERCs across the country should pursue this kind of study continuously by compulsorily undertaking repeat study every year and assigning the responsibility of facilitation, monitoring, and consolidation of region-wise reports to three Agro-economic Research Units at Ahmedabad, Delhi and Bangalore for Western, Northern and Southern zones. AERCs at Vallabh Vidyanagar, Jorhat and Visva-Bharati who performed relatively better (though in second or third rounds) may be assigned a similar task for the rest of the regions in the country. This is how whatever little bit of human capital is created on this subject can be preserved and promoted in the future. State level consultation on WTO issues should remain the central topic, around which a lot of other

research issues will come up almost on a continual basis, if this experiment is pursued seriously. AERCs, which are traditionally engaged in farm management type studies on the basis of small sample data, will also master the skill of conducting interactive research based on intensive qualitative probing, rather than merely doing number crunching on quantitative data.

5.30 There are two groups of people simultaneously in existence in the developing countries, as it became abundantly clear during state level consultations – one favoring a “Reform the WTO” framework and the other following “Out of the WTO” framework. It is becoming increasingly important to take both the groups alongside, besides having continuous dialogue with them, on the one hand, and an international network, on the other, so as to develop an inside-outside strategy with respect to WTO to achieve twin goals – first, to place WTO on liberal logical reasoning rather than allowing it to be hijacked by the proponents of monopoly capitalism; second, to preserve and develop a WTO with a human face.

5.31 There is a world of difference between words and deeds in WTO. WTO on paper seeks to maximize world welfare through the most efficient utilization of world’s resources as in the famous Coase Theorem for value-maximization, but without putting enough efforts to fulfill the three important pre-conditions – (i) unambiguous property rights on all resources to start with, (ii) near zero transaction costs on negotiating on alternatives, and (iii) no wealth effect – that is, because of superior powers of one party over others, whether economic, political, social, cultural, ideological or otherwise, the former can’t bully the rest. Thus, the working of WTO on paper is based on the premise of a competitive bargaining process, though in reality it seems to drifting further and further away from fulfilling the above-stated Coase conditions. So, in spite of the lucrative promises and flowery language in which the negotiating clauses are being wrapped up, the developing countries must realize that it is not a smooth Coasian competitive negotiating process, but a hard, rocky bargaining framework though which they have to trod all the way, and they must be doing their preparations accordingly.

5.32 The problem, it seems, isn’t too much globalization, but too little of it. If free trade and globalization are problems, it’s only because the parts of the world that most need them aren’t getting enough of either. So, all efforts need to be directed towards extending the benefits of free trade and capital flows to the world’s poorest nations, not halting them. A solution can emerge if and only if the developing nations – backed up by enough research-based knowledge, beautiful minds and operational tools – can gather the conviction that globalization is a lesser problem than

the fact the global elites get to make the rules. What is therefore needed is to begin a process by which one can put the instruments of control in the world's poor and their trusted lieutenants. During the Doha Round, the G20, of which both India and China are members, stood up to the pressures from US and the European Commission to demand that the manifestly unfair trading system in agriculture should not be perpetuated. The unprecedented unity shown by developing and poor countries through the G-110 grand alliance during the Hong Kong deliberations, if carefully nourished and articulated, seem to hold the key to changing the dynamics in trade diplomacy.

5.33 As WTO is composed of states and it considers only the official views of states, the most important component of any WTO related campaign has to be a national advocacy work targeting the state. It is precisely where the utility of an exercise like the present study lies, irrespective of all its limitations. This national advocacy activity directed towards national governments at all levels and targeted to all three branches of government – executive legislative (assembly or parliament) and judiciary – is absolutely necessary for three reasons. First, a critical mass will make it hard for any government to ignore the growing dissent against indiscriminate opening up of markets. Second, appropriate pre-emptive action must be undertaken by national governments, in stead of allowing things to drift such that international bodies can easily chip in and impose things from outside. For example, governments, and not the International Standards Organisation, should be regulating the social responsibility of corporations within the national boundaries, while the WTO should be adopting measures to ensure that no country can routinely use corporate social irresponsibility to secure unlawful competitive advantage in global markets. Hence, there will be an urgent need for stronger government commitment to shaking up the way they legislate and enforce/monitor legislations. Third, the farmer groups and their allies, sympathizers and patrons must be able to perform policy research, analysis as well as to acquire proposal-making and articulation skills. To broaden their perspective, to get the support from other sectors and also to have a bigger political force to push pro-farmer policies on agricultural trade, they must be able to coordinate their actions with those of multi-sector organizations – such as those working on women, migrant workers, industrial labour, environmentalists, who are likely to be their natural allies. To facilitate this task, the various Departments must not only coordinate their activities on equal footing (rather than in a hierarchical manner, as prevailing at present) at various levels of the government, but also disseminate the materials produced or information collated by them among these stakeholder organizations (in stead of sharing such materials with a limited number of favoured Departments, organizations and people surrounding the Department put at the forefront of the

negotiations deal (the Ministry of Commerce in the Indian context). All relevant discussion materials ought to be routinely circulated to the heads of tall premier organizations like IITs and IIMs and even NGOs for further deliberations.

5.34 Appropriate lessons must be drawn from the fact that the gains on SP and SSM during the Hong Kong Meeting, however limited, were made possible due to the advocacy activities of the G33, to build up more and more effective international networks and evolve strategies for the negotiations. Regional and international public and non-government networks, in particular, are in a position to undertake international and regional campaigns alongside simultaneous national campaigns. These campaigns must be targeted at influencing these developing country formations to undertake joint researches and preparations to echo their trade advocacies. While developing their future strategies, the developing countries' network may seriously consider FAO's twin-track approach, wherein the first track calls for increased investment in agriculture and rural areas in order to improve productivity and build competitiveness, whereas the second track calls for safety nets to protect vulnerable groups from trade-related shocks and to allow the poor to take advantage of the economic opportunities arising from trade. FAO has very rightly called for establishment trade rules in WTO that would contribute to the reduction of global hunger and malnutrition, while moving the world towards a fairer and more development-friendly agricultural trading system.

5.35 In spite of all criticisms and angers directed against it, one shouldn't lose sight of the fact that WTO is a relatively more visible and transparent system compared to bilateral and regional trade agreements. It is quite possible that the gains from the WTO, for example, in the form of SPs and SSM will be eroded through bilateral and regional trade agreements. It is important therefore to engage governments on all these type of trade arrangements and to promote policy coherence in a way that promotes the economic viability of small farmers and agricultural producers. It is extremely important to monitor and even strategically corner governments that circumvent multilateral trade efforts with one-to-one deals. In ultimate analysis, the problem isn't the WTO – but its hypocrisy often fuelled by developed country manipulations and abject surrender of developing country negotiators, for whatever reasons!.

Chapter VI

Epilogue

Section 1: Introduction

6.1 The process of Doha Negotiations that began in November, 2001 started with the declaration of the firm commitment on the part of the members to comprehensive negotiations aimed at substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support in respect of trade in agriculture. However, as events manifest themselves, it appears that an outcome acceptable to all the members of WTO out of the Doha process is, in all probability, going to be delayed further. Global leaders all agreed “that special and differential treatment for developing countries shall be an integral part of all elements of the negotiations and shall be embodied in the schedules of concessions and commitments and as appropriate in the rules and disciplines to be negotiated, so as to be operationally effective and to enable developing countries to effectively take account of their development needs, including food security and rural development” (Doha Declaration, Para 13).

6.2 This chapter outlines a strategy that may be developed for India to help her formulate an operationally effective road map to take account of her development needs, including food security and rural development. The chapter is divided into eight sections. The next section focuses on the strength of American federalism that needs to be internalised in India for the states to derive enough strength and scope to effectively participate in WTO negotiations. The third section scans the available empirical literature to identify the losers and gainers from the WTO structure implemented so far in relation to global trade in agriculture. Section 4 highlights arguments from currently available studies that are not too convinced that green box support – expected to have minimum or no trade distortion effects – are in effect non-trade distortionary. The next section provides a pen picture of the temporal changes in the green box support in developed economies that account for the lion’s share of agricultural supports since the implementation of Uruguay Accord. Section 6 concentrates specifically on the American Farm Bill Proposal for 2008-2017. The Bill outlines the proposed green box support to be provided to American agriculture in the years to come. Section 7 draws on the extent and nature of green box support provided in some select developing countries. Section 8 concludes.

Section 2: WTO Strategies – A Circumstantial Perspective

6.3 Almost 6 years down the line no firm negotiated deal is in sight. Rather, if the Chair of the Special Session of Committee on Agriculture held on the 30th April, 2007 is to be believed, “we are at the very end of this exercise one way or the other” and there has been a clarion call “for honest talk ... to promote a greater seriousness of purpose... and, thereby, facilitate the decision making we so desperately need now...” Such frustrations result from two proximate factors, one circumstantial and the other factual. The circumstantial obstacle is in the form of imminent expiry. As the agreement was not signed by June, the US President lost his Fast Track authority to approve international trade agreements, which means the US Senate/Congress will then oversee the agreements. This is why the US wanted to hurry. To elaborate, the US administration’s executive authority to negotiate trade agreement with a guarantee that Congress would pass them with no amendments and limited debate – no legislative obstacle, to be precise – expired on 30th June, 2007³. In spite of the executive desire to extend the life of the Authority, given the Democrat dominance in the Congress post-November-2006 elections, President Bush could not actualise the extension. One may recall that President Clinton also was denied this privilege by Republican-led Congress, even though the fast track authority had been continuously in force since 1974 till 1994.

6.4 It must be noted in this context that individual states too have passed resolutions to prevent President Bush from going for such an extension. For example, the state of Maine passed a resolution to seek replacement of the Trade Promotion Authority (Fast Track) in April, 2007⁴. On May 23, the Pennsylvania House of Representatives approved a resolution calling on Congress to defeat the renewal of President Bush's "Fast Track" trade authority. Legislatures in Alabama, Hawaii, Montana and Vermont also approved similar resolutions, and nine other states were considering action to prevent Congress from renewing the tenure of "fast track" authority before it expired on June 30⁵. The ranchers and cattlemen, prairie farmers, Presbyterian Church – common people from all walks of life also appear to be against any attempt to extend the tenure of the “fast track authority”, even though there was a simultaneous apprehension about a possible secret deal being struck between the Democrats and the Republicans – among those who matter⁶.

³ See, for details on Fast Track Authority, <http://fpc.state.gov/documents/organization/16806.pdf> , as on 13th May, 2007

⁴ see <http://www.maine.gov/legis/opla/FastrackRes.pdf> as on 13th May, 2007

⁵ see http://www.larouchepac.com/pages/breaking_news/2007/05/25/pa_reject.shtml as on 15th June, 2007

⁶ see, for example the series on “secret trade deal” at http://www.workingassetsblog.com/2007/05/secret_trade_deal_day_12_range.html as on 15th June, 2007

However, the available trends suggested that Mr. Bush was all set to lose his authority and it proved to be true as the deadline expired on the 30th of June⁷.

6.5 The above-stated experience, in effect, provides an important lesson for the states that constitute Federal India. It highlights the presence of a legislative mechanism that binds the Union government to accommodate the demands of the state governments through an appropriate consultation process before committing to an international treaty that may have considerable impacts on the welfare of the citizens of the state. A similar mechanism should evolve in India and the Centre-State Commission set up recently to redefine the statutory relationship between the states and the union government should be pro-actively involved in formulating an acceptable solution to this issue. It should be mentioned that representatives from the Union government signed the WTO agreement, without a debate even in the Parliament. The states were never consulted.

Section 3: WTO Strategies: A Factual Perspective

6.6 The factual impediments are much more compelling. Between 1994 when the Uruguay Round was completed and today, several studies have come up that found that the resultant global gains from agreement on agriculture – portrayed to be very high then – were very insignificant in actuality. We shall concentrate on some such representative studies to drive home the truth. A simulation exercise carried out by Polaski (2006) observed:

1. At the aggregate global level any of the plausible trade scenarios will produce only modest gains, on the order of a one time increase in world income of US\$40 to \$60 billion, representing an increase of less than 0.2% of current global gross domestic product (GDP). The considerable adjustment costs that the countries have to incur – losses of existing jobs and firms – would be politically more painful than potential gains in future growth.
2. The distribution of the gains will not be uniform across the participating countries with some being net winners and the rest net losers. At the country level, China would be the biggest gainer (0.8-1% of GDP under different Doha scenarios), with some sub-Saharan countries being the biggest losers – just under 1%. Most countries' gains or losses will be within a range of 0-0.5% of current GDP.

⁷ see the testimony of Mr. Lou Dobbs to the Congress on 28th March, 2007, available at <http://www.cnn.com/2007/US/03/28/dobbs.testimony/index.html> as on 15th June, 2007

3. 90% of the gains from Doha scenarios to the developing countries would come from liberalization of trade in manufactured goods.
4. The benefits of trade liberalization in agriculture will flow overwhelmingly to rich countries, while developing countries as group suffer a marginal loss. The study captures the differential impact of liberalization in agriculture on developing countries. While Brazil, Argentina and Thailand appear on the winning side, many of the poorest countries like Bangladesh will be on the other side. China will also emerge a loser.
5. All high income countries experience small gains under the proposed scenario, with liberalization of manufactured goods contributing the lion's share rather than agricultural goods. Differential impacts are observed among the developed countries as well. The gains from agricultural liberalization will be low in USA compared to those in EU and Japan. The gains are not without a cost. Income from farmland will decline by 26% in the EU and 23% in Japan.
6. World export and import prices of agricultural products will increase while those for some manufactured products, notably, apparel, metal products and motor vehicles, will decline slightly, thanks to increased competition in manufacturing sectors.
7. In spite of increase in demand for unskilled labour in developing countries (1%) due to liberalization in manufactured product, the wages would not rise. The increase in demand for agricultural labour would be very low (0.17%).
8. As the simulation exercise does not incorporate the costs of adjusting to the reformed situation, the results underscore a potentially large negative impact at least in the short term. The effects are likely to be larger in developing countries as their scope for diversification is quite limited with fewer alternative sources of employment. (pp. viii-x).

6.7 Another study by Hertel et al (2006) to model the distributional effects of WTO agricultural reforms begins with an assertion that "trade theory is about whose hand is in whose pocket and trade policy is about who should take it out"! It observes that the wealthiest of rich country farmers predominantly gain from protection and farm households in poor countries pay the price (p.1). Using a Doha Scenario elaborated in the July 2004 Framework Agreement (WTO, 2004) and comparing the results with simulated estimates under a fully liberalized scenario (Appendix 6.1), the exercise reveals the distribution of gains/losses across developed and 15 selected developing countries. The results are reproduced in Table 6.1 below. Some stylized features from the findings are worth mentioning:

1. Australia and New Zealand stand to gain the most among the rich countries under both the scenarios in respect of terms of trade, even though Japan derives the highest welfare

gain, coupled with highest terms of trade loss. None of the OECD countries suffer welfare loss under both the scenarios. However, the welfare gain is much higher under an ideal free trade scenario.

2. Developing countries show a mixed result with Brazil, Peru, Malawi, Colombia Thailand and Chile emerging clear winners in respect of terms of trade appreciation – higher in a fully liberalized agricultural trade scenario than that realized through Doha 2004 framework of agreements. They also maintain a simultaneous appreciation in welfare. The rest of the countries are clear losers.

6.8 An examination of the welfare impacts on rich country farm households clarifies as to why there is so much opposition to agricultural reforms. The average decline of on-farm income in Japan is 16% under Doha scenario and 28% under full liberalization scenario. The corresponding figures for EU are 6% and 13%, respectively. The average loss in on-farm income is not that significant. But the welfare impacts on representative households in each of the 11 wealth classes across the five US producer groups are different. The loss to the richest – and likely most influential – producer groups are quite large. In case of rice producers, it is nearly 20% of farm income.

Table 6.1 Distribution of Welfare and Terms of Trade Gains/Losses (%)

	Full			Doha			Full			Doha		
	ToT Lower	ToT Mean	ToT Upper	ToT Lower	ToT Lower	ToT Upper	Welf Lower	Welf Mean	Welf Upper	Welf Lower	Welf Mean	Welf Upper
<i>Rich Countries</i>												
Australia and NewZealand	2.21	2.80	3.39	0.92	1.10	1.28	0.58	0.72	0.86	0.22	0.26	0.30
Japan	-1.47	-1.25	-1.03	-0.47	-0.39	-0.31	0.50	0.95	1.40	0.23	0.47	0.71
Canada	-0.11	-0.07	-0.03	-0.04	-0.02	0.00	0.23	0.27	0.31	0.08	0.10	0.12
US	0.29	0.35	0.41	0.12	0.14	0.16	0.02	0.02	0.02	0.01	0.01	0.01
Europe FTA	-0.40	-0.30	-0.20	-0.10	-0.06	-0.02	0.12	0.22	0.32	0.12	0.18	0.24
<i>Focus Countries</i>												
Bangladesh	-0.80	-0.60	-0.40	-0.25	-0.21	-0.17	-0.36	-0.28	-0.20	-0.12	-0.10	-0.08
Brazil	3.31	5.27	7.23	0.82	1.94	3.06	0.41	0.72	1.03	0.08	0.26	0.44
Chile	0.55	0.77	0.99	0.13	0.15	0.17	0.09	0.15	0.21	-0.01	0.01	0.03
Colombia	1.06	1.26	1.46	0.52	0.60	0.68	-0.04	0.00	0.04	-0.01	0.01	0.03
Indonesia	-0.27	-0.23	-0.19	-0.12	-0.10	-0.08	-0.30	-0.26	-0.22	-0.09	-0.09	-0.09
Malawi	1.94	2.55	3.16	-0.23	0.12	0.47	1.41	1.82	2.23	-0.10	0.17	0.44
Mexico	-0.38	-0.14	0.10	-0.13	-0.11	-0.09	-0.30	-0.24	-0.18	-0.08	-0.08	-0.08
Mozambique	-0.50	-0.40	-0.30	-0.17	-0.15	-0.13	-0.65	-0.55	-0.41	-0.16	-0.14	-0.12
Peru	1.70	3.25	4.80	0.05	0.15	0.25	0.22	0.53	0.84	-0.03	-0.01	0.01
Philippines	-0.07	0.01	0.09	-0.10	-0.08	-0.06	-0.25	-0.21	-0.17	-0.11	-0.11	-0.11
Tanzania	-0.31	-0.02	0.27	-0.35	-0.23	-0.11	-0.17	-0.09	-0.01	-0.10	-0.08	-0.06
Thailand	0.64	1.11	1.58	0.17	0.23	0.29	0.42	0.71	1.00	0.11	0.15	0.10
Uganda	-1.04	-0.59	-0.14	-0.81	-0.65	-0.49	-0.33	-0.23	-0.13	-0.23	-0.19	-0.15
Venezuela	-0.47	-0.41	-0.35	-0.25	-0.23	-0.21	-0.13	-0.11	-0.09	-0.06	-0.06	-0.06
Vietnam	0.07	0.27	0.47	-0.14	-0.12	-0.10	-0.09	0.07	0.23	-0.20	-0.18	-0.16
Zambia	-0.26	-0.18	-0.10	-0.05	-0.01	0.03	-0.24	-0.20	-0.16	-0.05	-0.05	-0.05

Source: Quoted from Hertel et al (2006) p:3

6.9 The estimated impact of liberalization of agriculture by the rich countries on the change in poverty ratio across the developing countries reveal significant decline in incidence of agricultural poverty (Appendix 6.2). This revelation encourages Hertel et al (2006) to forcibly argue,

“Clearly the same reforms that reduce the incomes of richest farm households in the US and other developed countries boost those of the poorest farm households in some of the poorest countries in the world. Obviously, the very policies that assist the richest farmers create poverty among poor country farm households. The diversified household strata (both urban and rural) also show substantial poverty reductions in a number of cases – particularly Brazil, Chile and Thailand. On the other hand, higher food prices consistently push more of the non-agriculture, self-employed and the transfer dependent households into poverty.” (p.19).

6.10 A third set of studies carried out by researchers associated with the World Bank also identifies more or less an identical set of losers and gainers from the Doha declaration. We shall consider one of them – Anderson & Valenzuela (2006), which looks into the issue if global trade distortion still harms developing country farmers. Even though the conclusions of the study is almost in unision with those mentioned earlier, the estimates provided by Anderson & Valenzuela (2006) are much general as it covers 87 countries and country groups spanning the world. Further, it uses a dataset for 2001 and provides separate estimates of some relevant indicators for India as well. We shall present some of their results, after reviewing the general change in trade policy environment today across the world vis-à-vis that prevailing earlier. Anderson and Valenzuela (2006) notes that

1. The pace of reforms initiated with the implementation of Uruguay Round slowed down and in some cases slowed the growth in agricultural protection.
2. Recent accessions to WTO added to the commitments to limit agricultural tariffs and subsidies.
3. Developed countries expanded non-reciprocal preferential access to their markets for developing country exports, notably via the Africa Growth and Opportunity Act 2000 adopted by US Congress and “Everything but Arms” initiative by the EU as a sequel to the Lome Convention in 2001.
4. Many developing countries themselves have opted to pursue internal reforms, thanks to the commitments to structural adjustment program initiated by the international lending institutions.

6.11 Anderson & Valenzuela (2006) has further observed the following:

1. The average import tariff in high income countries had been 20.2% for primary agricultural products, 16.0% for agriculture and processed food, 13.0% for processed food, 0.5% for other primary products and 2.1% for other manufactures;

2. The corresponding figures for the developing countries were 17.0%, 19.3%, 18.1%, 2.5% and 10.0% respectively;
3. There exist considerable variations in the tariff rates across countries in both the groups. (Anderson & Valenzuela, 2006, p.6) (for details, see Appendix 6.3)

6.12 It should, however, be clarified that average import tariff can be a poor indicator of the assistance to farming in the absence of the relevant information on the share of domestic production and consumption of a particular commodity. A look into India's performance yields mixed reaction. Her applied average import tariff on primary agricultural products in 2001 stands at 25.6%, while the corresponding figure for processed food is 76.6%. Only China and Morocco among the developing countries and EU, Japan, Korea and Taiwan, among the high-income countries apply higher average import tariff on primary agricultural products. Average applied import tariff on processed food is the highest in India! The tariff applied on non-agricultural products is 15% -- of quite a high order in comparison to the rest of the countries covered, with only Bangladesh ahead of her. The corresponding figure for other manufactured products (27.3%) is also found to be the highest among the countries and regions covered.

6.13 Anderson & Valenzuela (2006) also found that average applied export subsidies in 2001 were higher in developed countries in comparison to that provided in developing countries. More specifically, they found that:

1. The average export subsidies in high income countries had been 1.0% for primary agricultural products, 3.0% for processed food, 2.3% for agriculture and processed food, 0.0% for other primary products and 0.0% for other manufactures;
2. The corresponding figures for the developing countries were 0.0%, 0.0%, 0.0%, -1.8% and -1.0% respectively (negative signs imply export taxes);
3. Not much variation in the tax rates across countries is visible in both the groups.
4. In the Indian context, only goods falling under the category of other manufactured category are being taxed at 1.6%, high enough in comparison with the global situation. (see, Appendix 6.4)

6.14 Appendix 6.5 taken from Anderson & Valenzuela (2006) also depicts the variations in estimated average applied domestic producer subsidies in 2001, as summarized below:

1. The average domestic producer subsidies in high income countries had been 11.0% for primary agricultural products, 0.0% for processed food, 3.1% for agriculture and processed food, 0.0% for other primary products and 0.1 for other manufactures;

2. The corresponding figures for the developing countries were 0.6%, 0.0%, 0.4%, 0.0% and 0.0% respectively;
3. There exist considerable variations in domestic producer subsidies across countries in both the groups.
4. India's average applied domestic producer subsidy is estimated at 3.4% for primary agricultural commodities.

6.15 Anderson & Valenzuela (2006) also disaggregates the impact of own, other countries' and global full trade liberalization – across all sectors – on the sectoral value addition for some selected developing countries like Brazil, China and India along with the region of sub-Saharan Africa. The results are reported in Appendix 6.6. We identify some of the salient features:

1. In case of India, own unilateral liberalization would reduce the extent of value addition by more than 4% in primary agriculture; whereas liberalization by high-income countries will increase the sectoral value added will appreciate by 3.8%. Total global liberalization will reduce the scope of value addition through primary agricultural commodity by 0.7%. On the other hand, processed food sector will see a remarkable growth in value addition (7.3%). The manufacturing sector also would experience a marginal rise. All the other countries, barring Brazil and Argentina follow the same trend observed in India, so far as value addition in primary agriculture is concerned. However, China and Indonesia can initiate unilateral liberalization in processed food and gain, even though marginally.
2. Brazil and Argentina open their accounts with a positive value addition in primary agricultural products even initiating liberalization on their own, with the scope for increased value addition being actualized if others follow suit.

6.16 When one examines the disaggregated effect of agricultural and non-agricultural trade liberalization on agricultural value added in the same set of countries and region, the following stylized features emerge (see, Appendix 6.7):

1. India's agriculture sector stands to gain if she initiates liberalization in the non-agricultural sector on her own. The sector also gains, if the high-income countries initiate liberalization in non-agricultural sector. A situation of other countries initiating total liberalization and India abstaining, yields the best result for Indian farming sector under the existing domestic policies!
2. Under a situation of rich countries liberalizing their agricultural sector, all the developing countries identified in the table would have gained.

3. Agricultural sector in all the countries would have lost out in case of them initiating unilateral liberalization.

6.17 Self-sufficiency in food products is often considered a very sensitive political issue. Table 6.2 provides the estimates of self-sufficiency index (production as percentage of production plus net imports) across several commodities under two scenarios – 2001 baseline and full global liberalization. It is observed that India’s self-sufficiency index would improve marginally in respect of sugar and cotton, significantly for rice and wheat, while there will be appreciable improvement for beef and sheep meat. The self-sufficiency index would dip in respect of the rest food products – appreciably in respect of oilseed products, significantly for pork & poultry, wool and fruits & vegetables.

Table 6.2: Self Sufficiency by Product and Region, 2001 Baseline and after Full Liberalization of Goods and Services Globally (production as a percent of production plus net imports)

	High-Income countries		Developing countries		Sub-Saharan Africa		Latin America & Carb.		China		India	
	Base	Full Lib	Base	Full Lib	Base	Full Lib	Base	Full Lib	Base	Full Lib	Base	Full Lib
Rice	99	60	100	105	38	72	96	94	101	118	103	108
Wheat	191	123	91	92	48	50	91	90	98	99	108	108
Coarse grains	107	108	96	96	101	101	112	116	108	107	101	101
Fruit & Veg.	87	84	104	105	125	126	127	136	101	102	99	96
Cereal Products	98	98	100	100	94	104	129	139	81	69	95	80
Sugar	98	90	101	107	109	125	121	149	84	81	102	108
Cotton	108	98	95	99	232	289	101	101	98	99	90	91
Other crops	85	87	115	112	139	139	141	127	114	105	107	107
	100	96	99	108	100	108	108	119	97	98	108	153
Pork & Poultry	100	101	100	98	98	94	106	102	100	99	99	95
Wool	124	119	95	95	104	106	110	107	87	91	88	84
Dairy products	102	102	95	95	83	82	98	98	93	90	100	100
Other food prod	98	98	103	102	100	98	100	100	103	103	115	115
All agri. & food	98	97	101	102	104	104	110	114	100	101	101	101
Non-agric & primary	68	68	132	134	172	174	131	134	98	95	79	77
Other manuf	98	90	97	99	80	81	87	85	108	108	98	101
Services	100	100	99	99	98	98	100	90	98	98	100	100

Source: Quoted from Anderson & Valenzuela (2006), p.A9.

6.18 So far we concentrated on identifying the possible gains from liberalization and its distribution among the members of WTO simulating a hypothetical situation where trade

liberalization has been initiated either partially or completely across countries – developing and developed, and across sectors – agricultural and non-agricultural. Several studies carried out recently unequivocally point to the possibilities of the developing countries losing out in the process unless the southern countries initiate considerable internal reforms.

Section 4: Green Box Supports: Are They Trade Distortionary?

6.19 We would like to take up another issue of importance and serious concern to the developing world. Instead of dealing with the distribution of gains from free trade, we would now like to concentrate on the outcome of a possible increase in distortion in the pattern of trade in agricultural products, which is not just a possibility rather a reality. The Uruguay Round, identified three boxes to accommodate different domestic agricultural subsidies to distinguish their effects on distorting trade. Those with no or minimal effects were put under green box and such subsidies were put outside the purview of calculation of aggregate measure of support (AMS). Those put under the blue and amber boxes are to be statutorily reduced by all the members committing to the agreement on agriculture. [for a detail on the boxes see, Section 2]. Recent studies, however, also observe that green box supports are significantly trade-distortionary. Incidentally, the issue is yet to attract enough attention to be included in the Doha negotiations. However, strategically, we should be prepared to raise this issue at an opportune moment, given that good amount of information are at hand to argue against the myth that green box subsidies do not or minimally distort trade. The tendency on the part of EU, USA and Japan to gradually increase the farm subsidies under green box raises a considerable apprehension if green box subsidies are at all non-trade-distortionary. We shall go into the specifics of these changes in a greater detail somewhat later. Recent studies by UNCTAD India Team (2006) and International Centre for Trade and Sustainable Development [ICTSD] (2007) argue that green box subsidies also add considerably to distortions in trade.

6.20 A study by UNCTAD India team (2006) concludes that

1. Reduction in green box subsidies increases the cost of production in relative terms in countries such as Japan, Switzerland, EU and the US by about 15-30 percent.
2. Reduction in green box would leave global agricultural output virtually unchanged, registering a marginal increase of 0.13%, seriously challenging the myth that such reduction would lead to rapid decline in global agricultural output.

3. The largest decline in output would be recorded in EU, the US, Canada and Switzerland, while most developing countries can expect a rise in their farm output, notable among them being Brazil, Chile, Thailand, Morocco, South Africa and Malaysia. Even the least developed countries would find their farm output increase by 3%.
4. Exports of farm products would increase from the developing countries, less developed countries included, under a situation of complete removal of green box subsidies, while global trade goes down due to decline in exports from EU, US, Canada. Cairns Group countries, like Australia, would have a larger share in global export. EU, US and Canada may witness a decline in their exports by 40% or more. Switzerland and Japan face a decline to the tune of 60%. Most developing countries, LDCs included, would register 20%. Australian exports would go up by 16%.
5. A consequential decline in global import of farm products would help development across the southern countries, increasing their potential of on-farm employment by 3-5% and subsequent mitigation of poverty. Wages would also rise. Developed countries providing huge support through green box would experience reduction in employment.
6. If the components of general and environmental services are removed from the green box support provided in the US, the cost of production would increase by 11% and 16% respectively. A removal of decoupled payments would increase cost of production by 4.6%.

6.21 Green box subsidies were considered to have no or minimum distortionary effects on production and trade as they were decoupled from production and the subsidies were provided on the basis of area, farm income or even per farm, rather than providing incentives that are linked to market prices of inputs and outputs. OECD (2006) asserts, *“Support policies affect production through a number of channels. Market effects occur when support policies change the incentive prices of agricultural outputs or inputs – the price to which the farmer responds. Risk effects occur in an uncertain world when farmers are risk averse and support policies either reduce revenue variability and/or raise income. Dynamic effects occur when a time dimension is added and include investment decisions and farmers’ expectations concerning future behaviour. These effects can occur simultaneously, are cumulative and can be influenced by eligibility conditions or quantitative constraints attached to the receipt of support.”* (p.2)

6.22 However, while different policy instruments do affect production to different degrees, all agriculture specific support measures investigated have some effect on production. No ostensibly

‘decoupled’ policy measures were in fact completely production neutral: instead, ‘statistically significant’ effects on land allocation, production and investment decisions were identified in all cases. As long as a measure requires that the person receiving subsidies is involved in farming, it will in fact have some effect on production. In contrast, policy effects have less of an impact on production when they give more freedom of choice to the producer – allowing him or her the freedom to choose what to produce, or even whether to produce at all. (ICTSD, 2007, pp. 20-21)

6.23 The above-stated OECD (2006) study further suggests that

1. While payments based on area distort production and trade less than price support does, the extent of the difference between the two effects is relatively poorly understood;
2. Risk-reducing policies also affect farmers by influencing the production decisions. Policies that reduce the variability in farmers’ incomes tend to increase the capacity of the farmers to take risks. Such policies pass on risks to third country farmers.
3. Counter-cyclical policies that provide increased payments when prices fall also have risk related effects on production. It is, however, found that insurance effects (associated with direct reduction in risks) is much larger than the wealth effects (associated with reduction in risk aversion when farmers become wealthier) (pp. 5-8)

6.24 A World Bank study also concluded that decoupling of farm payments is only effective if properly managed. They should be only one-time buyout program to compensate farmers for the transition. If they are not one-time payments, there should be a time limit, harmonization with other support programmes, as well as constraints on input use in order for it to be effective as a transitional adjustment assistance. Unless these aspects are properly addressed, decoupled programs are likely to have the same detrimental effects as other subsidy programs. (Baffes and Gorter, 2005)

6.25 The ICTSD (2007) further emphasizes on the environmental and social distortions. Commenting on the issue of social distortions, it highlights the skewed distribution of supports in favor of the larger farms in US and EU and more importantly in favor of a small number of products. The environmental distortions arise when the green box supports create incentives for the use of more intensive and environmentally harmful agricultural techniques that contribute to pollution of land and water (pp. 11-12).

6.26 A document released recently by the International Food and Agricultural Trade Policy Council⁸ notes that

1. The Cairns Group argued shifting of structural aids, safety net programmes and certain direct payments to the amber box, thus limiting green box to public good payments. Canada calls for a cap on green box expenses.
2. Both the US and EU are not convinced with such an argument.
3. EU rather has been arguing for an expanded green box to accommodate domestic support and promote animal welfare, environmental and rural support programmes that are yet to be brought under green box.
4. There are also arguments to make green box development friendly as they are the least capable to allocate resources for activities clubbed under the provisions of green box.
5. Expenditures towards certain developing country policy instruments (like land reforms, subsidy element in public distribution purchases) that are designed to expand production and which are not markedly trade distorting should be included in the green box.

6.27 Given the uncertainties with the future of the Doha process, the issues may not be accorded much prominence during the forthcoming negotiations, even though 2004 framework for discussion called for a process to “review and clarify” the existing criteria. Little discussions have been held so far on this issue. However, on a longer term perspective constructive discussions across the stakeholders and thorough home works are necessary to identify the strengths and weaknesses of the existing provisions from the perspective of India’s interest and be ready with the strategies that may be utilized during the next round of negotiations. The following section analyses empirical realities vis-à-vis green box in both the developed and developing countries.

Section 5: Green Box Realities: Empirics from Developed Nations

The recent Farm Bill Proposal prepared by the US administration for the period from 2008-2017 indicates an increase of support to the US agricultural sector under “Green Box” which is considered to non or minimal-trade distortionary. A detail of the proposal is given in Appendix 6.13 and discussed in the next section. US in not, however, the only country to have initiated such a move. Others such as EU and Japan are not lagging behind. We may quote some recent studies that provide information about the extent of green-box subsidies provided by some developed and

⁸ see http://www.agritrade.org/Publications/PolicyFocus/Green_Box.pdf for a brief version, or http://www.agritrade.org/Publications/DiscussionPapers/Green_Box.pdf for a longer version as on 14th May, 2007

developing countries. Antón (2007) has provided some very interesting insights into: (1) the temporal shift of subsidies across boxes – green, blue and amber in the EU, USA and Japan (Table 6.3 – 6.5), (2) share of these three [EU, USA and Japan] in the total global notified support (Table 6.6 - 6.7); and (3) the temporal change in the components of green box support provided to agriculture in EU, USA and Japan (Appendices 6.8 – 6.10); and (4) share of these three [EU, USA and Japan] in the global green box support (Appendices 6.11 – 6.12).

6.29 The figures in Tables 6.3 – 6.5 reveal a considerable shift of subsidies to green boxes from other ones, even though the trend in overall domestic support is found to have declined or at the most remained stable in these countries. Simultaneously there is observed an increase in the share of these three countries / group in the total global notified share in agricultural support from 86% in 1991 to 91% in 2001. The detailed break up of the subsidies given under different heads out of the green box (Appendices 6.8 – 6.12) reveals the variations in priorities prevailing in EU, US and Japan.

6.30 Some of the salient features observed in the temporal changes in EU domestic support (Table 6.3) are:

- The EU has reduced considerably reduced its total WTO notified support since 1995.
- The support under amber box reduced drastically – from 88% of total support during 1986-88 to 39% in 2003. This reduction involves a simultaneous reduction in total support and shift of support towards other boxes. First, 1995 notifications led to a clear shift from amber to blue box. Second, from 2000 onwards, a new progressive shift from amber to blue is noted. With the 2003 reforms of the Common Agricultural Policy there is an expected shift from blue to green.

Table 6.3: EU15 Domestic Support: Percentage of each Box in Total EU Notification

	1986/88	1995	1996	1997	1998	1999	2000	2001	2002	2003
AMS ceiling (1000mn. €)	81.0	78.7	76.4	74.1	71.8	69.5	67.2	67.2	67.2	67.2
AMS amber (%)	88	55	53	56	54	54	49	46	38	39
Total de minimis (%)	0	1	1	1	0	0	1	1	3	2
Blue box (%)	0	23	23	23	24	23	25	28	33	31
Green box (%)	11	21	23	20	22	23	25	24	27	28
Total notified (1000mn. €)	83.6	90.5	95.4	89.3	86.7	87.9	88.5	84.7	75.6	79.7

Source: Antón (2007) p.9

6.31 The stylized facts underlying the temporal changes in domestic support in US (Table 6.4) are:

- The US domestic support rather increased between 1995 and 2001
- Most of domestic support since 1995 has been notified under green box.

- The 1995 notification resulted in a lowering of the share in amber box, with a consequent increase in that of green box and a further shift of some blue box support to green box with the 1996 notification. Since 1998 the total domestic support increased.

Table 6.4: US Domestic Support: Percentage of each Box in Total US Notification

	1986/88	1995	1996	1997	1998	1999	2000	2001	2002	2003
AMS ceiling (1000mn. \$)	23.9	23.1	22.3	21.5	20.7	19.9	19.1	19.1	NA	NA
AMS amber (%)	40	10	10	11	16	23	23	20	NA	NA
Total de minimis (%)	2	3	2	1	7	10	10	10	NA	NA
Blue box (%)	16	12	0	0	0	0	0	0	NA	NA
Green box (%)	41	76	88	88	77	67	67	70	NA	NA
Total notified (1000mn. \$)	59.0	60.9	58.9	58.3	65.0	74.0	74.2	72.1	NA	NA

Source: Antón (2007) p.12

6.32 The important features arising out of the temporal changes in Japan (Table 6.5) are:

- Japan has reduced the total level of notified domestic support.
- The reduction in amber box support has been accompanied by a considerable increase in the share of green box support and interestingly, though marginal, by an increase in blue box support.

Table 6.5: Japan Domestic Support: Percentage of each Box in Total Japan Notification

	1986/88	1995	1996	1997	1998	1999	2000	2001	2002	2003
AMS ceiling (1000mn. Yen)	4966	4801	4635	4470	4304	4138	3973	3973	3973	3973
AMS amber (%)	69	52	54	54	20	21	21	20	23	23
Total de minimis (%)	1	1	1	1	2	1	1	1	1	1
Blue box (%)	0	0	0	0	1	3	3	3	3	2
Green box (%)	31	47	46	45	77	75	76	76	73	74
Total notified (1000mn. Yen)	7220	6713	6185	5859	3894	3559	3428	3337	3135	2831

Source: Antón (2007) p.14

6.33 A comparative analysis of domestic support provided in EU, US and Japan vis-à-vis the domestic support provided globally (Tables 6.6 – 6.7) reveals:

- These three countries together have notified 87% of all WTO domestic support between 1995 and 2001.
- They represent 89% of amber box, 96% of blue box and 85% of green box notifications.
- The share of these three in the total notified support increased from 86% in 1995 to 91% in 2001.
- EU has the largest share in amber box and blue box support.
- However, total global domestic support has been reduced from \$292bn to \$193bn between 1995 and 2001.

Table 6.6: Percentage Share of the Trio (EU+US+Japan) in Total Notified Support

	1995	1996	1997	1998	1999	2000	2001	Average of 1995-2001			
								TRIO	EU	US	Japan
AMS amber	90	91	91	87	88	86	89	89	58	12	19
Total de minimis	57	74	62	72	77	72	86	71	7	64	3
Blue box	97	96	96	96	96	96	96	96	91	4	2
Green box	81	85	80	84	86	86	91	85	19	44	21
Total	86	88	86	86	87	86	91	87	41	28	18

Source: Antón (2007) p.16

Table 6.7: Percentage Share of Each Box in Global Notified Support

	1995	1996	1997	1998	1999	2000	2001	Mean 1995-2001
AMS amber	42	42	40	35	37	34	32	38
de minimis	1	1	1	3	4	5	5	3
Blue box	12	11	10	11	10	10	12	11
Green box	44	47	49	50	49	50	51	49
Total (1000 million \$)	291	267	240	223	226	215	193	236

Source: Antón (2007) p.16

6.34 An increasing share in global notified domestic support from 44% 1995 to 51% in 2001 represents the growing importance of green box. However, as Appendices 6.8 – 6.10 reveal, the priorities in the three countries or group of countries are not identical, as pointed out below:

- Most of EU notified green box support is used under environmental/regional program, general services and structural adjustment.
- US green box support is highly concentrated in domestic food aid (65-80%). The other components are general support and decoupled income support. A detailed breakup of the green box support can be found in Appendix 6.13.
- Japan's green box support is mostly used to provide general services. Other sub-boxes receive less than 10% of the total green box expenditure.

6.35 In consideration of the global green box spending, it may be concluded that

- Green box expenses represent more than half of the total global domestic support today (51% in 2001, Table 6.7).
- EU, US and Japan together spend about 90% the global green box support (91% in 2001, Table 6.6).
- Globally, the largest share of green box support goes in favour of general services and domestic support (39% on an average between 1995 and 2001 on general services and another 31% on domestic food aid, Appendix 6.11). While the share of the troika – US, EU and Japan – in global green box expenditure vis-à-vis general services was a

staggering 77% on an average between 1995-2001, that in domestic food aid is observed to be even higher at 98%, with the US chipping in with 96% of the global green box expenditure (Appendix 6.12)

- The total global expenses in green box support has, however, been declining steadily, from 132 Billion US\$ in 1995 to 99 Billion US\$ in 2001 (Appendix 6.11).

Section 6: Green Box Support: Apparent American Strategy

6.36 In this section we have a closer look at the nature of green box support provided by the US. The US farm bill proposal provides an estimate of the domestic support to agriculture that is to be put under the green box. The proposal envisages an increase of US\$4.95 billion dollars in green box support, against a pledge to Doha negotiation of reducing AMS to the tune of US\$7.64 billion. Thus the effective reduction in domestic support works out to be less than US\$ 2.7 billion. Appendix 6.13 reveals that while there is a proposed reduction in support under the flowing broad heads during 2008-17 - Commodities and Miscellaneous items like crop insurance etc., whereas those under the other heads have been proposed to be increased considerably.

Section 7: Green Box Realities: Empirics from Developing Nations

6.37 Against the backdrop of the green box expenses in the group of developed countries, it will be interesting to have a look at the pattern of green box support provided by some representative developing countries, including India. Table 6.8 provides the percentage share of green box subsidies under different heads.

6.38 We would like to identify the main features of the green box subsidies provided by the countries mentioned in Table 6.8:

- Excepting India, developing countries channel a larger chunk of their green box support to general services. While Brazil spends the entire volume of green box subsidies on general services, the share is quite high in case of Argentina, South Korea and China as well. For a change, India's share in general services is pegged at a lowly 9%.
- India, on the other hand, spends most of its green box subsidy on maintaining public food stock for food security purposes. China allocates around 25% for such purposes, while Brazil and Argentina spend nothing under this head. South Korea spends a little more than 2%.

- Unlike the developed countries, none of these countries spend anything on decoupled income support, income insurance and safety net programmes and different structural adjustment programs.

6.39 What may be an effective response to these findings from a developing country perspective? Hart and Beghin (2004) favours a tightening of the rules for items exempt under green box, such as expenditure limits patterned after the de minimis rules and stricter guidelines on the definition of base periods and production for decoupled income support. Blandford (2005) suggested a formal WTO review process to ascertain their conformity with the minimally distorting requirement, with the responsibility on the proponent country to demonstrate that the new programs are minimally distorting. In case they are found to have distortionary effect on trade, they should be transferred to amber box. From a developing country perspective, it has been argued that

- Developed countries are to be prevented from shifting their amber box subsidies to green box and
- The gap between the expenditure on green box incurred by the developed and developing countries is required to be narrowed.

6.40 Five strategic options have been suggested to achieve the objectives stated above. They are:

- Setting up of a universal green box quota for each member;
- Capping the growth rate of green box support, with the developing countries being allowed a higher rate of growth;
- Developing country expenditure on subsistence security being categorized as green box subsidies to help farmers affected by trade liberalization;
- Expenditure on agriculture aimed at maintaining food output at certain safety level, and not for gaining a competitive edge in global market, being added to green box; and
- Allowing setting up of special fund to compensate victims of trade liberalization. (Peng, 2007, pp. 17-20)

6.41 However, given the naturally low capacity of the developing countries to set aside adequate resources for green box subsidies, options that ambitiously focus unilaterally on increasing the size of green box subsidies offered in such countries may not be effective in narrowing down the existing north-south gap in green box support. The efforts should be more on introducing stringent measures that effectively reduce the capacity of the developed countries to increase their green box support in an uncontrolled fashion.

Section 8: Conclusion

6.42 We devote this final section to formulate a strategy that identifies the future steps that India may like to make keeping her short and long-term interest in focus. The strategies however, have to be double-pronged. Not only we got to protect the national interest, but also it is imperative that the interests of the individual provinces or farming communities are not sacrificed to glorify our commitments to global welfare. Keeping in mind the findings of the literature on the distribution of gains of liberalization across the developed and developing nations, some such tentative strategies from a national perspective are:

- Not to succumb to any external pressure to unilaterally liberalize the farm sector.
- Encourage and strengthen food-processing industries – specially those based on the animal husbandry sector – as they appear to provide the greatest leverage from international trade, once and if the trading arena gets free of all distortions.
- Either initiate technological and institutional development to ensure increased efficiency in production of fruits & vegetables, oilseed products, cotton, pork & poultry products and wool that experience a low self-sufficiency index or develop a time-bound road map to phase out their production if we are to keep complete faith on the effectiveness of “gains from free trade”. Under the second option, a well thought out effective plan to provide alternative livelihood opportunities to those who are likely to be affected has to be prepared.
- Unilateral liberalization of the non-agricultural sector may prove beneficial to a vast majority of population engaged in the agricultural sector and reduce the incidence of rural poverty.

6.43 In keeping with the need to protect the interests of the federal constituents of the country, enough space has to be created to ensure a truly participatory dialogue among the states in a federal spirit such that the position of India in the WTO platform is backed by a national consensus. Any WTO related stand by the country has to be mandatorily discussed and debated in the National Development Council. The recent demand by some political parties in the wake of the proposed Indo-US nuclear treaty that all multilateral and bilateral treaties should be ratified by the Parliament before they are signed by India should equally apply to the negotiated WTO settlements as well.

6.44 Indian Planning Commission came out with its strategies for a sustained growth of Indian agricultural sector in May, 2007. The document identifies a number of issues that may hinder the targeted growth in farming activities in the country pegged at an ambitious 4% per annum during

the XIth Five Year Plan period (2007-2012) and agreed that the reversal of the deceleration in the agricultural sector observed since the mid-nineties is a necessary condition to ensure a double-digit annual growth of the Indian economy during the tenure of the plan. The major concerns are:

- Deceleration in agricultural growth: annual growth of agricultural GDP slipped from 3.62% during 1984-85 and 1995-96 to 2% between 1995-96 and 2004-05, with the largest slump recorded in regions that are predominantly rainfed.
- A rapid decline in the production of foodgrains: Production during 10th Plan was less than that achieved during the 9th Plan. Average per capita annual production of cereals declined from 192 Kgs in 1991-95 to 174 Kgs in 2004-07. the same for pulses dropped from 15 to 12 Kgs. In a sense, per capita foodgrains production has now clawed back to the level of 1970s, raising a serious concern about our food security.
- Slowing down of the horticulture sector, the key driver for value addition in agricultural sector: There has been a significant slump in annual growth of horticulture from 5.5% during the 1990s to 2.5% during the first half of the present decade.
- Technology fatigue: Technologies developed so far mainly addressed to developing breeding varieties that increase the yield potential of individual crops through intensive use of inputs. Not many efforts have been there to ensure efficient and sustainable use of soil nutrients and water. A significant deceleration of growth in yield potential has been recorded in respect of the new varieties released of major crops.
- A considerable gap between potential and realized yield: Weakening of the extension activities in general has resulted in regional variations in the yield gap of crops.
- Degradation of natural resources: Often the acceleration of agricultural growth in the earlier decades have been at the cost of rapid degradation of natural resources like – over utilization of ground water, rapid deforestation, loss of soil nutrients
- Emphasis on subsidies at the cost of higher investments in agriculture: The skewed preference for subsidies that often crowded out resources that could have been invested for a long term growth of the agricultural sector is also a matter of concern for the future of India's agriculture.
- Unfavourable terms of trade and price volatility: the terms of trade started turning unfavourable to agriculture since 1999. To add to this woes, volatility in prices of agricultural products also started increasing.

6.45 In view of these concerns, some further introspection is necessary with regard to the composition of green box subsidies being maintained in India. Given the high extent of inefficiencies in our public distribution system (Planning Commission, 2007), it is high time, we

learn a lesson or two from the other prominent developing countries mentioned in the earlier section and initiate a shift in priorities in favor of increased subsidies under general services-infrastructure and extension services, in particular. The strategy paper, however, argues in favor of a shift from subsidies to public investments in agriculture. Let there be a critical debate on this issue.

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Appendix 6.1
Overview of Scenarios

Instrument	Rich Agriculture		Global (All countries and merchandise)	
	Doha	Full	Doha	Full
Agr. Tariff Risk	-45% , - 70% -75% ^c	-100%	-45% , -70% -75%	-100%
Agr. Tariff Poor (Non-LDC ^a)	n.a.	n.a.	-35%, -40%, -50%, -60% ^d	-100%
Agr. Export Subsidies	-100%	-100%	-100%	-100%
Amber Box Subsidies ^b	-75% Group 1 -60% Group 2	-100%	-75% Group 1 -60% Group 2	-100%
Non-Agr. Tariffs Rich	n.a.	n.a.	-50%	-100%
Non-Agr. Tariffs Poor ^a (Non-LDC)	n.a.	n.a.	-33%	-100%
Given Box Subsidies	n.a.	n.a.	n.a.	n.a.

Notes:

a: Least developed countries are not required to make any tariff reductions under Doha scenarios.

b: Group 1 countries have amber box subsidies accounting for more than 20% of producer revenue. Group 2 countries have support less than 20% of producer revenue. A third group exists for developing countries where 40% reductions are required, but adequate data on amber box subsidies is unavailable to model this.

c: These three percentage cuts are applied in a tiered formula whereby higher portions of the tariff are more deeply cut. Tiers are defined over the tariff rate and the reductions increase at 15% and then 90%.

d: These four percentage cuts are applied in a tiered formula whereby higher portions of the tariff are more deeply cut. Tiers are defined over the tariff rate and the reductions increase at 20%, 60% and 120%.

Source: Quoted from Hertel et al (2006) p:36

Appendix 6.2

Percentage Change in Poverty Head Count across Selected Developing Countries when Rich Countries undertake Full Agricultural Reform (\$1/day poverty)

Country	Agr.	N-Agr.	Urb. Lab.	Rur. Lab.	Trans.	Urb. Div.	Rur. Div.
Bangladesh	-1.27	0.78	0.09	0.05	0.18	-0.05	0.02
Brazil	-10.45	2.21	-0.57	-0.79	0.23	-7.10	-4.81
Chile	-12.53	2.24	-0.22	-0.14	1.78	-4.65	-4.25
Colombia	-3.37	1.04	1.04	1.03	1.06	-7.10	0.01
Indonesia	-2.86	1.62	0.45	0.46	0.66	-4.65	-0.80
Malawi	-0.67	-0.22	-2.10	-1.88	-0.57	0.13	-0.92
Mexico	-7.83	2.35	0.77	0.37	2.57	-0.56	-0.52
Mozambique	-0.15	0.62	0.25	0.20	0.22	-1.20	0.00
Peru	-10.83	2.14	-2.53	-1.82	0.32	-0.29	-1.32
Philippines	-3.52	1.68	0.22	0.15	0.97	0.21	-0.54
Thailand	-22.04	4.35	-6.68	-5.49	3.43	-1.61	-7.90
Uganda	0.05	0.07	0.34	0.06	0.00	-0.55	0.04
Venezuela	-0.61	0.45	0.54	0.46	0.00	-7.69	0.31
Vietnam	-0.99	0.78	0.13	1.87	0.26	0.06	0.36
Zambia	0.01	0.26	0.40	0.12	0.09	0.37	0.06

Notes: Column headings are specializations for each household: Agr. = agricultural, N-Agr. = non-agricultural, Urb. Lab. = urban labour, Rur. Lab. = rural labour, Trans. = Transfer, Urb. Div. = urban diversified, Rur. Div. = rural diversified.

Source: Quoted from Hertel et al (2006) p.41

Appendix 6.3
Import-weighted Average Applied Import Tariff on Goods, by Sector and region, 2001 (percent of c.i.f. import value)

	Primary agriculture	Processed food	Agri. and processed food	Non-ag. Primary	Other manufacturing
High-Income countries	20.2	13.0	16.0	0.5	2.1
Australia & New Zealand	1.2	8.1	5.7	3.9	5.7
United States	2.3	2.6	2.6	0.0	1.9
Canada	1.2	14.4	9.1	0.0	0.9
Mexico	10.8	12.2	11.5	4.7	4.5
European Union (EU15)	12.4	13.2	12.6	0.1	1.8
EU's 10 new entrants	9.7	18.7	15.1	0.4	3.1
European Free Trade Area	29.6	31.3	30.7	0.1	1.9
Japan	47.7	21.8	30.2	0.1	1.7
Korea & Taiwan	87.9	23.0	55.8	3.5	4.1
Hong Kong & Singapore	0.0	0.2	0.1	0.0	0.0
Developing Countries	17.0	19.3	18.1	2.5	10.0
Middle-Income countries	17.0	15.6	16.7	1.1	0.7
Low-Income countries	14.0	27.3	21.5	0.0	10.0
E. Europe & Central Asia	13.4	15.9	14.9	0.3	5.7
Russia	14.5	12.8	13.5	0.8	9.2
Other E. Europe & C. Asia	12.5	19.1	16.1	0.3	4.1
East Asia & Pacific	31.4	20.2	26.1	0.8	9.8
China	49.0	18.6	37.6	0.4	12.7
Indonesia	4.3	6.3	5.0	0.4	4.9
Philippines	14.1	6.6	9.5	3.0	2.3
Vietnam	12.6	44.4	36.6	3.8	14.5
Other East Asia & Pacific	17.9	26.1	22.6	0.6	6.9
South Asia	18.0	54.7	33.9	14.5	22.7
Bangladesh	7.5	21.1	12.6	20.0	19.8
India	25.6	76.6	50.2	15.0	27.3
Other South Asia	14.6	32.4	21.5	10.4	12.8
Middle East & North Africa	9.5	18.0	13.6	3.5	9.3
Morocco	26.5	35.5	29.3	9.0	22.0
Other M. East & N. Africa	5.3	17.4	12.8	2.5	5.7
Sub-Saharan Africa	15.3	20.5	18.5	2.0	12.0
South Africa	6.1	10.9	8.9	0.0	7.0
Other Sub-Saharan Africa	17.1	22.3	20.1	3.8	14.2
Latin America & Caribbean	7.1	11.1	9.5	2.0	9.7
Argentina	5.4	7.6	6.9	0.4	10.5
Brazil	2.4	9.0	5.0	0.4	10.9
Other Latin America & Carib.	9.0	11.7	10.7	3.5	9.1
WORLD	18.5	15.0	16.8	0.9	4.2

Quoted from Anderson & Valenzuela (2006) p.A1

Appendix 6.4

Export-weighted Average Applied Export Subsidies/Taxes on Goods, by Sector and Region, 2001 (percent of fob export value, negatives are export taxes)

	Primary agriculture	Processed food	Agri. and processed food	Non-ag. Primary	Other manufacturing
High-Income countries	1.0	3.0	2.3	0.0	0.0
Australia & New Zealand	0.0	0.0	0.0	-0.5	-1.1
United States	0.0	0.2	0.1	0.0	0.0
Canada	0.0	0.0	0.0	0.0	0.0
Mexico	0.0	0.0	0.0	0.0	0.0
European Union (EU15)	6.2	8.1	7.7	0.0	0.0
EU's 10 new entrants	0.2	0.8	0.6	0.0	0.0
European Free Trade Area	4.1	3.9	3.9	0.0	0.0
Japan	0.0	0.0	0.0	0.0	0.0
Korea & Taiwan	1.8	0.0	0.4	0.0	-0.1
Hong Kong & Singapore	0.0	0.0	0.0	0.0	-0.2
Developing Countries	0.0	0.0	0.0	-1.8	-1.0
Middle-Income countries	0.1	0.0	0.0	-2.2	-1.2
Low-Income countries	0.0	0.0	0.0	-0.2	-0.8
E. Europe & Central Asia	0.0	0.0	0.0	-5.7	-1.4
Russia	0.0	0.0	0.0	-7.6	-3.2
Other E. Europe & C. Asia	0.0	0.0	0.0	-0.1	-0.1
East Asia & Pacific	0.0	0.0	0.0	-0.1	-1.1
China	0.0	0.0	0.0	0.0	-1.6
Indonesia	0.0	0.0	0.0	0.0	-0.9
Philippines	0.0	0.0	0.0	0.1	-0.2
Vietnam	0.0	0.0	0.0	-1.2	-5.3
Other East Asia & Pacific	0.0	0.0	0.0	-1.0	-0.3
South Asia	0.0	0.0	0.0	-0.3	-2.1
Bangladesh	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	-1.6
Other South Asia	0.0	0.0	0.0	-2.1	-4.4
Middle East & North Africa	0.4	0.0	0.2	-1.8	-0.8
Morocco	0.0	0.0	0.0	-2.8	-2.6
Other M. East & N. Africa	0.5	0.0	0.3	-1.8	-0.6
Sub-Saharan Africa	0.0	0.0	0.0	0.0	0.2
South Africa	0.0	0.0	0.0	0.5	0.5
Other Sub-Saharan Africa	0.0	0.0	0.0	-0.2	-0.2
Latin America & Caribbean	0.0	0.0	0.0	-0.3	0.1
Argentina	0.0	0.0	0.0	-0.7	-0.5
Brazil	0.0	0.0	0.0	-0.4	-0.4
Other Latin America & Carib.	0.0	0.0	0.0	-0.3	0.7

Quoted from Anderson & Valenzuela (2006) p.A2

Appendix 6.5

Production-weighted Average Applied Domestic Producer Subsidies on Goods, by Sector and Region, 2001 (percent of trade-distorted value of production)

	Primary agriculture	Processed food	Agri. and processed food	Non-ag. Primary ^a	Other manufacturing
High-Income countries	11.1	0.0	3.1	0.0	0.1
Australia & New Zealand	2.3	0.0	1.0	0.0	0.0
United States	13.6	0.0	3.3	0.0	0.0
Canada	9.7	0.0	3.0	0.0	0.0
Mexico	7.8	0.0	2.2	0.0	0.0
European Union (EU15)	15.9	0.0	4.1	0.0	0.4
EU's 10 new entrants	4.8	0.0	1.5	0.0	0.0
European Free Trade Area	34.1	0.7	7.0	0.0	0.1
Japan	3.4	0.0	1.0	0.0	0.0
Korea & Taiwan	2.0	0.0	0.9	0.0	0.0
Hong Kong & Singapore	0.0	0.0	0.0	2.9	0.0
Developing Countries	0.6	0.0	0.4	0.0	0.0
Middle-Income countries	0.1	0.0	0.1	0.0	0.0
Low-Income countries	1.4	0.0	1.0	0.0	0.1
E. Europe & Central Asia	0.1	0.0	0.1	0.0	0.0
Russia	0.0	0.0	0.0	0.0	0.0
Other E. Europe & C. Asia	0.2	0.0	0.1	0.0	0.0
East Asia & Pacific	0.0	0.0	0.0	0.0	0.0
China	0.0	0.0	0.0	0.0	0.0
Indonesia	0.0	0.0	0.0	0.0	0.0
Philippines	0.0	0.0	0.0	0.0	0.0
Vietnam	0.0	0.0	0.0	0.0	0.0
Other East Asia & Pacific	0.0	0.0	0.0	0.0	0.0
South Asia	2.5	0.0	2.2	0.0	0.2
Bangladesh	0.0	0.0	0.0	0.0	1.7
India	3.4	0.0	2.9	0.0	0.0
Other South Asia	0.1	0.0	0.1	0.0	0.3
Middle East & North Africa	0.0	0.0	0.0	0.0	0.0
Morocco	0.0	0.0	0.0	0.0	0.0
Other M. East & N. Africa	0.0	0.0	0.0	0.0	0.0
Sub-Saharan Africa	0.0	0.0	0.0	0.0	0.0
South Africa	0.0	0.0	0.0	0.0	0.0
Other Sub-Saharan Africa	0.0	0.0	0.0	0.0	0.0
Latin America & Caribbean	0.2	0.0	0.1	0.2	0.0
Argentina	0.0	0.0	0.0	0.0	0.0
Brazil	0.7	0.0	0.3	0.0	0.0
Other Latin America & Carib.	0.0	0.0	0.0	0.3	0.0

Notes:

a: Forestry, fishing, coal, oil, gas and minerals

b: Intra-EU trade is ignored in EU and World trade in calculating trade weights.

Quoted from Anderson & Valenzuela (2006) p.A3

Appendix 6.6
Changes in Sectoral Value Added from Own, Other Countries' and Global Full Trade
Liberalization of All goods and Services (percent)

	Own Unilateral Liberalization	Other Developing countries' Liberalization	High-income Countries' Liberalization	Total liberalization
Brazil				
Primary Agriculture	1.6	1.9	38.9	42.5
Processed Food	0.5	-0.5	22.8	22.9
Non-agric Primary	3.5	0.9	-9.7	-5.4
Other Manufacturing	-2.3	-0.4	-2.4	-5.1
Argentina				
Primary Agriculture	1.2	3.4	14.6	19.2
Processed Food	0.5	0.7	4.5	5.7
Non-agric Primary	1.8	2.0	-2.0	1.8
Other Manufacturing	-1.7	-0.4	0.9	-1.2
China				
Primary Agriculture	-2.2	1.4	11.9	11.0
Processed Food	1.7	1.0	1.7	4.5
Non-agric Primary	1.8	-0.6	0.6	1.7
Other Manufacturing	2.0	1.1	1.6	4.7
India				
Primary Agriculture	-4.1	-0.5	3.8	-0.7
Processed Food	-7.3	1.2	13.4	7.3
Non-agric Primary	-7.6	0.0	1.8	-5.8
Other Manufacturing	0.9	-0.7	0.1	0.3
Bangladesh				
Primary Agriculture	-2.7	-1.4	2.6	-1.5
Processed Food	-5.5	0.3	-0.7	-5.9
Non-agric Primary	-5.7	-1.3	-0.4	-7.4
Other Manufacturing	8.3	-2.2	1.1	7.2

Source: Quoted from Anderson & Valenzuela (2006), p.A5

Appendix 6.7
Changes in Agricultural Value Added from Own, Other Countries' and Global Full Trade Liberalization of Agricultural and Non-Agricultural Products (percent)

	Agricultural Liberalization			Non-agricultural Liberalization			Total Liberalization		
	Own	Other developing countries	High-Income countries	Own	Other developing countries	High-Income countries	Own	Other countries	All countries ^a
Brazil	-0.8	2.5	30.1	2.2	-0.8	-0.2	1.8	14.9	12.5 (-0.8)
Argentina	-0.2	4.0	14.3	1.4	-0.8	0.3	1.2	13.0	19.2 (0.7)
China	-2.0	0.2	8.8	-0.2	1.2	3.1	-2.2	13.2	11.0 (4.3)
Indonesia	-2.1	2.2	2.3	-0.3	-0.3	-0.8	-2.4	4.9	2.5 (4.1)
Sub Saharan Africa excl. S.A.	-1.7	0.1	4.8	2.3	-0.5	0.4	-2.4	4.8	2.4 (2.9)
India	-5.2	0.2	2.8	1.1	-0.8	1.3	-4.1	3.5	-0.7 (-0.4)
Bangladesh	-4.7	0.0	1.7	2.0	-1.3	1.0	-2.7	1.2	-1.5 (1.5)
<u>If zero national agri. & food tariffs in the following countries, effects there are as follows:</u>									
Argentina	34.4	4.3	16.0	0.3	-0.6	0.3	34.7	20.0	54.7 (8.9)
Sub Saharan Africa excl. S.A.	0.0	-0.2	4.5	2.2	-0.5	0.4	2.2	4.3	6.5 (3.7)
India	0.0	-0.3	2.7	1.2	-0.8	1.3	1.2	2.9	4.1 (-0.2)
Bangladesh	0.0	0.0	1.7	2.1	-1.4	1.0	2.1	1.2	33 (1.2)

a: Numbers in parentheses show percentage changes in non-agricultural value-added as a consequence of full global trade reform

Source: Quoted from Anderson & Valenzuela (2006), p.A6.

Appendix 6.8
Share of Green Box Expenditure under Different Heads in EU

	1995	1996	1997	1998	1999	2000	2001	2002	2003
General service	27	29	30	26	34	22	27	26	23
Public stockholding for food security purposes	0	0	0	0	0	0	0	0	0
Domestic food aid	2	2	2	1	1	1	1	1	1
Decoupled income support	1	1	1	1	5	2	1	0	0
Income insurance and income safety-net programmes	0	0	0	0	0	0	0	0	0
Payments for relief for natural disasters	2	2	2	1	2	2	2	4	3
Structural adjustment assistance provided through producer retirement	1	4	3	4	4	3	4	4	4
Structural adjustment assistance provided through resource retirement	5	7	2	2	1	2	0	1	1
Structural adjustment assistance provided through investment aid	35	22	27	28	12	27	26	26	31
Environmental programmes	15	19	20	26	27	28	27	25	24
Regional assistance programmes	12	14	13	11	15	15	12	14	14
Other	0	0	0	0	0	0	0	0	0
Total (billion €)	18.78	22.13	18.17	19.17	19.93	21.84	20.66	20.40	22.07

Source: Antón (2007) p.18

Appendix 6.9
Share of Green Box Expenditure under Different Heads in USA

	1986-88	1995	1996	1997	1998	1999	2000	2001
General service	18	14	13	13	14	15	17	18
Public stockholding for food security purposes	0	0	0	0	0	0	0	0
Domestic food aid	73	81	73	70	67	66	65	67
Decoupled income support	0	0	10	12	11	11	10	8
Income insurance and income safety-net programmes	0	0	0	0	0	0	0	0
Payments for relief for natural disasters	5	0	0	0	3	3	4	3
Structural adjustment assistance provided through producer retirement programmes	0	0	0	0	0	0	0	0
Structural adjustment assistance provided through resource retirement programmes	2	4	3	3	3	3	3	3
Structural adjustment assistance provided through investment aid	1	0	0	0	0	0	0	0
Environmental Programmes	1	1	1	1	1	1	1	1
Regional assistance programmes	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0
Total (billion \$)	26.18	46.04	51.83	51.25	49.91	49.77	50.06	50.67

Source: Antón (2007) p.21

Appendix 6.10
Share of Green Box Expenditure under Different Heads in Japan

	1995	1996	1997	1998	1999	2000	2001	2002	2003
General service	85	82	82	86	86	83	82	77	77
Public stockholding for food security purposes	2	2	3	2	2	2	2	2	2
Domestic food aid	1	1	1	0	0	0	0	0	0
Decoupled income support	0	0	0	0	0	0	0	0	0
Income insurance and income safety-net programmes	0	0	0	0	0	0	0	0	0
Payments for relief for natural disasters	2	2	2	2	2	2	2	2	2
Structural adjustment assistance provided through producer retirement	4	3	3	3	3	3	4	7	8
Structural adjustment assistance provided through resource retirement	0	0	0	0	0	0	0	0	0
Structural adjustment assistance provided through investment aid	4	4	3	3	2	2	2	1	1
Environmental programmes	3	5	5	4	5	6	7	9	9
Regional assistance programmes	0	0	0	0	0	1	1	1	1
Other	0	0	0	0	0	0	0	0	0
Total (Billion Yen)	3100	2818	2652	3002	2686	2595	2547	2275	2086

Source: Antón (2007) p.24

Appendix 6.11
Global Share of Green Box Expenditure under Different Heads (%)

	1995	1996	1997	1998	1999	2000	2001	Average of 1995-2001
General service	43	38	37	39	41	38	36	39
Public stockholding for food security purposes	3	2	2	1	1	1	1	2
Domestic food aid	31	30	33	31	31	31	35	31
Decoupled income support	2	6	7	6	7	6	5	6
Income insurance and income safety-net programmes	0	0	0	0	0	0	0	0.1
Payments for relief for natural disasters	1	1	2	2	3	3	3	2
Structural adjustment assistance provided through producer retirement	1	2	1	1	1	1	2	1
Structural adjustment assistance provided through resource retirement	2	3	2	2	1	2	2	2
Structural adjustment assistance provided through investment aid	9	8	7	8	4	7	6	7
Environmental programmes	4	6	6	7	7	7	7	6
Regional assistance programmes	3	4	3	3	3	3	3	3
Other	0	0	1	1	1		0	0.5
Total (Billion \$)	132	131	113	112	110	109	99	115

Source: Antón (2007) p.26

Appendix 6.12

Share of EU, US and Japan in Global Green Box Expenditure under Different Heads

	1995	1996	1997	1998	1999	2000	2001	Average of 1995-2001			
								EU+US +Japan	EU	US	Japan
General service	74	72	75	76	78	80	88	77	14	17	46
Public stockholding for food security purposes	19	19	20	36	49	62	65	28	1	0	27
Domestic food aid	95	98	99	98	99	98	98	98	1	96	0
Decoupled income support	11	73	84	84	85	78	81	76	6	70	0
Income insurance and income safety-net programmes	0	0	0	0	0	1	26	1	1	0	0
Payments for relief for natural disasters	70	67	55	87	89	88	89	80	15	42	22
Structural adjustment assistance provided through producer retirement	100	100	100	98	99	100	100	100	46	0	53
Structural adjustment assistance provided through resource retirement	99	99	99	100	99	96	100	99	29	69	1
Structural adjustment assistance provided through investment aid	80	72	76	79	69	84	87	78	68	1	9
Environmental programmes	87	87	85	86	91	91	94	89	69	4	16
Regional assistance programmes	72	83	82	78	86	92	79	82	79	0	3
Other	0	0	0	0	0	0	0	0	0	0	0
Total	79	81	83	84	86	87	91	84	19	43	21

Source: Antón (2007) P: 26

Appendix 6.13
Administration's US Farm Bill Proposal (Dollars in Millions)

Titles and proposals	Current services baseline	Administration proposal: change from baseline
	2008-2017	2008-2017
Commodities		
Marketing Assistance Loan Program	8,807	-4,500
Posted Country Price and Loan Repayment Changes	na	-250
Direct Country Price and Loan Repayment Changes	52,491	5,500
Direct Payments for Beginning Farmers	na	250
Revenue-based Counter-cyclical Payment Program	11,245	-3,700
Payment Limits and Eligibility	na	-1,500
Section 1031 Farmland Exchanges	na	-30
Dairy	613	793
Sugar	1,410	-1,107
Special Cotton Competitiveness Program	na	0
Planting Flexibility Limitations	na	0
Retire Crop Bases in Nonagricultural Use	na	0
Conservation Enhanced Payment Option	na	50
Sodsaver	na	0
Continuing WTO Compliance	na	0
Total	74,566	-4,494
Conservation		
Revised Environmental Quality Incentives Program (EQIP), including:	13,640	4,250
Regional Water Enhancement Program	na	1,750
Wildlife Habitat Incentives Program	0	Na
Ground and Surface Water Conservation	600	Na
Agricultural Management Assistance	100	Na
Conservation Innovation Grants	200	1,000
Klamath	0	0
Conservation Security Program	7,977	500
Private Lands Protection Program, including:	970	900
Grassland Reserve Program	0	Na
Farm and Ranch Land Protection Program	970	Na
Healthy Forest Reserve Program	a	Na
Conservation Reserve Program	25,656	0
Wetlands Reserve Program	455	2,125
Conservation Access for Beginning and Limited Resource Farmers	na	0
Market-based Conservation	na	50
Merit-based Funding	a	A
Emergency Landscape Restoration Program	a	A
Total	48,698	7,825
Trade		
Technical Assistance for Specialty Crops	0	68
Market Access Program	2,000	250
SPS Issues Grant Program	na	20
Support Trade Standard Setting	na	15
Technical Assistance for Trade Disputes	a	0
Trade Capacity Strategically Important Regions	na	20
Reform Export Credit Programs	na	0
Facility Guarantee Program	0	16
Repeal EEP and Trade Strategy Report	0	0
Cash Authority for Emergency Food Aid	na	0
Total	2,000	389

Cond...

Nutrition		
Food Stamp Program, including:	436,145	-66
Elderly and Working Poor	na	1,378
Streamlining, Modernization & Program Integrity	na	-1,544
Improving Health Through Nutrition Education	na	100
TEFAP	1,400	0
FDPIR	913	27
Promoting Healthy Diets, including	na	506
School Lunch F&V Purchases	na	500
School Purchase Study	na	6
Senior Farmers Market	150	0
Total	4,38,605	467
Credit		
Farm Credit including:	a	0
Loan Targets for Beginning and Socially Disadvantaged Farmers	a	0
Beginning Farmer and Rancher Down Payment Loans	a	0
Direct Loan Limits	a	0
Total	a	0
Rural Development		
Rural Critical Access Hospitals	a	85
Enhance Rural Infrastructure	a	500
Streamline Rural Development Programs	na	0
Total	a	585
Research		
Reorganize REE	na	0
Bioenergy and Bioproducts Research Initiative	na	500
Specialty Crop Research Initiative	na	1,000
Foreign Animal Disease Research I	na	0
Total	na	1,500
Forestry	na	
Comprehensive Statewide Planning	na	0
Landscape Scale Competitive Grant Program	na	0
Forest Wood to Energy	na	150
Community Forests Working Lands Program	na	0
Total	na	150
Energy		
Biomass Research and Development Act Initiative	0	150
Renewable Energy Systems and Energy Efficiency-Grants	a	500
Renewable Energy Systems and Energy Efficiency-Loans	a	210
CCC Bioenergy Program for Cellulosic Ethanol	na	100
Federabl Biobased Product Procurement Program	0	18

Total	0	978
Miscellaneous		
Crop insurance program, including:	54,641	-2,511
Supplemental Deductible Coverage	na	350
Expected Loss Rate	na	-1,071
Sharing Data Mining Information	na	0
Strengthening Compliance	na	0
Expand Research and Development Authority	na	0
Authorize Renegotiation of Standard Reinsurance Agreement	na	0
Increase Participation While Controlling Costs	na	-1,790
Daily Research and Promotion Program Fairness	na	0
Organic Program Initiatives	na	61
Increase Section 32 Fruit & Vegetable Purchases	na	0
Total	54,641	-2,450
TOTAL, Above Items	618,513	4,950

Notes: Estimated Change from Baseline, Budget Authority, 2008-2017 (Dollars in Millions); na = not applicable (proposal not in baseline or included in other base or proposed programs); a = discretionary account; 0 = no mandatory spending
Source: <http://www.usda.gov/documents/07sumbudgetscore.pdf> as on 14th May, 2007.