DOMESTIC PRICES AND EXPORTS OF AGRICULTURAL COMMODITIES

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Introduction

The protest suicide of a South Korean man and clashes between demonstrators and police in Cancun overshadowed the World Trade Organization conference in the Mexican resort. The Cancun Ministerial Conference ended on 14th September, 2003 after Chairperson Luis Ernesto Derbez concluded that despite considerable movement in consultations, members remained entrenched, particularly on the "Singapore" issues. The predictable backlash against the combined US-EU declaration on farm subsidies continued to swell with twenty two countries joining the India, China and Brazil coalition on WTO agricultural negotiations. The rigid stand on farm subsidies by the US-EU coalition, both happen to be the biggest players in the international farm trade as well as the biggest providers of subsidies to their own farmers, has divided the world into two groups.

Many economists predicted that with the implementation of the provisions of UR agreements specially the Agreement on Agriculture, the subsidies given by EU and US will be minimized, tariffs will be reduced, consequently the world prices would rise. With the rise in prices developing countries will gain manifold from their exports. However, the international prices are falling and developing countries are losing their business.

India has only 0.6% of world market share in exports. Its share in agricultural products is only 0.4%. External environment problems do affect our exports but internal pricing strategies also erode our competitiveness. Export earnings are dependent not only on domestic production and distribution situation but also on many external factors like export prices, countries competing in product trade, international consumer's product preferences and many other socio political factors. Due to high volatility of international prices, analysis of domestic and international prices is required to be undertaken from time to time. Many researchers have analyzed the trends of domestics and international prices of agricultural commodities. In a recent work, Chand (2002a) analyzed the trends in prices of agricultural commodities and found the volatility of

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international prices.

This paper analyses domestic, international and realized export unit prices of twelve commodities to see whether export quantity of Indian agriculture products is dependent on international prices or domestic prices, whether we produce surplus to export. Are domestic prices affected by international prices? The period from 1995-2003 has conciously been selected to study the movements after the establishment of WTO. Section II discusses expert views regarding internal factors relating to supply side affecting prices of agricultural commodities. External factors affecting demand side with literature regarding international issues and WTO are discussed in section III. Data has been analyzed in section IV. Section V concludes with some suggestions and strategies.

Section II

Internally domestic prices are affected and influenced by the low price and income elasticity, production, Government interventions like Minimum Support Prices and procurements, subsidies, devaluation etc. Vaidyanathan, (2000) has quoted it as a consensus that there are three reasons for price distortions (a) restrictions on free movement of agricultural produce within the country and in foreign trade, have dampened the prices received by farmers; (b) the guaranteed prices of farm products are inadequate relative to production costs; and (c) the policies have been biased against agriculture also because they give a high level of protection to industry and none to agriculture. By depressing domestic prices relative to world prices, these policies in effect taxed agriculture.

Price and Income Elasticity

The export performance of the majority of Less Developed Countries (LDCs) has been relatively weak compared with the export performance of rich countries. It relates to the concept of elasticity of demand. Most statistical studies of world demand patterns for different commodity groups reveal that in the case of primary products, the income elasticity of demand is relatively low. The net result of this low-income elasticity of demand is the tendency for the relative price of primary products to decline overtime. More over, since the price elasticity of demand for primary commodities also stands to be quite low, any shifts in demand - supply curves can cause

large and volatile price fluctuations.

There is not much difference in Indian condition with regard to established theory. Although the rate of growth in food grains production in the 1990s is slower compared to the rate of growth in the 1980s it is still ahead of population and income-induced demand for food grains. (Vyas (1999)), but the intake of foodgrains in general and cereals in particular is at a much slower pace than was anticipated by the planners. As a result margin between the availability of cereals in relation to demand, year to year fluctuations notwithstanding, is widening with food grains supply outpacing the demand. Slackening of demand is not due to higher prices but due to a change in the structure of demand; latter induced by the growth in income as well as by non-economic factors, such as urbanization. Surplus of supply over demand is particularly noticeable in the superior cereals, i.e., wheat and more particularly in rice.

Minimum Support Prices

Second much debated problem is about Minimum Support Price (MSP). The concept of minimum support price was originally based on the 'paid-out', full cost of production – in the farm management parlance from A2 cost to cost C. Due to pressure from vocal and organized large farmers' lobby, all types of farm expenditure, incurred or imputed, were added to the cost of production for the purpose of fixing the minimum support price. This escalated the minimum support price which had to be increased year after year, (Vyas (2001)). *C*ost of production is justified when there is a situation of scarcity and augmenting supply is the primary objective. When demand is falling short of supply and there are signs of emerging surplus, then demand side corresponding to the market price should get primacy in determining the MSP. But this principle has not been followed in the case of rice and wheat even when their stocks have been accumulating and causing a severe strain on fiscal resources, (Chand (*2002).* Further, on basis of cost of production, inefficiency gets in-built into production and farmers do not have to bother growing a particular crop on land, unsuitable for its cultivation, which would raise cost of production. This is exactly what has happened in the case of extension of rice cultivation to the semi-arid regions and sandy soils in states like Punjab and Harayana. Fixing MSPs based on cost of production totally neglects changes in society's preference for a commodity which has several adverse implications.

The main role of MSPs should be to keep a check on exploitative private trade and ensure price stability. MSPs should be flexible and fixed on the conservative side having strict relevance to demand-side factors so that private trade has an incentive to market the produce. (Vyas, (2001)) Support should be restricted to a few important commodities, and should be in the nature of assurance against recouping variable costs of production. To mitigate or at least minimize price-induced risk, greater recourse should be taken to crop insurance and forward trading.

Stern, Nicholas (2002) is critical by saying that over time, these artificially administered prices are even more damaging because they distort incentives for future investment and may cause environmental damage from excessive use of water. While protecting farmers from risks is important from a social standpoint, support prices involving high subsidies, the benefits of which go to bigger farmers, are not cost-effective ways to fight poverty or implement social protection.

The primary beneficiaries of the system were not the consumers, but the flour millers, the ration shop-owners and officials of the government distribution agency, and the subsidies involved were quite high. The ministry of food had an interest in larger procurement at a low price, to benefit customers of the food distribution system. The ministry of agriculture wanted a high price to please farmers and stimulate production. Paradoxes arose, such as taxing farm exports yet providing price support to farmers through the procurement program. (Goyal (1999))

Public policy has influenced the incentive environment both positively and negatively. Guaranteed support prices protect farmers against excessive price fluctuations. The tendency to offer more liberal procurement prices than recommended by the Prices Commission and keeping the increase in pricing of key inputs well below increase in costs have been beneficial to farmers. (Vaidyanathan, (2000)) "Setting prices right" is a misconceived policy for the problem or the objective of agricultural growth. (Desai (1999))

It almost appears that the country is caught in the 'advanced country syndrome' of support prices feeding on themselves leading to reduced consumption, embarrassing surpluses, reduced incentives for diversification of agriculture and for the adoption of cost-reducing technologies,(Hanumantha (2000). There has been a steep rise in procurement prices in the recent period, when there has in fact been a downward trend in international prices.

Product price support policy for agriculture needs reform to shed the consideration of

principle of price parities in fixing the procurement and minimum prices since they have little, if any, conducive impact on agricultural growth and economic development in general. (Desai (1999)) Price reforms are needed to improve the market structure and competitiveness of trade as well as industries directly relevant to agriculture due to rigidities and imperfections. They are also needed to encourage more appropriate use of inputs such as seeds, fertilizers, irrigation-water (canal), and farm power to improve the efficiency of institutions supplying these inputs as well as that of farmers in their use of inputs.

Government Procurements

On one hand, the country is holding more than one-fourth of the annual production of rice and wheat in public stock, and on the other every fifth Indian is underfed even by the standard of minimum calorie requirement for a healthy and active life. Similarly, the country has been facing large shortages of pulses and edible oils and has now to meet about one-tenth of demand for pulses and close to half of the demand for edible oil from imports. These imports are in turn having an adverse impact on producers in the unfavorable dry-land areas, whereas the surplus of wheat and rice is being disposed of as export at a huge cost to the state exchequer. These changes necessitate a fresh look at the role and relevance of the system of minimum support prices in the country, (Chand (*2002)).* Public stocks have to be adequate to defend floor and ceiling prices, (Goyal (1999)). But Balakrishnan (2000) argues that the inflation of the 1990s is largely due to the hiking of procurement prices.

Fixing an internal price above both the internal equilibrium and the world price generates a rigid excess supply, exports would be larger but total welfare of both exporting country and world as a whole would diminish. Under this perfect competition paradigm, so common among agricultural economists, government behaviour is just irrational: high internal prices may only be explained by a Government's preference for producers, but stocks remain unexplained. Short run price speculation may give some rational explanation for stocks in a competitive framework, but it does not seem to be a realistic approach to Governments' behaviour. (Lopez, (1996))

Crops which can be considered as price leaders or the crops for which technological breakthrough is imminent ought to be covered under the minimum price support. Other candidates for the support prices would be crops grown in the high-risk environment where the

producers of the designated crops deserve to be given an assurance of guaranteed prices. In all these cases, minimum support prices should be treated as a transient measure, i.e., till we are able to evolve a viable crop insurance and/or forward trade program. (Vyas, (2001))

Devaluation

Sugata, et al (2000) analyzed the exports and found that the spurt in export growth rate immediately after two successive devaluation exercises since 1991 did not last very long. The average annual growth rate of exports, which was 15.7 per cent during 1992-96, came down sharply to 1.5 per cent in 1997-98. This led to rise in expectation of further devaluation of rupee. Although rupee continuously depreciated with respect to the dollar since September 1997, exports did not respond to the falling rupee commensurately.

(Sugata, et al (2000)) Devaluation, by reducing the black market premium, increases the officially reported export sales, which is often dubbed as devaluation-led growth in actual exports. In developing countries where foreign exchange markets are subject to stringent rules and regulations, actual exports may not undergo much change following devaluation and the official statistics often tends to overestimate the actual impact of currency depreciation/ devaluation. The gaps between actual and officially reported exports still remain. The difference between actual and officially reported exports is considered here as the extent of underinvoicing. The devaluation exercise of 1991 was part of overall economic liberalization package. There was not much change in actual exports while official exports rose sharply.

As the country approaches self-sufficiency, so that trade becomes freer and domestic food prices approach international, the level of productivity in the basic food crop determines the nominal exchange rate that is sustainable without inflation. There is a level of the real exchange rate that delivers a target wage rate. If the exchange rate is above that, it results into inflation and real appreciation. Therefore a nominal exchange rate rule should be followed, whereby the nominal exchange rate is set to equal the ratio of domestic to world prices of a basic foodgrain. Domestic prices would then be constant, while the nominal exchange rate would be subject to small random fluctuations, moderated by trade margins. (Goyal (1999))

One should not get entangled in the endless web of elasticity comparisons to predict whether devaluation has been helpful in promoting exports, warns Sugata (1997). Dev (2000) favors devaluation and says that market determined exchange rate policy favored agricultural exports.

Liberalization

Trade liberalization provides many benefits such as scale economies because of increase in market size; knowledge of demand characteristics in foreign market; information about new technologies, processes and products; and cost reductions and quality improvement in products because of international competitiveness.

Chand *(*1999) opines that trade liberalization is a mixed bag and its impact would vary from commodity to commodity. There is some scope for increasing benefits from trade liberalization by reducing domestic marketing costs and by tapping proper markets for imports. Signals from ratio of domestic to global price should not be stretched too far. There should not be major policy shift for important crops like foodgrains and oilseeds based on global price signals as these prices may not be realized in actual trade. Even as agriculture is subjected to world competition, some domestic policy support must continue.

The total production of foodgrains in India equals the world trade in foodgrains. The total number of malnourished people in India (around 300 million) is equal to the total population of the US or the population of Latin America and Africa put together. The lessons of these critical factors should not be lost sight of in our continuing process of economic liberalization. Trade may be encouraged to manage food supply taking into account the contingencies from time to time. Given the size of the country, both in terms of population and geography, and the diversities in agro-climatic conditions, food preferences and other regional factors, India will have to adopt a cautious policy with regard to trade in food. There is no alternative to continued domestic policy support for foodgrains and oil seeds, (Dev et al (2000))

Besides the above mentioned theoretical and practical problems, there are other troubles also. There is large variation of prices in different parts of the country. India is a large country, but the restrictions and failure of infrastructure developments have further aggravated the situation.

Prices in India are further affected due to explicit and implicit restriction by state governments for interstate and intrastate movements of agricultural products.

Bureaucratic problems at the time of sale, Mandi board hassles, and sale tax departments are not only time consuming but also increase costs with underhand transactions. It is easy to say that that there are no taxes for agriculture commodities which are to be exported, practically if one observes the difficulties being faced by truckers at the check posts, one can realise the invisible taxation. Customs administration and inefficient trade logistics have also been a major deterrent to international business. It takes about three times as long to clear goods through customs in India than in the average OECD country. (Stern, Nicholas (2002)) Reform will require numerous 'behind-the-border' policy changes to facilitate entry by new investors and to reduce transport, customs and port clearance costs and time.

The multiplicity of market fees system, existence of wide variation in the rates of market fees and its imposition on the buyers/sellers in different states, variation in the rate of commission of commission agents on different types of crop produce and livestock along with imposition of development fund/cess, substantial market charges and entry tax /octroi inflate the cost of produce and widen the gap between the consumer and producer price. All these problems/barriers need to be looked at the micro level and the problems encountered in the interstate movement have to be smoothened to facilitate the free flow of goods. India is the only country apart from Thailand which has leveled octroi/entry tax on food products. (Jairath (2002))

Section III

In this section literature concerning WTO, subsidies, tariff and non tariff Barriers, affecting international prices has been discussed.

AoA and International Subsidies

Hanumantha Rao (2001) argues that there is no need for multilateral institutions like WTO if transactions between parties could be spontaneous because they are mutually beneficial to the dealing parties. Countries differ not only in regard to the comparative advantage in producing various goods and services but also in respect of the level playing field. The principle of comparative advantage is built on the basis of the inter-country differences in costs and returns

between different commodities, abstracting from taxes and subsidies influencing these costs and returns. David Ricardo does not mention of taxes or subsidies determining the relative costs of production or prices of commodities. There are only production factors like land, labour and capital constituting the cost of production [Ricardo 1817 in Hanumantha Rao, 2001]. Now, if some rich countries because of their ability to subsidize agriculture can sell their produce at artificially lower prices and thus undercut the market for the genuinely efficient or low-cost producers, then the playing field is highly uneven as the principle of comparative advantage is not followed or is even thrown overboard. Similarly, if some countries are taxing or discriminating against agriculture by heavily protecting their industry and through overvalued exchange rates, as most developing countries have been doing till recently, then their competitiveness is eroded vis-à-vis countries which do not tax agriculture. In this case too, the principle of comparative advantage is denied free play.

The developing countries with large mass of poverty often want to keep prices of agricultural products suppressed with a view to keep food within reach of the masses. But this results in lower incentives to cultivators. This then forces the governments to extend non-product-specific support to farmers. This is built in the structure of the economy. (Gulati et al, (1999))

There is deterioration in the relative productivity of labour in agriculture in US and countries of EU on account of high farm support. The food surpluses of the farmers produced at high cost could not become competitive in the export market without heavy subsidies on exports. Agriculture in these countries account for 2 to 3% of GDP with a share of 3 to 4% of labour employed, while service sector figures are 72% an 63% respectively (World Bank 2000, quoted by Hanumantha (2002))

Developed countries have a tendency to subsidize agriculture because of unfailing regularity in the process of development. It started with US first in the 1950s followed by Japan and the European Union and, more recently, the Republic of Korea. The fears of Thomas Malthus – a contemporary of David Ricardo – in regard to population growth outpacing the growth in food output were first proved wrong in Europe on account of technological changes and rise in agricultural productivity. It appears that the very processes which helped to overcome the Malthusian pessimism led to the growth of interest groups which are coming in the way of the operation of Ricardo's principle of comparative advantage'. (Hanumantha (2001))

European agriculture is heavily subsidized using various combinations of import restrictions, price supports, area payments, and export subsidies. The most protected industries are sugar, dairy, and beef; sugar and dairy receive price supports constrained by production quotas, while import restrictions and export subsidies complement domestic support and facilitate exports of excess production. Cattle and beef producers enjoy price supports, headage premia based on a fixed number of animals, TRQs on import and export subsidies, and aid for private storage. Grain production benefits from export subsidies and receives price support and area payments but faces a set-aside requirement associated with the latter. Oilseeds receive area payments associated with a set-aside but do not have an intervention price. (Beghin (2002))

Issues of Tariff

Hertel et al (2000) found that a 40 percent reduction in agricultural tariffs, export and production subsidies results in global welfare gains of around $70 billion per year. The largest dollar amounts of gain and the largest gains as a share of agricultural value added accrue to developed countries. However, the gains relative to GDP are largest in developing country regions such as (non-India) South Asia and (non-Indonesia) Southeast Asia. Impacts of this liberalization on agricultural trade volumes are mixed—while reducing tariffs tends to increase import volumes, reductions in production and export subsidies tend to reduce volumes.

The impact on LDC exports of tariff peak items following the Everything But Arms initiative is likely to be quite small given that preferences were already generous. The estimated increase in exports of tariff peak products is around $185 million, less than 1 percent of total LDC export. Excluding sugar, rice and bananas from analysis, duty free excess in the EU is worth only a modest $ 60 million increase in exports. (Hoekman, et al (2002b))

Ianchovichina, Mattoo, and Olarreaga (2000) (in Wilson, 2002) estimate, that if the Quad countries of Japan, the U.S., European Union, and Canada provided duty free access to low-income countries in Africa, net agricultural exports would rise by 6 percent.

Hoekman et al (2002) observe that high levels of protection and domestic support for farmers in developed countries significantly affect many developing countries, both directly and through the price-depressing effect of agricultural support policies. High tariffs—in both rich and

poor countries—and domestic support may also lower the world price of agricultural products, benefiting net importers. Least developed countries (LDCs) are disproportionately affected by agricultural support policies.

Talking about Indian tariffs Stern, Nicholas (2002) comments that whilst tariffs have fallen in the last decade, an average tariff of 35 percent is simply too high. India's economic size suggests that trade could and should be US$ 150 billion higher than it is today — with concomitant benefits in terms of higher incomes and employment in productive activities, and positive spillovers on economic activity in neighboring countries..

Price Volatility

A simple look at domestic and world prices for major states show that in most of the years domestic prices are higher than world prices. (Chand (2002a)) International prices of agricultural commodities are highly volatile and are characterized by cyclic variations. Among these, prices of foodgrains, edible oils, sugar and cotton have fluctuated around a static mean whereas prices of dairy products and fish have been moving up and down around a rising trend. Most of the decline in agriculture prices witnessed during post WTO period is due to cyclic nature of prices and does not have much to do with WTO. However due to WTO commitments domestic produce cannot be protected from international price shocks by imposing QRs. If such shocks are transmitted to farm level it would destabilize crop pattern and supply. Since vast majority of Indian farmers is either small or marginal, they do not have resources and capability to frequently shift from one kind of crop pattern to another kind, in a short period as necessitated by changes in international prices.

Since under WTO obligations temporary imports and price shocks can't be checked through QRs, there is a need to develop mechanism to regulate unwanted imports and exports. While domestic producers should be subjected to compete with stable level of international prices to improve efficiency, they need to be protected against volatility. One way to insure stable external price environment is to impose tariff imports as well as export whenever international price goes below or above certain range or band. This kind of mechanism to regulate exports as well as imports is neither protectionist nor discriminatory against producers. In fact WTO regulations do not prevent any country from adopting such mechanism, in the words of Chand (2002a)

World prices are generally volatile and world supply is controlled by a few countries and their multinational corporations and as such excessive dependence on world trade may threaten the country's food security. However, there are also some advantages for India for improving food security due to WTO and intellectual property rights. (Dev et al (2000))

Persistent "low" prices in the world market are compatible with the existence of market power. Under internal price isolation, production costs are opaque for international trade and they have no relevant influence in export marginal costs. The relevant marginal cost in the world market is equal to transportation cost. Therefore world price can be low with respect to production costs. (Lopez, (1996))

Chand (2002a) As international prices do not follow a rising trend, the only way to improve our competitiveness is to insure that domestic prices in $ terms are brought down. This can be done by reducing cost of production which calls for improvement in production efficiency through technological innovations, or, by shifting production from less efficient areas to more efficient area.

Many economists (Bhalla et al, 1996, Hoekman (2002), Wilson (2002), Lopez (1996), Kainth (1995)) were of the view that after GATT accord, the developing countries were expected to gain maximum advantage from trade liberalization in labour-intensive agriculture and labour intensive manufacturing in which they were supposed to enjoy a distinct comparative advantage. India should prepare itself for coming years. According to Chand, et al Philip, Linu Mathew (2001), it was expected that the implementation of the Agreement on Agriculture (AoA) would result in reduction of domestic support in OECD countries, which would in turn raise international prices of agricultural commodities and would improve export prospects for India and other countries. However, contrary to predictions, international agricultural prices in the post- WTO period have declined sharply, and agricultural exports from developing countries such as India have declined.

Section IV

In this paper, an attempt has been made to compare the trends of FOB Unit prices, domestic whole sale prices and international prices of a commodity from different angles. Trends of realized unit prices in Indian Rupee (INR) and USD have been analyzed from 1995-2003, the

post WTO period. Raw data has been collected from Agricultural Statistics at a Glance- 2002 (Directorate of Economics and Statistics, Indian Agriculture in Brief (27th edition), APEDA data from DGCIS (Kolkatta), Indian spice board sites, Kisanwatch, International trade statistics UNCTAD/WTO site itracen.org, Handbook of Statistics on the Indian Economy (RBI), FAO Statistics site www.fao.org, Tea Board site www.teaindia.org., Indian Agriculture in brief (different issues). The FOB values of exports were converted into Unit Prices in Indian Rupee and in US dollars by taking the average exchange rate of the year. There may be slight fractional difference in actual prices, it has been assumed that averages remove errors and smoothen the trend lines. Exponential growth of production, exported quantity and values realized were found to ascertain the trends. Domestic whole sale prices were converted to dollar price to compare the actual trends with international prices. Exported quantity was regressed on production with simple linear relation, while log- log relations of exported quantity and realized prices in USD were found.

Since there is a wide variation in prices of different grades of produce and also large variation in different parts of the country, it is desirable to use prices of same quality of produce while comparing domestic and export/import prices. In this paper an attempt has been made to take prices so that they are comparable to the near variety of the commodity internationally traded

Wheat

Compounded Growth rate (CGR) of wheat production is 1.34% from 1994 to 2003. In 1998-99 wheat production was highest as 71.29 million tonnes. It was lowest at 1.52 thousand tonnes in 1997-98 and highest in 2002-03 at 3570.89 thousands tonnes. (**Table 1**) Therefore growth trends at 15.91% cannot be relied upon. Similarly the value of export also shows controversial trend of 15.20% (CGR). However, realised prices explain the actual picture. They are reducing at 1.38% in rupee term while the prices realised in US dollars have fallen at 7.90% (compounded annually). Export of wheat is a controversial issue. It has been linked with imports by Ramesh Chand. (2002). Minimum support price (MSP) was Rs. 360 per quintal in 1994-95 and it is Rs. 620 in 2002-03 rising at the rate of 7.38% (Table 14). Average domestic whole sale prices (of Mexican Variety at Ambala, Harayana) grew by 2.51%, while the international whole sale prices of (US No.2 HRW, delivered at US Gulf Ports) wheat retarded at the compounded rate of 3.73%. The domestic whole sale prices when converted to USD with average exchange rate, it was found out that they falling at 2.45%.

Till March 1997, India's wheat exports were restricted and subject to the minimum export price. Since then, export restrictions have been relaxed somewhat and export is permitted against license and is subject to quantitative ceilings notified by the government from time to time. Till March 1999 import of wheat remained canalized and was permitted only through official agencies; import by roller flourmills for milling purpose has been allowed since, (Chand (2001a).

One cannot ignore the analysis of wheat done by Chand (2001a.) The trade pattern shows that wheat export exceeding 0.5 per cent of domestic production led to massive imports in the immediate succeeding year. Export surpluses of wheat were of very transitory nature and their disposal as export necessitated huge imports, presumably to stabilize domestic prices and to meet domestic requirement.

When international wheat prices plummeted to a very low level, the country had to pay a very high price differential for import in the years succeeding large exports. Exporting in one year and importing in the following year cost the country Rs 1,062 per tonne during 1988-89, Rs 3,013 during 1992-93 and Rs 854 during 1996-97. The difference between the export price of 1996-97 and the import price of 1997-98 was Rs 588, which is quite low because international prices in 1997-98 came down by about 20 per cent from the previous year.

Analysis by Ramesh Chand must create a rumpus among planners, executers and enforcement agencies, as this shows unprofessional attitude of senior administrators; however, Chand *(*1999) explains that the main reason for importing at a price higher than the domestic price in some years is to keep a check on domestic prices going very high due to shortage in domestic supply. Such imports are made by public agencies as the private trader would not generally go for import which fetches lower than CIF price in the domestic market.

Table 12 and 13 of our analysis also show that there is no relation of exported quantity with wheat production or unit price realised in USD.

Rice

There are three categories in rice varieties as common rice, fine rice and basmati rice, exports are

categorised as non basmati rice and basmati rice. Table 2 shows the progress of non-basmati rice from 1994-2003. Production growth of all varieties collectively is only .7%. In 2001-02 production was highest as 93.08 million tonnes while it is estimated to be lowest in 2002-03. Export quantity of non-basmati rice grew at CGR of 5.29% and the value of exports increased at 7.52%. The realised price in Indian rupees per quintal grew at 2.13%. Devaluation effect is visible when we find the realised price of common per quintal in USD fell at compounded rate of 3.58%. MSP of common rice grew at 6.34% while average domestic whole sale prices (of Coarse Variety from Kakinada, AP) grew at by 4.16%. Table16 shows that international whole sale prices (of Rice white broken Thai AI Super FOB, Bangkok) fell by 7.95%. Domestic prices in dollar terms show grew only at the rate of .97%.

Quantity of export of rice is not related to production quantity in India. Similarly the export price is not related to realised price in USD.

Export quantity of Basmati rice grew at 8.25 %(CGR) and total value grew by 10.93% (Table 2a). Realised price of Basmati rice in Indian rupee per quintal grew at 2.5%. While the unit price in USD shows a negative growth of 3.22% compounded annually. Export quantity and realised price in USD has a negative relation with coefficient of correlation as -.64, but the log-log relation with price elasticity at 1.003 is statistically insignificant. As in case of common rice MSP of fine (A grade) rice rose by 5.62% (table14) while the international whole sale prices ("A" Grade) shows a compounded fall of 8.58% annually.

Pulses

This is combined analysis of pulses like Moong, Arahar Deshi Gram etc. Production of pulses is falling at the rate of 1.99% annually since 1994-95 (**Table 3**). The export of pulses is growing at 18.58% and 20.76% quantity and value wise respectively. The realised prices in Indian rupees per quintal have grown by 1.84%. The realised price per quintal in USD has fallen at 3.58% exponentially. MSP of pulses grew by 8.02% while the average domestic whole sale prices (taking average of Moong, Vizanagram (AP), Arhar, of Gajar Variety (Aurangabad), and Gram Deshi (Dohad), Gujarat) grew at the rate of 5.74%. In dollar terms, domestic prices showed a slight rise of .10% only. To some it may appear a crude analysis, but by taking averages of averages smoothen the errors. Our objective is not direct comparison, but trends.

There is no relation between quantity exported and production in India. However there is good

relation between exported quantity and realised prices in USD. Price elasticity is -3.52 and it is statistically significant at 95% confidence level. This explains that more quantity has been exported, when prices fell internationally.

Tea

Exponential growth of tea production is by 1.96 since 1994-95. Export quantity has grown by 1.78%. (Table 4) Value of exports in Indian rupees has grown by 7.30%. Realised prices in Indian rupees per quintal have grown by 5.42% when the realised prices in USD fell only by .46%. Average domestic whole sale prices (Auction CTC at Kolkatta) have grown by 17.31% while world prices (Average of auction at Mombassa) have fallen by 5.13%. (Table 15 & 16)

Table 12 shows that there is a good relation between quantity exported and production of tea in India with r^2 as .72. Though coefficient of production variable is .0001, it is statistically significant at 99% confidence level. Log-log relation of quantity and price realised in USD is insignificant in Table 13.

Coffee

Production of Coffee has grown at the compounded rate of 6.42%. (Table 5).Export quantity has also grown by 3.72% while the value of exports fell by 2.96% (compounded annually). Realised unit prices of coffee in Indian rupee fell by 6.44% and in USD terms fell by 11.66% annually. Whole sale prices in India fell by 2.33% while the international whole sale prices fell by 16.68%. (Table 15 and 16)

Quantity of export and production of coffee shows a good relation with r as .85 while r^2 is .73. Coefficient of production variable is .0004 it is statistically significant at 99% confidence level. Simple linear relation of quantity and price realised in USD has r as -.67 while log-log relation has goodness of fit as .38, b as -.221 which is statistically significant at 90% confidence level. It means export is affected by international prices also has relation with production.

Cashew

Production of cashew grew in India at 4.49% (CGR). (Table 6) Export quantity of cashew has grown by 6.41%; value of exports has grown by 7.82%. Exponential growth of realised price in Indian rupee per quintal is 1.32 while the realised price in USD has decreased at the rate of 4.33%. Domestic whole sale prices of cashew kernel, taken as producers' local price from

FAOstat, has grown at the rate of 1.09%.There is good relation with quantity exported and production of cashew with coefficient of correlation as .63. The coefficient of production variable is .178 and it is statistically significant at 90% confidence level. There is no relation between quantity exported and unit prices realised in USD.

Groundnut

Production of groundnut is falling at the annual compounded rate of 3.42% which is a cause of worry. The export quantity and value have shown a growth of 1.69% and 3.27% (CGR). (Table 7) Realised price in INR per unit has grown by 1.57% while the prices realised in foreign exchange have fallen at the rate of 4.10%.Though the international prices (US Runner 40/50, CIF Rotterdam, reduced 20% to make comparable under exportable hypothesis) are falling, yet domestic minimum support prices have increased by 6.43% and average whole sale prices (at Hyderabad) have increased annually by 4.36%. Domestic prices in dollar terms decreased by 1.10%. There is no significant relation between export quantity, production, and price realised in USD.

Cotton

As in case the case of Groundnuts, production of cotton in India is falling at the rate of 4.26% per annum. Growth trend of export is negative at the compounded rate of 26.43%. Highest export quantity of cotton and waste was 269.58 thousands tonnes in 1996-97 (**Table 8**). Value of cotton and cotton waste is falling at the rate of 22.54%. Realised price in INR shows the positive growth of 5.42% while unit price realised in USD shows a negative growth of .47% but with high fluctuation. Coefficient of range of prices in USD is .48. The expectation of high prices lured farmers to cotton cultivation. They had to suffer high losses and had a tragic end in many states. Export quantity and production have coefficient of correlation as .62. In regression equation coefficient of correlation is 3.223 and is statistically significant at 90% confidence level. It can be seen as the world prices of cotton fell production in India also fell. Quantity exported has no relation with price prices in USD. Minimum support price of cotton (H4) rose at the compound rate of 5.92%, while the international prices of cotton (Cotlook index 'A" 1-3/32) fell at the compound rate of 5.50%. Domestic whole sale prices (LRA variety at Tirupur) cotton has not shown much change (.28% CGR)

Domestic whole sale prices in dollar term showed high fluctuation in 1998-2000, but trends

appear to be stagnant.

Tobacco

Production of tobacco is falling at the exponential decrease rate of 1.25; however, quantity of export grew at the rate of 5.69%. Value of export grew at the rate of 11.77%. Realised prices of tobacco in Indian rupees showed CGR of 5.76% (**Table 9**). While the realised price of tobacco in USD fell at the rate of .14%. Domestic whole sale price of tobacco rose at the rate of 5.89%. There is no relation between quantity exported and production in India; however exported quantity is related to price realised in USD. Log-log regression shows the coefficient of price elasticity is 1.82 which is statistically significant at 90% confidence level.

Black Pepper

Production of black pepper has shown a positive trend of 1.25%, while the quantity of export fell at the rate of 7.81% during the period 1992-2001 when exports reduced after 98-99 Total value of exports grew at the rate of 6.67%. Realised price in INR grew at the rate of 15.7% and same in USD grew at the rate of 9.20% (**Table 10)** . The only commodity from the selected ones where the FOB unit price realised in USD has shown good positive trend till 1999 however the prices have fallen afterward. Whole sale domestic prices of black pepper (average at Chennai) rose at the rate of 28.06% while the international whole sale prices showed trend growth of 10.48%. Despite all positive trends there is no relation between quantity exported with production in India and also with price realised in USD.

Fresh Mangoes

Last selected commodity is fresh mangoes. Domestic production of mangoes shows a growth of .07% (CGR), however quantity and value of mangoes exported grew at 9.22% and 9.64% respectively (**Table 11**). There is not much growth of price realised in Indian rupees while the unit prices in USD is falling at the compounded rate of 5.25%. It shows more quantity has been exported with devaluation of rupee. Exported quantity and production quantity shows no relation but there is good negative relation between quantity exported and price in USD. Price elasticity is -.1.647 which is statistically significant at 99% confidence level, (**Table 13).**

Section V

Conclusions

Theoretical examples are based on the broad range of writings on the subject. Some of the conclusions will not be novel, as they have been dealt with elsewhere in the literature. However, our point will be to collate analytical arguments which can enlighten and qualify the established wisdom. (Sugata (1997)).

From the above analysis three important aspects need attention. First exports increased after devaluation of Indian rupee in 1995 to 1997, but could not continue the momentum with expectation of more depreciation of Indian rupee. Secondly the productions of commercial commodities like tea, coffee, cashew, cotton, are related to international price fluctuations. Thirdly, international prices influence the exports of commercial commodities like Basmati rice, Pulses, Coffee, Tobacco, and Fresh fruits like mangoes, but the rise in domestic prices equivalent to the rate of rupee depreciation eroded the competitiveness of Indian agricultural commodities.

There are two ways to increase profitability from the fixed factors of production –either to increase volume of production or to decrease fixed and variable costs. It has been observed that farmers in Punjab and Hariyana prefer to sell their land to urbanites and save the sale proceeds in fixed deposits of banks to earn more returns from interest than crop harvests. We need another Commercial Green Revolution to educate the farmers about required pattern of crop shifts, high yields and better returns.

Some economists, who favoured free trade, had predicted that world prices would rise after UR agreement and with establishment of WTO, but the factual position is quite different. Since 1995, world whole sale prices of commodities are falling at the rate ranging 1 to 17%. Secondly Indian commodity prices are rising at the rate of 1 to 7% except black pepper. Minimum support price given to some commodities is rising at the rate of 5-7%. The trend growth of agricultural commodities prices appear to be same as rupee devaluation. As the rupee depreciates, the domestic whole sale prices are appreciating, this in turn affects our competitiveness. Growth trend of realised unit price shows rising trend as domestic whole sale prices. Price rise equivalent to the rate of rupee depreciation cannot be ignored.

Production of agricultural commodities is falling or stagnant. Overall there is a positive and rising trend in exported quantities. With the rise in international demand of our commodities at cheaper prices we must give proper attention to production. We should look beyond rice and wheat. We have analysed only the sample commodities, however trends as per literature shows that India has competitive advantage in cotton, rice, durum wheat, tobacco, sesame and Niger seeds, castor oil, ground nut, sugar, gaur gum, spices, tea, coffee, fresh fruits like mango, litchi, grapes, apples, bananas, processed fruits like fruit juices, pulps, pickles, chutney etc.

Agriculture should diversify towards high value crops having high export potential like flowers, fruits, vegetables, mushrooms, and animal and poultry products Resources saved by withdrawal of subsidies should be diverted to R& D for agricultural and its allied sectors like irrigation, animal husbandry, forestry etc. There is no restriction on Green Box subsidies.

Agencies involved in exports at all levels need organizational reforms. There is consensus that the public sector organizations involved in these activities need to be restructured in ways which are conducive to efficiency and accountability. Senior administrators are unprofessional in attitude, (Sachdeva (2000)). To administer the agricultural prices, professional approach with visionary planning, coordination at all level, and organization with feedback from root level, is the need of the day. Cancun will be more justified if we improve our internal system and strategies.

Statistical Tables

Table.1. **Wheat**

Year	Production	Export		Realised Unit Price per quintal	
	Million tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	65.77	86.63	42.34	488	15.55
1995-96	62.10	632.47	366.76	580	17.60
1996-97	69.35	1145.90	698.45	610	17.20
1997-98	66.35	1.52	.90	592	15.95
1998-99	71.29	1.76	1.36	773	18.37
99-2000	76.37	-	-	-	-
2000-01	69.68	813.49	415.09	510	11.18
2001-02	71.81	2649.38	1330.21	502	10.56
2001-03	69.32(E)	3570.89	1700.18	476	9.84
Growth	1.34	15.91	15.20	-1.38	-7.90

Table 2 **Rice (Non-Basmati)**

Year	Production	Export		Realised Unit Price per quintal	
	Million Tonnes (All Varieties)	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	81.81	448.5	340.47	759	24.18
1995-96	76.98	4540.7	3717.41	819	24.52
1996-97	81.73	1989.04	1924.72	968	27.29
1997-98	82.54	1795.74	1685.38	939	25.30
1998-99	81.08	4365.89	4403.85	1009	23.98
99-2000	89.68	1257.79	1345.58	1070	24.72
2000-01	84.98	682.27	777.26	1139	24.97
2001-02	93.08	1541.49	1331.37	864	18.18
2001-03	75.72	4076.35	3634.08	892	18.43
Growth	.70	5.29	7.52	2.13	-3.58

Table 2a **Rice Basmati**

Year	Export		Realised Unit Price per quintal	
	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	442.13	865.32	1957	62.34
1995-96	373.31	850.67	2279	68.23
1996-97	523.16	1247.64	2385	67.24
1997-98	593.32	1685.62	2841	76.54
1998-99	597.79	1876.91	3140	74.62
99-2000	638.38	1780.34	2789	64.44
2000-01	849.02	2154.94	2538	55.65
2001-02	867.07	1842.77	2125	44.71
2001-03	594.87	1729.54	2907	60.07
Growth	8.25	10.93	2.50	-3.22

Table 3 **Pulses**

Year	Production	Export		Realised Unit Price per quintal	
	Million tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	14.04	50.51	90.41	1790	57.02
1995-96	12.31	61.36	131.91	2150	64.37
1996-97	14.25	55.22	131.58	2383	67.18
1997-98	12.97	168.05	360.89	2148	57.86
1998-99	14.91	104.10	223.03	2142	50.90
99-2000	13.41	194.18	419.56	2161	49.93
2000-01	11.07	244.08	537.08	2200	48.24
2001-02	13.19	161.64	369.13	2284	48.05
2001-03	11.31	144.37	337.23	2336	48.27
Growth	-1.9	18.58	20.76	1.84	-3.85

Table 4 **Tea**

Year	Production	Export		Realised Unit Price per quintal	
	Million Kgs	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	752.90	151.45	975.48	6441	205.19
1995-96	756.02	158.75	1171.11	7377	220.87
1996-97	780.14	179.55	1037.08	5776	162.84
1997-98	837.64	193.70	1876.29	9687	260.96
1998-99	854.78	210.40	2264.89	10765	255.82
99-2000	835.35	179.31	1784.67	9953	229.97
2000-01	848.36	187.43	1788.71	9543	209.23
2001-02	847.25	180.10	1719.22	9546	200.84
2001-03	-	179.08	1621.62	9055	187.13
Growth	1.96	1.78	7.30	5.42	.-.46

Table 5 **Coffee**

Year	Production	Export		Realised Unit Price per quintal	
	Million Kgs	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	180	128.47	1052.93	8196	261.10
1995-96	223	156.09	1502.94	9629	288.29
1996-97	205	163.03	1426.59	8750	246.69
1997-98	228.30	160.27	1696.14	10583	285.10
1998-99	265	193.61	1727.92	8925	212.10
99-2000	292	190.11	1434.65	7546	174.35
2000-01	301	184.90	1184.87	6408	140.50
2001-02	306	176.26	1094.92	6212	130.70
2001-03	280	182.58	974.21	5336	110.27
Growth	6.42	3.72	-2.96	-6.44	-11.66

Table 6 **Cashew**

Year	Production	Export		Realised Unit Price per quintal	
	'000 Mt tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	321.64	76.90	1244.65	16185	515.61
1995-96	417.83	70.07	1235.70	17635	527.99
1996-97	430	68.86	1285.48	18668	526.30
1997-98	360	76.90	1399.91	18204	490.41
1998-99	460	77.28	1627.47	21059	500.45
99-2000	520	92.32	2456.61	26610	614.83
2000-01	450	89.16	2049.58	22988	504.01
2001-02	460	98.20	1788.88	18217	383.27
2001-03	515(E)	127.23	2006.40	15770	325.89
Growth	4.49	6.41	7.82	1.32	-4.33

Table 7 **Groundnut**

Year	Production	Export		Realised Unit Price per quintal	
	Million tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	80.6	51.12	101.32	1982	63.14
1995-96	75.8	118.91	230.69	1940	58.08
1996-97	86.4	148.78	325.84	2183	61.54
1997-98	73.7	245.40	566.30	2308	62.18
1998-99	89.8	58.33	139.66	2394	56.89
99-2000	52.5	158.13	371.76	2351	54.32
2000-01	64.1	201.37	316.40	1571	34.44
2001-02	72.0	112.81	250.94	2224	46.79
2001-03	62.8(E)	65.57	173.86	2652	54.80
Growth	-3.42	1.69	3.27	1.57	-4.10

Table 8 **Cotton Raw**

Year	Production	Export Including waste		Realised Unit Price per quintal	
	Lakh bales of 170 kgs	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	118.9	70.75	139.76	1975	62.92
1995-96	128.6	33.28	203.54	6116	183.11
1996-97	142.3	269.58	1574.51	5840	164.65
1997-98	108.5	157.53	821.89	5217	140.54
1998-99	122.9	41.96	208.92	4979	118.32
99-2000	115.3	15.91	77.07	4844	111.92
2000-01	95.2	29.70	221.07	7743	169.77
2001-02	100.9	8.23	42.69	5187	109.13
2001-03	89.4	10.80	47.12	4362	90.14
Growth	-4.26	-26.43	-22.54	5.42	-.47

Table 9 Tobacco

Year	Production	Export		Realised Unit Price per quintal	
	Million tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1994-95	.57	42.91	184.13	4291	136.70
1995-96	.54	77.66	378.69	4876	145.99
1996-97	.62	106.64	660.48	6194	174.63
1997-98	.64	134.07	917.48	6843	184.35
1998-99	.74	75.04	572.29	7626	181.23
99-2000	.52	118.84	812.04	6833	157.88
2000-01	.49	97.34	661.28	6794	148.96
2001-02	.55(E)	84.48	582.05	6890	144.96
2001-03	.55 (E)	99.63	729.70	7324	151.35
Growth	-1.25	5.69	11.77	5.76	-.14

Table 10 **Black Pepper**

Year	Production	Export		Realised Unit Price per quintal	
	'000 tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1993-94	51.3	48.743	189.10	3880	123.57
1994-95	60.7	37.264	236.64	6350	202.30
1995-96	61.58	26.243	196.29	7480	223.95
1996-97	56	47.893	418.93	87747	246.60
1997-98	57	35.906	496.35	13823	372.39
1998-99	76	35.120	634.91	18078	429.60
99-2000	58	42.806	884.88	20671	477.60
2000-01	60	19.25	326.32	16951	371.65
2001-02	60(E)	20	166.10	8305	174.73
Growth	1.25	-7.81	6.67	15.7	9.2

Table 11 **Fresh Mangoes**

Year	Production	Export		Realised Unit Price per quintal	
	Million tonnes	Qty '000 tonnes	Value Rs. Cr	Indian Rupees (INR)	USD
1993-94	10.99	22.793	43.87	1925	61.30
1994-95	11	25.414	45.02	1771	56.41
1995-96	11	22.269	38.51	1729	51.77
1996-97	11	24.773	44.88	1812	51.09
1997-98	10.23	42.89	73.60	1716	46.23
1998-99	9.78	45.407	79.14	1743	41.42
99-2000	10.5	34.63	71.55	2067	47.76
2000-01	11.4	37.109	68.61	1849	40.54
2001-02	11.4	44.42	80.99	1823	38.35
Growth	.07	9.22	9.64	.38	-5.25

Table 12 **Regression of Qty exported on Production of Commodity**

	Wheat	Rice	Pulses	Tea	Coffee	Cashew	Groundnuts	Cotton	Tobacco	Black Pepper	Fresh Mangoes
Coefficient Of correlation (r)	.38	-.49	-.55	.15	.85	.63	-.32	.62	-.04	-.34	-.40
r^2	.15	.24	.31	.72	.73	.40	.101	.38	.0002	.11	.16
Coefficient of Production Variable (b)	.162	-.141	-.029	.0001	.0004	.178	-.0018	3.223	-.014	-.549	-.007
t-stat	1.0594	-1.4902	-1.76	3.89***	4.3768***	2.163*	.8989	2.0923*	.1032	-.9437	-1.16

* Significant 90%, ** significant at 95% and *** significant at 99% confidence level

Table 13 **Regression Log-Log of Exported Qty on price in Realised USD**

	Wheat	Rice	Rice Basmati	Pulses	Tea	Coffee	Cashew	G'nuts	Cotton	Tobacco	Black Pepper	Fresh Mangoes
correlation (r)	-.77	-.22	-.64	-.17	.46	-.67	-.25	-.22	.32	.58	-.03	-.86
r^2 (Log-log)	.38	.05	.36	.60	.17	.38	.03	.10	.07	.35	.25	.75
Price Variable (b) (log-log)	-7.64	.1.268	-1.003	-3.52	.289	-.221	-.226	-.940	.9255	1.82	.116	-1.647
t-stat	-1.94	.5929	-1.9881*	-3.2564***	1.1123	-2.083*	-.4622	-.9010	.7407	1.92*	1.5323	-4.6474***

* Significant 90%, and *** significant at 99% confidence level

Table 14 **Minimum Support prices of Commodities with Exponential Growth**

Year	Wheat	Rice common	Rice Fine "A" Grade	Pulses	Groundnut	Cotton (H4)
1994-95	360	340	380	760	860	1200
1995-96	380	360	395	800	900	1350
1996-97	475	380	415	840	920	1380
1997-98	510	415	445	900	980	1530
1998-99	550	440	470	960	1040	1650
1999-00	580	490	520	1105	1155	1775
2000-01	610	510	540	1200	1220	1825
2001-02	620	530	560	1320	1340	1875
2002-03	620	530	560	1330	1355	1875
Growth	7.38	6.34	5.62	8.02	6.43	5.92

Table 15 **Average Domestic Prices of Commodities with Growth**

Year	Wheat	Rice	Pulses	Tea	Coffee	Cashew	G'nuts	Tobacco	Black Pepper	Fresh Mangoes
1994-95	-	791	1297	4061	4324	2126	1772	1921	3804	497.5
1995-96	-	712	916	4799	7172	2284	1784	1950	6793	510.4
1996-97	545	799	1267	4877	7478	2776	1764	2175	8279	637.1
1997-98	506	910	1435	6689	9271	2264	2012	3008	9036	707.4
1998-99	594	1085	1546	7643	8425	2643	1861	4258	17536	734.6
1999-00	628	1032	1434	8178	7584	2715	1876	2375	20246	710.9
2000-01	567	913	1571	7978	7582	2476	1842	2096	20610	677.4
2001-02	594	1054	1698	-	6096	2258	2319	2554	18182	724.4
2002-03	627	1050	1693	-	-	-	2750	4000	-	828.2
Growth	2.51	4.61	5.74	13.48	3.18	1.09	4.36	5.89	28.06	5.51

Table 16 **International Prices Of Commodities (In USD) Per Quintal**

Year	Wheat	Rice	Rice "A" Grade	Tea	Coffee	G'nuts	Cotton	Black Pepper
1994-95	17.8	26.85	33.60	164.4	322.30	-		-
1995-96	21.0	23.41	35.21	177.4	265.50	-		258.81
1996-97	16.2	21.40	31.69	201	293.68	-	174.09	371
1997-98	12.853	21.51	31.60	190	239.91	79.15	144.23	484
1998-99	11.44	19.51	25.17	180	188.67	66.86	116.82	462
1999-00	11.863	14.29	20.67	197	142.03	67.0	129.82	388
2000-01	12.965	13.53	17.73	152	100.47	66.8	105.86	-
2001-02	15.08	15.11	19.69	149	104.92	60.0	101.46	-
2002-03	14.716	14.99	20.11	153	114.58	78.2	134.13	231.5
Growth	-3.73	-7.95	-8.58	-5.13	-16.68	-1.10	-5.50	-1.66

Table 17 **Average Domestic Prices in $ terms Of Commodities with Growth**

Year	Wheat	Rice	Pulses	Tea	Coffee	Cashew	G'nuts	Tobacco	Black Pepper	Fresh Mangoes
1994-95	-	25.20	41.32	129.37	233.32	67.73	56.45	61.20	121.19	15.85
1995-96	-	21.32	27.43	143.68	214.73	68.38	53.41	58.38	203.38	15.28
1996-97	15.37	22.53	35.72	137.50	210.83	78.26	49.73	61.32	233.41	17.96
1997-98	13.63	24.52	38.66	180.20	249.76	60.99	54.20	81.03	243.43	19.06
1998-99	14.12	25.78	36.74	181.63	200.21	62.81	44.30	101.19	416.73	17.46
1999-00	14.51	23.84	33.13	188.96	175.23	62.73	43.35	54.88	467.79	16.43
2000-01	12.43	20.02	34.44	174.92	166.24	54.29	40.39	45.95	451.87	14.85
2001-02	12.50	22.18	35.72	-	128.26	47.51	48.79	53.73	382.54	15.24
2002-03	13.48	22.58	36.41	-	-	-	59.14	86.02	-	17.81
Growth	-2..45	-.97	.10	6.38	-7.16	-4.96	-1.20	.24	19.07	-.12

Table 18 **Growth trend of Re Depreciation**

Year	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	Growth
Average $ exchange rate	31.39	33.4	35.47	37.12	42.08	43.28	45.61	47.53	46.5	5.63

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