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Economic Liberalisation and Export of Horticultural Commodities

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An attempt has been made in the paper to study the scope of exports of horticultural commodities, namely, fruits, vegetables and flowers in the light of economic liberalisation initiated by the Government of India in mid-1991. Specifically, it aims to study the pre- and post-liberalisation behaviour of total exports and the share of agricultural and selected horticultural commodities, to examine the impact of liberalisation on exports of horticultural commodities and to work out the price elasticities of the supply of exported commodities. The data on various horticultural commodities exported were collected for the period from 1976-77 to 1992-93 from various sources and the compound growth rates were worked out for various types of exports. The period was divided into pre-liberalisation period (1976-77 to 1990-91) and post-liberalisation period (1990-91 to 1992-93). The study revealed that the share of agricultural exports in total exports in value terms declined from 35 per cent in 1976-77 to 17 per cent in 1990-91 but showed a gradual increase to about 22-23 per cent in 1992-93. The share of horticultural exports in total agricultural exports rose steadily from 2.33 per cent to 4 per cent during the corresponding periods; however the pace of its rise was remarkable after 1990-91 when its share increased from 5 per cent to about 11 per cent in 1992-93.

The fresh fruits, vegetables and processed products export increased at a faster rate in the post-liberalisation period. The growth rate of some fruits and vegetables during this period was more than double compared to the pre-liberalisation period. The percentage change in the export of different horticultural commodities indicates that liberalisation has made a noticeable impact on horticultural exports. Based on supply elasticities worked out for various commodities, it is concluded that there is an immense potential for export of agricultural commodities, particularly, fresh vegetables and fruits.

Status and Potential of India's Horticultural Exports

Y.S. Negi and R.S. Parashar†

The paper analyses the status and potential for India's horticultural exports with special reference to fruits and vegetables. The analysis of export and export earnings uses time-series data as well as data for different temporal points. The data for working out compound growth rates pertained to the period 1976-77 to 1990-91, though some horticultural export components have been analysed by using data series upto 1985-86 only. The study uses secondary data that were obtained from various official and other related sources. The analysis of agricultural and horticultural exports suggests that the country's agricultural exports increased at the compound growth rate of 7.6 per cent per annum, though its share in total exports declined over the years. Horticultural exports, however, increased at the compound

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growth rate of 14.8 per cent per annum during the period 1976-77 to 1990-91. Growth analysis of export earnings of different fruits and vegetable crops suggests the prominent place of grapes, banana, mango and apples. During the period 1976-77 to 1985-86, the value of exports of grapes, banana, apples and processed fruits increased at the compound growth rate of 73 per cent, 40 per cent, 14 per cent and 14.8 per cent per annum respectively. During 1976-77 to 1990-91, export earnings from mangoes, fresh onion, processed vegetables increased at the annual compound growth rate of 18.6 per cent, 15 per cent and 7.5 per cent respectively.

The analysis of India's share in world production of various fruits and vegetables suggests both the country's export potential and position of production advantage. The production of different fruits in the country increased at relatively higher rates than world production. In relative temporal terms, the production of fruits in 1989-90 was about 215 per cent higher than the production in 1960-61. Similarly, there has been a significant improvement in the country's vegetable acreage and production. However, India's share in total exports is very low. The study suggests the need for assured supply of quality products to capture and ensure a foreign market niche in a competitive global marketing environment. This requires commitments both at production and product development stages. Systematic provision and improvements in package of agro and agro-processing technology and marketing infra-structure would contribute significantly towards the realisation of increased horticultural output-export goals.

India's Trade in Fruits and Vegetables: Scope for Steady Exports

N.A. Gadre, A.A. Ingle and D.P. Wahile*

The paper aims at examining the trend of export of fruits and vegetables in India and its share in world exports, at studying the production performance of fruits and vegetables in India vis-a-vis the world and at identifying the fruits and vegetable commodities which have substantial scope for steady exports. Secondary data relating to the period 1980-92 contained in the Monthly Bulletin of Statistics, FAO Production Year Book and FAO Trade Year Book published by Food and Agriculture Organization of the United Nations were used for the purpose. The average annual export earnings from agricultural products worked out to $ 254.30 crores, out of which the share of fruits and vegetables was only 3.97 per cent and 1.96 per cent respectively. India's share in the value of world export of fruits and vegetables increased from 0.003 per cent and 1 per cent in 1980 to 1.22 per cent and 1.14 per cent in 1992 respectively. In terms of quantity exported, exports of fruits and vegetables increased from 760 metric tonnes and 1.97 lakh metric tonnes to 38,140 metric tonnes and 3.31 lakh metric tonnes respectively during the same period. The changes in respect of production and quantity exported indicated that the increase in the production of fruits and vegetables was not commensurate with the increase in the export of these commodities during the period. Mango, oranges, lemon, banana, coconut and desiccated coconut and fresh pineapple

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in the fruits category and potato, pulses and tomato in the vegetables category are identified to have substantial scope for exports. Taking into consideration the growing demand for tropical fruits and vegetables from the immigrant population in countries like the U.K., U.S.A., France and Japan, efforts need to be made to tap these markets.

Trade Experience of Indian Agriculture: Composition, Performance and Growth

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An attempt has been made in the paper to analyse the composition, performance and growth of India's agricultural trade during the period 1960-89. The data for the study are obtained from various issues of FAO Trade Year Book for a period of thirty years. During the sixties, commodities like coffee, tea, cocoa and spices were the main contributors to the export earnings in agricultural trade of the country, their contribution ranging from about 55 per cent to 60 per cent. Their relative share sharply declined in the subsequent years. Other important commodity groups from the view-point of India's agricultural exports are crude materials, beverages and tobacco. During the last three decades the exports of meat and meat preparation, live animals, cereals and fruits and vegetables have expanded steadily. The export of sugar has, however, declined sharply. As regards imports, cereals and crude materials, taken together, accounted for about 98.8 per cent of India's total agricultural imports in the sixties. By the end of the eighties, the share of commodities in these groups came down to about 36 per cent, mainly on account of spectacular increase in their domestic production.

India's exports of agricultural commodities, in value terms, has increased by 202.5 per cent during the last three decades. The percentage increase was found to be above average in the case of live animals, meat and meat preparations, feeding stuffs and beverages and tobacco commodity groups. India's imports of agricultural commodities, on the other hand, has declined by 44.50 per cent during the same period. The decline is mainly attributable to a sharp decline in the import of commodities like cereals and crude materials, but the imports of commodities in all other commodity groups are found to have increased. India's agricultural export earnings have grown at double the annual compound rate (6.68 per cent) at which import expenditure on agricultural imports is found growing (3.30 per cent). The growth rate of the country's agricultural trade is, however, lower than that for Asia and the world as such. The growth rates for India's export of live animals, meat and meat preparations, cereals, miscellaneous food, and beverages and tobacco are found to be higher than those for the Asia and the world. These are the commodities, along with fruits and vegetables in which India enjoys a comparative advantage in the global market. Fruits and vegetables are other commodities whose global market is expanding very fast and in which India has

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a comparative advantage. Emphasis is required to be laid on the export of value added products rather than on primary products for capturing a significant share in the growing global market for agricultural commodities.

Price Competitiveness of India's Agricultural Exports: A Case Study of Pepper

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The paper examines the price competitiveness of India's pepper exports vis-a-vis major competitors during the period 1965-91. Regression model, in double-log form, has been used to assess the competitiveness of the country. The study considers Indonesia, Malaysia and Brazil as India's competitors and their export prices in US dollars have been used for the analysis. Since a portion of India's pepper exports was based on bilateral rupee trade agreement with the East European countries, the study considers only pepper exports to the Common Currency Area. The results of the regression analysis reveal that India's pepper exports, to a great extent, is influenced by her export price, especially during the eighties. The relative prices, in terms of her competitors, were found to be negatively associated with India's exports. It implies that any increase in our export price and/or any decline in the prices of competitors tend to reduce our exports. It was found that a one per cent increase in weighted relative price will lead to a more than one per cent decline in India's exports. Among the competing countries, Indonesia was found to be the dominant competitor of India, followed by Malaysia. Inter-temporal analysis reveals that during the seventies, India faced higher degree of competition from her competitors. During the eighties, India's export price and relative price, in terms of Indonesia, had highly influenced her exports.

As India is facing stiff competition in the international market, the study calls for measures to enhance the competitive power of India's pepper exports, which is possible through the reduction in the cost of cultivation or an increase in the yield of the crop. As the yield of the crop is very low in India as compared to her competitors, productivity improvement measures should get emphasis. Further, in view of the numerous advantages associated with the processing industries, product diversification can provide a long-term solution to the deteriorating pepper exports of India, especially in the context of higher demand for value added products in the international market.

Analysis of Present Status and Future Prospects of Rice Export in Indian Agricultural Trade

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In this paper, an attempt has been made to examine the export and import performance

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of Indian agricultural trade from 1960 to 1992, contribution of rice export in agricultural exports, growth performance of rice trade and prospect of rice exports in the country. For this purpose, data are obtained from Food and Agriculture Organization (FAO) Trade Year Book, World Rice Statistics, Agriculture and Industry Survey 1994, etc. The analysis of India's agricultural trade performance indicates that during the past 31 years considerable changes occurred in the exports and imports of agricultural commodities. The share of agricultural exports as well as imports has come down considerably in total trade, though the fall is steeper in the case of imports. As a result, the net agricultural trade has changed from negative to positive over the period. India's share is significant in world trade in respect of tea, coffee and spices. However, exports of coffee and spices are constantly declining in value terms while that of tea is declining in quantitative terms though it is increasing in value terms. The analysis further indicates that tea, oilcakes, tobacco, rice and fish and fish products are the main contributors to the export of agricultural and allied commodities. During 1991-92, fish and fish products contributed 17.50 per cent to total exports of agricultural and allied commodities, followed by tea (14.75 per cent), oilcakes (11.20 per cent) and rice (9.20 per cent). It is quite surprising that the share of rice export which was only 1.06 per cent of the total exports of agricultural and allied products of the country in 1970-71 increased to a level of 9.20 per cent in 1991-92. But considering India's share in the world production of rice at 20.79 per cent, its export share of 4.5 per cent in the world rice trade does seem very poor. Although the export quantity of rice has increased, the export percentage was only 0.91 of total rice production of the country in 1992-93.

The declining share of India's agricultural exports in world export trade may be attributed to the stagnant output, low yield rates, non-competitiveness in the world market and lack of knowledge of harvesting and post-harvesting technology. India still depends on her traditional export crops. The analysis indicates that there is good market for some Indian rice varieties, specially Basmati rice in the world market, the export earnings from which increased considerably from about Rs. 340 crores in 1987-88 to Rs. 700 crores in 1992-93. The production and productivity of rice in the country have increased substantially but in certain states like Bihar, Orissa, Assam, Eastern Uttar Pradesh and Madhya Pradesh the productivity is lower than the national average. These states have great production potential of rice. If the productivity of rice in these states increases even at the rate of national average, about 2.50 million tonnes of additional quantity of rice could be produced which would certainly increase our export position. Considering all the factors, it should not be difficult for India to export about one million tonnes of rice.

Export of Rice and Wheat from India and Behaviour of Prices

R.K. Khatkar, V.K. Singh and J.P. Singh*

An attempt has been made in the paper to examine the volume of export of rice and wheat and the price behaviour of these two commodities at the national and international levels during three time periods, triennium ending 1972-73 (period I), triennium ending

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1982-83 (period II) and triennium ending 1992-93 (period III). The study also examines the extent to which the farmers are protected/disprotected if they have to compete with international prices by estimating the nominal protection coefficients (NPC) with respect to procurement prices, farm harvest prices and wholesale price. To examine the relationship of export with other variables, correlation coefficients were worked out with respect to production, support price, international price, wholesale price, production cost and domestic consumption. The study has used relevant data from different sources.

The study revealed that the export and production of rice and wheat have increased during the last two decades with the exception of about 11 per cent decline in the export of rice in period III over period II. The export as a percentage of production has registered a slight decline by about 0.12 per cent in period II over period I in the case of wheat and by 0.50 per cent in the case of rice in period III over period II. A similar trend was observed in India's share in total world export. The international prices were found higher than the domestic prices, thereby showing that the farmers were disprotected and taxed. This is further testified by the NPC which remained below unity. The lower NPC also indicated that after 1987-88 wheat and in the eighties in general, rice have become efficient exportable commodities. The non-significant relationship between export and international prices show the ad hocism and non-judicious export policy in regard to these commodities. Thus the need is emphasised to encourage the production of exportable varieties like wheat durum and Basmati rice which have a comparative advantage in the world market and reorient the export policy in the context of globalisation of the economy. Strict quality control and standards, investment in export infrastructure and marketing assets, cost and price competitiveness of these products, credit facilities to the exporters, exploitation of markets which have remained unexploited hitherto, etc., are the areas to be kept in mind while reorienting the export policy.

Liberalisation and India's Trade in Forest Products

Jagdish P. Bhati, Amar S. Guleria and Jagdish C. Kharwal†

The study attempts to analyse India's trade in major forest products during the period 1962-90 in the context of major structural adjustment, liberalisation and competitive policy changes in particular. It is observed that forest-rich developing countries accounted for only 17 per cent of imports and 13 per cent of total world export in wood products. Moreover, the developed nations import primary wood products (from the developing countries which have imperfect markets) to the extent of over 80 per cent at significantly low prices and they re-export these products at higher or competitive prices. However, India's share of primary commodities in the total export has come down to 27.3 per cent during the last four decades. The growth of export is fairly impressive even after accounting for devaluation of the rupee. But the deficit in trade of wood products was the highest prior to the adoption of liberalisation and competitive policies in India. The current average annual net loss of foreign exchange in wood products trade amounts to Rs. 590 million. Taking the unit prices of various wood

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products as the independent factor and volume of its imports and exports during 1962 to 1990 as the dependent factor, the regression analysis revealed that a majority of wood products were price inelastic. The benefit of higher competitive prices was not derived by the forest managers in India. Non-price factors have played a vital role in India's trade in forest products. However, the trade practices in forest products revealed that neither a systematic policy was followed nor efforts were made to analyse the trend of price and non-price factors, though the scope exists for improving the image of the forestry sector in India. The study calls for specific trading policies for forest products to compete in the world market.

Performance and Potential of Indian Apple Exports

A.L. Nadda, Ranveer Singh and C.S. Vaidya*

The paper examines the performance of apple exports from India and the behaviour of international prices relative to domestic prices, identifies the constraints and suggests measures for promoting apple exports. The required data were drawn from various published sources. The export of apples, an important fruit of temperate regions of the world, has been dominated by developed countries. India is also a producer and exporter of this fruit. The world apple trade was 3.68 million tonnes during the triennium 1989-91. In the triennium 1991-93 India accounted for 7,386 tonnes of the total exports, i.e., only 0.2 per cent of the world trade. India has been exporting apples mainly to various SAARC countries. Small quantities of apple are also exported to the Gulf, European and Asian countries. The performance of India on the export front has not been very encouraging vis-a-vis European countries, the main producers and exporters. However, a marked improvement is noted in the export of apples from India, specially after the implementation of the economic liberalisation policy. The total apple exports from India increased at a compound growth rate of 4.58 per cent per annum during the last ten years. Various indicators have been employed in the study to analyse the export potential of Indian apples.

It is noted that the per capita availability of apples is increasing in the country at the compound growth rate of 1.30 per cent per annum and hence any intensification in the efforts for increasing exports should not be at the cost of domestic consumption. On the other hand, the production has been increasing at a rate of 2.49 per cent per annum during recent years. Another indicator employed for judging the potential of exports was international versus domestic price ratio. These ratios for different years were found to be invariably more than one, indicating favourable conditions for boosting exports. Although these ratios indicate positive situations, the analysis fails to establish the exact profitability of apple export venture. This aspect has also been studied and the results indicate the favourable profit margins in countries like Nepal, Maldives and Bahrain. Thus all the methods employed presently indicate the potential for boosting the apple exports.

In order to take advantage of this high potentiality various steps are required. This will

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involve major focus on research and development leading to higher productivity and higher proportion of quality fruits. This will help in becoming internationally competitive on price as well as quality production fronts. Simultaneously, it is necessary to develop the infrastructure in the form of mechanised grading and packing houses having facilities for chemical washing and waxing, specialised transportation facilities, cold storages in producing and consuming areas. In addition, better results can be achieved by switching over to high density plantations. Improved scientific pre- and post-harvest management practices along with extension services and adoption of improved orchard management practices like chemical spray schedule, drip irrigation, anti-hail nets, etc., will go a long way in improving the quality of the fruit.

A Trend Analysis of Export of Jute Goods in India

K.C. Borah and S.K. Dutta†

India is the largest producer of jute in the world accounting for about 35 per cent of the total world production, followed by Bangladesh (18 per cent). Though India ranks first both in terms of area and production, in terms of yield per hectare it is extremely low, holding the tenth rank in the global context. As a result, India could occupy only the second position in terms of export of jute goods. An attempt is made in this study to examine the combined effect of domestic production and consumption of jute goods on the exports, by analysing the share of jute goods in India's foreign trade. It also suggests the policy measures in order to promote the export of jute goods in the context of the changing situation. The data pertained to the period 1971-72 to 1991-92. The analysis of export of jute goods shows a declining trend in terms of volume in spite of an increasing trend of jute goods production except for a few years. The internal consumption recorded a marked uptrend. The rising trend of internal consumption of jute goods is due to an increase in the demand for packing of agricultural and industrial commodities. The reasons for declining volume of export of jute goods may be due to price competition from Bangladesh in the world market, greater profitability of selling in domestic market, loss of markets in traditional jute goods importing countries, competitiveness from synthetic fibres and disadvantage in respect of quality fibre. The share of jute and jute goods in the total export trade of agricultural commodities has also declined over the years. In the world market, the price of sacking exported by Bangladesh is found to be lower than in India whereas in the case of hessian India has got an advantage over Bangladesh in terms of price. The multiple regression equation fitted for the jute goods export revealed that jute goods export has a direct relationship with the supply and opening stock whereas it is negative in the case of domestic demand proxy, suggesting that domestic demand affects the export of jute goods.

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Demand Elasticity and Competitiveness of Indian Shrimp Exports

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The paper attempts to estimate the elasticities of demand for Indian shrimps in the major importing countries, namely, Japan, U.K. and U.S.A., and to examine the competitiveness of Indian shrimps in the international markets. The period considered for the study was 1966-1991. Multiple double-log regression analysis was employed to estimate the elasticities of demand for Indian shrimps in the importing country. The demand for Indian shrimps is assumed to be a function of price of Indian shrimps, per capita income in the importing country and total production of shrimps in India. The Japanese demand for Indian shrimps was found to be highly elastic with respect to price and output of shrimps in India, but highly inelastic with respect to income in Japan. Britain's demand for Indian shrimps was both highly price and income elastic, but inelastic with respect to total output of shrimps in India. The US demand for Indian shrimps was not found to be quite elastic to any of the factors under reference.

The competitiveness of Indian shrimps in the international markets was assessed by using a constant market share model. The total change in India's shrimp exports (100 per cent) was decomposed into three effects/sources, namely, import growth effect, market effect and competition effect and these effects were worked out separately for each destination. The importing countries considered for the analysis were Japan, U.K., U.S.A. and the rest of the importing countries as one group. The period considered for analysis was from 1976-77 to 1986-87. The findings reveal that India's shrimp exports to Japan increased mainly due to positive import growth effect. Market effect was negative and revealed erratic imports into Japan. The competition effect was also negative, indicating that Japanese demand is mainly for value added products which come from other Asian countries like China, Taiwan and Thailand which are competing with India.

Both the import growth effect and competitive effect were positive, while the market effect was negative in respect of exports to U.K. and U.S.A. This indicates that Indian shrimp exports to these countries increased not only due to a general increase in these countries' imports but due to increasing competitiveness of Indian shrimps in these countries. On the contrary, the negative market effect implies erratic imports of these countries. Indian shrimps are not competitive in the world market as a whole, since the competition effect is negative if not substantial. Moreover, the import growth effect being very low, almost the entire growth in India's shrimp exports is accounted for by the market effect (99.74 per cent). It pays India to improve the quality of shrimp processing and harness the economies of scale in shrimp culture so that Indian shrimps become more competitive in the world markets. Indian shrimp exports have been showing a promising trend in recent years.

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Econometric Analysis of Sugar Market

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An attempt is made in this study to analyse the Indian sugar market over the years in terms of demand and supply including the foreign trade and to find out the regional variations in sugar production and consumption. The specific objectives of the study were (i) to examine the trend in sugarcane area, cane production and sugar production in India, (ii) to examine the trends in the movement of levy price and open market price of sugar and consumption of sugar, (iii) to analyse the spatial variations in sugar production, consumption and prices and (iv) to estimate supply, domestic demand and export demand equations for sugar. Sugar statistics published in the journals formed the data base for the study. A system of simultaneous equations developed were estimated using the two-stage least squares method. The results of the study showed that the area under sugarcane and sugar production were increasing at a greater rate than the rate of domestic consumption. The general performance of foreign trade in sugar highlighted the fact that sugar was being imported in spite of surplus in the country and the benefits of export were not availed as exports were cut at times of high world price. It was also noticed that a cut in sugar import has resulted in raising the domestic price level.

The movement of current price of white sugar in the open market showed a general rising trend with two troughs - one during 1976-77 and the other during 1980-81. The trend in levy price showed a marginal rise during the seventies and after 1977 it was rising smoothly. The overall trend in constant prices of sugar (1970-71 = 100) was declining with two prominent peaks during 1973-74 and 1979-80 when the supplies were at the lowest. During 1977-78, 1983-84 and 1991-92 when the supplies were higher, constant prices crashed down to the lowest ranges. Levy price of sugar was maintained to fluctuate between Rs. 100 and Rs. 160 per quintal.

Spatial analysis of sugar market showed the dominance of the northern zone with 57.78 per cent of the total area under sugarcane; the central zone dominated in terms of cane production (49.21 per cent), sugar production (42.21 per cent) and sugar consumption (32.30 per cent). Sugar produced per hectare of cane cultivated and per capita consumption of sugar were the lowest in the eastern zone. Systems analysis of the sugar market showed that the supply of sugar was elastic and domestic demand was negatively inelastic to market prices; sugar export was inelastic to world prices. An increase in sugar export was found to reduce the domestic consumption by 55 per cent and an increase in domestic demand, on the other hand, reduced export by 10 per cent. Based on the above results, some policy implications are suggested. These include increasing the free sale quota of sugar to bring down the open market price; increasing sugar supply in the eastern zone by strengthening the public distribution system in that zone; deciding on the sugar export in response to world price and importing sugar with an eye on the domestic price level and balance of payments position.

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Agro-Processing for Development and Exports: The Importance and Pattern of Value Addition from Food Processing

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The importance of development of agro-processing for the expanded reach in the domestic and export markets for India is well recognised. The evaluation of agro-processing, however, should be done not only from the point of view of markets, but also from the development perspective of the potential for bringing in greater value addition for the sector and the economy. In this context, the study makes an attempt at analysing the magnitudes, variation and growth in value addition in the food processing industries, using data from the Annual Survey of Industries. The study finds that the measured net value addition from food processing industry over the total value of inputs is fairly high and has risen from about 10 per cent to 14 per cent between 1979 and 1988. This understates the full value addition since it does not capture the pre-agro-industry situation. The net value added to total value of input varies substantially by the food industry group from over 25 per cent in cashew, coffee and fine sugar to only 5-6 per cent in more traditional industries such as milling, edible oils and vanaspati. This varying potential for value addition must be considered in formulating policies for investment and promotion of agro-industries for domestic markets and exports.

Food processing industries offer high returns in terms of net value added over capital invested - of the order of 90 per cent to fixed capital and 50 per cent to total capital on an average (annual). In no food processing industry is the value addition to fixed capital less than 35 per cent and value addition to total capital less than 25 per cent. Thus food processing seems to offer very promising returns to capital which generally show a rise or relative stability between 1979 and 1988.

Food processing industries show great variation in the value addition per factory/unit from an average of over Rs. 300 lakhs for fine sugar units to Rs. 4 lakhs for milling units. The real value addition per unit appears to have increased between 1979 and 1988. The value added per employee has also increased substantially between 1979 and 1988 from Rs. 6,000 to Rs. 29,000 per employee, on an average, the highest being in the vanaspati industry, followed by the fine sugar and the dairy industry. The study shows that many food processing industries offer a high return to agriculture in terms of value addition per rupee invested and value addition over the input used. However, differences in this across industries are large and must be considered in policies for investment and promotion. This would strengthen the linkage between development and enhanced possibility for reaching lucrative export markets.

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Indian Basmati Rice: Exploring Possibilities for Higher Exports

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The paper attempts to examine the scope of Indian Basmati rice in the international markets by analysing the trends in production, consumption and exports and the direction of trade and identifies the major trade constraints. There has been a remarkable expansion in rice exports to the U.K., Kuwait, Saudi Arabia and United Arab Emirates. Among these, Saudi Arabia is the major importer of Indian rice which accounts for nearly 70 per cent of the total exchange earned from different countries. As regards total exports of rice, it gradually increased from 1.42 lakh tonnes in 1983-84 to a level of 2.86 lakh tonnes in 1992-93, although it was higher ranging from 3.45 to 3.97 lakh tonnes during 1987-88 to 1989-90. In terms of value, it increased from Rs. 96 crores in 1983-84 to Rs. 699.84 crores in 1992-93.

Despite these encouraging features, the exporters are confronted with domestic and international problems. While on the domestic front, the exporters struggle with unnecessary restrictions like ceiling stocks and the application of Essential Commodities Act, on the international level they face stiff competition from Pakistan due to variation in selling price. Besides, the low productivity and higher cost of production due to adverse socio-economic factors and inefficient management of inputs along with improper marketing, storage and distribution system are highly responsible for limited and uneven surplus of rice to be exported in international markets.

In order to tap the full potential of export market as well as to secure a good price for the farmers, systematic efforts should be made for the production and export of good quality rice. Large tracts of land particularly in Punjab, Haryana and Uttar Pradesh which are traditionally known for growing quality rice, can be utilised for production of Basmati rice for exports. To check the admixture and contamination with other varieties, certain areas should be earmarked for cultivation of Basmati alone. Efforts should be made to develop new varieties, which have all the attributes that make Basmati an excellent export quality. A long-term sustained marketing effort is also required to achieve a breakthrough in the export market and to give a fillip to the domestic production of Basmati. Farmers should be assured of a remunerative price which should be two to three times higher than those for the common varieties. It will encourage the farmers to put more area under Basmati rice. Thus an integrated approach for production, procurement, processing and export of Basmati rice is necessary in the long-term interest of the country. This will help India to capture and develop a bigger market for export and thereby increase its foreign exchange earnings.

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Performance and Prospects of Agricultural Exports of India

Chhotan Singh and A.K. Vasisht*

An attempt has been made in the paper (i) to examine the temporal changes in the composition of major exportable agricultural commodities/groups and their growth performance in terms of export values, quantum and unit value of exports, (ii) to identify the newly emerging agricultural commodities for future exports and (iii) to project their estimated quantum of exports in 2000 and 2005 A.D. Time-series data obtained from official sources on export value, quantum and unit value (price) of exports of major agricultural commodities during the period from 1975-76 to 1992-93 were used for the analysis. The results of the study revealed that the share of export value of agricultural and allied products in the total value of exports declined over the period. The export commodity complex of major agricultural commodities/groups had been changing significantly during this period. During the eighties, the major exportable agricultural commodities were tea, coffee, cashew kernels, spices and tobacco. But in recent years, i.e., 1991-92 and 1992-93, marine products, oilcakes and rice were the main products exported. Besides these, fruits and vegetables, processed foods, meat and meat preparations are the newly identified non-traditional agricultural commodities/groups for exports. The results further confirmed the fact that the export earnings from oilcakes and marine products increased at a faster rate mainly due to large expansion of their volume of exports but for rice and tobacco, the export values rose due to a sharp increase in their unit values (prices).

The quantum of exports of main products, namely, oilcakes, rice and marine products is projected to be 8.16, 2.16 and 0.68 million tonnes respectively in 2000 A.D. and is expected to increase in 2005 A.D. There is a need to increase the production and generate the surplus of major exportable newly emerging agricultural commodities. Basmati rice which has super aroma and which is in great demand in the world market should be grown in larger areas of Basmati rice growing Northern states. There is also a large scope for exporting non-Basmati rice to the other countries like Japan and Korea at competitive rates. There is also vast potential for raising the marine production. A better aquaculture technology should be developed for exploiting the full potential of fish especially shrimps which are mostly exported to Japan and U.S.A. For promoting sugar exports, the quality of sugar needs to be improved. Besides this, uniform incentive structure should be provided for promoting exports of agricultural products, especially agro-processed and labour-intensive in which our country has distinct natural comparative and competitive advantage in global agriculture.

Agricultural Price Policy and Its Impact on Farm Income: A Case of Foodgrain Crops

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The paper aims at examining the growth rates of farm harvest prices of and gross income

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from important foodgrain crops in Gujarat State, the variability in the gross income and the contribution of price and productivity in the incremental gross income. The study is based on secondary data collected from the Directorate of Agriculture, Government of Gujarat, Ahmedabad. Time-series data were analysed for the period from 1960-61 to 1990-91 for bajra, jowar, paddy, wheat, gram and *tur* crops. The entire study period was divided into two parts: 1960-61 to 1975-76 (period I) and 1976-77 to 1990-91 (period II), and the analysis was done accordingly. Compound growth rates of farm harvest prices and gross income were computed employing exponential function. The extent of variability in gross income was measured after detrending the original data. Decomposition analysis was carried out to examine the price and productivity effects on incremental gross income of different foodgrain crops.

The major findings of the study indicated that the compound growth rates of farm harvest prices and gross income of all the crops under study were positive and highly significant during both the periods. The annual compound growth rates of prices of pulses were relatively higher (about 11 per cent) during the second period, while the reverse was the case with cereal crops (about 6 to 7 per cent). Further, all the crops under study showed a marginal decline in growth rates of farm harvest prices as well as in gross income during the second period compared to the first period. Though the variability in per hectare gross income from different crops (except *tur* crop) registered a decline during the second period over the first period, still it was of a high order ranging from 35 to 70 per cent. The results of decomposition analysis indicated that the contribution of price alone to incremental income was the maximum for all the crops during both the periods. It is concluded that the support price policy for foodgrains has helped the farmers in increasing farm income mainly through price rise, but it has failed in reducing the variability in gross income.

Trend and Potential for Export of Cotton from India

B.D. Bhole, M.N. Nighot and Y.P. Mahalle*

In this paper, an attempt has been made to examine the trend in the export of cotton from India and to study the gap between domestic and international prices of cotton. For this purpose time-series data pertaining to production, exports, prices, etc., were collected from secondary sources for the period 1970-71 to 1990-91. It is observed that India accounted for 22 per cent of the area under cotton and for 12.41 per cent of the production in the world and her share in world cotton exports increased from 2.61 per cent in 1980-81 to 6.09 per cent in 1990-91. Export prices of cotton were found to be 9.47 to 71 per cent higher than the prices in the domestic market during the period. There has been a positive and significant growth trend in the export of cotton yarn and cotton fabrics particularly in the decade ending 1990-91. Hence, it may be suggested that more incentives should be given to increase the

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export of cotton fabrics by exploiting the potential in raising cotton production through improvement in yield in the country and employing surplus labour in the production of yarn and fabrics instead of exporting raw cotton.

Prospects of Production, Marketing and Export of Mint in India

S.R. Yadav, Babu Singh, D.S. Shukla and S.K. Pandey†

The botanical name of mint is *Mentha arvensis*, which, as a source of menthol, has wide use in medicine, food and cosmetics. This crop is gaining importance in export and proving very remunerative for the farmers. A study was conducted during the year 1992-93 covering a sample od 100 farmers randomly selected from ten villages of Banki development block in Barabanki district of Uttar Pradesh. The main objectives of the study were to examine the production, uses and export of mint crop, to work out its cost of production, to calculate the processing cost and income and to find out the constraints in the production and marketing of the crop. According to the study, the average size of holding was 2.17 hectares and the intensity of cropping was 214 per cent and the capital investment per hectare was Rs. 11,741. The farmers were having assured irrigation and over 17 per cent of the area was occupied by the mint crop. The average yield of mint was 146.29 kg per hectare. It yielded a gross income of Rs. 21,943 per hectare as against the input cost of Rs. 11,741 per hectare and net income, on an average, came to Rs. 10,202. The input-output ratio worked out to 1:1.87. It was observed that there was no significant effect of size of holdings on production and farm income.

Out of the total production of 3,000 tonnes of mint and 1,300 tonnes of menthol, 1,000 and 800 tonnes were exported respectively in 1991 and the foreign exchange earned from the export of the processed material amounted to Rs. 58 crores. The main problems and constraints confronting the producers were the high cost of inputs, susceptibility of mint crop to weather and season, unfavourable attitude of the industrialists, poor facilities for marketing and lack of knowledge on the part of producers. It may be concluded from the study that mint crop production is highly remunerative to the farmers and has a very wide scope for increasing income and employment to the farmers and for earning foreign exchange through the export of mint production.

Liberalisation and the Potential Commodity Groups for India's Agricultural Export

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The paper attempts to examine India's position in world trade over time and the impact

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of liberalisation on agricultural exports and more importantly, to identify the potential commodity groups for export. The data for the paper have been obtained from various published sources. The tabular method of analysis covering the various facets of India's trade has been used. The results of the study revealed that the post-liberalisation period has been marked with an increase in the export of agricultural commodities especially Basmati rice, oil meals, meat and meat products, marine products, fruits and vegetables. As against this, the export of some of the traditional commodities like tea, coffee and spices has declined perhaps due to falling international prices. In the present era of structural adjustment programmes wherein the removal of barriers to international trade is one of the major elements, it is high time to realise and set up a committed monitoring and evaluating body for promoting the pace of exports on more sustained competitive lines. Such an agency shall offer a cohesive approach to various aspects of international trade, and ensure quality control, collection and dissemination of data pertaining to production, export, domestic and internatioal prices.

Prospects of Milk Industry in India

K.K. Jain, Narinder Kumar and B.R. Garg†

The paper attempts to study the growth performance of Indian milk industry over time, using time-series data on trade in milk and milk products in the world and in India. It also examines India's trade in different milk products in the world market and to explore areas in which India's potential can be tapped. The data for the study have been collected from various secondary sources. The study revealed that among the different milk products, the volume of trade was the highest in fresh milk, followed by cheese and dry milk. However, the rate of growth was the highest in whey while in absolute terms it was the highest in cheese. Asia also witnessed high growth in milk concentrates, followed by fresh milk and whey in that order.

India too has a great potential to increase the milk production. For this, there is a need not only to maintain the tempo of improving the productivity of cows but also to step up production as the productivity of cow was only 42.5 per cent of the world average. It needs to be improved especially in states like Gujarat, Rajasthan and Tamil Nadu where the growth rate of milk production had fallen much below the national growth rate of 4.54 per cent per annum. Also, since the volume of trade has greatly increased in the case of cheese, India can capture the world market especially in the Middle East as the country is the largest producer of buffalo milk which is best for Mozzeralla cheese, Fetta and white cheese. For this, efforts need to be concentrated not only to improve the productivity of milch stock but also to create processing facilities for milk to prepare cheese, dry milk, concentrated milk, etc., conforming to international standards.

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Strategies for Enhancing Scope of Agricultural Exports from Bihar

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The paper seeks to identify the commodities for export from the eastern region in general and Bihar in particular, and suggest measures to increase the scope for enhancing the export trade of the commodities. Tea, jute, tobacco and sugar are traditional export crops of the country whereas rice, wheat, groundnut, rapeseed-mustard, spices like chilli, turmeric, coriander, garlic, fenel onion, and fruits like litchi, mango, banana, and flowers like rose, chrysanthemum, dahlia, and many others can be exported if basic facilities are arranged at the door-steps of the farmers. The productivity of these crops is quite low which can be stepped up by enhancing the use of yield augmenting inputs like fertiliser, pesticide and by providing assured water throughout the crop season. This will increase the yield many more times than anticipated. Suitable varieties of crops can be identified and recommended to the farmers. Spices and horticultural crops like mango, litchi, banana, cauliflower, onion, potato, etc., are fetching a good price in the international market and increase in the supply of these commodities will certainly boost agricultural exports from the region. By adding value either by culinary process or mechanical process to the commodities will certainly boost further the exports and will also generate income and employment to the farmers, which otherwise go waste in the region.

Export Potential of Grapes

S.N. Tilekar and B.S. Raskar†

Among the several fruits exported from India, grape has remained one of the important export crops. Nearly 10 per cent of the total production of grapes was exported from India in 1990-91. An attempt has been made in the paper to identify the countries to which grapes were exported and to examine the average prices received in different countries. The data from secondary sources were used. The total quantity of grapes exported from India has increased by more than five times from 2,187 metric tonnes in 1982-83 to 11,190 metric tonnes in 1992-93. It is observed that the United Arab Emirates has remained one of the major export markets for Indian grapes, accounting for more than 50 per cent of the total exports of grapes from India. The export earnings from grapes increased by more than ten times during the period 1982-93. Though Bangladesh was one of the major export markets during 1980-86 (35-45 per cent), the average net prices paid by that country were very low and therefore, its share in the exports has declined over a period of time. The highest average

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net price for export of grapes was obtained in the U.K. market. On an average, the price realised was more or less the same in all the countries of the Gulf. It is also noted that the cost of export to the U.K. is higher than that to the Gulf.

Economics, Marketing and Export Potential of Jaggery in Western Maharashtra

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The objectives of the paper were to study the cost of production, marketing and economics of jaggery production in Kolhapur district of Maharashtra. A random sample of 58 cultivators was selected from five villages of Karveer tahsil in the district. The data were analysed by tabular method and pertained to the year 1993-94. In Maharashtra about 10-15 per cent of the sugarcane is used for the preparation of jaggery. In spite of large production of jaggery, the export is very limited, because of lack of standardised product. It is the dominant cottage industry concentrated in sugarcane area of the Kolhapur region of Western Maharashtra. The per hectare total cost of sugarcane cultivation worked out to Rs. 41,484 and the output per hectare was 89.23 tonnes. The cost of production per tonne was Rs. 446. The total production of jaggery was 98 qtl./ha and the total cost of production worked out to Rs. 565 per qunital. In addition, the marketing cost of the product amounted to Rs. 73 per quintal, in which the major costs were commission charges (44 per cent), transportation and packaging (41 per cent) and octroi and market cess (10 per cent). It was observed that about 92 per cent of the production of jaggery constituted the marketable surplus.

The per hectare profit received from jaggery production was Rs. 26,464, indicating the profitability of this cottage industry. If the product is prepared according to standardised norms of the export market, the profit can be increased manifold. There is a vast jaggery export market in the Gulf countries as well as in the western countries. In order to make the business most profitable, the following aspects need attention: About 20 per cent of the juice is lost due to traditional use and poor extraction from bagasse and 15 per cent of the jaggery is spoiled due to improper storage facilities. To meet the market demand for export of quality jaggery, minimum chemical inputs should be used in its production and better storage facilities should be provided. The scope for domestic and foreign market needs to be critically studied and information on consumer's choice needs to be gathered to boost the export of jaggery.

A Study of Relative Prices of Dairy Products and Their Implications for Domestic Trade and Export Potential

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The paper attempts to analyse the relative prices of dairy products like milk, ghee and

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butter during 1963-88 and their implications for domestic trade and export potential. The study revealed that there is not only a decline in the relative prices of dairy products in relation to other commodity groups like meat, fish and egg group, food articles and all commodities group, but also the annual compound growth rate in the prices of dairy products has also been lower than those of cereals, pulses, edible oils, oilseeds, food articles, meat and all commodity groups. Also the annual growth rate in the price of milk has been observed to be lower than that of the animal feed ingredients at the all-India level and in individual markets, implying higher increase in the cost of milk production as compared to the price of milk. Thus the prevailing price policy is not conducive to making investments and to adopting technological change. Therefore, provision of remunerative prices to milk producers is essential to increase milk production at the farm level and this can be done by improving the efficiency of milk plant through utilisation of full processing capacity of plants in the dairy industry. However, with the liberalisation policy, the private sector including the multinationals are entering the dairy industry which will increase the demand for fluid milk, leading to a rise in the procurement price of milk. This would be beneficial to the milk producer. But on the other hand, the private plants will go in for production of milk products rather than for fluid milk. Therefore, the government will have to take a policy decision regarding the producers' price for milk and to ensure the supply of liquid milk at fair prices to the consumers, especially for the weaker section households. The milk producers are not only affected by the higher price of feed ingredients but also by the escalation in the prices of essential consumer goods like pulses, edible oils and vegetable ghee. Thus there is need for a workable, efficient and effective marketing policy for dairy products. Appropriate technology for dairy products should be developed on a small scale so that the benefits of value added milk products could be transferred to milk producers in rural areas. Further, the relative low prices of milk and milk products indicate that the export potential of dairy products can be exploited if the quality and packaging of dairy products are improved to bring it on par with international market standards.

Liberalisation of Indian Economy vis-a-vis Policy Framework to Promote Agri-Trade

A.K. Banik*

The paper attempts to examine the export potential of agricultural commodities in the international market in the context of liberalisation of the Indian economy. For this purpose eleven agri-commodities and agro-based products with high export potentiality are identified. After identifying the agri-commodities and agro-based products which have substantial scope for exports, the paper focuses attention on the scenario of development of agricultural exports over the past three decades, particularly in the context of the liberalisation of trade policy and suggests measures for the promotion of exports. Though India is an agri-based country the proportion of agri-products export to total export had declined from 31 per cent to 16.5 per cent during 1970-71 to 1992-93. Within the export group items, oilcakes' export

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increased by 176 per cent during the last decade (1981-91) whereas that of spices and cashew kernels increased only by 23 and 75 per cent respectively. Thus liberalisation of the export-import policy leads to search for a few measures for promotion of export. These are as follows.

The yield rates of the export items may be raised with the help of improved modern technologies to have maximum marketable produce for export. Attention also needs to be paid to improve the standard of packaging. Suitable selection of foreign market is definitely a hard task. Care should be taken to choose a small intake capacity market for low quantum exportable items. The trade restrictions of the destination country and rivalry of other exporters may be dealt with in a critical manner using proper judgement and skill. Continuous search for export items are bound to lower the number of negative list of export items. Properly planned use of export oriented units/export processing zone facility may accelerate the process of liberalisation. The search for new commodities for export such as neem oil, apricot oil may be thought of though these are not export thrust items at present. With the help of trade related intellectual property rights measure as an inventor-country of new seed, India may earn foreign exchange all along.

Supportive measures may be taken by the government but subsidies may be withdrawn in phases by creating proper infrastructure. Withdrawal of minimum export price in most of the cases such as for Basmati rice and tobacco would give a fillip to export. Lastly in non-green revolution areas it has been proposed to bring the poor people of this region to the mainstream of the economy by technological upliftment, giving subsidy on agri-inputs, introduction of special supportive price, etc. Comparing the yield rates in the pre- and post-independent periods, it is observed that the yield rates are higher in wheat/rice/cotton and oilseeds than in coarse cereals/pulses though the latter has strong export potentiality. Some broad spectrum of policies and macro-economic supportive measures are needed not only for export of pulses but also for similar other crops.

Economics of Marine Fish Marketing in Orissa with Special Reference to Its Farm Price in the Context of Liberalisation of World Trade

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An attempt has been made in the paper to examine the existing marketing structure, market price and its impact on fish catch in Orissa, seasonality in the marine fish prices and its fluctuation and the scope for export in the context of liberalisation of world trade. The data relating to the production of marine fish in different maritime districts as well as in Orissa State were collected from the Directorate of Fisheries, Government of Orissa. The data on the cost of marketing and price spread were obtained from 105 fishermen, 33 auctioneers, nine commission agents who purchased fish, 15 commission agents who sold fish, 45 wholesalers, 69 retailers, 21 vendors and 105 consumers from 11 landing centres in

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Balasore district of the state, relating to the year 1992-93. Nerlovian price expectation model is used to study the impact of the price changes of marine fish catch. A linear discriminant model is used to examine the relative contribution of different variables in discriminating the price received by the fishermen. Of the total marine catch of the state, 40 per cent is consumed in the state and 60 per cent is exported.

The marine fish is generally marketed through the market channel having six intermediaries. The fishermen's net share gets reduced with the increase in the number of middlemen in the market channel. The fishermen's net share is even less than 50 per cent of the price paid by the consumer in the market channel having 5 to 6 middlemen due to lack of government's control over trade. Such exploitation by the intermediaries can be reduced by the development of Fishermen's Agri-Business Consortium at the landing centre. This consortium will act as a co-operative in purchasing inputs, procuring output from among the members, process at the consortium level and can export directly. This will not only reduce the marketing costs and margins appropriated by the intermediaries but also tend to increase the fishermen's net share. It will also help the fishermen in entering the export market directly.

A remunerative price needs to be ensured to the fishermen for augmenting the level of the catch. The study has clearly established that with a one per cent increase in the wholesale price of marine fish, the marine catch can be increased to the extent of 2.11 per cent in the short run and 1.18 per cent in the long run in the domestic market. Since the export price is significantly more than the domestic market price, the liberalisation of world trade will increase the level of production to a significant extent. In the present context of liberalisation, it may happen that the mangrove available in the marine coast may be converted to private owned shrimp pond which will threaten to degrade the biological diversity and productivity. Therefore, care should be taken to construct ponds in mangrove in a non-destructive way. This will not only help the sustainability of marine culture development but also help to maintain the natural coast ecosystem.

Comparative Advantage, Trends, Exportable Surplus and Direction of India's Rice Exports

Shiv Ram Dass and Parmatma Singh*

The paper makes an attempt to study the comparative advantage/disadvantage, trends, exportable surplus and direction of India's rice exports in relation to other major rice exporting countries of the world. The study is based on data collected from different published sources of the Government of India for the period 1970-71 to 1992-93. These were processed with the help of tables and different types of functional analysis. The analysis of the data revealed that judged on the basis of yield, the country has a comparative advantage in exporting rice only in relation to Thailand and since 1988 against Pakistan also. But the country has a comparative disadvantage in relation to China, U.S.A. and Italy. However,

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judged on the basis of unit values realised, the country has a comparative advantage in exporting rice in relation to the other major rice exporting countries. The potential to export rice exists since large importers of rice such as West Asian and European countries are not producers of rice themselves and India accounted for only a small proportion of the rice imports. Keeping the above in view and the necessity for increasing exports to meet imports, India needs to specialise in the production and exports of rice particularly of the Basmati variety.

However, the study has found that of late (1980-81 to 1992-93), there appeared to be stagnation in the growth of rice exports even though the terms of trade of rice exports improved during the period. During 1980-81 to 1992-93, the quantum and value of rice exports increased at an annual compound rate of 1 per cent and 11 per cent respectively as compared to an increase of 39 per cent for quantum and of 47 per cent for value of rice exports during 1970-71 to 1980-81. The share of rice exports in the total exports both in terms of quantum and value declined during 1980-81 to 1992-93.

The results of functional analysis revealed that the major constraint to rice exports was the insufficiency of the domestic production on the supply side and increasing incomes on the demand side. However, exportable surplus of rice would increase if the rise in domestic price of rice was more than the increase in the export price of rice. Since an increment of incomes of the population is necessary for every country and excessive increase in the domestic price of rice may not be politically advisable, the only alternative left is to increase the domestic production of rice. On an average, to achieve a 5 per cent increase in rice exports, we require a 5.5 per cent annual increase in the domestic production, assuming a 5 per cent annual increase in real national income and with no change in the real export price. The key to the increased rice production lies in increasing rice yield in the country.

Constraints and Prospects of Boosting the Agricultural Exports

Brahm Prakash, S. Lal and Sushila Srivastava†

The paper examines the trends in foreign trade of India, identifies the agricultural commodities having scope for steady exports, explores the export opportunities in the international market, identifies the major constraints in boosting the exports of agricultural commodities and suggests measures for boosting the exports. The paper is based on secondary data published in different reports of Government agencies. The foreign trade of India revealed an unfavourable balance of trade position. India's share in the world trade has been reduced to less than 0.5 per cent. The share of agricultural and allied products in total exports of the country has been on the decline. India's share of agricultural exports in global export has been reduced to about one per cent. Cotton, oil meals, rice, wheat (specially durum type), tobacco, sesame and niger seeds, castor oil, groundnut, sugar and molasses, *guar* gum, spices, tea, coffee, rubber, fresh fruits like mango, litchi, grapes, etc., processed fruits like fruit juices, pulps, jams, pickles and chutneys, etc., vegetables like onions, asperagus and potato, etc., flowers and other floricultural products, pulses, meat and marine

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products are among the major agricultural items which have substantial export potential in different countries. The export potential of different commodities and the future markets have also been projected.

The high prices of exportable agricultural commodities, their poor quality, low exportable surplus, adverse terms of trade, limited markets for trade, protectional tariff in the developed countries, development of substitute goods, stiff competition in the international market, lack of publicity, high minimum export prices of a few commodities, poor marketing intelligence, export in the form of raw materials rather than value added products, absence of brand status to the commodities and lack of incentive for the exports are some of the major constraints in boosting the export of agricultural commodities. The country's exports can be increased through proper co-ordination between national and international trade agencies, by raising the outlay for research and development for exportable crops, increasing the investment in the agricultural sector, exploiting the value added products rather than raw materials, providing brand status to the items, developing processing, post-harvest handling technology, reducing the minimum export prices, adopting the differential procurement prices for durum wheat, creating required infrastructure for the export of marine products, providing incentives for export and through publicity for our products in the international trade fairs.