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**REPUBLIC OF INDIA**

**AGRICULTURAL TRADE AND POVERTY**

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## REPUBLIC OF INDIA

### AGRICULTURAL TRADE AND POVERTY

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## ACRONYMS USED IN THIS PAPER

AMS	:	Aggregate Measure of Support
AoA	:	Agreement on Agriculture
BIS	:	Bureau of Indian Standards
BPL	:	Below Poverty Line
CACP	:	Commission for Agricultural Costs and Prices
EPC	:	Efficient Protection Coefficient
FAO	:	Food and Agricultural Organisation
FCI	:	Food Corporation of India
FPO	:	Food Product Order
GATT	:	General Agreement on Trade and Tariffs
GDP	:	Gross Domestic Product
GOI	:	Government of India
HACCP	:	Hazard Analysis and Critical Control Points
IPRs	:	Intellectual Property Rights
MMPO	:	Milk and Milk Products Order
MPCE	:	Monthly Per Capital expenditure
MSP	:	Minimum Support Price
NPC	:	Nominal Protection Coefficient
PDS	:	Public Distribution System
PFA	:	Prevention of Food Adulteration
SGRY	:	Sampoorna Gramin Rozgar Yojna
SPS	:	Sanitary and Phytosanitary Measures
SSI	:	Small scale Industry
TFP	:	Total Factor Productivity
TOT	:	Terms of Trade
TPDS	:	Targeted Public distribution System
TRIPS	:	Trade Related Intellectual Property Rights
UNDP	:	United Nations Development Programme
VAT	:	Value Added Tax
WHO	:	World Health Organization
WTO	:	World Trade Organization

## I. India's Policy And The Agriculture Sector

### A Brief Historical overview

- Indian policy in the agriculture sector has been largely driven by considerations of self-sufficiency.
- Post 1991, there has been an increasing focus on liberalization of this sector.
- There has been a decline in average yields in the nineties over the eighties.
- Impressive contribution by small holder farmers (the term is inclusive of marginal and sub marginal holders<sup>1</sup>) is highlighted.
- While there has been decline in public investment, private investments have actually sustained marginally higher levels of growth in agricultural GDP in the 1990s (at 3.5 percent per annum) over that in the 1980s (at only 2.9 percent per annum)
- Productivity has also been constrained because of the food processing industry's inclusion in the list of items reserved for the small-scale industry (SSI) sector.

2. India is mainly an agricultural country, where agriculture accounts for approximately 27 percent of the GDP and harbors two-thirds of its population. Agriculture (including marine products) accounts for 13-15 percent of India's exports. About 43 percent of India's geographical area is used for agricultural activity. Despite substantial increases in grain production, India is still home to half the world's hungry, and classified by the FAO as a 'low income and food deficit' country.

3. Indian policy in the agriculture sector has been largely driven by considerations of self-sufficiency. In the past, India had to import most of its food, but after a bitter experience with P.L.480 aid,<sup>2</sup> the objective of self-sufficiency came to the forefront during mid 1960s. This experience with food aid created the impetus for the Green Revolution. India decided to achieve self-sufficiency in basic food, no matter what the costs. And it did not take much time, given the miracle seed from Mexico, *Lerma Rojo*, India was self-sufficient in food by 1971-72, and has broadly followed that policy since then.

4. In fact, over the years, the basket of goods for which self-sufficiency was sought expanded. After wheat and rice, it was the turn of the White Revolution (milk), and then the Yellow Revolution (edible oils/oilseeds, pulses, maize), sugar and so on. During 1970 to 1990, several special programs (like the Technology Mission on Oilseeds, 1986, which was later expanded to include pulses also) were introduced to achieve self-sufficiency in the production of those commodities. Food security was identified as synonymous with self-sufficiency.

5. Import and export controls, along with domestic support, have been used to ensure that domestic demand is met largely by domestic supplies. This has been ensured with the sector being protected by a combination of tariff and non-tariff barriers, including quantitative restrictions, import licensing, price controls, and marketing restrictions<sup>3</sup>. One impact of these policies over the last few years has been the accumulation of large surplus stocks of food grain. However, these stocks, with problems of storage, transport etc have created higher food subsidy costs. Of late, major changes in Indian agricultural policy have been the removal of quantitative restrictions on imports, and a removal of licensing and distribution restrictions on some products (wheat, rice, grains, sugar, edible oilseeds and edible oils).

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<sup>1</sup> Sub-marginal: less than 0.5ha; marginal: 0.5 to 0.99ha; small: 1 to 1.99 ha

<sup>2</sup> During the 1960s, India was heavily dependent on food aid from the US. It had two consecutive droughts and a real famine threatened. Starvation was prevented only by the arrival of ships from the US with over 14 million tonnes of grain worth more than a billion and a half dollars. At the peak, grain ships were leaving American ports at the rate of one every ten minutes.

<sup>3</sup> See also Trade Policy Review India, WTO, 2002

6. Agricultural inputs in the form of electricity, fertilizers, water are all subsidised such that the Indian farmer pays much less than the cost of production for each of these. In 1994-95 the subsidy on fertilizer, water and electricity accounted for Rs 30,000 crores. (Sen 1997) as compared to the rural development outlay of 21,000 crs. Under pricing is a major cause for wastage of inputs, raising the cost of production and contributing to degradation of land, pollution of water sources and over-exploitation of groundwater. Moreover, expert Committees (Report of the Committee on Irrigation Pricing, GOI, 1992) and Fertilizer Pricing Review have found that the wastage and inefficiency is not only in the under pricing, but the production and distribution of these inputs due to over-capitalization, poor management and over manning. These inputs in effect benefit a small number of farmers (those with pump sets, those absorbing the bulk of fertilisers and credit), thereby diverting resources from investment in social infrastructure (including irrigation) for the vast majority of rural poor who do not have similar access.

7. Since most of the cropped area does not have any assured irrigation, the monsoon assumes a crucial role in influencing agricultural production. India's agriculture exports (excluding tea, coffee, marine products and raw cotton) during 1994-95 was Rs 70,490 million. Important items of agricultural export are rice, cashew nuts, coffee, tea, horticulture and floriculture products etc.

8. Despite its great progress in increasing agricultural production, India's average yield of cereal crops is less than half that of China and the United States. It is a matter of concern that during the nineties the growth rate of production has declined to 1.80 percent per annum from 3.54 percent achieved during the eighties<sup>4</sup>. A recent Study by the FAO on India pushes for a focus on small farmers (the term includes sub-marginal, marginal and small farmers<sup>5</sup>), on the basis of an inverse relationship between farm size and productivity. In 1991 this category constituted 78 percent of all holdings, commanding 33 percent of total net cropped area (sub-marginal farmers constitute 40 percent of holdings), illustrating the large number of smallholders that will be benefited if aided by an increase in productivity.

9. Growth in the agriculture sector has slackened since 1998/99. Agricultural output increased in the 1990s because of higher support prices for output and input subsidies.<sup>6</sup> However, the distortions created by these policies have recently become more evident; subsidies have continued to grow and are considered to be fiscally unsustainable; food stocks have increased because of the high support prices for producers; and misuse of inputs (water and fertilizer), due to distorted price signals, have led to environmental problems (land degradation, water-logging, depletion of groundwater resources, etc.).<sup>7</sup>

10. Agriculture has been characterized not just by low levels of productivity but also by uneven development across regions and crops, and degradation of natural resources in some areas. Capital inadequacy, lack of infrastructural support and demand-side constraints, such as controls on movement, storage, and sale of agricultural products, etc., have continued to impair the economic viability of the sector.<sup>8</sup> Productivity has also been compromised because of the food processing industry's inclusion in the list of items reserved for the small-scale industry (SSI) sector. The need to remove the SSI reservation and other licensing requirements is recognized. For instance, the efficiency of processing both wheat and rice is about 10-30 percent below international levels.<sup>9</sup> Proper implementation of land laws and policies (e.g. the recognition of tenants' rights) is essential in order to restructure the agrarian economy so as to increase productivity. The Government perhaps recognizes

<sup>4</sup> Department of Agriculture and Co-operation.

<sup>5</sup> sub-marginal: less than 0.5ha; marginal: 0.5 to 0.99ha; small: 1 to 1.99 ha

<sup>6</sup> Planning Commission (2001).

<sup>7</sup> Planning Commission (1997), Volume II.

<sup>8</sup> Department of Agriculture and Co-operation (undated ).

<sup>9</sup> Planning Commission (2001). Other food industries reserved for exclusive manufacture in the small-scale sector are: rice and dal milling, pickles and chutneys; bread, biscuits, pastries and confectionery; rapeseed, mustard, sesame and ground-nut oil, and ground and processed spices (List of Items Reserved for Exclusive Manufacture in Small Scale Sector, 31 March 1994).

that higher investment in agriculture and rural infrastructure, instead of the provision of subsidies, is a necessary condition for the sector to grow and for productivity to increase.<sup>10</sup>

11. The National Policy on Agriculture, announced on 28 July 2000, aims to attain growth of over 4 percent per year by 2005, through a combination of measures including structural, institutional, and tax reforms (Box).<sup>11</sup> Trade policy in agriculture is aimed not only at protecting farmers from foreign competition, but also at ensuring "adequate" essential foods at "reasonable" prices.<sup>12</sup> However, according to the Planning Commission, various rules and regulations that govern agricultural trade distort market signals and are frequently contrary to the interest of farmers, hence the need to reconsider them.<sup>13</sup>

#### **National Agriculture Policy, 2000**

The focus of the National Agricultural Policy is on:

- Efficient use of resources and technology, adequate availability of credit to farmers, while protecting them from seasonal and price fluctuations.
- Private sector participation would be promoted through contracts and land leasing arrangements.
- Private sector investment in agriculture would be encouraged, particularly in areas such as agricultural research, human resource development, post harvest management, and marketing.
- In view of dismantling of quantitative restrictions (QRs) on imports, the policy recommends formulation of commodity wise strategies and arrangements to protect farmers from adverse impact of undue price fluctuations in the world market and promote exports.
- The Government would enlarge coverage of futures markets to minimize the wide fluctuations in commodity prices and also hedge risks.
- The restrictions on the movement of agricultural commodities throughout the country would be progressively dismantled.
- The structure of taxes on foodgrains and other commercial crops would be reviewed.
- The excise duties on materials such as farm machinery and implements and fertilizers used as inputs in agricultural production, post harvest storage and processing would be reviewed.
- Rural electrification would be given high priority as a prime requirement for agricultural development.
- The use of new and renewable sources of energy for irrigation and other agricultural purposes would be encouraged.
- Progressive institutionalization of rural and farm credit would be continued to provide timely and adequate credit to farmers.
- The provision of an insurance policy for the farmers, which covers the whole growing season (i.e. from sowing of crops to post-harvest operations) and risks of price fluctuations, will be designed.

*Source: Economic Survey 2000-2001, New Delhi.*

<sup>10</sup> Planning Commission (1997).

<sup>11</sup> Department of Agriculture and Co-operation (undated).

<sup>12</sup> Department of Agriculture and Co-operation (undated).

<sup>13</sup> Planning Commission (2001).

12. With the emerging globalisation of agriculture, food security in terms of self-sufficiency is being increasingly challenged. The issue of domestic cost vis-à-vis the price of imports has become important. Not only this, it also brings to the table the issue of what policies other countries are following, which makes their costs of production and export prices so different<sup>14</sup>.

13. In fact it is pointed out that there is a 'severe anti-agriculture bias that is built into the structure of the Indian economy'<sup>15</sup>. As measured by the Nominal Protection Coefficient (NPC)<sup>16</sup>, between 1971 and 1997 average agricultural incentives were only about *half* the incentives for manufacturing. However, the degree of anti-agricultural bias was considerably greater in the 1970s than in the 1980s and 1990s, and in fact, there was a declining trend in this bias starting in 1981. This was principally due to a steady decline in measured manufacturing protection, with the manufacturing NPC indicator actually turning negative after the July 1991 devaluation. During the years 1991 to 1997, on an average, agricultural incentives were only about *two-thirds* of manufacturing incentives. Anti-agricultural bias in 1997 was still substantial by this measure, although it was considerably lower than it had been in most years during the period.

14. Closely reflecting this relative discrimination against agriculture is the domestic terms of trade (TOT) between agriculture and manufacturing. The TOT is a very important driver of investment, which, in turn powers growth. The allocation of private and public resources to any sector (in this case agriculture) depends not just on its own profitability, but rather on its profitability relative to other sectors in the economy. In India, TOT between agriculture and manufacturing sectors reflects a bias against agriculture, through the period 1980-81 to 1998-99. It has been observed for instance that that in the 80s, agricultural prices fell by 25 percent in relation to the industrial and services sector (World Bank, 1997; Rao, 1994). However, starting in the mid-1980s, but particularly after 1990-91, there is a pronounced, even dramatic, improvement in favour of agriculture. Clearly the reforms have improved TOT for agriculture considerably.

15. Interestingly, these two decades also constitute the period when real public investment in agriculture (public sector Gross Capital Formation in Agriculture), has shown declines, despite intervening periods of temporary increase. Often this trend in public investment has raised alarm bells, since it is an important determinant of growth. However, in this entire debate, the role of other factors, especially the share and response of private sector in agriculture to market incentives, represented by the TOT, is somewhat under-played (Gulati and Bathla, 2001).

16. In this context, it is significant that in the Indian case the improvement in terms of trade, since the 1980s, has spurred on *private sector investment*, despite contrasting decline (or stagnation) in public sector investment. In fact, there is reason to believe that private investments have actually sustained marginally higher levels of growth in agricultural GDP in the 1990s (at 3.5 percent per annum) over that in the 1980s (at only 2.9 percent per annum). An added feature is that these private investments appear to have spearheaded a fundamental shift in the pattern of agricultural production in India so that from a food grain led growth during 1970s and 1980s, towards growth led by horticultural products, livestock products and fishery (Gulati and Bathla, 2001).

17. There could be an important lesson here as far as incentives are concerned. Interests of private investors in cultivation of fruits and vegetables -as indicated by the relationship between private investment and consequent change in structure of production in their favour- is possibly related to

<sup>14</sup> Gulati, Ashok "Trade Liberalisation and Food Security", ICRIER, New Delhi, Dec 2000

<sup>15</sup> Gulati, Ashok and Pursell, Gary, 2000

<sup>16</sup> In order to provide an indicator of the incentives for agriculture in the aggregate relative to aggregate incentives for the other principal tradeable sector, manufacturing, the agriculture NPCs for 1971 -97 have been compared with NPC estimates for aggregate manufacturing using the ratio of agricultural NPCs to manufacturing NPCs (for details on computation see Gulati and Pursell, 2000). If nominal protection to the two sectors – agriculture and non-agriculture were neutral this indicator would be 1. If agriculture was more protected than manufacturing, it would exceed 1, and if agricultural protection was less than manufacturing protection the indicator would be less than 1.

their response to market incentives, manifest in the improved agricultural TOT<sup>17</sup>. On the other hand, deceleration in food grain output growth may be attributed, at least in part, to falling public investments in irrigation projects during 1980s and early 1990s. This possibly acted as a drag on private investment in cultivation of cereals, although surely there must have been other constraints as well.

18. Finally, as will be described further, the small holder farmers have made impressive contributions to Indian agriculture. Results from a FAO Study (2002) highlight the role of small-holders in the Green-Revolution process and in the attainment of national food security. Tables 1.1 in the Appendix provide an indication, showing their contribution to the principal Green Revolution crops. It appears, therefore, to be in the national interest that the small-holder role be further strengthened. Such strengthening could facilitate higher productivity, stability, and sustainability of agricultural production, and hence help address - at both household and at national levels - the emerging issues of equity in nutritional security and in food security.

19. Trade policy is among the most highly contested areas in development policy. On the one hand trade liberalization is viewed as the rapid route to poverty reduction via economic growth, on the other, it is seen as a marginalizing and risky force that may in fact cause more damage for the poor<sup>18</sup>. The timing, sequencing and coverage of trade liberalization all need to be reviewed carefully with a view to its impact on the poor<sup>19</sup>. Whatever the effects of policy reforms, the case for a strengthened public provision of basic goods and services is indisputable. (Dreze and Sen 1995). The issue is not to supplant the market mechanism but to strengthen it. But, while it is evident that under certain conditions public intervention is capable of correcting misallocation, it is “far from obvious whether any specific form is appropriate in a given context” (Ghaia 1993).

*In view of the nuances of this critical debate, and the need for location-specific analyses to understand the impact of policy on the rural poor, this paper will be restricted to providing a macro-overview of the trend and changes that are being brought about with the liberalisation of Indian agriculture economy.*

## **II. The Small Farmer- as CONSUMER affected by Trade**

- With changing consumption patterns, there has been a decline in cereal consumption; this decline has been steeper in rural areas.
- 
- Notwithstanding India’s progress in lessening the incidence of poverty and hunger among the marginal-size- and sub-marginal-size-farm households, these 80 million households (400 million persons) are still net buyers. Between 1970-1990, in almost all years, these households were net buyers of all commodities, including food-grains.
- The effective import protection to agricultural products is now much higher than earlier.
- The current procurement and distribution system is skewed against the poorest.

20. Food security implies not only the availability of basic foods, but also the accessibility to those foods and to basic nutritional elements. For rural India, the FAO Table (**Table 2.1** in the Appendix) lists the energy intake (at 1993-94) from various foods by households having various farm sizes. Cereals comprise the dominant source of dietary energy on all sizes of farms: 75 percent to households on sub-marginal holdings and 64 per cent on the large-farm households. Aggregated over

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<sup>17</sup> Other factors may well include increase in per capita incomes, changing consumption habits of rural and urban population at large, and opportunities for export. Expenditure elasticities are higher for fruits and vegetables in both rural and urban areas (fruits:0.442 & 0.360 and vegetables; 0.385 & 0.253) compared to that for rice (0.064 & 0.016) and wheat (-0.056 & -0.080) as based on various rounds of household consumer expenditure surveys (NSS) (Kumar 1998).

<sup>18</sup> See Maxwell, Simon, “The New ‘New Poverty Agenda’”, ODI

<sup>19</sup>See OXFAM International, 2002

all farms, cereals provided 72 per cent of dietary energy, 68 per cent of protein, and 17 per cent of fats. Milk and pulses together contributed about 20 per cent of protein intake.

21. Diet diversity increased with farm size. **Table 2.2** does indicate that rural hunger and poverty were appreciably less prevalent in 1993 than at 1983. This encouraging feature resulted from various pro-poor and pro-hungry programmes and investments - including investments in human and rural development, and in on-farm and non-farm activities to increase productivity and rural incomes. However, the number of rural poor and hungry - each about 150 million at 1998 - is substantial; moreover, their number represents about three-fifths of India's national total (rural and urban) of poor and hungry. From those 150 million, about 75 million depend on sub-marginal farm holdings (< 0.5 ha), and another 30 million on marginal holdings (0.5 - 1.0 ha). It is therefore appropriate that in national endeavours to eradicate poverty and hunger a priority target population should be the households of the sub-marginal-size farms and of the land-less agricultural labourers.

22. There have also been some significant shifts in **consumption patterns** that are widely recognized in the post green-revolution period<sup>20</sup>. Between 1972/73 and 1993/94 the food basket has become more diversified. The all-India level cereal-consumption has declined from 15.3 kg per capita per month in 1972/73 to 13.4 kg per capita per month in 1993-94 in rural areas. In urban areas, the corresponding decline was more modest: from 11.3 to 10.6 kg. In fact, C H Rao (2000) finds that the decline over this period is steeper in rural areas (12 percent) than in the urban areas (5 percent). He attributes this to the spread of rural roads and the increased availability of manufactured goods in rural areas. Similarly, consumption of milk and meat products has increased. This diversification is discerned not just on average, but among the poorest 25 percent of the population as well.

23. For the year 1993-94 for which comprehensive information on consumption patterns is available, rural people spent 63 percent of their monthly per capita expenditure (MPCE) on food (2 percent on cereals alone), while urban people spent only 55 percent of their MPCE on food (14 percent on cereals). For the people in the lowest income bracket, however, the share of expenditure going to food can go up to as high as 75 per cent in rural areas. These ratios have come down significantly over the last two decades. In 1972-73, for example, an average Indian in rural areas spent 73 percent of MPCE on food (40.6 percent on cereals) compared to an average urbanite that spent 64.5 percent of MPCE on food (23 percent on cereals) (Bansil, 2000). Under such a scenario, the real challenge of attaining food security is the challenge of economic access to food for the large majority of people. Their pursuit of self-sufficiency in food production may not be sufficient, or may even be futile, in their attempt to attain real food security. If people do not have the purchasing power to buy the food they want, achieving self-sufficiency in production is hardly of any use. India is a classic example of this case<sup>21</sup>.

24. However, according to a cereal projection undertaken by IFPRI for 2020, "a principal finding is that, as India's economy grows and per capita income rises over the next decades, consumption of livestock products will increase dramatically. This in turn, will drive a dramatic increase in the demand for cereals for livestock feed- 50 million tons of cereal feed by 2020, or a twelve fold increase over 1993.

25. There is also reported to be a shift in pattern towards 'superior food items', like milk, vegetables, fruits and animal foods. These changes will have to be incorporated into future policy on food security. Thus, while protection of domestic agriculture is a foremost priority, the consequential increases in prices of food and non-food agricultural products must be restrained. Effective functioning of domestic markets and strengthening of farm and non-farm linkages is essential to address the need of small-holders. The inefficient implementation of the minimum support price and procurement prices has created several distortions, which need to be addressed urgently.

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<sup>20</sup> See Meenakshi, JV "The PDS in the context of hanging Food Consumption Patterns", 2001 (Planning Commission); Rao, CH Hanumanth "Declining Demand for Foodgrains in Rural Indian- Causes and Implications", economic and Political Weekly, Jan 2000; Mc Kinsey India report

<sup>21</sup> Hoda, Anwarul , ICRIER, 2002

## **Procurement And The Public Distribution System (PDS):**

26. The Public Distribution System (PDS) is a major component of the strategy to enhance food security address poverty alleviation. It was in the context of the Bengal Famine of 1943 that the Food Policy Committee was set up to aid active government intervention in the management of the food economy, replacing the prevalence till then of free market forces<sup>22</sup>. Subsequently, the Indian government used a combination of control and decontrol, in response to the nature of the harvests and the stability of the prices. Between 1963-67 grain prices rose at an annual rate of 17 per cent, hurting the poorer sections, and bringing into focus the need for a long-term grain policy. This was subsequent to India's experience –described earlier - with subsidized PL-480 wheat imports from the United States.<sup>23</sup>

27. In 1965 wide-ranging policy initiatives were taken. The Food Corporation of India (FCI) was established to secure supplies and prevent speculative activities of private traders. Under the central government, the FCI was assigned the task of procurement, storage and distribution; and it was recommended that it maintain a minimum buffer stock (of at least 4 million) to stabilize foodgrain availability and prices. In the same year, single state zones were introduced for rice and restrictions imposed on grain movements out of surplus states and even districts. The central government assigned procurement targets for surplus states on the assessment of nationwide needs. This foodgrain would be sold to states for the PDS, at concessional rates. The open market price for each state would thus be determined given the parameters of central and state governments, ensuring interstate price dispersion.<sup>24</sup> Although the national agricultural scene has changed considerably for the better from the 1960s, the design of the PDS has remained fundamentally unaltered. A World Bank report finds that the access of the poor to the PDS is still very limited, and this is particularly true in states with the highest incidence of poverty. The access is much better in a few states, especially Andhra Pradesh, Kerala.

28. The Government announces a Minimum Support Price (MSP) each season for 24 major agricultural commodities, covering all the important cereals, pulses, oilseeds, cotton, tobacco and sugarcane. An ad hoc Market Intervention Scheme for products not covered by the MSP Scheme also exists, to avoid distress sales by farmers<sup>25</sup>. The Government fixes the MSP every year on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP). The recommendations of the CACP are based on the estimation of the cost of cultivation that included all paid out costs, i.e. the expenditure incurred by farmers on purchasing seeds, fertilizers, diesel, labour etc., as well as imputed costs like the cost of family labour used, rental value of land, rate of interest on fixed and working capital employed, depreciation etc. A reasonable amount of profit margin is added to ensure remunerative prices to farmers. While considering the CACP recommendations Government made marginal adjustments in some cases.

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<sup>22</sup> The initial explanation put forward for the catastrophic famine was an acute shortfall in food production in the area. Mismanagement and apathy by the British have subsequently been pointed to, which enabled exploitation by traders who hoarded food in order to sell at higher prices. Nevertheless, when the British left India four years later in 1947, India continued to be haunted by memories of the Bengal Famine. It was therefore natural that food security was a paramount item on free India's agenda. This awareness led, on one hand, to the Green Revolution in India and, on the other, legislative measures to ensure that businessmen would never again be able to hoard food for reasons of profit. Between 1947 and 1967, efforts at achieving food self-sufficiency were not entirely successful. Efforts until 1967 largely concentrated on expanding the farming areas.

<sup>23</sup> 'India Foodgrain Marketing Policies: Reforming to Meet Food Security Needs', Vol. II, World Bank, 1999

<sup>24</sup> See particularly Radhakrishnan R and S Indrakant ' Effects if Rice Market Intervention Policies in India: The Case of Andhra Pradesh' in Evaluating Rice Market Intervention Policies, Some Asian Examples, ADB, Manila, 1988

<sup>25</sup> Ibid. (WTO)

29. Wheat, rice, sugar and edible oil are procured by the government and then distributed to consumers via the Public Distribution System (PDS). . In addition to food grains, sugar and kerosene were also made available to the consumers through the system and for some years edible oil as well. Initially, the issue price of food grains did not take into account all the costs associated with the procurement and distribution operations and the entire cost figured in the Budget of the Central Government as food subsidy. A separate arrangement existed for the procurement and distribution of sugar. Under statutory provisions governing the distribution of sugar, the sugar mills were required to deliver to the Government agency as much as 40 percent of the production at a fixed price. The levy sugar, as it was referred to, was then distributed to consumers through the public distribution system. The supply of food grains and sugar through the public distribution system had universal coverage and there was no general attempt at targeting the poorer sections of the population. A start was made in targeting concessional supplies to the populations in tribal areas in 1985 and the issue price for food grains was reduced for these areas. Furthermore in a number of states such as Gujarat and Andhra Pradesh, highly concessional supplies were made to the poorer sections. With a distribution network of more than 4.62 lakh Fair Price Shops distributing commodities to about 160 million families, this network is perhaps the largest in the world.

30. With the economic reforms of 1991, the coverage of MSP was enlarged to cover four new products, sesamum seed, nigerseed, bal copra and copra for milling. Increases in MSP have generally followed the recommendations of the CACP, the exception being a large bonus given for wheat in the years 1996-1999. While the nodal agencies designated by Government for purchases to guarantee the MSP have not been active, even when the price has fallen below the MSP, for rice and wheat on the other hand there has been a huge increase in procurement in recent years as is seen in the tables that follow<sup>26</sup>.

31. The PDS was re-vitalized in June 1997 when it was introduced as the Targeted Public Distribution System (TPDS), which targets families below the poverty line (BPL) at highly subsidized rates. A major decision taken in the year 1999-2000 was for the phase out over a five-year period of the exemption from income tax of export profits. Another important step was the decision in 2000 to offload at below cost a part of the huge accumulated stocks of wheat in the international market. A condition was imposed that the export sale must not be at prices below the issue price for the families in India below the poverty line (BPL).

32. The quantity of food-grain allocated to an estimated 65.2 million BPL families is 18.52 million tons per annum, at 50 per cent of the economic cost. Within this cohort, the '*Antyodaya Anna Yojna*' scheme launched in December 2000 focuses on 10 million of the poorest families of the BPL population, providing 25 kgs of food grains to families at a token price of Rs 2 per kg for wheat and Rs 3 per kg for rice. This scheme involves a cost of Rs 2,315 crores. Other special schemes aimed at enhancing food security include the '*Annapurna Scheme*' of 10kgs of food grain per person per month for indigent senior citizens free of cost, and Mid Day Meal Scheme etc<sup>27</sup>.

33. Along with the PDS and food aid programmes, in an attempt to spur employment in rural areas and to ensure food security, the Central Government has extended a universal Food for Work programme in August 2001, called the '*Sampoorna Gramin Rozgar Yojna*' (SGRY). Under this umbrella programme (that envelopes the ongoing *Employment Assurance Scheme* and *Jawahar Gram Samridhi Yojana*) 5 million tonnes of food grain worth Rs 5,000 crore will be distributed to the States annually, free of cost. The scheme is conceptualized to be implemented on a cost-sharing ratio of 75:25 between the Centre and the States. Due to extant lack of necessary infrastructure, financial resources (and political will), as of September 2001, just over one-tenth of the total allocated food grain had been off-taken, by a few states, as shown below (. However, in view of the drought over 2001-02 in 17 major states, the off-take of food stocks improved considerably. The SGRY and the

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<sup>26</sup> Ibid. (Hoda)

<sup>27</sup> Economic Survey, 2001-02

Mid-day Meal Program did particularly well, with the SGRY accounting for almost three-fourth of the off take<sup>28</sup>.

### Allocation (upto 6.3.2002) and offtake under SGRY (Sampoorn Gramin Rozgar Yojana)

(in '000 tonnes)

Zones	Allotment			Lifting		
	Rice	Wheat	Total	Rice	Wheat	Total
East Zone	52.12	762.82	814.94	0	113.48	113.48
N.E.Zone	1.07	229.66	230.73	0	4.61	4.61
North Zone	354.93	439.1	794.03	32.81	3.87	36.68
West Zone	499.16	279.37	778.53	32.31	106.74	139.05
South Zone	42.47	421.98	464.45	6.51	47.65	54.16
<b>Grand Total</b>	<b>949.75</b>	<b>2132.93</b>	<b>3082.68</b>	<b>71.63</b>	<b>276.35</b>	<b>347.98</b>

Source: Ministry of Consumer Affairs Food and Public Distribution  
Deptt. Of food and Public distribution

34. The objective of the procurement system is to ensure the farmers remunerative and stable prices. According to the National Agriculture Policy, 2000 this policy is envisaged to continue. However, another view is that the main objective of the procurement policy should be stabilisation of prices rather than provision of subsidies to producers. This is based on the shortcomings of the current system: that even for the BPL (below poverty line) families only a limited proportion of the food requirements is met by the PDS. They depend on private traders for the rest<sup>29</sup>. Similarly it is suggested that the Food Corporation of India (FCI) should not procure all that is offered by the farmers, but only maintain the optimum buffer stock. The Expenditure Reforms Commission<sup>30</sup> has recommended that a food security buffer of 10 million tons – 4 million tons of wheat and 6 million tons of rice- would be adequate.

35. Due to governments fixing the MSPs higher than the recommendation of the Commission of the Agricultural Costs and prices (CACP) farmers are finding it more lucrative to sell to the government than in the open market<sup>31</sup>. During the period 1996-1997 to 1999-2000 the MSP was raised by Rs 170, as against the CACP recommendation of Rs 110 per quintal. The market has been unable to absorb this hike of Rs 60 per quintal until now. Consequently, the MSP continues to be higher than the current market price in the major producing states<sup>32</sup>. Large stocks of surplus food grains have accumulated, the storage costs together with the 'producer subsidy' –the price support procurement are referred to as the 'buffer component', and accounted for as much as 42 percent of the food subsidy in 2001-02. In 1997-98 this buffer component accounted for just about 13 percent of the food subsidy. The remainder, the difference between the food subsidy and the buffer component may be referred to as the 'consumer subsidy'. The annual budgeted food subsidy for 2002-03 amounted to Rs 21200 crore, accounting for 5.2 percent of the total budget expenditure of the central government. This is a significant rise from the early 1990s, when the food subsidy was around 2.3 percent of government expenditure.

<sup>28</sup> Economic Survey, 2002-03

<sup>29</sup> Virmani, Arvind and Rajeev P.V. "Excess Food Stocks, PDS and procurement policy", Planning Commission, Working Paper No 5/2002-PC, December 2001; FICCI Paper

<sup>30</sup> Ministry of Finance (2000)

<sup>31</sup> Economic Survey 2001-02.

<sup>32</sup> Economic Survey, 2002-03.

Food Subsidy versus Buffer Component			
Year	Food Subsidy	Buffer Component	Buffer subsidy as % of Food subsidy
1997-98	7500	937	12.5
1998-99	8700	1552	17.8
1999-00	9200	1754	19.1
2000-01	12010	4233	35.2
2001-02 (BE)	13670	5680	41.6

Source: Economic Survey

36. Moreover, it has been consistently pointed out that the benefit of this buffer cost is spread inequitably. It accrues to a few farmers, in select marketable surplus areas- largely benefiting Punjab, Uttar Pradesh, Haryana, Andhra Pradesh – and is mainly for rice and wheat. As stated in the FICCI Report, the system skews the cropping pattern in favour of these two crops, and with guaranteed prices for average quality, farmers do not have incentive to improve their productivity. In Punjab, for example, acreage under other crops like maize, cotton and oilseeds has reduced, while a depletion of ground water of 1.3 to 1.6 ft per annum is also linked to increased paddy cultivation<sup>33</sup>.

37. In view of the above, the competitiveness of India's wheat and rice has been eroded in global markets and prospects for private trade remain stunted with the present system. Agricultural exports face several constraints arising from conflicting domestic policies relating to production, storage, distribution, food security and pricing concerns. There is also lack of post-harvest infrastructure like refrigerated transport, storage and packaging and of adequate facilities at airports, sea ports etc.

38. Finally, the sharp increases in the MSP have placed the price of these foodgrains beyond the purchasing power of the rural and urban poor. The price differential between the PDS and open market prices is small, especially for the APL families. The weak distribution system, under the aegis of the respective state governments, often precludes poor consumers' access to cheap grain. A study by the Indian Statistical Institute found that only 56-58.5 percent of the total food subsidy (Centre and State combined) reached the PDS consumers<sup>34</sup>. With the proportion of food subsidy accruing to farmers increasing, the Expenditure Reforms Commission has recommended that the extra cost be represented as a producers' subsidy rather than consumer subsidy.

39. A number of suggestions have been made by various sources to revamp the Procurement and Distribution system, and to improve the targeting such that the poorest can benefit. Some of these include an innovative decentralisation via food stamps, food credit cards etc<sup>35</sup>. The general prescription is a fundamental overhauling of the present system with a focus on cutting the present size of the operation, and encouraging other players, especially the private sector to participate. It is recommended that the FCI restrict its buffer stock operation to maintaining buffers primarily for national security.

40. Consequently it is also proposed that to correct the situation the *MSP should be divorced from procurement prices*<sup>36</sup>. While MSP should basically cover paid out costs (out of pocket expenses) of the farmer, the procurement price should be market-determined. The MSP would thus be an insurance cover to farmers for their out-of-pocket expenses, while procurement prices will actually determine

<sup>33</sup> Sen, Abhijit; FICCI Report, 2002; Economic Survey 2002-03

<sup>34</sup> Dutta, Bhaskar and Ramaswami Bharat "Targeting and Efficiency in the Public distribution System-Case for Andhra and Maharashtra", Economic and Political Weekly, November 2001

<sup>35</sup> See Virmani, Arvind and Rajeev P.V. "Excess Food Stocks, PDS and procurement policy", Planning Commission, Working Paper No 5/2002-PC, December 2001; FICCI Paper

<sup>36</sup> See Gulati, Hoda

the returns to their owned land, capital and family labour. These returns can vary depending on market conditions. This is however contingent on markets being freed up domestically through abolition of levies, movement and stocking restrictions on private trade, etc (described in the next section). So long as markets are not functioning freely, or are ‘strangled’ by government controls, it becomes binding on the government to decide the returns the farmer will get on their owned land, capital and family labour. It is under such circumstances that the MSP becomes procurement price as well. Indeed, this is what has happened in the past. The Government should focus on devising a procedure to fix MSPs (with procurement prices being market-determined) so that in a globalizing world, it is not divorced from the prevailing international prices in the medium and long term. This change in price fixation would also result in crop diversification by correcting the market distortions caused by the pricing system in current market conditions. The present procurement policy should be drastically revised so as to *limit Government purchases* only for preventing a sharp fall in prices (i.e., to support prices) instead of Government buying all that is offered at pre-determined “fair” prices, termed as procurement prices.

41. The Government of India is however looking to a kind of Income Insurance Scheme as a solution – something that would protect the average income levels, calculated as the product of the average yield and the MSP. The premium rates would be actuarial but partly subsidized by the government. The problem with this alternative is that it is extremely difficult to administer such a scheme, and could become a substantial financial burden in due course.

42. The focus is on removing the current restrictions on private food grain trade, and their entry into procurement, storage, transport, processing and distribution. A particularly interesting, yet possibly equally cumbersome, suggestion has been to replace the current MSP Scheme with a Direct Payment Scheme, whereby the farmers will be paid the difference between prevailing market prices during the harvest scheme and the MSP. This is to be combined with an Income Insurance Scheme for farmers, so that average income levels calculated as the product of average yields and the MSP are protected<sup>37</sup>. Another suggested reform was lifting the ban on Futures Trading and stocking of agricultural commodities, and on institutional credit and finance for such activities. India enjoys a strong regulatory system for commodity exchanges and experience that will facilitate the development of its futures markets. Price volatility creates uncertainty and risks that can threaten agricultural performance and negatively impact the income and welfare of farmers and the rural poor.

43. In consonance with this thinking, the Government issued a timely (February 2002) Central Order under the Essential Commodities Act, 1955 to remove the requirement of licensing dealers and restrictions on storage and movement in respect of foodgrains (wheat, paddy/rice, coarse grains), sugar, oilseeds and edible oils. Similarly, in February 2003, futures trading was announced on commodities including rice, wheat, oilseeds and pulses.

### **III. The Small Farmer – as PRODUCER affected by trade**

- In the late 1990s, the growth rates in production, though creditable, are lower than at any time since 1960
- The inverse relationship between size of farm and productivity is consistently highlighted, pushing the case for helping small farmers further and, to wider issues such as land reform.
- This decline in growth has been particularly marked in cereals.
- A low rate of future agricultural growth - particularly if below the human-population growth rate - would have adverse consequence for *employment* generation and for lessening of *poverty*.
- India’s government expenditures during the 1990s for agriculture per agricultural worker have been the lowest in South Asia, and perhaps below those of Sub-Saharan Africa
- For crops that are important to non-irrigated small-holdings there *has* in recent years been technological progress.

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<sup>37</sup> Naik, Gopal “Agricultural Support Program for Farm Income Protection”, 2001

- Attempts to increase exports of grains and raw materials are not likely to be a beneficial proposition - particularly as international prices for these commodities are forecast to remain low. However, the potential for export of processed agricultural products is identified.
- Agro-industry: despite India being the second largest producer of vegetables and fruits, only less than 2 percent of this production is commercially processed.
- The dominant role of non-price factors (technology, infrastructure, institutions and inputs) is highlighted by various studies/reports as determining production growth.

44. Agricultural growth is a *sine qua non* for alleviation and eradication of rural poverty and hunger in those countries that have not yet fully achieved their broad-based growth. In India, the numbers of rural poor - including the land-less and those farming sub-marginal holdings - are large. As stated in the FAO Study<sup>38</sup>, the smallness of many of the Indian farm holdings, and the low income elasticity and high price elasticity of cereals, together dictate that future agricultural growth shall need to diversify beyond its current cereals emphasis.

45. However, new analyses of India's agricultural growth during 1970-2001 give cause for concern - perhaps alarm. For all cereals - in aggregate - the annual growth rate in *production* during the six-year segments 1970-76, 1976-82, 1982-88, 1988-1994, 1994-2000 was respectively 2.5, 2.5, 3.0, 2.6, and 1.8 percent per annum. Corresponding analyses for the index of *total* agricultural production show a similar pattern, with the growth rate for 1994-2000 attaining only 1.5 percent per annum.

46. Thus in the late 1990s, the growth rates, though creditable, are lower than at any time since 1960<sup>39</sup>. These declines may constitute in part a response to diminishing demand and to inadequate returns to farmers: globally, the Year-2001 world prices for rice, oil-seeds, and livestock were the lowest since 1998; and in India, the strategic buffers were fully stocked.

47. However, for cereals, the 1994-2000 growth rate for *yield* - at 1.7 percent per annum, and much below the 1982-1994 average of 3.5 percent per annum - causes further anxiety. This slackening in yield growth rate may result from several causes: from a lessening of inputs as farmers respond to falling prices, or from non-increase in inputs where farmers have already optimised their inputs applications, and from some progressive closing of yield gaps in some states. Previous analyses (Kumar, 1998) had correspondingly observed a lessening in the growth of total factor productivity (TFP - which quantifies technological contributions) from 1.5-2.0 percent per annum in the 1970s and 1980s to 1.0 percent per annum in the 1990s. Moreover, this cereals-yield growth slackening has been compounded by the slight decline in *cereals area* (averaging - 0.1 percent per annum) since the early 1980s. *Yield* growth rates similarly decreased between the 1980s and the 1990s: for *rice* from 3.2 to 1.3 percent per annum, for *wheat* from 3.1 to 1.3 percent per annum, and for *cotton* (dramatically) from 4.1 to 0.6 percent per annum.

48. The FAO Study does, for example, point to the need for small farmers to "diversify beyond its present cereal emphasis". They are encouraged to do so on the basis of the smallness of their holdings and their low income elasticity combined with the high price elasticity of cereals. India's progress in lessening the incidence of poverty and hunger among the marginal-size- and sub-marginal-size-farm households, needs to be extended to those 80 million households (400 million persons) are still net buyers (see **Table 3.1** on marketable surplus in Appendix) of food-grains.

49. Consequently, the country's trade policy should continue to be formulated within a national strategy for sustainable food security, employment security, and poverty reduction. Encouragingly, the small, marginal, and sub-marginal-size holdings have progressively adopted new technologies and have often increased productivity more quickly than the larger holdings. The small-holder farmers should be further empowered to increase productivity of both land and labour, and to augment their income through off-farm employment and enterprises .

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<sup>38</sup> The Small Holder Farmer in India, 2002, FAO

<sup>39</sup> Department of Agriculture and Cooperation (2002)

50. The benefits of increasing Total Factor Productivity are felt nation-wide: costs of production decrease, and prices fall and stabilize. Producers and consumers both gain. Decreased food prices preferentially benefit the poor (whether urban or rural), since the poor spend proportionately much more of their income on food (particularly cereals). Lower prices of home-produced agricultural products will also assist India's agriculture to accommodate to the globalisation of agricultural trade<sup>40</sup>.

51. In this context, the impact of liberalisation in India is perhaps over-emphasised, as it will largely depend on non-price factors, on the capacity to increase production and to build a supportive infrastructure. As described in IFAD Roundtable Discussion Paper<sup>41</sup>, the major constraints for farmers in terms of market access are: physical access to markets, the market structure, and lack of skills, organisation and information.

52. India has the greatest concentration of rural households that are totally landless – 60 million households. Another 250 million rural residents live in households that own less than 0.2 hectares of land. For many of these households, gaining access to more land would be an opportunity to climb out of poverty. However, land policy and the legislative and administrative framework in India present substantial obstacles to gaining greater land access and rights.

53. There is no doubt that import protection on items such as edible oils and sugar was reduced sharply in the mid-1990s when world prices were high. The subsequent readjustment to the changed world market situation was slow and probably at a lesser pace than what was desirable and permissible under the WTO. But, contrary to current perceptions, the effective protection to agricultural products is now much higher than earlier. Most agricultural imports currently attract duty rates significantly in excess of the 35 per cent maximum on industrial products, in contrast to the past when industry was afforded much greater protection than agriculture<sup>42</sup>.

54. Growth (or decline) in total factor productivity (TFP) results predominantly from public investment (or lack of investment) in infrastructures (irrigation, electricity, roads) and in agricultural research and extension, and from efficient use of water and plant nutrients. The observed decreases in the rate of increase of TFP are in large part a consequence of a substantial lessening of investments - notably public-sector investments - in India's agriculture. Indeed, India's government expenditures during the 1990s for agriculture per agricultural worker have been the lowest in South Asia, and below those of Sub-Saharan Africa<sup>43</sup>.

55. According to the MV Rao Report, out of the total public sector investments made in the economy, only 4.9 per cent were directed to agriculture. While this sector still contributes 27 per cent of the Gross Domestic Product (GDP) and employs 62 per cent of the labour force. But it is attracting less than 5 per cent of the public investments in the economy. The allocation to agricultural research accounts for a mere 0.5 per cent of the agricultural GDP<sup>44</sup>.

56. It is, however, reported that - counter to common mis-perception - for crops that are important to non-irrigated small-holdings there *has* in recent years been technological progress. Notable amongst these crops are the coarse cereals and the pulses, and also the oilseeds, fibres, and vegetables. Analyses (FAO/RAP, 2001) for eighteen major crops (irrigated and non-irrigated) and for several states showed positive TFP growth for all eighteen of those crops - including those non-irrigated - though not necessarily in every state. The analyses correspondingly identify those crops and states where remedial research/extension action is warranted.

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<sup>40</sup> FAO Study

<sup>41</sup> "Promoting Market access for the Rural Poor in order to achieve the Millennium Development Goals", Roundtable Discussion Paper for the Twenty-Fifth anniversary session of IFAD's Governing Council, February, 2003.

<sup>42</sup> Sen, Abhijit "A whole crop of uncertainties", Frontline, Vol 18-Issue 02, Jan-Feb 2001.

<sup>43</sup> Op cit. (FAO)

<sup>44</sup> Andhra Pradesh Government (2002)

57. It is important that the FAO Study finds (**Table 3.2**) that small holdings contribute a larger proportion of the total food and non-foodgrain production in 1991 than in 1971. Holdings smaller than 2.00 hectare - which in 1971 accounted for only 28 per cent of total food-grains production - were by 1981 contributing 34 per cent, and by 1991 41 per cent. For individual crops, and between 1971 and 1991, small-size holdings increased their share in production of *rice* from 38 to 49 percent, of *wheat* from 26 to 40 per cent, of *coarse cereals* from 19 to 29 per, and of *pulses* from 19 to 27 per cent. These substantive increases in the proportionate (and in the absolute) contributions from the smaller-size holdings is ascribed to favourable changes in agrarian structure, and to impressive adoption of new technologies and intensive use of modern inputs on those small-holder farms<sup>45</sup>.

58. For *non-food-grains* production (**Table 3.3**), *large* farms had the dominant shares at 1971 for *oilseed* (63 per cent) and for *cotton* (77 per cent); by 1991, these shares had declined to 48 and to 53 per cent respectively; there were compensatory increases in the contributions by the small- and medium-size holdings. For *sugarcane* and *jute*, the contributions (proportionate and absolute) from the *smaller-size* holdings increased very substantially between 1971 and 1991: proportionate contribution to *sugarcane* production increasing from 29 to 46 per cent, and for *jute* from 47 to 65 per cent. Similarly, smaller-size holdings were the major producers of *vegetables* and *fruits*, contributing 51 per cent of the production in 1991. The increasing importance of small-holder agriculture to national production and to food security is clearly manifest.

59. The Study finds that among the small holder farmers, it is the larger of the 'small-size' farmers (1 to 2 ha), who are able to generate surpluses by 1990-91 (Table 3.1). These small-size holdings generated a marketable surplus of 7.2 Mt per annum (million ton per annum) of rice, 1.3 Mt per annum of wheat, 2.1 Mt per annum of coarse cereals, and 1.7 Mt per annum of oilseeds. Correspondingly, during 1970-1990 the proportion of these *small farms*' aggregate production of *rice* that was contributed to the market increased from zero to 42 percent. For *wheat*, there was transformation from net buyer to a contribution of 12 per cent of production to the market, for *oilseeds* from net buyer to a contribution of 71 per cent, and for the *coarse cereals* the marketed proportion increased from 5 to 34 per cent. Similarly, for the *marginal-size*- and the *sub-marginal-size*-farm households, the magnitude of the food-purchase requirement lessened appreciably during 1970-1990.

*The major conclusion remains that in almost all years sub-marginal- and marginal-size households were net buyers of all of the listed commodities, including the food-grains. Farms larger than 1.0 ha (the small, medium, and large categories) produced the aggregate marketable surplus.*

60. Finally, the domestic markets are subject to a variety of controls, which are being addressed, and do still hinder internal trade.

### **Controls On Movement And Stocking Of Agricultural Commodities**<sup>46</sup>

61. Controls on movement and stocking of agricultural commodities (foodgrains, edible oils, cotton or sugar) across the country have long been a feature in domestic marketing policy. Unless these are abolished making India one integrated market, these would continue to distort incentives for producers at the local level. Some reform has occurred in the 1990s. Most significant among these is the removal of informal controls on wheat movement by private traders (in February 1993) during harvest from the surplus wheat growing regions in North-west India. Soon after in June of the same year, price and movement controls on sugar were lifted by the Central Government, although only partially implemented in the three states of Bihar, Uttar Pradesh and Haryana. Movement restrictions too have been phased out at the instance of the Central Government by all states except Jammu & Kashmir and West Bengal (to prevent trans-border smuggling). Similarly, there no longer exist stock-

<sup>45</sup> The literature on this inverse relationship between farm size and productivity is now global and widespread. See for example, Banerjee, V Abhijit 'Land Reforms: Prospects and Strategies', MIT/ World Bank; Berry, A, Cline W 'Agrarian Structure and Productivity in Developing Countries' ILO, Geneva, 1979 etc.

<sup>46</sup> See Hoda, Anwarul and Gulati, Ashok 'Negotiating Beyond Doha: Indian Agriculture and the WTO'

limits on rice except in the States of Andhra Pradesh, Tamil Nadu and Jammu & Kashmir. However, much remains to be done. In this context, it is significant that the Prime Ministers Advisory Council recommended in February 2001 that “private sector (including foreign investors), co-operatives, panchayats, etc. should be encouraged to develop modern storage and bulk handling facilities for different commodities. This can be achieved by repeal of the Essential Commodities Act or its drastic revision, which would limit its use to times of war, civil strife or natural calamity, and by encouraging large-scale investments in marketing, handling and storage. This would not only lead to regional specialization based on resource endowments, but also result in large scale savings of the produce that is being wasted today due to lack of proper storage facilities”.

62. *Levies* continue to be even more widespread than stocking limits and movement restrictions. For rice, it varies from 10% in states like Gujarat and Pondicherry to as high as 75% in Punjab and Haryana. Other important rice-producers such as Andhra Pradesh, Tamil Nadu too have rather high levies, around 50%, on millers and dealers. Sugar mills were until recently subjected to a 30% levy. This has been reduced to 15 per cent. Such levies ultimately serve as a tax on the processors and are passed on to the farmer. Therefore, abolition of levies must be a priority. This would further improve incentives for agricultural producers. Likewise controls on distribution of sugar too must be removed.

63. It is worth emphasizing that out of 35 States and Union Territories as many as 30 impose a licensing requirement, 20 stipulate stock limits and at least three restrict interstate movement of food grains. Clearly, unless the rules of the game are changed, private initiative in this area is unlikely to emerge. The recent decision of the government on February 5, 2002 to abolish stocking limits, movement restrictions and licensing requirements is a positive move. However, a central law needs to be passed so that state governments do not place any restrictions on movement and stocking, which they currently have the power to do (Ahluwalia, 2002). Until then, a single unified market for agricultural commodities is difficult to achieve.

64. However, this is not all. In the past, there have also been *restrictions at the processing end* – where limits were set for the scale of operations for these processors. Groundnut and rapeseed-mustard processing for instance continue to be in the domain of Small Scale Industry (SSI). As described previously, unless, this is de-reserved, processors will be unable to increase their scale of operation, enjoy economies of scale. Only if they are able to do so can they compete with imported oils on efficiency basis. Manufacture of farm implements too should be de-reserved. Similarly, with regard to the dairy sector, the Council recommended that the Milk and Milk Products Order (MMPO) be abolished observing that the “MMPO is a back door entry to a licensing regime, restricting private sector investment in milk processing. India is the largest producer of milk but only 10 per cent of it is processed through the organized sector. There is no logic in restricting large scale private investment in milk processing.” It has been announced in Budget 2002 that the MMPO would not henceforth restrict scale of operations but be in force to ensure food safety and quality. It remains to be seen if this policy will be implemented or not.

65. An aspect that is less frequently discussed in the context of domestic marketing policy is that of *internal taxes and fees* on raw agricultural commodities. Often these taxes – including purchase tax, mandi tax, commission of agents, and so on – add up to a high rate (of about 11 per cent on wheat in the Punjab). These must be rationalized, if not abolished. One way of achieving this is “by allowing big grain companies to buy directly from farmers without going through commission agents, and abolishing purchase/sales tax” which they currently have to do. An alternative could be introduction of value added tax (VAT) in agriculture, which would spur growth of the agro-processing industry. Further, the Council also recommended that credit margin requirements for stocks of agricultural commodities be reduced and farmers extended credit against hypothecation of their stocks. The Council further proposed that a warehouse receipt system should be introduced in foodgrain marketing.

66. Given the profile of controls in domestic market, it is obvious that in order to promote healthy development of private trade it would be necessary for the state governments to eliminate all these

restrictions. Unless domestic markets are freed up completely, price competitiveness in Indian agriculture would remain only in theory and not at all in practice.

67. Thus, restrictions on imports and exports are being addressed, and tariff rates have been progressively lessened. In consequence, agricultural exports and imports each increased sharply, and the share of agricultural trade in agricultural GDP increased from 6 to 9 per cent. Prices received for Indian exports, and prices paid for imports, were each 15 to 20 per cent below international-market prices for comparable products. Thus there was no net social gain from rice and wheat exports, or for soybean imports. In the case of pulses, there was a positive net social gain<sup>47</sup>.

68. When international prices fluctuate widely, the impacts are felt by small producers and poor consumers - who in India constitute the majority of the populace. Protection of these producers and consumers should be achieved through timely and WTO-permitted interventions guided by monitoring and analysis of international prices. Chand and Jha (2001) concluded that attempts to increase exports of grains and raw materials are not likely to be a beneficial proposition - particularly as international prices for these commodities are forecast to remain low. However, they identified potential for export of processed agricultural products. Similarly, Vyas (2000) found no justification to promote export or import of food-grains, and advocated the continuance of the current policy of self-sufficiency in food-grains unless and until opportunities arise for cost-effective and price-competitive surpluses.

69. Since the early-1990s' acceleration of trade liberalization, there have been various unforeseen developments. As shown above, the growth rates in agricultural GDP and in crop yields and in non-agricultural employment have all been less than forecast. Thus, trade liberalization must be pursued with due concern and action to achieve for rural populations a just, inclusive, equitable, and sustainable way of life, and there must be effective measures to ease the adjustment process for small-holder households.

70. India's entry into world markets will affect prices. The extent of a response to price changes, in the form of a shift in crop will be conditioned upon the agro-economic environment of a specific location. Few available estimates of aggregate supply functions highlight the dominant role of non-price factors (technology, institutions and inputs) in determining production growth. While terms of trade have a significant long-term impact, the elasticities are relatively low and account for only a small part of the change. Meanwhile such changes in TOT are usually 'in the nature of once-for-all changes'. The evidence of yield response to change in output prices is very thin.

### **Agro-Industry:**

71. The agriculture sector in India is the repository of immense potential that is yet to be developed and needs to be encouraged with the establishment of a dynamic and efficient framework, which is also globally competitive. See Appendix C for trends and primary commodities of import and export in agriculture.

72. There is need to shift priorities towards processing, marketing and distribution. As described above, and in a recent FICCI Policy Paper, at present though production in agriculture is largely free of regulation, the same is not true of processing and marketing, which is highly restrictive and regulated owing to numerous laws enforced by the State and Centre. Monopolistic practices and procedures have inhibited the development of free and competitive trade in this sector<sup>48</sup>. For examples, the state government alone is empowered to initiate the setting-up of markets for

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<sup>47</sup> FAO (Ibid.)

<sup>48</sup> See FICCI Paper; "Revival of Traditional Industries", Prime Minister's Council on Trade and Industry (2000). However, on the flip side it is pointed out (Goyal) that the reason for poor performance maybe low demand for 'un-standardized goods', since "very few items, most of which are in the nature of household preparations fall in the reserved category. Even those initially reserved for the Small Scale Sector have been subsequently de-reserved either partially or completely".

agricultural commodities in notified areas. Processing industries cannot buy directly from the farmers, except from notified markets, where intermediaries take up a sizeable share from the price of the produce. Processed foods are also subject to multiple taxes at various stages, starting from harvest till the sale of final processed products. Considerable variations exist across states, in the structure of taxes and fee of agricultural produce, affecting the efficiency of co-operative and private traders.

- Substantial refocus from the present is needed, with “a set of technological reforms combined with an appropriate incentive structure and adequate institutional and infrastructure reforms”<sup>49</sup> to facilitate a shift. An example in point: despite India being the second largest producer of vegetables and fruits, only less than 2 percent of this production is commercially processed. This is in contrast with 30 percent in Thailand, 70 percent in Brazil and the United States, 78 percent Philippines and 83 percent in Malaysia.<sup>50</sup> As pointed out in a Mc Kinsey Report<sup>51</sup>, food processing is an important sector in most countries and is one of the biggest manufacturing sectors, with close links to the agriculture sector. However, in India, it accounts for just 1.1 percent of the employment and contributes 1.4 percent of the GDP.
- Despite being a major producer of many agricultural crops, Indian exports continue to account for merely 1.21 percent share of world agricultural exports in 2000. However, the silver lining, as pointed out by the FICCI Paper is that while the average growth rate of global exports in this sector, between 1995-2000 was just 1.1 percent per annum, India’s farm exports grew at a rate of 10.1percent . (This was due to unilateral liberalization of cereal exports, which caused a very high growth in 1995).

73. In response to this potential, the Government had identified the Food Processing Industry as a thrust area for development<sup>52</sup>. The establishment of the new Ministry of Food Processing Industries (MFPI) is an indication of this thinking. The MFPI is obliged to create increased job opportunities in rural India, with specific reference to women and unemployed youth, by development of primary produce through a network of processing units. However, the nature of this process is examined in the context of the consumer premium given to ‘brand names’ and therefore large, capital-intensive companies. While the cooperative or public sector could focus on goals of equity and poverty alleviation, the reality of “not touched by hands” operations, bulk food processing and standardization require attention<sup>53</sup>. The sugar cooperatives of Maharashtra, Gujarat and Karnataka have won a name for themselves, as have the edible (groundnut) oil cooperatives in Gujarat and the Amul experiment with dairy development. There are numerous examples, especially built around co-operative action. In textiles: *Urmul*, SEWA, Fabindia, in agriculture: the National Egg Co-ordination Committee, Mahagrapes<sup>54</sup>.

74. Contract farming, the system where the suppliers, normally small farmers, located in a particular area, contract with a buyer normally a big company or an organisation or a cooperative, engaged in processing of a particular agriculture product, is also being encouraged. Contract farming system has been particularly a successful in extension services, integrating agro-processing companies and farmers. However, in the Agriculture Produce Marketing Act no provision has been made to support contract farming. It is necessary to consider provisions for registered contract farming programmes by private entrepreneurs<sup>55</sup>. This system is prevalent in crops like tobacco, sugarcane, seed production and

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<sup>49</sup> “Indian Agriculture Unbound: Making Indian Agriculture Globally Competitive”, Policy Paper, FICCI, New Delhi, 2002

<sup>50</sup> FICCI Paper

<sup>51</sup> Mc Kinsey Report “India—From emerging to surging”, September 2001

<sup>52</sup> This industry is included in the priority-lending sector. Most of the Food processing Industries have been exempted from the provisions of industrial licensing under Industries (Development and Regulation) Act, 1951 with the exception of beer and alcoholic drinks and items reserved for Small Scale Sector, like vinegar, bread, bakery. As far as foreign investment is concerned automatic approval for even 100% equity is available for majority of the processed food items.

<sup>53</sup> Goyal S K “Policies towards development of Agro-Industries in India”

<sup>54</sup> See ‘Trends in Agricultural Marketing in India’ [www.indiainfoline.com](http://www.indiainfoline.com)

<sup>55</sup> Op cit (FICCI Report)

some export-oriented crops. In case of major food crops like rice, wheat and commercial crops like groundnut, jute and tuber crops, the contracting buyers have not been interested. They will be interested only in low volume high value crops and not in high volume low value crops. Thus, even the much talked about Pepsi project in Punjab was a commercial failure for Pepsi's exports, and the firm has sold away its interest to Hindustan Lever after incurring heavy losses. Studies show that while it helps raise yields and income of farmers, the main advantage to the farmer is better access to improved seeds and assured markets. To provide maximum advantage, contract farming should also offer advantages of backward linkages (supply of quality fertilisers and pesticides, extension of a package of practices, cost reduction methodologies) etc. Thus, the major problem in contract farming is its enforceability, as sometimes the contracting company or the producers break the contract when the contract price is higher or lower than the market price<sup>56</sup>.

75. The availability of fairly priced, high quality and adequate infrastructure such as power, transport, telecommunications, ports and airports etc. is absolutely essential to enable Indian industry to meet competition and achieve substantial export growth. It is emphasized that policies should be framed and implemented vigorously to encourage private investment, both Indian and foreign in the infrastructure sector and to raise the level of efficiency of the public sector entities in the infrastructure sector. For a long time to come, the public sector enterprises would have a substantial role in this sector and the raising of the level of their efficiency is, therefore, as important as the encouragement of private sector investment in this field<sup>57</sup>.

76. Special attention is also drawn to quality consciousness and the observance of environmental, health, safety and technical standards of the industrial countries. India also lacks pre and post harvest infrastructure, efficient cold storage system and a proper, transparent grading and sorting system. The importance of quality in meeting the competition will intensify in the international market place in the coming years. Indian industry as a whole will have to establish an image for quality, credibility and reliability in external markets. In a way, the pressure of competition in the domestic market will help the Indian industry to enhance its level of quality.

### **International Competitiveness:**

77. There is a general view now that Indian agriculture is by and large internationally competitive<sup>58</sup>. The standard practice for working out competitive advantage in trade theory is to map empirically the effective rates of protection (the extent to which price is affected by government intervention) of the relevant commodities<sup>59</sup>. NPC of less than 1 is competitive in the international market.

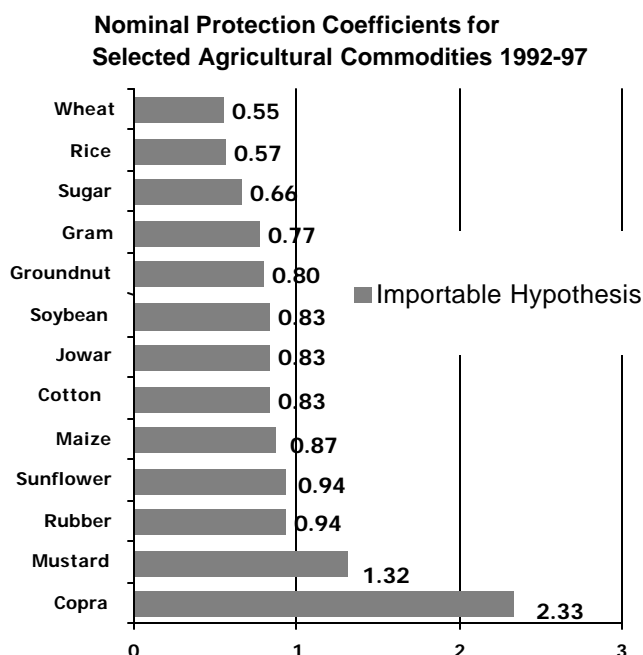
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<sup>56</sup> Andhra Pradesh Government Report (2002)

<sup>57</sup> Ibid.

<sup>58</sup> Gulati/ FICCI

<sup>59</sup> Gulati and Kelly: Rates of protection are basically a ratio of the domestic price that a farmer gets to the import parity or export parity price of the same product, and same quality, depending on whether the commodity under consideration is being imported (is importable) or exported (is exportable). Rates of protection have at least three variants in literature: nominal, effective, and effective subsidy. While the nominal protection coefficient (NPC) basically reflects the price ratio of domestic and world reference prices of the commodities, the effective protection coefficient (EPC) takes into account the protection on their tradable inputs as well. The effective subsidy coefficients (ESC) go a step further and try to capture the subsidies on non-tradable inputs as well (see Gulati and Kelley, 1999 for details). Thus, ESC is a better measure than EPC, and in turn EPC is better than NPC to measure the true degree of competitiveness of the relevant commodity. However, in terms of data requirements, the NPC makes the least demands and can be a reasonably good indicator of competitiveness, particularly if inputs are not highly subsidized or taxed.



(Source: Gulati, Ashok; Hoda, Anwarul, ICRIER, Delhi, 2002)

78. Competitiveness of a given commodity is examined via its export-competitiveness or its efficiency in import substitution. Gulati finds that “an extensive overview of several crops thus suggests that India is competitive in several major agricultural commodities. With regard to India’s traditional exports such as tea, coffee, tobacco, spices, etc., these are likely to continue as important constituents of India’s export basket. In commodities such as rice, wheat and cotton, there is potential for exports, since these crops emerge to be export competitive. This is true of some fruits and vegetables and fish products as well. Most other commodities belonging to the pulses group or coarse cereals appear to be efficient import substitutes, although not export-competitive. The only major uncompetitive commodity group even as import-substitutes seems to be oilseeds and edible oils, which are currently produced at high cost in India. Milk (SMP) too may be of some concern here, although trends in the 1990s are encouraging. Overall though, Indian agriculture does seem to be on solid ground as far as competitiveness is concerned.” A detailed breakdown of major agricultural items is provided in *Appendix D*, with their respective NPC.

79. However, a few points may be raised regarding this analysis. The broad implication of this price-based focus is that attention be paid to crops in which there is a comparative advantage, else building on foreign exchange will enable the country to buy its requirements. It may be pointed out that these assumptions are based on a perfectly competitive international market, which is far from the reality of the present; and the NPC ratios, based on international prices that could change at any point are a rather dynamic indicator<sup>60</sup>. The results on competitiveness are *on an average* over a period of time. Temporally, there is considerable variation in the extent of protection. As a result, it may so turn out that an export competitive product is not even an efficient substitute in some years. Alternatively, it could be that uncompetitive commodities like oilseeds can be export competitive in some years while overall being inefficient import substitutes. Rice exports during 2000 for instance, despite being competitive on an average, have been sluggish compared with previous years, since world prices crashed to unusually low levels.

80. Second, RCRs (and NPCs) are weighted averages for India as a whole. This tends to merge the difference in competitiveness of the various states. Thus, even while on the whole India cannot

<sup>60</sup> See Sekhar, CSC ‘Price formation in world wheat market –Implications for Policy’, Journal of Policy Modelling, Nov 2002.

efficiently substitute say oilseed imports, it is possible that a few states are highly competitive producers of those oilseeds and may even be exporting them. Regional differences constitute a very important dimension of competitiveness and are determined by a number of diverse factors such as technology use, cost of production structures, transport costs to the market, etc. Within the same country, especially in one as large as India, it is possible to have exports from a region that is competitive, while imports of the same commodity flow into another region that is not<sup>61</sup>.

81. Third, there is little evidence the export-supply-function is infinitely elastic. Crucially, the impact of trade liberalization on poor consumer who are net buyers of food is very unclear. In the case of India there are findings of weak supply-side response from farmers.

82. For example, with respect to the nature of competition, in the international wheat market (Sekhar, 2002), it clearly emerges that these markets have been oligopolistic, with a few countries like the United States, Canada, Argentina and Australia determining the prices. Output and stock-holding policies of these major exporters hold large implications for price stability of world markets. Supply shock in 1995 belie the assumption that supply in world wheat markets is infinitely elastic. Trade liberalization can only ensure removal of tariff and non-tariff barriers, but cannot ensure perfect competition. In such a scenario, multinational companies and trading agencies enjoy a unique position as oligopolistic-cum-oliponistic in the international markets. In such a situation a highly populous country like India cannot afford to base its policy solely on comparative or competitive advantage, as they would be vulnerable to price policies of major exporters.

#### **IV. The WTO And The Agriculture Sector**

83. India was a founding member of the General Agreement on Trade and Tariffs (GATT), the precursor to the World Trade Organization (WTO), which was founded in 1948. The GATT was a member-driven organization where each country had one vote and the Secretariat had limited power. This was unlike the World Bank or the International Monetary Fund, where decision-making power represented the economic strength of each nation, and the Secretariat had a central role. The GATT possessed no sanctions: only the contracting parties could interpret a contract, and address the Dispute Settlement Mechanism if differences arose.

84. The World Trade Organisation, founded on January 1, 1995 is the result of seven years of arduous negotiations, during the Uruguay Round. It is especially strengthened by its power of enforcement<sup>62</sup>. The WTO is more constitutional and has a rule-base governance system rather than a mere structure of contract. A key advantage cited is the promotion of stability and predictability of the global rule system.<sup>63</sup> Moreover, it is not so much the fairness of the system, but the disadvantages and problems of entering into a multitude of bilateral trade agreements with different countries that makes the arrangement widely solicited: it has a membership of 145 countries.

85. Thus, the core activity of the WTO relates to the negotiation and implementation of explicit global rules on government policies relating to cross-border trade. The Agreements in the WTO are in the form of a 'single undertaking', implying that all of them have to be accepted together by the acceding parties. The WTO has extended the jurisdiction of the GATT into new areas, like intellectual property rights (IPRs), global trade in services, and is further expanding its scope, raising possible concerns over the sovereignty of nation states. Importantly, however, the WTO brings the agriculture sector within the framework of global rules while the GATT had indulged this sector with very weak disciplines.

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<sup>61</sup> Gulati and Hoda (2002)

<sup>62</sup> As this retaliation, which in general implies trade sanctions, is less credible when threatened by developing countries, there is discussion on instituting new mechanisms like financial compensation and levying penalty payments on countries that do delay implementation of dispute settlement rulings. (UNDP, 2003 [Making Global Trade Work for People](#))

<sup>63</sup> Jackson, John H [The Jurisprudence of GATT and the WTO: Insights on Treaty Laws and Economic Relations](#), 2000, University Press, Cambridge, pp8-9

86. Agriculture was one of fifteen separate negotiating groups in the Uruguay Round, agricultural trade accounts for only 10 per cent of total world trade, and farming represents less than 4 per cent of the GDP in almost all the major industrialized countries (less than 2 per cent in the USA). Nevertheless, it was due to conflicts in this sector –mainly arising from the irreconcilable positions of the USA and EU- that the negotiations dragged on for so many years. The agriculture sector continues to be arguably one of the most distorted sectors in international trade, largely tied up in skewed rules.

**Growth of the Value of Agricultural Exports by Region, 1990 -99 (Annual percentage change)**

Region	1995	1996	1997	1998	1999	90-94	94-98	94-99
<b>Developing countries</b>	14 ½	9 ½	4	-4	-6 ½	5 ½	5 ½	3
of which:								
Africa	14 ½	22 ½	-1	-3	-9	2	7 ½	4
Developing Asia	14	5	-1 ½	-4	-3	8 ½	3	2
Latin America and the Caribbean	16 ½	10 ½	10 ½	-3	-10	4	8 ½	4 ½
<b>Developed countries</b>	15 ½	6	½	-9 ½	-4	4 ½	3	1 ½
<b>Other countries</b>	20	33	2 ½	-14 ½	-12 ½	5	8 ½	4
<b>World</b>	15 ½	9	2	-7 ½	-5 ½	5	4 ½	2 ½

Note: "Other Countries" include transition economies and countries not elsewhere specified.

Based on WTO Secretariat Data

Source: Agriculture Trade Performance by Developing Countries 1990-99," WTO Secretariat, 2001.

87. **The Agreement On Agriculture (AoA):** requires WTO Members countries to undertake a number of measures towards liberalising agricultural trade. The main concern is the limited implementation of the AoA by developed countries. For example, there is the persisting problem of tariff escalation and tariff peaks. The former refers to the structure of the tariffs such that the level increases with the degree of processing, therefore, while the tariff on oranges. The immediate impact of tariff reductions has thus been modest, with benefits being more pronounced for processed and higher value, non-traditional products, which the developing countries are less competitive in producing. Tariff peaks in agriculture have been most common in three product groups: major food staples, fruits and vegetables, and processed foods.

**Tariff Escalation in developed countries on certain tropical products of export interest to India<sup>1,2</sup>**

<b>MANGO</b>	<b>European Union</b>	<b>United States</b>	<b>Japan</b>	<b>Denmark</b>
Fresh or dried	0	1.5¢/kg to 6.6¢/kg	3	0,04
Prepared or preserved by vinegar or acetic acid (mango chutney)	0	1.5¢/kg	12 to 15	12.92 NOK/kg or 223
Juice	10.5 to 33.6+206ECU/T	0.5¢/kg	19.1 to 29.8	27.40 NOK/kg or 340
<b>TEA</b>				
Whether or not flavoured. Black tea, fermented	0	0	12	0
Extracts, essences, and concentrates of tea or mate, and preparations with a basis of these extracts, essences or concentrates or with a basis of tea or mate (containing sugar, lemon, or their substitutes)	6 to 6.5	8.5 to 10	8 to 29.8 + 1,159yen/kg; instant tea: 10	0 to 3
<b>CASHEWNUT</b>				
Cashewnuts: Fresh or dried, whether or not shelled or peeled	0	0	0	0
Cashewnuts: otherwise prepared or preserved, whether or not containing added sugar or other sweetening matter or spirit, not elsewhere specified or included	7 to 12.8	0	Containing sugar: 11; Other: 10	2.11NOK/kg or 386

Source: WTO Schedules of specific commitments

1. All tariff rates represent MFN rates
2. All tariff rates are expressed in ad valorem % unless otherwise specified
3. "ECU/T" = European Currency Unit /1000 kg /net
4. Ranges represented by "NOK/kg or %" will attract whichever tariff is highest

88. The developed countries, which have been protecting their agricultural products for a long time, have retained very high tariffs and even after 36 per cent reduction, the tariffs will be very high. Some of these typically high tariffs are:

US – Sugar (244.4), Peanuts (173.8), Milk (82.6)

EU – Beef (213.0), Wheat (167.7), Sheep meat (144)

Japan – Wheat products (388.1), Wheat (352.7), Barley products (361), Rice (1000)

Canada – Butter (360), Cheese (289), Eggs (236.3)

89. Developing countries as a whole have a stake in the export of temperate zone products as these are also the products where the market is still expanding, and the tropical products have long been subject to GATT disciplines. The post UR tariff profile of many developed countries is typically

characterized by relatively high rates on temperate zone food products and lower rates on tropical products. The tariff reductions were generally lower for temperate zone food products: cuts on tropical products averaged 43 per cent, cuts on other products were lower, the lowest being on dairy, of 26 per cent.<sup>64</sup>

90. Another means of accommodating less change has been the concentrating of tariff reductions on products or commodity groups that would have relatively little effect on trade. Moreover, for countries undertaking tariffication, *Special Safeguard* (SSG) provisions allow an importer to increase tariffs above bound levels in response to a surge in imports, or a decline in import prices. Close to 80 per cent of the OECD countries are subject to SSGs. Most developing countries do not at present have access to SSGs, because, as mentioned above this was reserved for countries undertaking tariffication. Developed countries have a situation, which as put forward by the OCED: subsidises the wealthiest farmers, causes great environmental damage, and produces large surpluses. These, with the help of still more surpluses are dumped in the international market at low prices that have wrecked the livelihood of poor farmers.

91. Developed countries have justified these subsidies under the banner of ‘non trade concerns’ or the ‘multifunctionality’ of agriculture. This essentially refers to the multiple purposes of the agriculture sector, as a food provider, but also as the custodian of rural, and thus traditional lifestyles, of soil conservation, sustainable natural resource management and biodiversity protection etc. It attempts to extend the function of agriculture beyond mere productivism, and is thus juxtaposed against the ideology of the market. The irony, however, is that its inclusion within the international trade regime (i.e. the WTO), is largely supported by industrialized countries (European Union, Norway, Japan, South Korea and Switzerland), even brandished as the ‘European model of agriculture’. Seen as a protectionist barrier, it is wondered whether similar arguments may not be extended beyond the agricultural sector with the aim of achieving specific objectives, some of which might be legitimate and valid.

92. India has responded with the ‘market-plus’ approach. In this, maintenance of the livelihood of agricultural peasantry, and the production of sufficient food to meet domestic needs are both taken into consideration. The focus is on flexibility to each government to tackle the problems of this sector, as they cannot be solved by merely exposing it to market disciplines. Similar to submissions by countries like Argentina, India’s proposals highlight that rural poverty is on the rise in developing countries due to the large agricultural support provided by developed countries, which renders the agricultural produce of the rural communities uncompetitive.

93. It may thus be concluded that the Agreement has had little meaningful influence on the markets in terms of increased access. The total support in OECD countries had increased from US\$ 302 billion in 1986-88 to US\$ 330 billion in 1999-2001. This coupled with certain other events lead to significant fall in international prices for agricultural commodities, quite contrary to initial expectations.

94. The problem of low and unstable commodity prices has further worsened the situation for the world’s poor. The latest UNCTAD (2002) report finds that “ the ability of international trade to act as an engine of growth and poverty reduction is being short-circuited by falling world commodity prices. At the end of 2001, real non-fuel commodity prices had plunged to one half of their annual average for the period 1979-1981. Large increases in export volume are not translating into large increases in export revenue and the capacity to buy imports.” Yet, poor households spend as much as 50 per cent of their income on food, recommendations for further protectionism could have a negative impact on the poverty and food security of poor urban households, rural landless workers and even small poor farmers who tend to be net buyers of food.

95. Another increasingly important barrier to trade many small farmers from developing countries face in world markets is that rich countries now shut out many of these imports under a whole host of

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<sup>64</sup> See, Negotiations on Agriculture: Background Paper, Ministry of Agriculture, *Government of India*, Meeting of the Core Group, 19 May, 2000

safety and sanitary regulations. This perhaps increases the importance of the need for involving the rich-country transnational companies \* in marketing poor-country products (Bardhan, 2001). These companies can deal with the regulatory and lobbying machinery in rich countries far better than the small producers of poor countries can and at the same time provide consumers with credible guarantees of quality and safety. It is essential for local governments to broker regulations to monitor these companies (perhaps via escrow accounts) as they charge fees for this marketing service...but the small farmers will be better off with them than without them.

96. Finally, not all the effects of trade liberalisation can be viewed through the income-effect. There are concerns over exploitation of the more vulnerable, especially women and children. This may be via employment practises or their unanticipated exposure to market-systems they do not have the familiarity with<sup>65</sup>. There are also the possible benefits of transfer of technology,

97. **Doha Development Round** is making depressing progress, its agenda is discussed below. The agriculture sector can be affected by the **Agreement of Agriculture (AoA)**, the **Agreement on Sanitary and Phytosanitary Measures (SPS)** and the **Agreement on Trade Related Intellectual Property Rights (TRIPS)**.

## V. Trade Liberalization In The Indian Agriculture Sector

98. **Agri-exports** in India, as discussed above, account for about 13-18 percent of total annual exports, 23 percent of these are contributed by marine products alone. (Shown in Appendix C). Cereals, oil meals, tea, coffee, cashew and spices are other prominent agri-foreign exchange earners, while meat and meat preparations, fruits and vegetable and processed fruits and vegetable have shown strong growth. The stagnating agri export from India can be traced partly to distorted domestic prices for products like rice, wheat, oil meals, tea, coffee etc. weakness in infrastructure specific to agri products, such as storage, port handling facilities, and export quota restrictions make Indian exports unreliable, and hinder the exploitation of the full potential of Indian agri exports<sup>66</sup>.

99. **Export Policy:** Major agricultural exports include cereal (mostly rice), spices, cashew nuts, oil cake/ meal, tobacco, tea, coffee and marine products. Agricultural exports as a share of the GDP have declined of late, from 20 percent in 1996-97 to 14 percent in 2000-01. A number of policy changes have been made of late, these include: increased credit availability for exports, import duties on capital goods have been reduced, relaxation of export-quotas and the abolition of the minimum export prices. To encourage agricultural exports, agricultural export zones have been established in the EXIM Policy 2001. Income tax exemptions are provided for profits from agricultural exports, these are to be phased out.

100. With a view to ensuring an “adequate” supply of essential commodities at “reasonable prices”, while maximizing export earnings, India maintains restrictions on exports of agricultural products via prohibitions, licences, quotas and marketing controls. These are, however, being gradually lifted. Some goods (maize, onions, niger seeds) are still subject to state trading, and export quotas are maintained on onions, certain milk and butter, wheat and wheat products, coarse grains, sandalwood oil etc.<sup>67</sup>

101. **Agri-imports** constitute merely 3.7 per cent of the total value of imports. In recent years, edible oil has accounted for nearly 60-70 per cent of the value of the total agri-imports. Contrary to expectations that India would be flooded by agri imports with the lifting of quantitative restrictions

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<sup>65</sup> trade should expand choice and enhance the quality of life (Sen, 1999) Yet, instances of trafficking in women and children have been pointed to on the introduction of markets, and their concomitant roads etc....old divisions based on wealth and gender are being reinforced.

<sup>66</sup> Economic Survey, Ministry of Finance (2001-02)

<sup>67</sup> Op cit. (WTO)

their value has considerably fallen. India has considerable flexibility in countering the flooding of its markets, it has in fact raised its tariffs on certain products and Countervailing Duties may also be imposed to counter actionable subsidies given to agri-products by exporting countries, as can safeguard provisions to counter the surge of imports<sup>68</sup>.

102. **Import Policy:** The simple applied tariff on agriculture increased from 35% in 1997/98 to 41% in 2001/02. Quantitative restrictions on 416 agricultural goods at HS six-digit level have been removed in order to implement a WTO panel decision. In 37.5% of these cases the tariffs have been increased to protect the interests of the farmers. Tariff quotas are maintained on several products including edible oils, maize and milk products. The number of agricultural products imported by state trading enterprises has diminished, comprising mainly edible oils and some cereals (wheat, rye, oats, maize, rice, grain sorghum, buckwheat, millet, bajra, ragi, jawar and other cereals).

### **India and The Agreement On Agriculture:**

103. The Agreement on Agriculture (AoA) sector was expected to eliminate all distortions in the international agriculture sector. As described above, this has not been achieved.

104. The Uruguay Round was pioneering in its attempt to bring the agriculture sector within the ambit of the international trade regime. The three main areas of commitment in the AoA are:

1. Market access 2. Domestic support 3. Export subsidies

105. **Market access.** The key elements are tariffication (calculating tariff equivalents of non-tariff import barriers and adding them to fixed tariffs), tariff reduction and binding of tariffs. It was found that many countries at that time were also imposing quantitative restrictions to limit the volume of imports of particular commodity groups. These were included in each country's tariff rate quotas (TRQs), which would allow low tariff imports up to a certain amount. Tariff reduction targets are:

106. Developed countries had to reduce their tariffs by an average of 36 percent between 1995-2000, with a minimum cut of 15 percent per product. And by developing countries by 24 percent over a longer period, between 1995-2004, with a minimum cut of 10 percent per product.

107. India had no obligation to reduce its tariff in agriculture by 24 percent, as it offered "ceiling bindings" on all agricultural products that were previously not bound. India offered tariff bindings at three levels: 100 percent for raw commodities, 150 percent for processed agro-commodities and 300% for edible oils<sup>69</sup>. As against the simple average bound tariffs of 114.97 percent, the average applied rate of basic customs duty as of April 1, 2001 is 35.9 percent. There is thus a substantial gap between the bound rates of duty and the applied rates.

108. India has been a traditional exporter of several tropical products that do not compete directly with temperate-zone products such as tropical beverages, tropical fruits and vegetables, tropical nuts, spices etc. It must be recognized that unlike in temperate-zone agricultural products the developed countries have made great advances in past negotiations in knocking down trade barriers on these products. What remain are largely moderate tariffs on some of these products in the processed form in some developed country markets (as shown in table on 'tariff escalation'). Elimination of the remaining tariff on these products on MFN basis in the developed country markets has therefore to be one of the market access objectives of India.

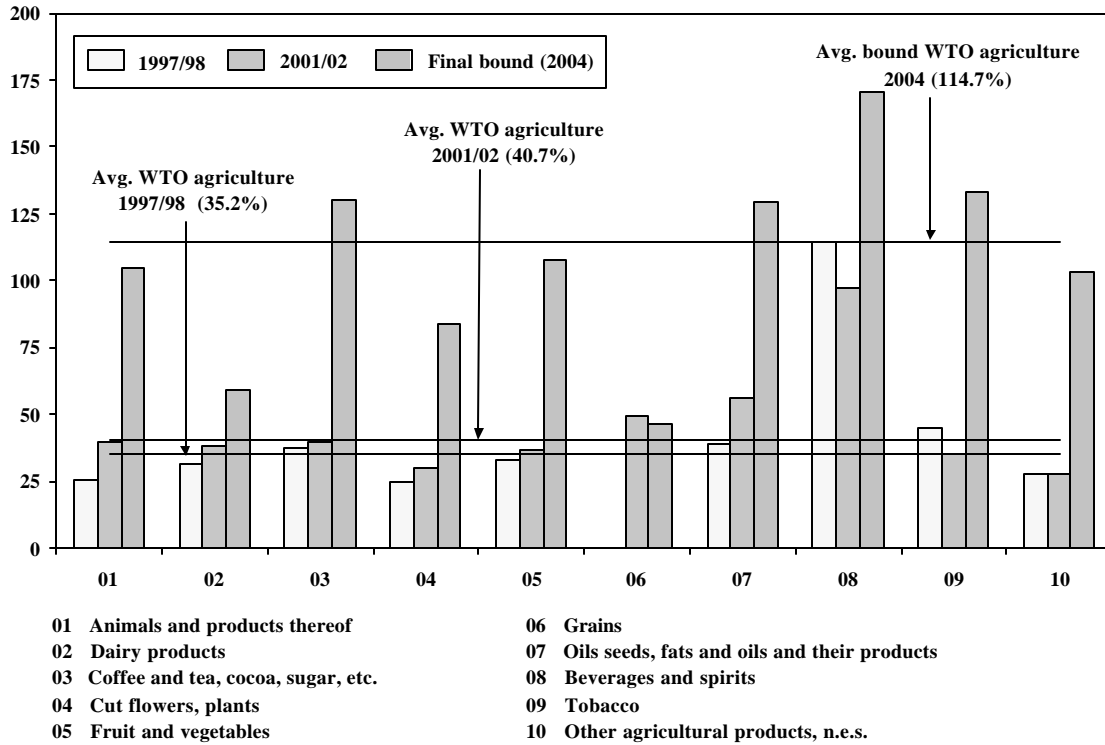
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<sup>68</sup> Ibid.

<sup>69</sup> For 15 agricultural products like rice, wheat, skimmed milk powder, maize, millets etc., which had been bound at zero or at low bound rates, negotiations under Article XXVII of GATT were completed in December, 1999 and the bound rates have been raised substantially

### MFN and bound tariff rates on agricultural products, 1997/98, 2001/02, and 2004

Per cent

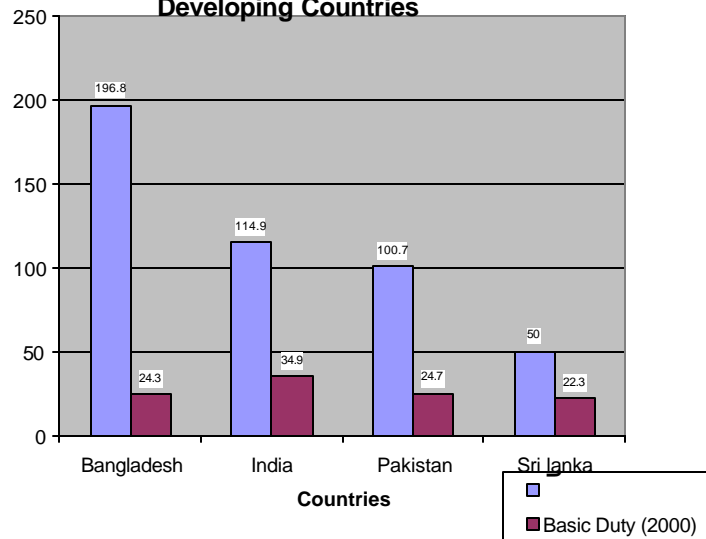


Note: Calculations exclude specific duties and include the *ad valorem* part of alternate and compound rates.

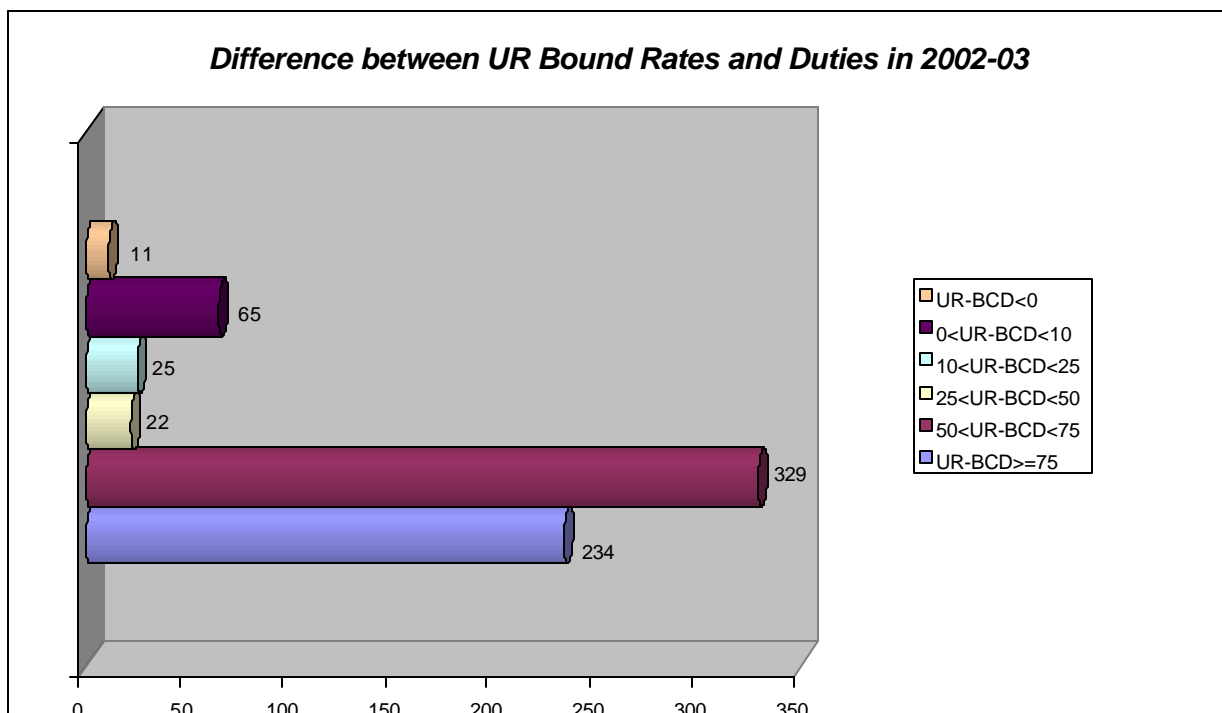
Source: WTO Secretariat calculations, based on data provided by the Indian authorities.

(Source: Gulati, Ashok "Trade Liberalisation and Food Security", ICRIER, New Delhi, Dec 2000 )

### UR Bound and basic Duty rates in India and select Developing Countries



(Source: Gulati, Ashok "Trade Liberalisation and Food Security", ICRIER, New Delhi, Dec 2000 )



(Source: Hoda, Anwarul, upcoming)

109. **Domestic support.** The emphasis is on reducing trade-distorting domestic support. Not all domestic subsidies distort trade, they are accordingly divided into three groups/boxes.

110. **Green Box:** deemed to be non or minimally trade distorting. These do not need to be reduced under the agreement. These include, for example, Government Service Programmes: Outlays on general research, environment research, agricultural training and services, pest control and disease management, infrastructural services, etc. Developing countries are also permitted subsidies for government stockholding programmes and food price subsidies for rural and urban poor. Also permitted are direct payments to producers where these payments are not connected to decisions on which and how much of a crop is produced. ‘Developmental’ measures in developing countries like investment subsidies are permitted as well as input subsidies meant for low-income/resource poor producers.

111. **Blue Box:** Direct payments made under ‘production-limiting’ programmes. These do not need to be cut, but may be actionable by other WTO Members. While all government payments to farmers which are linked to production are supposed to be reduced, certain types of payments – those that put production ceilings on farmers or require a certain amount of land to be set aside from production – are permitted and exempted from reduction commitments.

112. **Amber Box:** Export subsidies that are considered trade distorting. These are not allowed, and open to challenge by other countries. But here again the “trade-distorting” subsidies are divided into two categories:

113. **Non-product subsidies:** those given without reference to a particular crop, need not be reduced if they are under 10 per cent of the value of agricultural production in the developing countries (5 per cent in the case of the developed countries)

114. **Product subsidies:** support given to specific products, also need not be reduced if they are under 10 per cent of the value of a crop (5 per cent in developed countries)

115. The Agreement establishes a ceiling on the total domestic support, referred to as the “**Aggregate Measure of Support**” (AMS). This is the difference between the domestic intervention/support price and the world price multiplied by the volume of domestic production that qualifies for support. The reference AMS is estimated for a base period – 1986-88, as per the WTO requirement. The AMS had to be reduced by 20 percent by the qualifying developed countries between 1995 and 2000 and by 13 percent by the qualifying developing countries between 1995 and 2004. India has no obligations to reduce its AMS because its product and non-product subsidies are below the *‘de minimis’* levels of 10 per cent each. The product specific subsidies were negative and the non-product subsidies while being positive were below 10 per cent of the value of domestic production<sup>70</sup>.

116. India does not provide any product specific support other than the MSP. The total product specific Aggregate Measure of Support (AMS) was (-) Rs 24,442 crore during the base period. The negative figure arises from the fact that during the base period, except for tobacco and sugarcane, international prices of all products were higher than domestic prices, and the product-specific AMS is to be calculated by subtracting the domestic price from the international price and then multiplying the resultant figure by the quantity of production.

117. Non-product specific subsidy is calculated by taking into account subsidies given for fertilisers, water, seeds, credit and electricity. During the reference period, the total non-product specific AMS was Rs 4581 crores. The calculations for the marketing year 1995-96 show the product-specific AMS figure as (-) 38.47% and non-product specific AMS as 7.52 percent of the total value of production.

118. The present rules do not permit setting off of the negative product specific support against the positive non-product specific AMS support, thus disadvantaging countries like India. While India’s AMS at 7.52 percent is still below the *de minimis* level of 10 percent, the scope for extending additional non-product specific general support for protection of small farmer’s livelihoods, food security, agricultural development and productivity is limited by the present structure of green box is tailored in line with the provisions widely used by the developed world<sup>71</sup>.

119. **Export Subsidies.** Only those countries, which had notified the use of export subsidies in their original schedules, can continue to use them, albeit in a restrained manner. Other countries are not permitted to introduce them thereafter (Article 3.3 of the AoA). A majority of the developing country members thus, cannot exercise this right to provide export subsidies, which is otherwise permitted. According to the “Peace Clause”, until 31 December 2003, export subsidies for products covered by the AoA in conformity with the budgetary outlay reduction commitments specified in the respective national schedules and for products listed in the respective national schedules are exempt from challenges under the subsidies agreement. Thereafter, these become “prohibited subsidies” in accordance with the provisions in SCM.

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<sup>70</sup> See Gulati/ Hoda; Andhra Pradesh Government.

However, there is controversy around this figure, and Y K Alagh points out “IMF estimates government expenditure on agriculture at 29.1 per cent in India, 6.9 per cent in Indonesia and 12.9 per cent in Thailand, in 1990-93. Presumably, India’s percentage has gone up since. A lot of this will be subsidy. This is the issue. It is irresponsible to wish it away. According to the World Bank, AMS is close to zero and not largely negative; IMF feels agricultural expenditure of government is 27 per cent and the WTO says that government subsidies should be an upper limit of 10 per cent” (See Alagh, YK “WTO and India: Getting facts right”, Hindu Businessline, Feb 2001)

<sup>71</sup> In 1996, developing countries provided only 12.5 percent of all green box supports, with the developed countries providing the other 87.5 percent. The majority of developing countries do not even provide 0.5 percent of total green box supports. The budgetary constraints make it further difficult for developing countries to utilise even some of the existing exempted provisions like support for general services. See Report of the Committee on WTO Concerns, Government of Andhra Pradesh, Hyderabad, December 2002.

120. Developed countries were required to reduce the budget outlay on export subsidies by 36 per cent and the volume of subsidised exports of each commodity by 21 per cent in six years (between 1995 and 2000). The corresponding reduction commitments by developing countries are only two-thirds e.g. 24 percent budget outlay and 14 percent of volume over an extended period of 10 years (between 1995 and 2004). Developing countries also are exempt from commitments on subsidies to reduce the cost of marketing exports and internal freight subsidies for the implementation period.

121. Developed countries are the major users of and account for most of the export subsidies that are liable to reduction commitments. For instance, subsidies provided by six industrial countries in 1995 accounted for more than 75 percent of the global value of the export subsidies subject to reduction commitments. The share of all developing countries combined, on the other hand, accounted for just over 20 percent. The principal commodities, which have high incidence of export subsidies, include wheat, coarse grains, oilseeds, vegetable oil, sugar, dairy products and fruits and vegetables, which also happen to be products of export interest to many developing countries. The effects of export subsidies are frequently associated with the depression of international prices, the lowering of the non-subsidized farmer's income, the displacement of competitive exports, the use of environmentally unsustainable methods of production and last but not least, the perpetuation of rural poverty in developing countries reliant on agricultural exports ad/or having inherent comparative advantage. Export subsidies do not favour medium or long term "food security" even in net food-importing countries as subsidised imports may reduce their potential to develop agricultural production.

### **India's stand in Mandated Negotiations/ Doha Development Round**

122. During extensive deliberations in the WTO Committee on Agriculture and in the General Council, member countries had agreed to broadly adhere to the mandate of Article 20 of the Agreement. In pursuance of the same, in the first phase of the negotiations, members have submitted 47 negotiating proposals, which were discussed in the Special Sessions of the Committee on Agriculture.

123. India also submitted its negotiating proposals to the WTO in January 2001 in the areas of market access, domestic support, export competition and food security. These proposals were drawn up keeping in view India's objectives in the negotiations, which are to protect its food and livelihood security concerns and to protect all domestic policy measures taken for poverty alleviation, rural development and rural employment as also to create opportunities for expansion of agricultural exports by securing meaningful market access in developed countries. India has also filed a non-paper on Special and Differential treatment to developing countries in March 2002.

### **A Brief Summary Of India's Proposals<sup>72</sup>.**

124. India's basic objectives in the ongoing negotiations are:

- (a) To protect its food and livelihood security concerns and to protect all domestic policy measures taken for poverty alleviation, rural development and rural employment.
- (b) To create opportunities for expansion of agricultural exports by securing meaningful market access in developed countries.

125. The Indian proposals are based on the inputs received from wide-ranging consultations with various stakeholders and can be broadly be classified into the following two categories:

- (i) Increasing the flexibility enjoyed by developing countries for providing domestic support to the agriculture sector under the special and differential provisions as also further strengthening of trade defence mechanisms with a view to ensuring the food security and to take care of livelihood concerns.

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<sup>72</sup> Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India

*The distinctive feature of India's proposal is seeking the "Food Security Box", elements of which address the issues of food and livelihood security of India's farmers in the process of Agriculture Trade Reforms.*

(ii) Demanding of substantial and meaningful reductions in tariffs including elimination of peak tariff and tariff escalation, substantial reductions in domestic support and elimination of export subsidies by the developed countries so as to get meaningful market access opportunities.

126. The proposals in the first category include:

- Additional flexibility for providing subsidies to key farm inputs for agricultural and rural development.
- Exemption from any reduction commitments of measures taken by developing country members for alleviation of poverty, rural development, rural employment and diversification of agriculture.
- Exclusion from AMS calculations of product specific support given to low income and resource poor farmers.
- Clarifications on certain implementation issues, such as, offsetting of positive non product specific support with negative product specific support, suitable methodology of notifying domestic support in stable currency to take care of inflation and depreciation.
- Flexibility enjoyed by developing countries in taking certain measures in accordance with other WTO covered Agreements should not be constrained by the provisions of AoA.
- Maintenance of appropriate level of tariff bindings on agricultural products in developing countries, keeping in mind their developmental needs and high distortions prevalent in the international markets with a view to protect livelihood of their farming population. Also linking the appropriate levels of tariffs in developing countries with trade distortions in the areas of market access, domestic support and export competition.
- Rationalisation of low tariff bindings in developing countries, which could not be rationalised in the earlier negotiations.
- Separate safeguard mechanisms on the lines of SSG including a provision for imposition of QRs in the event of a surge in imports or a decline in international prices, as an S&D measure to protect food security and livelihood concerns.
- No minimum market access commitments for developing countries.

127. The proposals in the second category include:

- Blue box and de-coupled income support and direct payments in Green Box to be included in the Amber Box and subjected to reduction commitments.
- Accelerated reduction in AMS so as to bring it below de minimis by the developed countries in 3 years and by the developing countries in 5 years.
- Substantial reduction in tariff bindings including elimination of peak tariffs and tariff escalation in developed countries.

- Expansion and transparent administration of TRQs pending their eventual abolition.
- Abolition of Peace Clause for developed countries.

The mandated negotiations commenced in March 2000 and are continuing in three phases.

## VI. Recommendations

128. Market Access:

- Ensuring greater flexibility for tariff reductions for the developing countries on the grounds of livelihood concerns and allowing them the usage of special safeguards.
- The adoption of a harmonization formula is the best means available to obtain an across the board reduction in a manner that ensures that higher tariffs are subjected to deeper cut and there is a reduction in tariff escalation. India should propose the maximum level to be 100 per cent, and must make its proposal credible by not seeking special and differential treatment on the maximum level of tariff.
- Higher reduction in tariffs, tariff peaks and tariff escalation on products that are of interest to India.

Domestic Subsidies:

- **Livelihood Box:** as was mentioned above, there is some controversy regarding the level of domestic support in India. As described by Alagh “the Commerce Ministry is taking cognizance of these points and has argued that a food security box must be added on by the WTO”. Others have further described the need for a ‘livelihood box’, as this would connote more than ‘food reserve’<sup>73</sup>. Aside from the semantics, while India seems comfortable in its current commitments to the Agreement on Agriculture, it does seem prudent to bargain for further leverage to address these critical concerns in the future.
- Re-examination of subsidies that are presently excluded as they fall into the Green Box or Blue Box disciplines, particularly with a view to their effect on production.
- Subsidies should be brought in line with the de-minimis levels

Export Subsidies:

- Phasing-out all export-subsidy support during the next implementation period.
- Developing countries should be allowed to assist their producers with export-subsidies.

## VII. Prospects

129. Due to the current nature of liberalization in the global arena, the competitive advantage that was believed to exist in the agriculture sector vanished within a few years<sup>74</sup>. As a part of the liberalisation programme, fertilizer prices were increased to keep the subsidy burden under check. The costs of production went up due to the changes in the administered prices of fertilizers, power, fuel, water etc., the Minimum Support Prices were revised upwards. Between 1991 and 1996, the Minimum Support Prices of wheat were increased by 90 per cent and those of paddy were raised by 57 per cent. The international prices of agricultural commodities appeared to have moved up marginally in the first two years of implementation (upto 1996) of the agreement. Very soon, developed countries took advantage of the provisions under the Green and Blue boxes and increased total support to their agriculture, while they appeared to be reducing the actionable subsidies as per the agreement. India, on the other hand, showed disregard for the events taking place in the world.

<sup>73</sup> Op cit. ( Swaminathan, M S)

<sup>74</sup> “Report of the Committee on WTO Concerns”, Government of Andhra Pradesh (2002)

The agricultural prices have kept crashing rapidly after 1996 reaching their lowest levels of the past 20 years in nominal terms and to their lowest levels of the past 100 years in real terms. World market prices for agriculture are known to move in a cyclical fashion, although the long-term trend in their movement is negative (downward). An upturn may be expected in the next one or two years. A recent OECD study predicts that world market prices for cereals will rise in the short to medium term. But the exposure to the world market has made the situation more volatile as the instability in world market prices for most of the agricultural commodities is higher than that for domestic prices.

130. World agricultural prices have fallen much against general expectations. If the member countries had implemented the commitments undertaken in the Uruguay Round to reduce farm subsidies, it might have led to an increase in agricultural prices. However, most of the developed countries, which were also major players in the international market, raised support to agriculture under the Green Box category. The overall support to agriculture in the OECD countries has increased and was legitimised. Another reason that contributed to a fall in the international prices was that the agricultural output in the world during these years moved on a relatively stable and rising trend without many supply shocks. The lingering effect of the East Asian Economic Crisis has also dampened import demand. The eagerness of all the countries to take advantage of a less restrictive trade regime intensified global price competition<sup>75</sup>.

131. In response, India has to focus on ensuring that the Doha Development Round yields some firm commitments from the developed countries for implementation of their obligations. There is need to prevent non-trade issues like labour and environment from encroaching onto the negotiating table. These non-trade barriers divert attention from the core issue of non-implementation, as has been rightly pointed out by the developing countries, including India.

132. With respect to global opportunities, a more proactive approach has to be recommended. While WTO Cells have been set up by states like Karnataka, Tamil Nadu and Kerala, the government does need to urgently redress the shackled internal markets.

133. There is a need to create awareness among agricultural producers, industry, traders, policy makers and the public about 'the changing paradigms of global agricultural trade'<sup>76</sup>. This brings to the fore issues of contract and co-operative farming, with a focus on value-addition. India's large buffer stocks do indicate a focus on production is perhaps not as pressing as the need to increase the purchasing power in the hands of the small producers, in the form of both farm and non-farm activities. There is also the urgent need to enable the rural poor to be included in opportunities that could be engineered: the agro-processing industry, herbal medicines, horticulture, fisheries, poultry, organic farming are some key areas that have been identified (details in Appendix F).

134. India will face competition from other developing countries, particularly China, East and South-East Asia and some Latin American countries, which already have experience of international markets. Land reforms, building on human capital, transfer of technology, cooperative action and contract farming are essential means to an inclusive and efficient approach.

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<sup>75</sup>Ibid

<sup>76</sup> According to a study by Cebeco India Pvt. Ltd in 4 major metropolitan towns, the mark up at various stages in the fresh fruit and vegetable chain was found as high as 62-70 percent, after having changed hands as many as 6-7 times before reaching the final consumer.

**APPENDIX:**

**Appendix A**

**Table 1.1**

**Contribution (%) to incremental production (rice and wheat): Various farm-size categories: 1971-91**

<b>Crop</b>	<b>Farm-size group</b>	<b>1971-81</b>	<b>1981-91</b>	<b>1971-91</b>
Rice	Sub-marginal	16	16	16
	Marginal	18	21	20
	Small	25	26	26
	<b>Subtotal &lt; 2.0 ha</b>	<b>59</b>	<b>63</b>	<b>62</b>
	Medium	27	24	25
	Large	14	12	13
Wheat	Sub-marginal	11	11	11
	Marginal	13	16	15
	Small	19	24	22
	<b>Subtotal &lt; 2.0 ha</b>	<b>43</b>	<b>51</b>	<b>48</b>
	Medium	27	23	25
	Large	30	26	27

Source (FAO): Adapted from Agriculture Census Reports.

**Rice and wheat: contributions to total food-grains production: 1971 and 1991**

<b>Crop</b>	<b>Production (M ton/an)</b>		<b>Production increment 1971-1991</b>	
	<b>1971</b>	<b>1991</b>	<b>M ton/an</b>	<b>% of total</b>
Rice	43	86	43	47
Wheat	24	70	46	50
Coarse cereals	30	31	1	1
Pulses	12	14	2	2
<b>Total</b>	<b>109</b>	<b>201</b>	<b>92</b>	<b>100</b>

Source: Ministry of Agriculture, GOI.

**Table 1.2**  
**Estimates of Poverty**

Year	All India		Rural		Urban	
	Number (million)	Poverty ratio (Percent)	Number (million)	Poverty ratio (Percent)	Number (million)	Poverty ratio (Percent)
1973-74	321	54.9	261	56.4	60	49
1977-78	329	51.3	264	53.1	65	45.2
1983	323	44.5	252	45.7	71	40.8
1987-88	307	38.9	232	39.1	75	38.2
1993-94	320	36	244	37.3	76	32.4
1999-00	260	26.1	193	27.1	67	23.6

(Source: Economic Survey 2002-2003)

**Table 1.3 Calories, protein, and fats in rural-households diets: 1993-94: Various farm-size categories**

Item	Sub-marginal	Marginal	Small	Medium	Large	All farms	
<b>Proportion (%) of calories, protein, and fat in total food intake</b>							
Cereals	Calories	75	72	67	65	64	72
	Protein	70	68	66	65	64	68
	Fat	18	17	16	15	15	17
Pulses	Calories	4	4	5	5	6	4
	Protein	10	10	11	11	12	10
	Fat	2	2	2	2	2	2
Milk and products	Calories	5	7	10	12	12	7
	Protein	7	10	14	15	16	10
	Fat	29	35	41	43	44	35
Fats, oils	Calories	5	5	5	6	6	5
	Fat	41	38	34	33	32	37
Meat, fish, eggs	Calories	1	1	1	0	0	1
	Protein	5	4	3	2	2	4
	Fat	2	2	1	1	1	1
Vegetable	Calories	4	4	4	3	3	4
	Protein	5	5	4	3	3	5
	Fat	2	1	1	1	1	1

Item	Sub-marginal	Marginal	Small	Medium	Large	All farms	
<b>Proportion (%) of calories, protein, and fat in total food intake</b>							
Fruits	Calories	1	1	1	1	1	
	Fat	3	2	1	1	2	
Sugar, jaggery	Calories	4	5	6	7	5	
Others	Calories	1	1	1	1	1	
	Protein	2	2	2	3	2	
	Fat	5	5	4	4	5	
<b>Average intake per person of calories (kcal/day), protein (gm/day), fat (gm/day)</b>							
	Calories	2096	2262	2442	2597	2695	2253
	Protein	59	65	72	77	81	64
	Fat	28	33	43	50	54	34
<b>Proportion (%) of non-cereal in total intake</b>							
	Calories	25	28	33	35	36	28
	Protein	30	32	34	35	36	32
	Fat	82	83	84	85	85	83

Source: (FAO) Computed from household data in the National Sample Survey (50<sup>th</sup> Round - 1993-94): All-India survey on consumer expenditure, employment, and unemployment.

**Table 1.4**  
**Home-produced calories: Relationship to poverty and hunger: 1983 and 1993: Various farm-size categories: Rural India**

Farm-size category	Proportion (%) of consumed calories produced on own holding	Per cent of human population			
		Poor		Under-nourished	
		1983	1993	1983	1993
Sub-marginal	<25	52	38	49	36
	25-50	44	35	34	33
	50-75	41	29	28	29
	>75	43	39	23	21
Marginal	<25	48	28	35	32
	25-50	43	24	28	27
	50-75	36	19	28	23
	>75	41	29	23	18
	<25	44	21	28	25
	25-50	36	13	26	16
	50-75	33	13	25	18

	>75	38	21	21	14
<b>Medium</b>	<25	40	11	23	15
	25-50	27	10	22	17
	50-75	24	11	20	13
	>75	34	17	17	8
<b>Large</b>	<25	27	15	14	15
	25-50	20	8	17	10
	50-75	17	9	17	12
	>75	27	17	15	10

Source: (FAO) Computed from household data in the National Sample Survey (38<sup>th</sup> and 50<sup>th</sup> Rounds).

**Table 2.1.**  
**Calories, protein, and fats in Rural-households diets: 1993-94: Various farm-size categories**

Item	Sub-marginal	Marginal	Small	Medium	Large	All farms	
<b>Proportion (%) of calories, protein, and fat in total food intake</b>							
Cereals	Calories	75	72	67	65	64	72
	Protein	70	68	66	65	64	68
	Fat	18	17	16	15	15	17
Pulses	Calories	4	4	5	5	6	4
	Protein	10	10	11	11	12	10
	Fat	2	2	2	2	2	2
Milk and products	Calories	5	7	10	12	12	7
	Protein	7	10	14	15	16	10
	Fat	29	35	41	43	44	35
Fats, oils	Calories	5	5	5	6	6	5
	Fat	41	38	34	33	32	37
Meat, fish, eggs	Calories	1	1	1	0	0	1
	Protein	5	4	3	2	2	4
	Fat	2	2	1	1	1	1
Vegetable	Calories	4	4	4	3	3	4
	Protein	5	5	4	3	3	5
	Fat	2	1	1	1	1	1
Fruits	Calories	1	1	1	1	1	1
	Fat	3	2	1	1	1	2

Sugar, jaggery	Calories	4	5	6	6	7	5
Others	Calories	1	1	1	1	1	1
	Protein	2	2	2	2	3	2
	Fat	5	5	4	4	5	5
<b>Average intake per person of calories (kcal/day), protein (gm/day), fat (gm/day)</b>							
	Calories	2096	2262	2442	2597	2695	2253
	Protein	59	65	72	77	81	64
	Fat	28	33	43	50	54	34
<b>Proportion (%) of non-cereal in total intake</b>							
	Calories	25	28	33	35	36	28
	Protein	30	32	34	35	36	32
	Fat	82	83	84	85	85	83

Source: (FAO) Computed from household data in the National Sample Survey (50<sup>th</sup> Round - 1993-94): All-India survey on consumer expenditure, employment, and unemployment.

**Table 2.2**  
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Farm-size category	Proportion (%) of consumed calories produced on own holding	Per cent of human population			
		Poor		Under-nourished	
		1983	1993	1983	1993
Sub-marginal	<25	52	38	49	36
	25-50	44	35	34	33
	50-75	41	29	28	29
	>75	43	39	23	21
Marginal	<25	48	28	35	32
	25-50	43	24	28	27
	50-75	36	19	28	23
	>75	41	29	23	18
Small	<25	44	21	28	25
	25-50	36	13	26	16
	50-75	33	13	25	18
	>75	38	21	21	14
Medium	<25	40	11	23	15

	25-50	27	10	22	17
	50-75	24	11	20	13
	>75	34	17	17	8
<b>Large</b>	<25	27	15	14	15
	25-50	20	8	17	10
	50-75	17	9	17	12
	>75	27	17	15	10

Source: (FAO) Computed from household data in the National Sample Survey (38<sup>th</sup> and 50<sup>th</sup> Rounds).

**Table 3.1**  
**Marketable surplus (all India) in major commodities: Years 1970, 1980, 1990; Various farm-size categories**

Crop	Farm-size category	Marketable surplus (million ton per ann)			Marketable surplus/category's production (%)		
		1970	1980	1990	1970	1980	1990
Rice	Sub-marginal	-8.45	-13.97	-13.14	-	-	-
	Marginal	-2.19	-2.82	-0.07	-	-	-
	Small	0.01	1.85	7.20	0	16	42
	Medium	4.12	7.62	12.28	42	56	66
	Large	11.19	13.00	16.01	73	75	80
Wheat	Sub-marginal	-3.79	-5.65	-4.92	-	-	-
	Marginal	-1.34	-2.11	0.11	-	-	2
	Small	-0.74	-2.33	1.26	-	-	12
	Medium	0.60	0.23	4.52	12	3	35
	Large	7.17	7.89	15.38	56	49	72
Coarse cereal	Sub-marginal	-2.14	-2.69	-2.37	-	-	-
	Marginal	-0.91	-1.21	-0.33	-	-	-
	Small	0.16	-0.21	2.08	5	-	34
	Medium	1.99	2.11	5.24	35	32	60
	Large	13.32	12.79	12.92	69	74	80
Pulses	Sub-marginal	-0.58	-1.32	-1.43	-	-	-
	Marginal	0.07	-0.50	-0.51	-	-	-
	Small	0.28	-0.37	-0.19	23	-	-

	Medium	1.04	0.46	0.74	51	24	37
	Large	5.56	3.86	3.71	80	72	79
Oilseeds	Sub-marginal	-1.25	-0.34	-0.18	-	-	-
	Marginal	-0.64	0.02	0.52	-	4	48
	Small	-0.60	0.45	1.745	-	46	71
	Medium	-0.03	1.19	3.093	-	70	84
	Large	3.11	3.73	6.958	67	88	94

Source: (FAO) Computed from various data in Agricultural Census, Agricultural Statistics at a Glance, and Consumer Household Survey in National Sample Surveys (Various Rounds - 1970-1990)

Notes:

(-) indicates no marketable surplus generated.

Negative marketable surplus means farmers are net buyers: this category of farm size does not contribute to the supply to consumers. Marketable surplus is production less consumption. Consumption is number of households (from census data)  $\times$  per household annual consumption (from NSS consumer expenditure budget survey). Production is crop area within farm-size category (from Agricultural Census)  $\times$  average yield (Ministry of Agriculture estimates).

**Table 3.2**  
**Proportionate contribution (%) to food-grains production by farms in various size categories in 1971-1981-1991**

Crop	Farm size	1971	1981	1991
Rice	Sub-marginal	7	9	11
	Marginal	11	13	15
	Small	20	21	23
	<b>Subtotal &lt; 2.0 ha</b>	<b>38</b>	<b>43</b>	<b>49</b>
	Medium	24	25	25
	Large	38	32	26
Wheat	Sub-marginal	5	7	9
	Marginal	7	9	12
	Small	14	15	19
	<b>Subtotal &lt; 2.0 ha</b>	<b>26</b>	<b>31</b>	<b>40</b>
	Medium	21	23	23
	Large	53	46	38
Coarse cereals	Sub-marginal	3	3	4
	Marginal	5	6	8
	Small	11	13	17

	<b>Subtotal &lt; 2.0 ha</b>	<b>19</b>	<b>22</b>	<b>29</b>
	Medium	19	22	25
	Large	63	57	46
Pulses	Sub-marginal	3	4	4
	Marginal	5	7	8
	Small	11	13	15
	<b>Subtotal &lt; 2.0 ha</b>	<b>19</b>	<b>24</b>	<b>27</b>
	Medium	18	20	22
	Large	63	56	51
All food-grains	Sub-marginal	5	7	9
	Marginal	8	10	12
	Small	15	17	20
	<b>Subtotal &lt; 2.0 ha</b>	<b>28</b>	<b>34</b>	<b>41</b>
	Medium	21	23	24
	Large	51	43	35

Source (FAO): Computed from data in Agricultural Census and in Agricultural Statistics at a Glance, GOI

**Table 3.3 Proportionate contribution (%) to non-food-grains production: Various farm-size categories, in 1971-1981-1991**

Crop	Farm-size category	1971	1981	1991
Oilseeds	Sub-marginal	3	4	5
	Marginal	5	6	7
	Small	11	13	16
	<b>Subtotal &lt; 2.0 ha</b>	<b>21</b>	<b>23</b>	<b>28</b>
	Medium	18	22	24
	Large	63	55	48
Sugarcane	Sub-marginal	5	6	9
	Marginal	8	10	14
	Small	16	19	23
	<b>Subtotal &lt; 2.0 ha</b>	<b>29</b>	<b>35</b>	<b>46</b>
	Medium	25	27	26
	Large	45	38	28
Fruits & Vegetables	Sub-marginal	13	14	15
	Marginal	12	13	15

	Small	18	18	21
	<b>Subtotal &lt; 2.0 ha</b>	<b>43</b>	<b>45</b>	<b>51</b>
	Medium	20	23	22
	Large	38	32	27
Cotton	Sub-marginal	*	1	1
	Marginal	2	2	4
	Small	6	9	15
	<b>Subtotal &lt; 2.0 ha</b>	<b>8</b>	<b>12</b>	<b>20</b>
	Medium	15	20	25
	Large	77	68	53
Jute	Sub-marginal	8	10	18
	Marginal	11	18	19
	Small	28	28	28
	<b>Subtotal &lt; 2.0 ha</b>	<b>47</b>	<b>56</b>	<b>65</b>
	Medium	25	26	21
	Large	27	17	14

Source: (FAO) Computed from data in Agricultural Census and in Agricultural Statistics at a Glance, GOI

**Table1: Trends in Central Government Budget expenditure (Rev+Cap) on Rural Development  
with special reference to Poverty Alleviation programmes 1990-91 to 2001-02**

Programmes	Nominal prices(Rs.in crores)												
	Budget estimate		Revised Estimate										
	2001-02	2000-01	2000-01	1999-00	1998-99	1997-98	1996-97	1995-96	1994-95	1993-94	1992-93	1991-92	1990-91
<b>Rural Development of which</b>													
<b>Special prog.for rural development</b>	450	900	370	950	904	869	835	895	855	819	500	476	473
<b>Rural Employment</b>	2925	2655	2798	3729	4050	3857	3495	4771	4675	3906	2546	1825	2001
1.Jawahar Gram Samridhi Yojana	1485	1485	1345	1689	2060	1953	1655	2955	3535	3306	2526	1825	2001
2.Emp.Assurance scheme including Food for Work	1440	2655	1453	2040	1990	1905	1840	1816	1140	600			
<b>Rural Housing</b>	1374	1539	1490	1659	1532	1144	1194	492	23	10	5		
<b>Social Security and Welfare</b>	1022	734	734	710	640	490	550	550					
<b>Other rural dev.prog</b>	273	266	249	181	505	487	504	331	79	58	37	41	37
<b>Total (Rural Dev)</b>	<b>6044</b>	<b>6094</b>	<b>5641</b>	<b>7229</b>	<b>7631</b>	<b>6847</b>	<b>6578</b>	<b>7035</b>	<b>5632</b>	<b>4793</b>	<b>3088</b>	<b>2342</b>	<b>2511</b>
<b>Total (Poverty Alleviation prog.)</b>	22058	16309	19595	18165	17808	15691	13923	13807	11691	10963	6706	5983	5671
<b>Total (Budget allocation)</b>	375223	338487	335523	303738	281912	235245	202298	183004	162272	143872	124726	113232	106717

Source: Expenditure Budget, Volume 2, Government of India (various years)

Appendix B

**Trends in Central Government Budget expenditure (Rev+Cap) on Rural Development  
with special reference to Poverty Alleviation programmes 1990-91 to 2001-02  
Constant prices, (1993-94=100, Rs.in crores)**

Programmes	Budget estimate		Revised Estimate										
	2001-02	2000-01	2000-01	1999-00	1998-99	1997-98	1996-97	1995-96	1994-95	1993-94	1992-93	1991-92	1990-91
<b>Rural Development</b>													
<b>of which</b>													
<b>Special prog.for rural development</b>	273	563	231	613	607	634	652	752	777	819	549	567	639
<b>Rural Employment</b>	1773	1659	1749	2406	2718	2815	2730	4009	4250	3906	2798	2173	2704
1.Jawahar Gram Samridhi Yojana	900	928	841	1090	1383	1426	1293	2483	3214	3306	2776	2173	2704
2.Emp.Assurance scheme including Food for Work	873	1659	908	1316	1336	1391	1438	1526	1036	600			
<b>Rural Housing</b>	833	962	931	1070	1028	835	933	413	21	10	5		
<b>Social Security and Welfare</b>	619	459	459	458	430	358	430	462					
<b>Other rural dev.programmes</b>	165	166	156	117	339	355	394	278	72	58	41	49	50
<b>Total (Rural Dev)</b>	<b>3663</b>	<b>3809</b>	<b>3526</b>	<b>4664</b>	<b>5122</b>	<b>4997</b>	<b>5139</b>	<b>5914</b>	<b>5120</b>	<b>4793</b>	<b>3393</b>	<b>2789</b>	<b>3393</b>
<b>Total (Poverty Alleviation prog.)</b>	13368	10193	12247	11719	11952	11453	10877	11603	10628	10963	7369	7123	7664
<b>Total (Budget allocation)</b>	227408	211554	209702	195960	189203	171712	158045	153785	147520	143872	137062	134645	144212

**Trend in Central Government Budget Expenditure  
(Revenue+Capital) on Food Subsidy**

<b>Year</b>	<b>Food Subsidy at Constant prices (1993-94 = 100) Rs. In Crore</b>	<b>As a percentage of total budget</b>
2001-02*	8288	3.64
2000-01*	5131	2.42
2000-01	7578	3.61
1999-2000	5935	3.02
1998-99	5839	3.08
1997-98	5474	3.81
1996-97	4739	3.00
1995-96	4622	3.00
1994-95	4636	3.14
1993-94	5200	3.61
1992-93	3077	2.24
1991-92	3393	2.51
1990-91	3311	2.29

\* Budget Estimates. All other figures are Revised Estimates.

Source: Expenditure Budget, Vol.2, GOI; various issues.

**Economic Cost and MSP of Wheat and Rice**

(Rs./Quintal)

<b>Year</b>	<b>Wheat</b>		<b>Rice</b>	
	<b>MSP</b>	<b>Economic Cost</b>	<b>MSP</b>	<b>Economic Cost</b>
1991-92	275	391	230	497
1992-93	330	504	270	585
1993-94	350	532	310	665
1994-95	360	551	340	695
1995-96	380	584	360	763
1996-97	475	663	380	858
1997-98	510	798	415	937
1998-99	550	800	440	995
1999-2000	580	872	490	1111
2000-01	610	830	510	1148
2001-02	620	839	530	1174

**Agricultural Exports as Percentage Share of Total Agri-Exports**

	<b>2000-01</b>	<b>2001-02</b>	<b>2001-02 April-Oct</b>	<b>2002-03 April-Oct</b>
Tea	7.2	6.1	7.1	6.0
Coffee	4.3	3.9	4.4	3.5
Rice	10.7	11.3	10.4	13.6
Wheat	1.5	4.8	4.4	5.8
Sugar & Molasses	1.9	6.4	8.0	4.7
Tobacco	3.2	2.9	2.7	3.6
Spices	5.9	5.3	5.8	5.8
Cashew	6.9	5.9	6.6	7.4
Sesame & Niger	2.2	2.2	2.2	1.2
Guargum Meal	2.2	1.4	1.5	1.4
Oil Meals	7.5	8.1	4.4	3.0
Fruits & Vegetables	4.1	4.5	4.3	4.6

Processed Fruit & Veg. Juices	2.0	1.8	2.0	1.9
Meat & Meat Preparations.	5.4	4.3	3.9	4.9
Marine Products	23.2	21.2	22.4	23.4
Others	11.9	10.1	9.9	9.2
Agricultural Exports	100.0	100.0	100.0	100.0
Agri-exports as percent of total export	<b>13.5</b>	<b>13.4</b>	<b>13.6</b>	<b>11.9</b>
<b>Million US Dollars</b>				
Agricultural Exports	6004.0	5871.1	3387.0	3489.0
Total Exports	44560.2	43826.7	24891.0	29396.0

#### Agricultural Imports as Percentage Share of Total Agri-Imports

	<b>2000-01</b>	<b>2001-02</b>	<b>2001-02 April-Oct</b>	<b>2002-02 April-Oct</b>
Cereals	1.0	0.8	0.9	1.0
Pulses	5.9	28.9	26.4	21.5
Milk & Cream	0.1	0.1	0.1	0.1
Cashew Nuts	11.3	3.9	3.6	9.4
Fruits & Nuts excld.				
Cashew	9.4	6.9	5.8	4.6
Sugar	0.4	0.3	0.5	0.0
Oil Seeds	0.1	0.0	0.0	0.0
Edible Oils	71.8	59.1	62.7	63.5
Agricultural Imports	100.0	100.0	100.0	100.0
Agri-Imports as percent of Total Imports	<b>3.7</b>	<b>4.5</b>	<b>4.5</b>	<b>4.3</b>
<b>Million US Dollars</b>				
Agricultural Imports	1858.4	2294.4	1353.3	1482.0
Total Imports	50536.3	51413.3	30171.1	34097.4

(Source: Economic Survey, 2002-03)

## Appendix D

### COMPETITIVENESS OF INDIA OVER THE YEARS <sup>77</sup>

#### 1. Rice

Period (3-years)	Average Export Price (Rs/kg)	Average Domestic (Port) Price (Rs/kg)	Net Protection Coefficient (NPC)
1984-85 to 1986-87	5.15	3.87	0.75
1988-89 to 1990-91	5.82	4.99	0.86
1992-93 to 1994-95	7.94	7.66	0.96
1995-96 to 1997-98	8.28	8.38	1.01

(Estimated by K.P.C. Rao *et al*, 2001)

#### 2. Maize

Period (3-years)	Average Export Price (Rs/kg)	Average Domestic (Port) Price (Rs/kg)	Net Protection Coefficient (NPC)
1980-81 to 1982-83	3.04	2.94	0.97
1985-86 to 1987-88	3.97	2.38	0.60
1992-93 to 1994-95	4.50	4.57	1.02
1995-96 to 1997-98	6.54	4.97	0.76

(Estimated by K.P.C. Rao *et al*, 2001)

#### 3. Sorghum

Period (3-years)	Average Export Price (Rs/kg)	Average Domestic (Port) Price (Rs/kg)	Net Protection Coefficient (NPC)
1985-86 to 1987-88	2.56	1.84	0.72
1990-91 to 1992-93	5.30	3.78	0.71
1995-96 to 1997-98	7.02	6.91	0.98

(Estimated by K.P.C. Rao *et al*, 2001)

#### 4. Oilseeds (Average of 1994-95 to 1996-97)

Oilseed	Average Export Price (Rs/kg)	Average Domestic (Port) Price (Rs/kg)	Net Protection Coefficient (NPC)
Castor seed	12.93	12.34	0.95
Groundnut kernel	20.32	18.06	0.89
Sesame seed	27.74	20.67	0.75

(Estimated by K.P.C. Rao *et al*, 2001)

<sup>77</sup> "Report of the Committee on WTO Concerns", Government of Andhra Pradesh (2002)

## 5. Mustard oil and Sugar (1997-98)

Commodity	Net Protection Coefficient (NPC)
Mustard oil	1.178
Sugar	0.965

Source: IIM Study, (Samar Dutta et al, 1999)

## 6. Vegetables and Fruits

Commodity	Years of Reference	Average NPC	
		At O.E.R.	At S.E.R.
Onions	1986-87 to 1992-93	0.88	0.71
Potatoes	1986-87 to 1992-93	1.23	0.97
Tomatoes	1988-89 to 1992-93	0.71	0.58
Mangoes	1989-90 to 1992-93	1.01	0.81
Grapes	1988-89 to 1992-93	0.79	0.64
Banana	1990-91 to 1992-93	0.66	0.52
Apples	1990-91 to 1992-93	1.30	1.05
Sapota	1992-93		0.69
Lychee	1993		0.55

Note: O.E.R. - Official Exchange Rate; S.E.R. - Shadow Exchange Rate

Source: Ashok Gulati et al, 1996

## 7. Poultry Products

Years	Average Export Price (Rs/kg)	Average Domestic (Port) Price (Rs/kg)	Net Protection Coefficient (NPC)
1993-94	36.91	33.92	0.91
1994-95	32.08	37.15	1.15
1995-96	26.03	35.31	1.35
1996-97	48.87	42.86	0.87
1997-98	68.91	42.97	0.62

Raw data source: APEDA

(Estimated by K.P.C. Rao et al, 2001)

## Appendix E

### **A. THE AGREEMENT ON TRADE RELATED INTELLECTUAL PROPERTY RIGHTS (TRIPS):**

Herbal medicines, *ayurveda* and *unani* are seen as potential high areas of growth in the burgeoning market for traditional systems of healthcare. Protection of traditional knowledge and ensuring its use provides benefits to the local communities is an issue that is being slowly addressed.

Similarly, it is recognized that India has high potential in the seeds sector. According to a study by Indian Agricultural Research Institute (IARI), India can capture 25 percent of the \$6 billion world market for seeds. This is because India has the largest network of agricultural research institutes and has developed over 2000 varieties of food crops in the past 40 years.

The new plants and seeds are being given almost free to farmers as the government's policy is against pricing of products of public-funded research programmes. Foreign seed companies also avail the benefits of this programme. With patent protection available to seeds, India can use its competitive position to advantage in the world market. Foreign seed companies are mainly eyeing the highly lucrative market for hybrid vegetable crops (expected to increase from \$ 125 million to \$ 2 billion) in another five years. In the case of food grains, no foreign or Indian company is in a position to develop varieties to suit the vast agro-climatic zones of India. In fact, experts agree that no enforcement mechanism can be foolproof to prevent exchange of protected plant materials among farmers. Multinational seed companies are insisting on PBR mainly to prevent misuse of their protected material by commercially-run seed companies and not exactly against farmers' right to exchange materials. In the long run they hope that the seed replacement rate will increase from 10 to 25 per cent in India due to demand for high-yielding varieties to meet the needs of world markets<sup>78</sup>.

Biotechnology will be a key factor in agricultural development in the coming decades. Genetic engineering modification techniques hold enormous promise in developing crop varieties with a higher level of tolerance to biotic and abiotic stresses. A conducive atmosphere for application of frontier sciences in varietal development and for enhanced investments in research and development is a pressing requirement. At the same time, concerns relating to possible harm to human and animal health and bio-safety as well as interests of farmers must be addressed.

The Agreement on TRIPS requires WTO members to introduce an "effective sui generis system" for the protection of plant varieties. This implies that many developing countries that hitherto had not extended intellectual property rights to the agriculture sector would have to do so. TRIPS is a significant step involving far reaching changes in the protection of intellectual property in many developing countries.

Intellectual property (IP) rights confer exclusive rights over materials containing protected information and may thus affect the protection, storage, circulation and trade of such materials. The main IP instruments with regard to plant genetic resources are patents and plant breeders' rights. Developing countries have three options for meeting their obligation to protect plant varieties under TRIPS. They may adopt one of, or a combination of, the following: patents on plant varieties; legislation based on the UPOV (International Union for the Protection of New Varieties of Plants) 1978 or 1991 Convention (although they may now only join the 1991 Convention); another form of *sui generis* system

Developing countries might consider raising the threshold, in particular so that protection is only given for significant or important innovations with particular characteristics that are deemed socially beneficial (for example, yield increases or nutritional value). Thus, the criteria for distinctiveness may be strengthened, and also the criteria defining utility in the context of national agricultural policy. Alternatively, countries may decide to retain lower standards for certain categories of plant in order to

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<sup>78</sup> See "Report of the Committee on WTO Concerns", Government of Andhra Pradesh (2002); MS Swaminathan

facilitate access by domestic breeding industries to PVP protection from which may flow commercial benefits.

Most legislation is in accordance with the International Union for the Protection of New Varieties of Plants (UPOV) Convention, which establishes minimum standards. TRIPS only requires that there be some form of IP protection for plant varieties, it does not define the exceptions that may be provided to the rights of owners of protected varieties. Article 27.3 (b) of the TRIPS states that "...Members shall provide for the protection of plant varieties either by patents or by an **effective** sui generis system or by a combination thereof" (emphasis added). A matter of much debate has been over what 'effective' means. It could, for example, be understood as a reference to the level of protection and compensation, or, to the level of enforcement. The WTO, UPOV and some major plant breeder associations, like ASSINSEL (Association of Plant Breeders for the Protection of Plant Varieties), indicate that they consider the UPOV framework an 'effective' sui generis system.

PVP generally recognizes two exceptions to the exclusive rights of breeders (in patents). The 'farmers' privilege' allows farmers to reuse, and sometimes resell, limited quantities of seed obtained from cultivation of protected varieties. This is a practice, which is very widespread amongst poor farmers in developing countries, and still common in developed countries. These systems of sale and exchange are an important mechanism by which farmers have traditionally selected and improved their own varieties, and the restriction of this right may impede this process of improvement. The 'breeders' exemption' allows the use of a protected variety under certain conditions as the basis for further varietal development by third parties.

UPOV 1991 (which revises UPOV 1978) transforms (or rather, restricts) the way in which the rights of the farmer to reuse farm-saved seeds on their own land are expressed and effectively changes the farmers' privilege from a principle to an exception. For this reason, India, which has recently decided to seek admission to UPOV, incorporating in its Plant Varieties Protection legislation (2002) a clause that states:

*a farmer shall be deemed to be entitled to save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled to before the coming into force of this Act ...*<sup>79</sup>

This is for the first time in the world that the rights of the farmers and that of the breeders have been considered concurrently<sup>80</sup>. In the meantime, India is yet to pass its Biodiversity Bill and Patents Act to protect its own intellectual property.

- With respect to the new Intellectual Property Regime, the privatization of research may lay too much emphasis on development of seeds, without enough on more holistic problems of water and soil management, cropping systems. Systems to keep a check that breeding and testing of new varieties is kept under strict regulation from a biosafety point of view, are insufficient. This would be best addressed by the strengthening of public sector research, like the ICAR. However, these are weak in terms of the quality and scope of the research, and the management of these bodies, in terms of the limited collaboration with farmers, lack of accountability for performance and excessive centralisation of planning and monitoring etc. Decentralised planning and area-specific research need to be encouraged.

### **Geographical Indications:**

Section 3 of the TRIPs Agreement provides for mutual recognition of Geographical Indications (like Basmati Rice and Darjeeling Tea). The Agreement contains a provision (Article 22.3) that a member shall provide the legal means for interested parties to prevent the use of any means in the designation or presentation of a good that indicates or suggests that the good in question originates in a geographical area other than the true place of origin in a manner which misleads the public as to the geographical origin of the good. There is, however, no obligation under the Agreement to protect

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<sup>79</sup> Clause 39 (1) (iv) of the Protection of Plant Varieties and Farmer's Rights Act, Government of India, 2000. Source: <http://www.grain.org/brl/pvp-brl-en.cfm>

<sup>80</sup> See Swaminathan M S "WTO cannot be blamed for our inaction", 2001

geographical indications which are not protected in their country of origin or which have fallen into disuse in that country.

India does not have any specific law on geographical indications. The need to enact a separate law on this subject has been recognized and separate legislation on geographical indications is being drafted in consultation with the concerned ministries and experts. (In a related development, India has circulated a paper in the TRIPs Council of the WTO justifying the necessity for extension of higher protection Under Article 24.2 of TRIPs – currently available only to wines and spirits- to the region-specific products of developing countries).

There have been attempts, for example, to protect traditional products such as liquors, sauces and teas in Venezuela and Vietnam. The TRIPs Council of the WTO is still discussing the possibility of providing additional protection for geographical indications for wines and spirits, and whether this additional protection should also be extended to cover other or all geographical indications.

## **B. THE AGREEMENT ON SANITARY AND PHYTOSANITARY MEASURES (SPS)**

This agreement deals with food safety and animal and plant health standards. The objective is to ensure adherence to certain food standards, which both the exporting and importing countries have agreed upon. The agreement does not lay down the standards themselves but set the guidelines for adherence to the standards. These standards can be what are set by other international organisations or by the importing country itself. Some of the international standards are those set by the FAO-WHO Codex Alimentarius Commission (for food safety), the International Office for Epizootics (for animal health) and the FAO's Secretariat of the International Plant Protection Convention (for plant health).

One core principle is that these standards should be based on scientific evidence, should not discriminate between countries, and should not be a form of disguised protection. Another core principle has been equal treatment for countries “where identical or similar conditions prevail”. Yet another core provision is that countries be given “a reasonable” period of time in advance of new regulations.

Standards are seen as a significant non-tariff barrier to developing country exports, in the agriculture sector. The challenges that the developing countries face is that the standards may some times not be set in a transparent manner or that they do not have sufficient time to build up these standards.

The European Union's technical standards are affecting Indian coffee and tea exports as they are said to contain excessive residue. The United States has been subjecting Indian export of meat, fish dairy products, vegetables and fruits to the provisions of the SPS Agreement. Japan is doing the same on the imports of fish and tea from India<sup>81</sup>.

A recent DFID Study found that SPS is considered the most significant impediment to exports to the EU. It was a particular problem for meat/ meat products, fish/fish products and fruit and vegetable products. Indian dairy is a case in point. India is the world's largest producer of milk and dairy products due to its successful co-operative initiative. Smallholders, who milk by hand, produce much of this milk. Directive 92/46/EEC of the European Union requires that dairy products be manufactured from cows that are mechanically milked: effectively excluding this sector from exporting to the EU.

Codex Alimentarius guidelines recommend use of safety and quality management system, Hazard Analysis and Critical Control Points (HACCP). This will affect trade in Agricultural commodities. India will need to organize HACCP training programmes at various levels to sensitise and educate farmers and processors about this upcoming quality and safety system. While HACCP system may be developed for Indian markets as well, export oriented agricultural products must be subjected to HACCP system. If the agricultural commodities have HACCP certifications, the importer might waive the pre-shipment inspection, saving various costs involved in delays. Initially, tax incentives and subsidized HACCP training may have to be offered at various levels. There must be sensitization

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<sup>81</sup> Ghimre, Hirmani and Adhikari, Ratnakar “Agricultural Liberalisation and its Impact on South Asia”, SAWTEE and CUTS, Kathmandu, 2001.

from the beginning to include the poorest in such activities. This would strengthen their skill and also prevent further marginalization. This will also have a positive fallout on the quality and safety of agricultural commodities consumed by Indian consumer as well. Finally, a need to integrate the functions of various regulatory mechanisms such as AGMARK, Prevention of Food Adulteration (PFA) act 1954, Food Product Order (FPO), BIS etc has also been identified.

## Appendix F

### ORGANIC FARMING<sup>82</sup>

The world market for organic agricultural products in 1992 was US \$ 3 to 4 billion per year. The potential for such products may soon be in excess of US \$ 12 billion. It is estimated that there are over 10 million hectares under certified organic agricultural production worldwide. The largest areas are in Australia, Italy, the United States, Netherlands and Germany. South American countries are rapidly increasing their acreages. In most developed countries the organic sector is less than 0.5% of the total agricultural sector.

- The advantages of organic farming are:
  - Offers significant price premiums, though the premium is expected to reduce over time.
  - Reduces external inputs by refraining from the use of Chemo-synthetic fertilizers, pesticides and pharmaceuticals.
  - Includes all agricultural systems that promote environmentally, socially and economically sound production of food and fibres.
- India – has good opportunities for increasing organic production because of
  - - Long tradition of organic farming.
  - Around 70% of the arable land, which is mainly rainfed area, has not been using much fertilizer. Studies show that there is ample scope to increase the production and productivity in the rainfed areas, by using organic methods of cultivation.
  - Inorganic fertilizers supplied 18 million tons of nutrients in 1999-2000
  - India produced 270 million tons of crop residue, one-third of this is available for direct recycling
- The crops where this scope is now being harnessed are pepper, coffee and Darjeeling tea.
- The major organic crops identified for Export Promotion are:
  - Spices and Herbs
  - Nuts, Cashewnuts and Peanuts.
  - Processed tropical fruit, dried/frozen concentrated or aseptically bottled or packed.
  - Cocoa, Coffee, Coconut, Tea.
  - Cotton, Soya, Rice and other Edible crops.
  - Processed vegetables like Gherkins and pickles.
  - White sesamum seeds.
- The problems which farmers in this sector may face are
  - Uncertain Premiums.
  - Yields (effect during the conversion period)
  - Availability of organic materials and organic fertilizers.
  - Impact on variable costs
  - Institutional support.
  - Adhering to standards fixed by various importing countries.
  - Poor roads and communications between producing areas and consuming / exporting areas.
  - Poor transfer of technology and training.

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<sup>82</sup> Ibid.

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