

# MARKETING INFRASTRUCTURE & AGRICULTURAL MARKETING REFORMS

## EXPERT COMMITTEE REPORT

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### PREFACE

1. India is one of the largest agrarian economies of the world. Its agriculture sector is at the core of the economy's purchasing power. The agriculture produce sector is the most important component of the Indian commodity sector. India's commodity sector comprises activities, regulations, institutions and producers, consumers, intermediaries, service producers and marketplaces that collectively cause and explain some part of the economy's total output. The agriculture produce sector comprehensively explains the geographic dispersion and statistical distribution of household incomes and purchasing power but the sector itself is under unprecedented stress. There is increasing pressure on all segments of the agriculture produce economy to respond to the challenges that the global markets pose in the new post-WTO world trade order.

2. As the earlier marketing system was developed in the context of a planned economy a fresh approach to marketing is necessary in the atmosphere of liberalization and globalization. The National Agricultural Policy indicates the need for new demand driven marketing set up. The Expert Committee was therefore appointed to suggest ways and means to meet this new challenge through strengthening and developing agricultural marketing system in the country.
3. The National Agriculture Policy (NAP) envisages promotion of demand driven agriculture growth catering to domestic as well as export markets. As the efficient agricultural marketing system lies at the core of agriculture growth, the Government of India constituted an Expert Committee under my chairmanship to review the present system and suggest ways and means to strengthen and develop it. The order of the Government of India regarding constitution of the Committee and its Terms of Reference is at Annexure-I & IA.
4. The Committee worked through 4 Working Groups which dealt with TOR I and II; III, IV; and V, VI, VII respectively. TOR VIII was common to all. The Working Groups were headed by Dr. B.D.Pawar, Shri G.Ramachandran, Prof. S.S.Acharya and Shri T.R.Verma respectively. It held three meetings of each of the Working Groups and four meetings of the full Committee. The present report is based on deliberations during these meetings. The Committee wishes to place on record appreciation for efforts of the conveners of the Working Groups for their contribution and support. The Committee expresses its thanks to all of its Members for their support and guidance. Particular thanks are due to Dr. S.L.Bapna of IIM Ahmedabad and Sh. A.D. Rane of R.B.I. Mumbai for their fruitful participation in deliberations. Shri M.K.Mandal, AMA to the Government of India was associated as Member Secretary of the Committee till 14<sup>th</sup> May, 2001. Shri P.K. Agarwal who took over as AMA and Member Secretary from Shri Mandal proved an asset to the Committee. He worked with missionary zeal for preparation of the report. The Committee would like to record its appreciation for

the services of Shri Mandal. Shri Agarwal's untiring motivation and efforts made it possible for the Committee to submit its report in time.

5. The Committee submitted its Interim report on 10<sup>th</sup> April 2001 as desired by the Honourable Union Minister of Agriculture. The Committee is grateful to Hon'ble Union Minister of Agriculture Sh. Nitish Kumar, Minister of State for Agriculture Sh. S.Y. Naik and Sh. J. N.L. Srivastava, Secretary to GOI (DAC) for their guidance and contribution from time to time.
6. The Committee expresses its thanks to Hapur Chamber of Commerce and Shri D.S.Kolamkar, Director, Forward Market Commission, Mumbai for fruitful discussions on the subject of forward and futures markets in Agricultural products. The officials of NIAM and DMI extended wholehearted cooperation and support to the Working Groups and Expert Committee during the deliberations. The committee recognises sincere and hard work put in by Sh. G.H. Dhankar, Deputy AMA, Dr. Kamal Mathur, Dr. M.S.Jairath and Dr. Hema Yadav.
7. I hope that the report will be useful to agricultural marketing policy planners and practitioners in the Centre and the States in initiating measures to strengthen and develop agricultural marketing in the country to meet the challenges of new economic order.

Dated 29<sup>th</sup> June

(Shankerlal Guru)

**Chairman**

## **SUMMARY & RECOMMENDATIONS**

1. Government is promoting organized marketing of agricultural commodities in the country through a network of regulated markets. Most of the state Governments and Union Territories have enacted legislations to provide for development of agricultural produce market. As on 31.3.2001, 7177 markets have been covered under regulation. The country also has nearly 27,294 rural periodical markets, about 15% of which function under the ambit of regulation.
2. Regulated markets have helped in mitigating the market handicaps of producers/sellers at the wholesale assembling level. But, the rural periodic markets in general, and the tribal markets in particular, remained out of its developmental ambit. It was envisaged that physical markets with facilities and services would attract the farmers and the buyers creating competitive trade environment thereby offering best of the prices to the producers/sellers.
3. The Institution of regulated market has, however, achieved a limited success. These markets were supposed to ensure smooth and orderly development of agri-marketing by ensuring fair play of trade practices and market forces. Over a period of time these markets have, however, acquired the status of restrictive and regulated markets, providing no help in direct and free marketing, organized retailing, smooth raw material supplies to agro – processing, competitive trading, information exchange and adoption of innovative marketing systems and technologies. Monopolistic practices and modalities have prevented development of free and competitive trade in agri- marketing, future markets, use of latest technologies in post harvest technology and handling exports, agro based industries, warehousing etc. Now these markets have failed in containing the scenarios of plenty's and scarcities.
4. An efficient agricultural marketing is essential for the development of the agricultural sector. In as much as it provides outlets and incentives for increased production, the marketing system contributes greatly to the commercialization of

subsistence farmers. World-wide, Governments have recognized the importance of liberalizing agricultural markets. Government policy has to effectively address issues of marketing liberalization and help to overcome the constraints faced by various organizations including private sector involved in agri-marketing. The ever increasing production, spread of latest technologies, changing socio – economic environment, increasing demand for downsizing the distribution chain and reducing the margin between farmers and ultimate consumers, challenges emerging out of liberalization and globalization in the post WTO period requires a vibrant, dynamic and assimilative marketing structure and system.

5. In promoting vibrant competitive marketing systems, Government need to examine all existing policies, rules and regulations with a view to remove all legal provisions inhibiting free marketing system. Today, State Governments alone are empowered to initiate the process of setting up of a market for certain commodities, which are regulated and for certain areas, in which the Regulation is enforced. These provisions will have to be replaced by providing an omnibus provision that anybody can set up a market, provided minimum standards, specifications, formalities and procedures which may be let down by the Government of India are complied with. The Government of Karnataka has set the ball rolling by amending its Act to allow the National Dairy Development Board to set up wholesale fruit and vegetables market at Bangalore with the subsidiary collection centers to promote integrated marketing of horticultural produce grown in the State. Private Sector, Corporates, Joint Ventures need to be similarly encouraged to set up markets for free and competitive trade.
6. The institution of regulated markets, set up to strengthen and develop agricultural marketing in the country has achieved a limited success. The restrictive legal provisions did not augur well with competitive market structure. Promoting competition in the trade and facilitating farmers with supporting services like grading, standardization, storage with pledge finance and facilities in the markets have become secondary activities. Funds from the Agricultural Marketing Boards have been siphoned off in many states to Public Ledger

Account by the State Authorities. Consequently, the modernization/infrastructure development conducive to operational efficiency of the markets has suffered heavily. The Committee recommends that by an appropriate amendment in the Act the utilization of funds by the market committees and the Marketing Boards for these activities may be made mandatory.

7. The spot markets, have not been linked with the forward and future markets to receive price signals. The futures trading in agricultural commodities is also regulated by the Government. The linkage between the spot and futures markets seems to be poor due to domination of the speculators. Government has, to continue its efforts to strengthen and institutionalize commodity exchanges to instill confidence and awareness among market players.
8. There is an imperative need to make Government administered marketing organizations administratively viable and managerially competent in keeping with liberalized trade atmosphere. The marketing activities are many-folded and need liaison and collaboration with related organizations. Market committees including sub-yards, should be headed by professionals. Existing Secretaries need to be trained in professional management of the markets. The functions of APMC and Marketing Boards may have to be remodeled for this purpose.
9. The nature of legal framework within which agricultural markets operate has a fundamental effect on the functioning of the agricultural marketing system. Legal reforms can play an important role in making the marketing system more effective and efficient by removing unnecessary conditions and by establishing a sound framework to reduce uncertainty of the market. A review is, therefore required in respect of all laws which regulate participation in market such as registration/licensing, commodities traded, controls on packaging and labeling, laws affecting market place, laws affecting supply including controls on movement of product and volume of commodities traded, laws relating to access to credit and capital dispute resolution mechanism.

10. The Essential Commodities Act, 1955 which has resulted in restrictions on storage and free movement of stocks, initiative by the trade in innovation and investment, should be repealed to make way for play of free market forces in real sense. The Committee recommends that a Task Force be set up under the Ministry of Agriculture, Department of Agriculture & Cooperation to undertake a review of all marketing legislations, policies and programmes and suggest various reforms in the statutory arrangements relating to agricultural marketing as well as policies and programmes for development and strengthening of agricultural marketing with specific reference to needed investment, package of incentives and easy and adequate marketing credit.
11. Direct marketing enables farmers to meet the specific requirements of wholesalers from the farmers' inventory of graded produce and of retail consumers based on consumers' preferences, thus enabling farmers to dynamically take advantage of favourable prices and improve their net margin. It encourages farmers to undertake grading of farm produce at the farm gate and obviates the necessity of farmers to haul produce to regulated markets that are not necessarily spaced on the principles of efficiency. Direct marketing thus enables farmers and buyers to economize on transportation costs and to improve price realization considerably.
12. The Committee suggests promotion of direct marketing as one of the alternative marketing structure that sustains incentives for quality and enhanced productivity, reduce distribution losses, improving farmer incomes with improved technology support and methods. The market will operate outside the purview of the Agricultural produce Marketing Act and will be owned by professional agencies in private sector, wholesalers, trade associations and other investors. The government's role should be that of a facilitator rather than that of having control over the management of the markets.
13. Direct marketing by farmers to the consumers was experimented through Apni Mandis in Punjab and Haryana. The concept, with certain improvements got

popularized in Andhra Pradesh through Rythu Bazars and in Tamil Nadu as Uzhavar Santhaigal. At present, these markets are being run at the expenses of State exchequer, as a promotional measure, to inculcate habit of marketing without help of middlemen by the small and marginal producers of fruit and vegetables. Considering the vastness of the country, more and more such markets need to come up in the organized sector with private investment so that they can be developed in tune with the market requirements with backward & forward linkages. A common Code of Conduct and modalities with regard to ownership, operation & need based infrastructure will have to be prepared and circulated to spread the concept of direct marketing by the farmers.

14. The similar logic holds good for consumer organizations also who can procure directly from producers and distribute to the consumers commensurate with their purchasing powers. The Government should support these organizations with schemes like providing back ended incentives for refrigerated as well general transport, setting up of grading and packing houses, credit at low interest etc., till they become financially self-sufficient on commercial lines.
15. Direct marketing through SHGs or informal groups, NGOs, cooperatives, Farmers Associations, Companies, partnership, joint ventures may be encouraged by government to various policy back up and programmes. These organizations may be encouraged to create and manage markets physical as well as futures. The cooperatives however, will have to be freed from the shackles of politician and bureaucrats.
16. As another form of direct marketing, the unemployed youth could be involved in procurement of orders and supply of graded and packed products to different city dwellers. The youth could be trained in marketing practices of procuring products and supplying them. The financial assistance from the public sector to such ventures would generate entrepreneurship and provide profitable employment to the younger generation. They could be given assistance in the



form of working capital to start the enterprise along with the necessary agri-business training.

17. The use of information technology in agri-marketing has become indispensable. Therefore encouragement may be provided to generate and host useful portals, websites, databases, information packages and other soft wares, generic as well as customize on agricultural marketing. Info kiosks may be encouraged to be set up in the markets, spot as well as futures, farmers organizations, Associations of traders and other functionaries for exploiting the opportunities of information revolution, especially for online demand of different products; product specifications with regard to quality, pack size, packaging material, quantity and the time frame of supply; the transport cost involved and the marketing charges likely to be incurred in the market where the goods are to be delivered; facilities available to the farmer in the buying market; Re-handling of the produce, if necessary, in the supplying market to suit to the requirement of the buyer market; the rules and regulations of the destination market, if it is located outside the state at distant place, and other specific information as may be conducive for the seller to transact the business with the purchasers; and the legal provisions related to storage, transportation, phyto-sanitary requirements etc.
18. Forward contract may well be regarded as direct and alternative marketing facilitator. With the initiation of the liberalization process in India, interest in futures markets has been revived for their price risk management and price discovery roles, as well as handling the situation of plenty's and scarcities. In the country currently, futures contracts are traded in nine commodities in 20 commodity exchanges. It is suggested that more and more commodities be added to facilitate competitive and free marketing system.
19. A recent study conducted by the IIM, Ahmedabad has indicated that the performance of the Indian commodity futures markets is varied across the commodities, exchanges and contracts. They are deficient in several aspects such as infrastructure, logistic, management, linkages with financial institutions,

reliability, integrity and an efficient information system which do not encourage a large group of the market players in the commodity sector to trade in this market. Government has, therefore, to continue its efforts to strengthen the exchanges and to instill confidence and awareness among market players.

20. Poor credit flows have had an adverse effect on the development of agricultural marketing systems in the country. Certified warehouses and a system of negotiable warehouse receipts could lead to improved credit delivery, better loan recovery and convenience in asset management. The existing Government warehousing corporations should play a leading role in the development of warehousing. However, they can only cover part of the field, which should be opened up to private operators, particularly those who already provide storage services. The institutionalization of the warehouse receipts system through the commodity exchanges is most likely to yield the best results in the context of promoting and propagating warehouse receipts, in particular electronic warehouse receipts, and a national system of warehouse receipts.
21. Pledge financing enables the usage of inventories of graded produce as collateral for accessing credit from the organized credit market at cheaper rates of interest that reflect the lower credit and collateral risk, thus enabling farmers to dynamically take advantage of favourable prices and improve their net margin. It enables farmers to hold inventory of graded produce under favourable storage conditions and standardized preservation under supervisory conditions; promotes rural godowns and warehousing. It also advances grading of farm produce to the farm gate, thus enabling farmers to improve price realization considerably; identifying preserved storage closer to farms.
22. Produce market loan for a period up to six months to farmers availing crop loans up to Rs. One lakh are reckoned as priority sector advance. Banks are financing Artiya's for provision of inputs to farmers. Finance to wholesaler / traders is not treated as agricultural finance. Loans for construction/ running storage facilities are already included under priority lending. It is suggested that the existing limit

of priority sector advance should be revised upward suitably taking in to consideration innovation in agricultural sector in the post WTO regime. The credit flow to the agricultural marketing is very meager. The banking environment and lending policies and programmes for financing is not found conducive for the increased capital needs of agricultural marketing. Therefore government is requested to design full fledged agricultural marketing credit policy considering the requirement of increased production, market innovations, technologies and socio-economic changes with specific reference to post WTO regime.

23. Market infrastructure is important not only for the performance of various marketing functions and expansion of the size of the market but also for transfer of appropriate price signals leading to improved marketing efficiency. High investment with entrepreneurial skills are required for creation and managing these infrastructures. Therefore private investment in the market infrastructure development may be encouraged by modifying various procedure backed up by package of incentives. Nevertheless, for providing infrastructure in remote and difficult areas, the public sector would need to continue to play an important role.
24. Projections of production and marketed surplus of various farm products show that even at the existing marketed surplus-output ratios, the quantities which the marketing system will be required to handle in future, are quite large. The marketing system backed by strong, adequate infrastructure is the core content of agri-marketing. Development of infrastructure with in spot markets and others places is a huge task. Committee based on the estimates of the State Master Plan for Development of Regulated Markets found that there is a need of total investment of Rs 6026 crores
25. Apart from general purpose markets, there is need for developing specialized markets for fruits and vegetables. It has been assessed that there are at least 241 such places in the country where fruit and vegetables markets should be developed. The investment requirement for fruit and vegetables markets in the country is around Rs.970 crores.

26. Rural periodic market is the first contact point for producer – sellers for encashing his agricultural produce and buying other goods needed by them. There are in all 27294 rural periodic markets including those for livestock, in the country. There is urgent need to develop these rural periodic markets in a phased manner with necessary infrastructural amenities to have a strong base level link in the marketing chain. The investment requirement for developing these primary rural market places is estimated at Rs.2146 crores.
27. Encouragement by way of policy back up as well as financial support is recommended for special type of markets like floriculture, cattles etc. For export promotion and inter state marketing setting up of 50 mega markets in the country with government financial support in private, public, cooperative or joint venture is suggested. Encouragement may be considered for promoting marketing of organically grown produce, fruits & vegetables, medicinal plants, herbs etc.
28. Storage infrastructure is found necessary for carrying the agricultural produce from production to consuming periods. Country needs much more storage facility than what is available now. This is specially more important for hill and remote areas in several states. For an additional 20 million storage capacity the investment required is estimated at Rs.5400 Crores. The private sector needs to be encouraged to enter the storage and warehousing activity and make investment of this magnitude. Village Panchayats, cooperatives, SHGs and farmers organizations may be encouraged for undertaking warehousing.
29. Committee deliberated various alternative, competitive and affordable preservation and temperature management technologies for perishables. The Expert Committee recommends increased use of alternate use of technologies like, Irradiation, Nitrogen fill packaging, Vacuum packaging, shrimp wrapping and others. However, the Committee recognize the relevance and utility of cool chains and therefore supports the government programme of end used subsidies for cold storages. Cold storages are most important infrastructural need for perishable and semi perishable commodities which need an immediate

attention. The present storage capacity available is sufficient only for 10 per cent of total production of fruits and vegetables. In the next 10 years, 15000 cold storage units would need an investment of the order of Rs.27,000 Crores. The investment should basically be made by the private sector. In future, there would be a need for multi-chamber type of cold storage units for various perishable and other products in the country. For encouraging private entrepreneurs there is a need to provide incentives to make the units viable for some initial years.

30. The country require reefer containers/vans for transport of perishable items for domestic and export marketing. At present their availability in the country is negligible in comparison to the present production of perishable commodities. For handling the expected higher production in the next 10 years, at least 3000 reefer containers/vans with a capacity up to 8 tonnes each would be required. This would require an investment of Rs.600 crores, which shall be created by private, cooperative and joint sector sector. There is a need to encourage the investors in the area by providing suitable incentives.
31. There is a need to create facilities for cleaning, grading and packaging not only in spot markets but also in the villages from where produce is brought to the market for sale. There is need to promote proper packaging after grading so that further chances of adulteration may not be there. Besides this there is a strong need to educate the farmers for proper packaging and grading before they bring the produce to the market. Scientific packaging should be encouraged at the farmer level through various incentives. The Expert Committee feels that this is an important activity, and an investment of Rs.2000 crores should be earmarked for this purpose during the next 10 years.
32. With a view to taking advantage of new international trade environment, there is a need to encourage export of high value non-traditional products grown in various parts of the country. The Government of India (Ministry of Commerce) has announced a scheme of creating Export Oriented Agri-Zone (EOAZ). It

should be promoted by providing institutional and physical infrastructure in each of these as per the needs of the specific commodity. In some of EOAZs, there is also a need to establish what is called Food Parks. In these parks, some common facilities like electricity and warehouse should be created with central government assistance which will help in attracting investment by the private sector and the state government. While most of the investment should be made by the private entrepreneurs, as a way of incentive, government should invest in common facilities, and quality certification. The estimated public investment is Rs.200 crores and private investment of around 400 crores on fifty such EOAZs. In identification of EOAZs and Food Parks the Government of India should take an active stance, rather than leaving it to the state governments. The Group further recommends that commodity wise export potential studies be commissioned before establishing EOAZs.

33. Considering the rising demand for value added and processed products, there is a need for enhancing the capacity of agro-processing sector. For attracting private initiative and investment in food processing, the Government of India through Department of Food Processing and National Horticulture Board have already formulated several schemes of assistance. There is strong need to popularize their implementation in different agro-climatic zones by creating awareness about these schemes.
34. At present, value addition is estimated at only seven per cent and processing only two percent of the total production. Within next ten year, there is a need to increase value addition to 35 percent and processing at least 10 percent. Quality control and standardization will be extremely important in this endeavour. The Central government should encourage a network of food analysis laboratories in the country. This will also be necessary to face competition from imported processed products.
35. Presently the alcoholic beverages based on fruit & vegetables are clubbed with other alcoholic beverages. Whereas world over items like wines and beer which

are based on fruit & vegetables and have low content of alcohol (ranging below 11-12%) are considered as items of food and are promoted as health drinks. This sector has not developed in India so far because the Excise laws have implications both in terms of financial pricing of the products as well as restrictive legal frame work for setting up and operation of units for the manufacture of these health drinks.

36. The Word "Plantation Crops" as mentioned in some labour laws and Land Ceiling Act has a rather limited meaning pertaining mainly to coffee, tea, rubber, etc. If plantation is used as generic term for an advanced form agriculture where various types of management from the selection of land, selection of species to be grown, the financial support, the management of labour, the processing & marketing are all done at a higher level than what is done for ordinary agricultural crops, the horticulture is bound to get a fillip. The existing legal frame work will open new avenues for development of entire horticulture sector if production of fruit & vegetables, medicinal & aromatic plants, spices, is also brought under the definition of plantation.
37. NIAM should become 'Centre of Excellence' for Asian Region and be headed by Technocrat, Marketing Practitioner, Academician of national/international repute. Training in agricultural marketing should be strengthened and NIAM should take active stance in the programme. Training modules of different duration should be designed for farmers, NGOs, co-operatives, extension workers, development functionaries, PRI representatives, development administrators, people's representatives and policy makers.
38. In India , although at village and farm level agricultural production extension services exist but marketing extension work designed to benefit farmers and other market functionaries does not exist. In the absence of emphasis on marketing extension, technology transfer in the field of agricultural marketing has been sluggish. The marketing extension service to assist small and marginal farmers in solving the problems faced in marketing their produce is a sine-qua-

non in the liberalized trade environment. A massive programme of marketing extension should be launched at the disaggregated level. In each agro-climatic region the extension messages should include (a) advise on product planning; (b) market information; (c) secure markets; (d) alternate marketing channels; (e) improved marketing practices including grading and packing; and (f) advantages of group marketing.

39. Considering the limited reach of public extension service, it is felt that privatization of extension services with appropriate financial backup from the public sector is considered more appropriate and practical. The NGOs, Cooperatives, Trade Associations, Private Limited companies, and corporate bodies should be allowed and encouraged to undertake marketing extension. To facilitate private agencies to undertake extension programmes on regular basis for the country as a whole, a 24 hours TV Kisan Channel on Doordarshan is necessary. The Kisan Channel would be best visual media to educate farmers by public as well as private agencies for both agricultural as well as marketing extension service.
40. The agricultural marketing research which is becoming increasingly important has received inadequate attention in the past. There has been a need to set up a liaison, linkages amongst the research activities findings and the field position. The SAUs and the Regional & Other Centres of ICAR should be given a mandate for applied research in agricultural marketing and functioning of these units. Marketing organizations may be forced to set apart some funds for marketing research.
41. The probable areas for training, research and information technology for producers as well as different market functionaries could cover agri-business management; WTO and its implementation; post-harvest management; grading, standardization and quality assurance; information technology.



42. The sensitization programmes for state level, district level, farmers and stake holders would also be conducted. The programme on post-harvest management for agricultural, horticultural crops, livestock, marine products, etc. may be conducted on regular basis. Quality assurance specially for perishables awareness on standardization and grading & quality control are the other areas for government support.
43. Agricultural Produce Marketing requires connectivity between the market and Exporter/Growers/Traders, through wide area network (WAN) of National and International linkages in order to provide day-to-day information with regard to commodity arrivals and prevailing rates etc., to provide links for online International Market Information; to provide export-related documentation, to inform about the latest research in agricultural marketing, packaging/storage etc. related information and to provide linkage/Connectivity with the World Trade Centre (WTC), APEDA, NIAM, NHB, DMI, IIP, State Agricultural Marketing Boards, and universities.
44. Other areas of importance are a) Setting up of value added networks services, Information Kiosks in rural areas; b) promotional E- Catalogue for Commodity Profiles; c) Farmer advisory services in the fields of agricultural marketing, d) National Atlas of Agricultural Markets.
45. Till today, agricultural marketing in the planning process has not received the required priority, therefore the Committee recommends that highest priority may be given to the needs of agricultural marketing in the planning process. The investment requirement for strengthening agricultural marketing infrastructure comes to Rs. 268742 crores. Most of these would need to come from private sector. This may require a conducive and favourable environment consisting of (a) making complementary investment by the state and Central Government (b) subsidizing a few activities to enable private sector initiatives to attain viability (c) active stance by the Central Government in some initiatives (d) reducing the

regulatory control and simplifying the procedure and (e) ensuring adequate credit flow to agricultural marketing activities.

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57. The Committee suggests promotion of direct marketing as one of the alternative marketing structure that sustains incentives for quality and enhanced productivity, reduce distribution losses, improving farmer incomes with improved technology support and methods. The market will operate outside the purview of the Agricultural produce Marketing Act and will be owned by professional agencies in private sector, wholesalers, trade associations and other investors. The government's role should be that of a facilitator rather than that of having control over the management of the markets.
58. Direct marketing by farmers to the consumers was experimented through Apni Mandis in Punjab and Haryana. The concept, with certain improvements got

popularized in Andhra Pradesh through Rythu Bazars and in Tamil Nadu as Uzhavar Santhaigal. At present, these markets are being run at the expenses of State exchequer, as a promotional measure, to inculcate habit of marketing without help of middlemen by the small and marginal producers of fruit and vegetables. Considering the vastness of the country, more and more such markets need to come up in the organized sector with private investment so that they can be developed in tune with the market requirements with backward & forward linkages. A common Code of Conduct and modalities with regard to ownership, operation & need based infrastructure will have to be prepared and circulated to spread the concept of direct marketing by the farmers.

59. The similar logic holds good for consumer organizations also who can procure directly from producers and distribute to the consumers commensurate with their purchasing powers. The Government should support these organizations with schemes like providing back ended incentives for refrigerated as well general transport, setting up of grading and packing houses, credit at low interest etc., till they become financially self-sufficient on commercial lines.
60. Direct marketing through SHGs or informal groups, NGOs, cooperatives, Farmers Associations, Companies, partnership, joint ventures may be encouraged by government to various policy back up and programmes. These organizations may be encouraged to create and manage markets physical as well as futures. The cooperatives however, will have to be freed from the shackles of politician and bureaucrats.
61. As another form of direct marketing, the unemployed youth could be involved in procurement of orders and supply of graded and packed products to different city dwellers. The youth could be trained in marketing practices of procuring products and supplying them. The financial assistance from the public sector to such ventures would generate entrepreneurship and provide profitable employment to the younger generation. They could be given assistance in the

form of working capital to start the enterprise along with the necessary agri-business training.

62. The use of information technology in agri-marketing has become indispensable. Therefore encouragement may be provided to generate and host useful portals, websites, databases, information packages and other soft wares, generic as well as customize on agricultural marketing. Info kiosks may be encouraged to be set up in the markets, spot as well as futures, farmers organizations, Associations of traders and other functionaries for exploiting the opportunities of information revolution, especially for online demand of different products; product specifications with regard to quality, pack size, packaging material, quantity and the time frame of supply; the transport cost involved and the marketing charges likely to be incurred in the market where the goods are to be delivered; facilities available to the farmer in the buying market; Re-handling of the produce, if necessary, in the supplying market to suit to the requirement of the buyer market; the rules and regulations of the destination market, if it is located outside the state at distant place, and other specific information as may be conducive for the seller to transact the business with the purchasers; and the legal provisions related to storage, transportation, phyto-sanitary requirements etc.
63. Forward contract may well be regarded as direct and alternative marketing facilitator. With the initiation of the liberalization process in India, interest in futures markets has been revived for their price risk management and price discovery roles, as well as handling the situation of plenty's and scarcities. In the country currently, futures contracts are traded in nine commodities in 20 commodity exchanges. It is suggested that more and more commodities be added to facilitate competitive and free marketing system.
64. A recent study conducted by the IIM, Ahmedabad has indicated that the performance of the Indian commodity futures markets is varied across the commodities, exchanges and contracts. They are deficient in several aspects such as infrastructure, logistic, management, linkages with financial institutions,

reliability, integrity and an efficient information system which do not encourage a large group of the market players in the commodity sector to trade in this market. Government has, therefore, to continue its efforts to strengthen the exchanges and to instill confidence and awareness among market players.

65. Poor credit flows have had an adverse effect on the development of agricultural marketing systems in the country. Certified warehouses and a system of negotiable warehouse receipts could lead to improved credit delivery, better loan recovery and convenience in asset management. The existing Government warehousing corporations should play a leading role in the development of warehousing. However, they can only cover part of the field, which should be opened up to private operators, particularly those who already provide storage services. The institutionalization of the warehouse receipts system through the commodity exchanges is most likely to yield the best results in the context of promoting and propagating warehouse receipts, in particular electronic warehouse receipts, and a national system of warehouse receipts.
66. Pledge financing enables the usage of inventories of graded produce as collateral for accessing credit from the organized credit market at cheaper rates of interest that reflect the lower credit and collateral risk, thus enabling farmers to dynamically take advantage of favourable prices and improve their net margin. It enables farmers to hold inventory of graded produce under favourable storage conditions and standardized preservation under supervisory conditions; promotes rural godowns and warehousing. It also advances grading of farm produce to the farm gate, thus enabling farmers to improve price realization considerably; identifying preserved storage closer to farms.
67. Produce market loan for a period up to six months to farmers availing crop loans up to Rs. One lakh are reckoned as priority sector advance. Banks are financing Artiya's for provision of inputs to farmers. Finance to wholesaler / traders is not treated as agricultural finance. Loans for construction/ running storage facilities are already included under priority lending. It is suggested that the existing limit



of priority sector advance should be revised upward suitably taking in to consideration innovation in agricultural sector in the post WTO regime. The credit flow to the agricultural marketing is very meager. The banking environment and lending policies and programmes for financing is not found conducive for the increased capital needs of agricultural marketing. Therefore government is requested to design full fledged agricultural marketing credit policy considering the requirement of increased production, market innovations, technologies and socio-economic changes with specific reference to post WTO regime.

68. Market infrastructure is important not only for the performance of various marketing functions and expansion of the size of the market but also for transfer of appropriate price signals leading to improved marketing efficiency. High investment with entrepreneurial skills are required for creation and managing these infrastructures. Therefore private investment in the market infrastructure development may be encouraged by modifying various procedure backed up by package of incentives. Nevertheless, for providing infrastructure in remote and difficult areas, the public sector would need to continue to play an important role.

69. Projections of production and marketed surplus of various farm products show that even at the existing marketed surplus-output ratios, the quantities which the marketing system will be required to handle in future, are quite large. The marketing system backed by strong, adequate infrastructure is the core content of agri-marketing. Development of infrastructure with in spot markets and others places is a huge task. Committee based on the estimates of the State Master Plan for Development of Regulated Markets found that there is a need of total investment of Rs 6026 crores.

70. Apart from general purpose markets, there is need for developing specialized markets for fruits and vegetables. It has been assessed that there are at least 241 such places in the country where fruit and vegetables markets should be

developed. The investment requirement for fruit and vegetables markets in the country is around Rs.970 crores.

71. Rural periodic market is the first contact point for producer – sellers for encashing his agricultural produce and buying other goods needed by them. There are in all 27294 rural periodic markets including those for livestock, in the country. There is urgent need to develop these rural periodic markets in a phased manner with necessary infrastructural amenities to have a strong base level link in the marketing chain. The investment requirement for developing these primary rural market places is estimated at Rs.2146 crores.
72. Encouragement by way of policy back up as well as financial support is recommended for special type of markets like floriculture, cattles etc. For export promotion and inter state marketing setting up of 50 mega markets in the country with government financial support in private, public, cooperative or joint venture is suggested. Encouragement may be considered for promoting marketing of organically grown produce, fruits & vegetables, medicinal plants, herbs etc.
73. Storage infrastructure is found necessary for carrying the agricultural produce from production to consuming periods. Country needs much more storage facility than what is available now. This is specially more important for hill and remote areas in several states. For an additional 20 million storage capacity the investment required is estimated at Rs.5400 Crores. The private sector needs to be encouraged to enter the storage and warehousing activity and make investment of this magnitude. Village Panchayats, cooperatives, SHGs and farmers organizations may be encouraged for undertaking warehousing.
74. Committee deliberated various alternative, competitive and affordable preservation and temperature management technologies for perishables. The Expert Committee recommends increased use of alternate use of technologies like, Irradiation, Nitrogen fill packaging, Vacuum packaging, shrimp wrapping and others. However, the Committee recognize the relevance and utility of cool

chains and therefore supports the government programme of end used subsidies for cold storages. Cold storages are most important infrastructural need for perishable and semi perishable commodities which need an immediate attention. The present storage capacity available is sufficient only for 10 per cent of total production of fruits and vegetables. In the next 10 years, 15000 cold storage units would need an investment of the order of Rs.27,000 Crores. The investment should basically be made by the private sector. In future, there would be a need for multi-chamber type of cold storage units for various perishable and other products in the country. For encouraging private entrepreneurs there is a need to provide incentives to make the units viable for some initial years.

75. The country require reefer containers/vans for transport of perishable items for domestic and export marketing. At present their availability in the country is negligible in comparison to the present production of perishable commodities. For handling the expected higher production in the next 10 years, at least 3000 reefer containers/vans with a capacity up to 8 tonnes each would be required. This would require an investment of Rs.600 crores, which shall be created by private, cooperative and joint sector sector. There is a need to encourage the investors in the area by providing suitable incentives.

76. There is a need to create facilities for cleaning, grading and packaging not only in spot markets but also in the villages from where produce is brought to the market for sale. There is need to promote proper packaging after grading so that further chances of adulteration may not be there. Besides this there is a strong need to educate the farmers for proper packaging and grading before they bring the produce to the market. Scientific packaging should be encouraged at the farmer level through various incentives. The Expert Committee feels that this is an important activity, and an investment of Rs.2000 crores should be earmarked for this purpose during the next 10 years.

77. With a view to taking advantage of new international trade environment, there is a need to encourage export of high value non-traditional products grown in various parts of the country. The Government of India (Ministry of Commerce) has announced a scheme of creating Export Oriented Agri-Zone (EOAZ). It should be promoted by providing institutional and physical infrastructure in each of these as per the needs of the specific commodity. In some of EOAZs, there is also a need to establish what is called Food Parks. In these parks, some common facilities like electricity and warehouse should be created with central government assistance which will help in attracting investment by the private sector and the state government. While most of the investment should be made by the private entrepreneurs, as a way of incentive, government should invest in common facilities, and quality certification. The estimated public investment is Rs.200 crores and private investment of around 400 crores on fifty such EOAZs. In identification of EOAZs and Food Parks the Government of India should take an active stance, rather than leaving it to the state governments. The Group further recommends that commodity wise export potential studies be commissioned before establishing EOAZs.

78. Considering the rising demand for value added and processed products, there is a need for enhancing the capacity of agro-processing sector. For attracting private initiative and investment in food processing, the Government of India through Department of Food Processing and National Horticulture Board have already formulated several schemes of assistance. There is strong need to popularize their implementation in different agro-climatic zones by creating awareness about these schemes.

79. At present, value addition is estimated at only seven per cent and processing only two percent of the total production. Within next ten year, there is a need to increase value addition to 35 percent and processing at least 10 percent. Quality control and standardization will be extremely important in this endeavour. The Central government should encourage a network of food analysis laboratories in

the country. This will also be necessary to face competition from imported processed products.

80. Presently the alcoholic beverages based on fruit & vegetables are clubbed with other alcoholic beverages. Whereas world over items like wines and beer which are based on fruit & vegetables and have low content of alcohol (ranging below 11-12%) are considered as items of food and are promoted as health drinks. This sector has not developed in India so far because the Excise laws have implications both in terms of financial pricing of the products as well as restrictive legal frame work for setting up and operation of units for the manufacture of these health drinks.
81. The Word "Plantation Crops" as mentioned in some labour laws and Land Ceiling Act has a rather limited meaning pertaining mainly to coffee, tea, rubber, etc. If plantation is used as generic term for an advanced form agriculture where various types of management from the selection of land, selection of species to be grown, the financial support, the management of labour, the processing & marketing are all done at a higher level than what is done for ordinary agricultural crops, the horticulture is bound to get a fillip. The existing legal frame work will open new avenues for development of entire horticulture sector if production of fruit & vegetables, medicinal & aromatic plants, spices, is also brought under the definition of plantation.
82. NIAM should become 'Centre of Excellence' for Asian Region and be headed by Technocrat, Marketing Practitioner, Academician of national/international repute. Training in agricultural marketing should be strengthened and NIAM should take active stance in the programme. Training modules of different duration should be designed for farmers, NGOs, co-operatives, extension workers, development functionaries, PRI representatives, development administrators, people's representatives and policy makers.

83. In India , although at village and farm level agricultural production extension services exist but marketing extension work designed to benefit farmers and other market functionaries does not exist. In the absence of emphasis on marketing extension, technology transfer in the field of agricultural marketing has been sluggish. The marketing extension service to assist small and marginal farmers in solving the problems faced in marketing their produce is a sine-qua-non in the liberalized trade environment. A massive programme of marketing extension should be launched at the disaggregated level. In each agro-climatic region the extension messages should include (a) advise on product planning; (b) market information; (c) secure markets; (d) alternate marketing channels; (e) improved marketing practices including grading and packing; and (f) advantages of group marketing.
84. Considering the limited reach of public extension service, it is felt that privatization of extension services with appropriate financial backup from the public sector is considered more appropriate and practical. The NGOs, Cooperatives, Trade Associations, Private Limited companies, and corporate bodies should be allowed and encouraged to undertake marketing extension. To facilitate private agencies to undertake extension programmes on regular basis for the country as a whole, a 24 hours TV Kisan Channel on Doordarshan is necessary. The Kisan Channel would be best visual media to educate farmers by public as well as private agencies for both agricultural as well as marketing extension service.
85. The agricultural marketing research which is becoming increasingly important has received inadequate attention in the past. There has been a need to set up a liaison, linkages amongst the research activities findings and the field position. The SAUs and the Regional & Other Centres of ICAR should be given a mandate for applied research in agricultural marketing and functioning of these units. Marketing organizations may be forced to set apart some funds for marketing research.

86. The probable areas for training, research and information technology for producers as well as different market functionaries could cover agri-business management; WTO and its implementation; post-harvest management; grading, standardization and quality assurance; information technology.
87. The sensitization programmes for state level, district level, farmers and stake holders would also be conducted. The programme on post-harvest management for agricultural, horticultural crops, livestock, marine products, etc. may be conducted on regular basis. Quality assurance specially for perishables awareness on standardization and grading & quality control are the other areas for government support.
88. Agricultural Produce Marketing requires connectivity between the market and Exporter/Growers/Traders, through wide area network (WAN) of National and International linkages in order to provide day-to-day information with regard to commodity arrivals and prevailing rates etc., to provide links for online International Market Information; to provide export-related documentation, to inform about the latest research in agricultural marketing, packaging/storage etc. related information and to provide linkage/Connectivity with the World Trade Centre (WTC), APEDA, NIAM, NHB, DMI, IIP, State Agricultural Marketing Boards, and universities.
89. Other areas of importance are a) Setting up of value added networks services, Information Kiosks in rural areas; b) promotional E- Catalogue for Commodity Profiles; c) Farmer advisory services in the fields of agricultural marketing, d) National Atlas of Agricultural Markets.
90. Till today, agricultural marketing in the planning process has not received the required priority, therefore the Committee recommends that highest priority may be given to the needs of agricultural marketing in the planning process. The investment requirement for strengthening agricultural marketing infrastructure comes to Rs. 268742 crores. Most of these would need to come from private

sector. This may require a conducive and favourable environment consisting of (a) making complementary investment by the state and Central Government (b) subsidizing a few activities to enable private sector initiatives to attain viability (c) active stance by the Central Government in some initiatives (d) reducing the regulatory control and simplifying the procedure and (e) ensuring adequate credit flow to agricultural marketing activities.

## 1. INTRODUCTION

1.1 Agricultural Marketing includes the movement of agricultural produce from farm where it is produced to the consumers or manufacturers. This covers physical handling and transport, initial processing and packing to simplify handling and reduce wastage, grading and quality control to simplify sales transactions and meet different consumers' requirements, and holding over time to match concentrated harvest seasons with the continuing demands of consumers throughout the year. For the farmer, the strategic function of the marketing system is to offer him a convenient outlet for his produce at a remunerative price. To the consumers and the manufacturers of agricultural raw materials, assurance of a steady supply at a reasonable price is the vital service. Prices are determined through free market process by negotiations at rural purchasing, wholesale and retail stages, and represent a balance between the consumers' ability to pay and the farmers' need for incentive to produce. An effective marketing system will be geared toward expanding the range and types of consumer service, and will thus offer producers expanding outlets.

1.2 Agricultural marketing also includes the marketing of production inputs and services to the farmers. Some of these include fertilizers, pesticides and other agricultural chemicals; livestock feed; and farm machinery, tools and equipment. As the mass of small farmers in the developing world becomes aware of the value of these supplies, the organization of distribution systems adapted to their needs becomes vital.



Through all the stages of marketing, financing and easy access to credit is vital if goods are to move freely and bargains be concluded without duress.

1.3 An efficient marketing system is vital to a) provide an incentive to farmer to produce more; b) convey the changing production needs of the economy to producers to enable production planning; and c) foster true competition among the traders and eliminate the exploitation of farmers particularly the small and marginal ones, who predominate agrarian sector in our country. The present Expert Committee has examining the issues related to only output marketing to make suggestions to strengthen and develop agricultural marketing in the country.

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## 2. PRESENT AGRICULTURAL MARKETING SYSTEM

2.1 Agriculture continues to be main stay of life for majority of the Indian population. It contributes around 25% of the GDP and employs 65% of the workforce in the country. Significant strides have been made in agriculture production during the last 50 years of independence. The agriculture production of food grains increased from 51 million tones in 1950-51 i.e. before beginning of the 1<sup>st</sup> Five Year Plan to 209 million tones in 1999-00. The output of oilseeds went up to 22 million tones. Similarly, the production of fruit and vegetables also increased to more than 134 million tones owing to the production efforts through all these years. The subject of agriculture and agricultural marketing is dealt with both by the States as well as the Central government in the country. Balanced regional development has been essential component of the development strategy and different Five Year Plans aimed at achieving socio-economic development of the country.

2.2 Predominant Public Sector: Starting from 1951, the different Five Year Plans laid stress on development of physical markets, on farm and off farm storage structures, facilities for standardization and grading, packaging, transportation

etc.. Development of horticulture marketing attracted attention of policy makers during the 3<sup>rd</sup> Five Year Plan. The year 1965 witnessed coming into existence of Central Warehousing Corporation, Food Corporation of India , Agricultural Prices Commission (later renamed as Commission for Agricultural Costs and Prices) and several other organizations. Besides number of organizations under the aegis of Ministry of Agriculture, Consumer Affairs and Commerce were set up in the form of commodity boards, cooperative federations and export promotion councils for monitoring and boosting the production, consumption, marketing and export of various agricultural commodities. The prominent among them included Cotton Corporation of India Limited (CCI), the Jute Corporation of India Ltd. (JCI), the National Cooperative Development Corporation Ltd. (NCDC), the National Agricultural Cooperative Marketing Federation Ltd. (NAFED), the National Tobacco Growers Federation Ltd. (NTGF), the Tribal Cooperative Marketing Development Federation Ltd. (TRIFED), the National Consumers Cooperative Federation Ltd. (NCCF), etc for procurement and distribution of commodities; and the Tea Board, Coffee Board, Coir Board, Rubber Board, Tobacco Board, Spices Board, Coconut Board, Central Silk Board, the National Dairy Development Board (NDDB), National Horticulture Board (NHB), State Trading Corporation (STC), Agricultural & Processed Foods Export Development Authority (APEDA), Marine Products Export Development Authority (MPEDA), the Indian Silk Export Promotion Council, the Cashewnuts Export Promotion Council of India (CEPC), etc. for promotion of production and exports of specific commodities.

2.3 Free Market Forces: Most agricultural commodity markets generally operate under the normal forces of demand and supply. However, with a view to protecting farmers' interest and to encourage them to increase production, the Government also fixes minimum support/statutory prices for some crops and makes arrangements for their purchase on state account whenever their price falls below the support level. The role of Government normally is limited to protecting the interests of producers and consumers, only in respect of wage goods, mass consumption goods and essential goods. It is promoting organized marketing of agricultural commodities in the country through a network of regulated markets. To achieve an efficient system

of buying and selling of agricultural commodities, most of the state Governments and Union Territories have enacted legislations to provide for development of agricultural produce markets. The basic objective of setting up of network of physical markets has been to ensure reasonable gain to the farmers by creating environment in markets for fair play of supply and demand forces, regulate market practices and attain transparency in transactions.

2.4 With a view to coping up with the need to handle increasing agricultural production, the number of regulated markets have also been increasing in the country. While by the end of 1950, there were 286 regulated markets in the country. Today the number stands at 7161(31.3.2001). The Central Government advised all the State Governments to enact Marketing Legislation to provide competitive and transparent transactional methods to protect the interests of the farmers. Barring a few, most of the States and Union Territories embarked upon a massive programme of regulation of markets after enacting the legislation. Most of these regulated markets are wholesale markets. There are in all 7293 wholesale markets in the country. Besides, the country has 27294 rural periodical markets, about 15% of which function under the ambit of regulation. The advent of regulated markets has helped in mitigating the market handicaps of producers/sellers at the wholesale assembling level. But, the rural periodic markets in general, and the tribal markets in particular, remained out of its developmental ambit.

2.5 The projections of production and marketable surplus of agricultural products (2006 to 2007) are presented in Table –1.

Table -1

India : Projections of Production and Marketed Surplus of Agricultural Products (2006-07)  
(Million Tonnes)

Commodity	Marketed Surplus Ratio (%)	Production		Marketed Surplus	
		1999-2000 (Estimated)	2006-07 (Projected)	1999-2000 (Estimated)	2006-07 (Projected)
Rice	43.0	87.5	103.5	37.63	44.50
Wheat	51.5	68.7	84.3	35.38	43.41
Coarse Cereals	43.1	39.2	34.4	16.89	14.83
Total Cereals	-	195.4	222.2	89.90	102.74
Pulses	72.4	13.5	21.0	9.77	15.20
Total Food grains	-	208.9	243.2	99.67	117.94
Oilseeds	79.6	21.6	33.8	17.19	26.90
Groundnut	68.3	5.9	11.5	4.03	7.85
Mustard & Rape	84.3	6.1	8.9	5.14	7.50
Other oilseeds	86.3	9.6	13.4	8.28	11.56
Sugarcane	92.9	315.1	352.8	292.72	327.75
Cotton	100.0	2.1	3.2	2.10	3.20
Vegetables	83.0	85.0	110.7	70.55	91.88

Fruits	97.0	49.5	70.5	48.02	68.38
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**Source:**

1. Market Surplus Ratio – Sub-Group on Estimation of Marketed Surplus Ratio, Constituted by GOI.
2. Production Projection – Kumar P. and V.C.Mathur, “Agriculture in Future: Demand – Supply Perspective for the Ninth Five Year Plan”, Economic and Political Weekly, Sept., 28, 1996 .

2.6 In India , agricultural marketing has more than 100 years’ history of Government intervention, which goes back to British time. However, the objectives and forms of intervention have undergone a substantial change over time. It was envisaged that physical markets with facilities and services attract the farmers and the buyers creating competitive trade environment thereby offering best of the prices to the producers/sellers. While instances are common where the agricultural produce is marketed bypassing the regulated market yards, nevertheless, the physical markets as cardinal points of distribution will continue to remain important.

2.7 APMC and Boards: Agricultural Produce Marketing Committees (APMC) are corporate bodies established under the respective State Agricultural Produce Marketing Regulations Acts. They are either elected or nominated by the Government from amongst representatives of agriculturists, traders and other functionaries and local representatives. All the State Acts provide for constitution of separate market committees for individual market except in Tamil Nadu where it is constituted at the district level to administer all the regulated markets in the district. The market committees are either controlled by the Director of Agricultural Marketing or the State Agricultural Marketing Board. States like Delhi , Uttar Pradesh, Rajasthan, Karnataka, Maharashtra , Gujarat , Madhya Pradesh, West Bengal and Orissa etc. have separate Marketing Department.

2.8 The Expert Committee observed that both the State Agricultural Marketing Departments as well as the Marketing Boards are functionally strong in U.P., M.P. and Rajasthan. In these States, regulatory functions have been entrusted to the State Marketing Departments while developmental functions are performed by the State Agricultural Marketing Boards. In Andhra Pradesh, Tamil Nadu and Karnataka, the Marketing Departments are functionally powerful, but the Boards are very weak and are more or less advisory in nature. In Punjab, Haryana and Bihar, the Boards are powerful and attend to almost all functions and the Marketing Departments are either non-existent or weak. The Committee visualizes that the State Agricultural Marketing Departments, Marketing Boards and Market Committees are like the vertices of a triangle which are vital and important for sustainable growth of the marketing sector. Their roles need to be clearly defined and demarcated to avoid any friction and impediments and to promote consistently progressive marketing management and development. The committee feels that a 'Code of Conduct' should be prepared for the market committees, as well as the boards and the State governments outlining their responsibilities, functioning and working conducive to efficient marketing system.

2.9 The State Agricultural Marketing Boards are represented by both official and non-official members. There is an imperative need to make the Boards administratively viable and managerially competent in keeping with liberalized trade atmosphere. The marketing activities are many-fold and need liaison and collaboration with related organizations such as Railway Board, Forward Markets Commissions, Department of Posts & Telegraphs, Doordarshan, All India Radio, State Planning Commission/Board, consumers and farmers organisations, ports etc. It is desirable that the State Agricultural Marketing Board is given appropriate official recognition in these organizations so as to facilitate presentation of marketing activities and programmes of the State in their meetings and accelerate the pace of implementation of these programmes.

2.10 Although, market committees are, by and large, constituted democratically, they lack in professional management. The marketing manpower is controlled by three agencies, namely, Market Committee, State Marketing Department and State

Marketing Board. Market Secretaries are yet to become market managers. The Committee strongly feels that all the market committees including sub-yards should be headed by professionals. Existing Secretaries need to be trained in professional management of the markets to facilitate liberalized, competitive and free marketing system.

2.11 Restrictive Regulated Markets: The institution of regulated markets, set up to strengthen and develop agricultural marketing in the country has achieved a limited success in providing transparent transactional methods/marketing practices, need based amenities and services conducive to efficient marketing. The restrictive legal provisions such as “all agricultural produce brought into or processed within market area shall pass through the principal market yard or sub market yard and shall not be bought or sold at any other place within the market area<sup>2</sup>” or “no such person shall carry on business as trader in agriculture produce into market area except in accordance with the license issued in this behalf by the Market committee<sup>3</sup>” did not augur well with competitive market structure. The power of the market committees to suspend and cancel the license granted to traders has become an impediment to the free structure. The licensed traders also have not favored new entrants in the arena to maintain their grip over trade in market yard. The Agricultural Produce Market Committees have often yielded to unethical practices, which they were supposed to control and have instead become monopoly trading grounds. Promoting competition in trade and facilitating farmers with supporting services like grading, standardization, storage with pledge finance and facilities in the market yards have become secondary activities. Even basic function of regulation, proper method of sale, correct weighment and prompt payment have eluded the market authorities. State-wise distribution of wholesale and rural periodic markets in the country have been given at Annexure-II.

2.12 The programme of development of markets in the country has remained confined mostly at the level of wholesale assembling markets. The regulated markets in the country generate income from market fee, license fee, rentals and miscellaneous income. The rate of market fee varies from 0.5% to 2% ad-valorum. The market Committees contribute 5 to 50% of their income to the State

Agricultural Marketing Board, depending on the relevant provisions, for development of market infrastructure in the State. The Rajasthan Government recently constituted a separate Market Development Fund, discontinuing the earlier practice of contribution to the Board by the Market Committees from their income. While these Boards undertook infrastructure development in respective States, instances are also common where funds from the Boards have been siphoned off to Public Ledger Account by the State Authorities. Consequently, modernization/ infrastructure development conducive to operational efficiency of the markets has suffered heavily.

2.13 The state Governments are empowered to initiate the process of setting up of a market for certain commodities, which are regulated and for certain areas, in which the Regulation is enforced. As a result of this very process of initiation of a market, the service providers for agricultural marketing do not have any role. Nobody can take initiatives in assessing the viability and feasibility for setting up the markets equipped with the best facilities at competitive cost. Therefore, these provisions will have to be replaced by providing an omnibus provision that anybody can set up a market, provided minimum standards, specifications, formalities and procedures are complied with. The purchaser should not be prevented from buying directly from the farmers. Products which are not locally grown and which have no substantial marketed surplus need not be included in notified commodities. Purchasers as well as sellers should be free to transact anywhere without attracting any of the provisions of APMC rules and byelaws. The Government of Karnataka has set the ball rolling by amending its Act to allow the National Dairy Development Board to set up wholesale fruit and vegetables market at Bangalore with the subsidiary collection centers etc. to promote integrated marketing of horticultural produce grown in the State. The States, by an amendment, now should allow joint ventures or any other organisations, to set up markets in the interest of farmers, traders & consumers.

2.14 Although, technically the farmer/seller is free to sell his produce in any mandi he likes, practically he has no liberty to sell his produce in his village or to the retail chain/processor/bulk buyer directly. He has to take his produce to regulated market where the sales and deliveries are effected. This has hampered development



of retail supply chain and direct supply to the processing, consuming factories or other bulk purchasers. Wherever there is a principal market, in the city or in the metropolitan, the sub-market or the collection center is not permitted, though in recent times “Rythu Bazar” or “Apni Mandis” or “Farmers’ Mandis” are coming up on the peripheries of the metropolis, cities and towns. Therefore, the very basic concept of a single market, as a “principal market” for one agglomeration, has created monopoly in many respects, resulting a huge power center with plenty of exploitation practices.

2.15 The experience of the farmers, the consumers and the trade functionaries indicates that, under the existing legal provisions, there is no scope for –

- a) direct marketing by the farmers or their groups to the retailers;
- b) the retailers can not directly approach the farmers or their groups in their farms or villages;
- c) the processors find it difficult to procure material at the production source and hence have to go the Mandis for procurement of the material;
- d) electronic trading as the marketing includes trade by “electronic media”, which is subject to the Regulation. Therefore, the electronic media traders have been shifting to the places, where there is no regulation, or where the regulation is not enforced. These markets resultantly have not seen any linkage with “futures” or “commodity exchanges” so far.

2.16 Licensing: Functionaries of the market yard such as commission agent, trader, processor, weighman, surveyor, broker, hamal, warehouse owner, transporters etc. to function in the area, as well as in the market or sub-market, are required to obtain a license. Instead of license, registration with APMC should be enough for any body to trade/operate in the market. Licensed functionaries in the markets such as traders, weighman, mathadis (Hamals), procurers, surveyor etc. have over a period acquired a monopoly status. New entrants are normally not permitted at the behest of respective associations and unions. The monopolies in marketing and handling have added to

marketing costs detrimental to both producers and consumers. The typical example is that of transport charge from the principal market (Gultekdi Market yard) in Pune to various centers in the city. The transporters in principal market yard, Pune have unwritten agreement that no outsider would be allowed to enter into transport activity. As a result, transport charges from Pune Principal Market for a distance of about 3 or 5 kms. are more than transport from upcountry areas like Solapur, Nasik , etc. In the process, farmer suffers most.

2.17 The Rules and Bye-laws stipulate lot of procedures and documentation for licensing. The documentation mainly consists of Solvency Certificate, Certificate of good behavior, cash security, Bank Guarantee or third party guarantee, etc. The License is granted for the area, but they have to operate in the market or the sub-market. Moreover, the license is granted for only one year, which has to be renewed. Renewal takes time and business is hampered. Therefore, only registration with APMC should be there as has been suggested earlier. As the Rule provides that no one shall market any declared agricultural produce in the market area, other than the principal yard or sub-yard. The very fact of licensing has converted the entire scenario into handing over the monopoly to those, who have already got the license. The newcomers are normally kept aside on the ground that there is no potential of additional business. This monopolistic circumstance has caused lot of hardships to the producers and the consumers. They disallow latest systems of handling, like cleaning, grading, packaging, weighing, transporting, etc. Their organizations, associations and unions have become so strong that they can dictate their terms to anybody, including the Government. Thus, the element of cost efficiency and competitiveness is lost because of licensing.

2.18 Neglected Rural Haats: The present haats or weekly bazaars which constitute first contact point with commercial circuits for the producers have not been provided with amenities and facilities required for operational, technical and pricing efficiency. Improvement in the efficiency of the rural markets has direct impact on farmers' level of income. These markets need improved services for users to facilitate marketing of the local produce, creating an element of market security for the growers. The rural

market can also be used for effective credit, input marketing and procurement activities. Haats need to be provided with mobile banks on haat days by Gramin Banks.

2.19 Even though the 73<sup>rd</sup> Amendment to Constitution bestowed management of rural markets to village panchayats, different authorities still continue to own and operate these markets. Moreover, where these markets are brought under regulation as sub yards, and have turned to a case of multiple collection of ground rent, market fee and other charges etc. by different agencies disregarding their developmental responsibilities. The fees or other charges collected in these markets are also disproportionate to the amenities and facilities rendered. The rural periodic markets, besides transacting agricultural and allied commodities, also perform the function of distribution of items of daily needs of the rural population. Farmer is a seller, consumer and even trader in these grass root level markets. 80% of the household income of the rural masses is estimated to be spent at these markets. Their development, therefore, with proper operational, pricing and technical efficiency constitute foundation of integrated market system for distribution of agricultural and allied produce. Owing to their financial non-viability, these markets did not receive adequate attention either from the State or Central Government for their developmental requirements. Their development should be looked as socio-economic development as multipurpose growth centers so that these places could be used for other developmental activities related to health, education, animal husbandry on days other than haat day and a scheme to this effect in the sector is, therefore, necessary.

2.20 Multiple Legal Instruments: Apart from the Agricultural Produce Markets Acts, activities of market functionaries are regulated by several other legal instruments promulgated by the Central government and the States. The important ones are:

- a. The Indian Sale of Goods Act 1930.
- b. Agricultural Produce (Grading and Marking) Act, 1937, 1986
- c. Drugs and Cosmetics Act 1940.
- d. Vegetable Oil Products (Control) Order, 1947.

- e. The Emblems and Names (Prevention of Improper use) Act 1950.
- f. Prevention of Food Adulteration (PFA) Act, 1954, 1964, 1976, 1986
- g. The Essential Commodities Act, 1955
- h. The Sugar Control Order 1956.
- i. The Export ( Quality Control & Inspection) Act 1963.
- j. Fruit Products Order (FPO), 1965, 1997.
- k. Solvent Extracted Oil, Deoiled Meal and Edible Oil (control) Order, 1967
- l. Monopolies and Restrictive Trade Act, 1969.
- m. Meat Food Products Order, 1973
- n. Vegetable Oil Products (Standards of Quality) Order, 1975.
- o. The Packaged Commodities Order 1975.
- p. Standards of Weights and Measures Act, 1976
- q. Pulses, Edible Oilseeds and Edible Oils (storage control) Order, 1977
- r. Consumer Protection Act, 1986
- s. Cotton (Control) Order, 1986
- t. Milk and Milk Products Order, 1992
- u. Bureau of Indian Standards Act 1986.
- v. Jute and Jute Textiles (Control) Order, 2000.
- w. The Trade and Merchandise Marks Act.
- x. The Town & Country Planning Act.
- y. The Municipalities Act.
- z. Labour Laws.

2.21 These apart, in exercise of the inherent powers of the Central Government and delegated powers to the States/Uts, various orders in respect of foodgrains have been made by the Central/State Governments relating to: (i) licensing of dealers/retailers for trade in foodgrains; (ii) regulation of stock limits; (iii) restrictions on movement of foodgrains; (iv) compulsory purchase by the Government under the system of levy. The recent position with regard to restrictions on movement of food and agricultural produce reveals that some of the States have imposed restrictions on movement of some essential commodities. Most of these restrictions relate to

foodgrains and more particularly to rice/paddy. States like Andhra Pradesh, Tamil Nadu, Karnataka, J&K and Madhya Pradesh have imposed statutory restrictions on movement of rice/paddy outside the State with a view to maximizing procurement and to meet internal requirements (though Government of Andhra Pradesh has kept in abeyance the order imposing restrictions on movement of paddy from 27.7.2000). Besides the statutory restrictions, some States also imposed informal restrictions on movement of foodgrains outside the state during particular periods of the year. In the light of the present position with regard to production and supply of foodgrains in the country, it is essential to review all such restrictions. With the removal of restrictions on stocking and storage, warehousing activities will get a fillip and stored foodgrains acting as a collateral will facilitate marketing credit or pledge finance for producers, as well as entrepreneurs. In the light of 'one world one market' there is no use keeping such restrictions. In order that market should be free and competitive, all restrictions must go.

2.22 The provisions under the legal instruments, are used particularly during the periods of short supply as reflected through high prices to regulate the activities of traders and processors pertaining to trading, stocking, maintenance of quality, grading, packing, processing, blending and movements. These instruments are administered by different Ministries and Departments of the Central government and the States. Considering the fact that shortages have now been replaced by surpluses, these restrictive provisions have to be put to an end for uninhibited free marketing system. The Essential Commodities Act, 1955 needs to be repealed in the new context.

2.23 Linking Spot Markets with Futures Markets: The regulated markets, which are spot markets, have not been able to link themselves with the forward and future markets to receive price signals. The futures trading in agricultural commodities is also regulated by the Government. Till recently, it was permitted in jaggery, blackpepper, turmeric and hessian. The Kabra Committee appointed by the Government of India in 1993 recommended for permitting futures trading in 17 major agricultural commodities. The Government has now notified the introduction of futures trading in

cotton, kapas, raw jute and jute goods, all major oilseeds and their oils and cakes; rice bran oil and coffee. The recent addition to this list is sugar. The Committee is of the view that more and more commodities should be added to the list of commodities allowed for futures trading to facilitate integration of domestic market with international market.

2.24 Domestic Market Reforms: Reforms in the domestic markets for farm products have to precede trade liberalization. Certain provisions, which come in the way of efficient functioning of the domestic market for agricultural commodities and adversely affect both the growers and the consumers, should be done away with in phases. These are levy on rice millers, statutory rationing of rice and wheat in Calcutta, monopsony procurement of raw cotton in Maharashtra, levy on sugar mills, system of state advised prices of sugarcane prevalent in some states, stocking limits particularly in post-harvest season etc.

2.25 The food grains marketing system has been a subject of considerable debate in recent years. In this connection, it needs to be noted that the intervention by the government in food grains markets, specially of rice and wheat, in the form of price support, buffer stocking and P.D.S., has helped the country in achieving near self-sufficiency in staple food and in improving physical and economic access of masses to food. The Committee recommends that the food security and food management system built up over the years should be retained as an essential component of national security policy. For this purpose, a multi agency approach along with Food Corporation of India may be adopted in the national food management system.

2.26 Government Marketing Support Programme: Because of heavy dependence on nature, the production of agricultural commodities is uncertain. Sometimes good harvest causes scenario of plenty's, while the poor harvest creates scarcity or short supplies. Both these situations adversely affect the farmers. Government's minimum price support scheme in this context has remained very useful to the farmers. The minimum price support policy is applicable to 24 agricultural commodities. Under this scheme government agencies are asked to start purchase of the commodities when

market prices fall below the minimum support price so as to save farmers from the distress sales. Though scheme has proved very useful to the farmers, its implementation has remained faulty and inefficient. The agencies involved in such purchases do not start operations in time. They do not make payments in time. They do not have sufficient arrangement for weighing, bagging, storage, documentation and payment of purchases. Sales of purchased commodities is normally not done in time and with marketing efficiencies. Therefore heavy losses do occur. However it is generally viewed that government intervention in food grains specially rice and wheat, in this form of price support, buffer stocking and PDS has helped the country in achieving self sufficiency in staple food and in improving economic access of masses to food while protection the interests of the producers. The committee therefore recommends the continuation of the food security and food management system built up over the years as essential component of National Food Security. However the agencies involved in this management should be encouraged for optimum efficiency and diligence.

2.27 Market Intervention is another marketing support policy of the government. Over and above the commodities under minimum support price, the prices of some commodities especially of horticultural crops tend to fall drastically forcing the farmers for distress sales. Under these circumstances with the help of state government , GOI launches Market Intervention Scheme for that particular crop in that season so as to avoid distress sales by the farmers. Prices based on the cost of production and other factors for that season are decided for Market Intervention. Government agencies are assign the job of intervention. The losses are shared equally by Government of India and State Government.

2.28 This policy of Market Intervention also has proved a boon to the farmers in distress. The operational efficiency of purchasing agencies need to be toned up in the context of cost efficient purchases vis –a –vis competitive sales so as to avoid or reduce losses. Therefore the Committee not only recommends continuation of Market Intervention Scheme but also suggests expanding the coverage of this scheme to more commodities. The Expert Committee also recommends that the Government of India

may encourage the state government to initiated market intervention operations well in advance for saving the farmers in distress.

2.29 The experience shows that while in most of the surplus producing regions, the state governments and their agencies remain active for effective implementation of the policy of assuring minimum support prices, in those areas where the need for price support arises only once in two or three years, the public agencies have not been able to provide effective support to the farmers as they could not tie up with central nodal agency for making necessary purchase arrangements in time. Such failures on the part of the state agencies lead to a set back to the production programmes. Most of the upcoming regions like Eastern Uttar Pradesh, Madhya Pradesh, West Bengal , Orissa, Bihar and parts of other states are likely to experience such situation more frequently. And these are the areas where there is considerable scope to increase the yield levels. It is in this context that for accelerating the production of food grains and other agricultural commodities, not only the market infrastructure needs to be strengthened but the price support policy also needs to be effectively implemented in all the regions of the country.

2.30 The minimum price support policy is currently applicable to 24 agricultural commodities which should be continued. However, there are several other commodities which are of considerable economic significance in various agro-climatic regions of the country. The fluctuations in their prices are considerably more. For protecting both the producers and consumers against wide fluctuations in the prices, there is a need for initiating a comprehensive price stabilization scheme applicable to selected important crops of each agro-climatic region. The scope and contents of market invention scheme of Ministry of Agriculture be expanded and state governments should be encouraged to formulate and implement market intervention programmes for establishing the prices of crops not covered by MSP policy.

2.40 There is a considerable variation in the structure of taxes and fee on the agricultural produce in various states which also distorts the operation of the domestic market, gives wrong signals to the producers and leads to considerable fallacy in the



efficiency of the operation of private trade vis-à-vis farmers cooperatives and public agencies. There is a need for bringing uniformity in the state level tax structure for agricultural commodities for improving the marketing efficiency.

2.41 India has created considerable infrastructure at the wholesale market level in terms of market yards with associated facilities, approach roads and market committees with representation of farmers. These committees are supervised by the state level marketing boards and state Departments of Agricultural Marketing. These organizations have helped in orderly marketing of the farmers produce. However, there is a need for redefining their role and structure in the context of emerging economic environment and market reforms. The emphasis now, should shift to other important activities of topical relevance. Some of the activities which should receive increasing attention of APMCs and departments of agricultural marketing include : (a) creating cleaning, grading and packing facilities; (b) encouraging the local farmers, traders and processors to market the produce under their brands and promoting such local brands based on graded produce; (c) creating minimum infrastructure in all, around 28 thousand rural periodic market places (haats) and linking these with other markets through roads; and (d) in the event of prices of any commodity, which is covered under the price support programme, tending to dip below the support level, either ensuring that an agency is in place to make purchases at the support price, or entering into the market on behalf of the nodal agency to prevent the prices from falling below the support level.

2.42 The objectives and forms of intervention in the marketing system have undergone a substantial change from mid sixties when the country opted for a package of interventions for protecting and reconciling the interests of consumers/producers as well as the industry. One of the important instruments used by the Government to intervene in produce markets consists of fixation and announcement of administered prices and arrangements for their implementation. The administered price regime currently in vogue includes (a) minimum support prices (MSP) for 23 commodities (7 cereals, 4 pulses, 8 oilseeds, copra, raw cotton, raw jute and VFC tobacco); (b) statutory minimum prices for sugarcane; (c) levy prices for rice;

and (d) central issue prices for rice, wheat and coarse cereals for sale under public distribution system. Direct entry of public agencies in the marketing have influence on its structure, conduct and performance. Maintenance of stock of rice and wheat; distribution of cereals and sugar at prices lower than market prices; and open market operations by public agencies cast their influences on market.

2.43 Poor Credit Flow: Poor credit flow to agriculture and wholesale trade has been one of the major bottlenecks in the country's agricultural marketing system. Most of the lending to the agriculture sector is short term, and is in the form of crop loans. Farmers are expected to buy all the required inputs to raise a crop with the credit made available to them and then return all loans soon after harvest. Post-harvest credit from banks is usually not available. Given the importance of a good credit history, most farmers, especially small farmers, take the produce to market soon after harvest. Most farmers face the same objective function and produce is brought to market simultaneously by several farmers. As a result of the temporal supply conditions, prices fall. Often such fall in prices leave little surplus for the next crop.

2.44 The wholesale trade combines several functions. Financing is one of these functions rendered by the Commission agents and traders known as *adatiyas* in many parts of the country. *Kuccha adatiyas* are provided finance by *pucca adatiyas* to make payment to the farmers. Where produce can be carried in inventory with associated incentives, farmers often access credit from the wholesale trade. *Pucca adatiyas* often carry inventory consisting of produce sold by farmers. The informal sector provides significant credit to agriculture and wholesale trade, but the cost of credit is high compared to the rate at which it may be provided by banks. Lending against stocks or inventory of produce is a significant activity of banks. For example, banks lend to cotton spinning mills against stocks of cotton. However, bank credit to farmers against agriculture produce is quite uncommon. These lacunae should be corrected.

2.45 Post-Harvest Losses: Although, India produces a wide variety of fruits and vegetables, in the absence of adequate post harvest and marketing infrastructure viz.

irradiation facilities, storage/cold storage and cold chain facilities, the horticulture produce suffer heavy post harvest losses. The problem is further complicated due to the fact that there are no storage facilities at the farm level and the farmers are forced to dispose off the entire produce immediately on harvesting. This creates a glut situation in the market. The margins of the wholesalers and retailers are therefore much higher in our country. The entire burden of the distress sale in the form of low prices falls on farmers.

2.46 The horticulture marketing practices lack systems approach. Trading and marketing structure is traditional consisting of a long chain of intermediaries. As many as 75% of the farmers sell their produce at the farm level. They cannot afford to go to distant mandis on account of lack of facilities, expensive transportation and malpractices in the assembling markets. The long marketing channel is detrimental to quality and safety of those perishable products. It is essential to shorten the channels. As has been suggested earlier these commodities can be taken out of the exclusive purview of State Agricultural Marketing legislation to facilitate direct sales and other competitive outlet after proper grading, packing, transportation such as through refer vans to the final destination. The multiple handling add costs and increase post-harvest losses, adversely affecting the income of farmers and making produce comparatively costlier to the consumers. To minimize these losses, improvements are required at various levels, viz.: harvesting; grading; transport; storage; processing, packing and marketing.

2.47 Need for Legal Reforms: The nature of legal framework within which agricultural markets operate has a fundamental effect on the functioning of the agricultural marketing system. Legal reforms can play an important role in making the marketing system more effective and efficient by removing unnecessary restrictions and by establishing a sound framework to reduce uncertainty of the market. The volatility of commodity prices has been one of the main justifications for State intervention to control or direct the functioning of agricultural markets. Today most developing countries have adopted national policy committed to the liberalization of their domestic agricultural marketing systems and to encourage an efficient and

competitive private sector. In South Korea , for instance, a Task Force for Regulating Reform was set up and on the basis of its recommendations, 75.2 per cent of total of 701 regulating items in agricultural sector were either improved or abolished.

2.48 In promoting private sector marketing systems, Government need to examine existing policies, rules and regulations with a view to minimizing conflict in successful private sector operations. A review is required in respect of all laws which regulate participation in market such as registration/licensing, commodities traded, controls on packaging and labeling, laws affecting market place, laws affecting supply including controls on movement of produce and volume of commodities traded. The Expert Committee recommends that a Task Force be set up under the Ministry of Agriculture, Department of Agriculture & Cooperation to undertake a review of all marketing legislations and suggest introduction of necessary legal reforms to promote free and fair marketing system for agricultural and allied products.

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### **3. DIRECT/ALTERNATIVE MARKETING AND PLEDGE FINANCING**

3.1 Wholesale Markets: In almost all the states, wholesale markets are established and regulated under their respective Agricultural Produce Marketing Regulation Acts. Under these Acts, the whole geographical area in the State is divided and declared as market area where in the markets are managed by the Market committees constituted by the state governments. Within an area declared to be a market area, marketing of agricultural produce specified in the notification is regulated in accordance with the provisions of this Act. Once a particular area is declared a market area under Agricultural Produce Marketing Act and falls under jurisdiction of a particular Market Committee, no other person or association/agency is allowed to carry on any wholesale marketing activity. The monopoly of wholesale markets due to regulation has created an oligopoly set-up and made the traders a dominant market force. Most of the agricultural produce marketing committees and board members are nominated. Therefore, they lack direct accountability to the users of market, a problem accentuated by the monopoly role of regulated markets. In actual operation of the market, farmers lack effective voice and hence marketing power. Large number of the small farmers are unable to effectively bargain in the market. Intermediary and system inefficiency consume a disproportionate share of consumer price, thereby eliminating incentive for improved productivity and quality. Due to farmer's dependency on credit from trader, farmers receive small and irregular payment, perpetuating dependence on trader credit. Farmers lose freedom to find the best buyer. Services to farmer are ineffective and inadequate, leaving them without proper price information and technical advice.

3.2 Alternative Marketing Systems: Role of government in managing markets is on the decline worldwide. The present system being not amenable to easy transformation, the only way to modernize marketing is to set up an 'alternative marketing system' that may operate parallel to, and in addition to present Mandies. The purpose of the proposed alternate marketing structure is to establish

modern efficient trade practice as a catalyst for changes in the market towards improved transparency and efficiency. Experience throughout the world has shown that markets depend in part on growers having a say in the marketing of their produce. Growers Cooperatives and Marketing Boards own and operate markets. In Holland , for instance, all central auctions of fresh produce and flowers are owned and managed by the grower co-operatives. To achieve a high degree of professionalism in the selling/ marketing process, these co-operatives are acquiring new companies specialized in commodity exports and imports. To evolve competition between various system of organizations namely public, private, cooperative, corporate is the best way.

3.3. Government as Facilitator: In most countries in the world, market operation is conducted by the corporate sector. In countries similar to India like, South Africa and Brazil the process of government withdrawal from the markets management has already been initiated. In South Africa , in 1997, the New Agricultural Products Marketing Act, No.46 of 1996 was enacted. As a result Agricultural Marketing was changed from controlled marketing to a free system. A new National Agricultural Marketing Council has been reconstituted which took over from the previous marketing council. All the different Agricultural Marketing Boards and different marketing schemes officially ceased to exist and function. They are being taken over by the corporate sector with minimal government intervention. Keeping in view the above, it is recommended that the government's role should be that of a facilitator rather than that of a financier having control over the management of the markets.

3.4 The Committee suggests establishment of an alternative marketing structure that sustains incentives for quality and enhanced productivity, improving farmer incomes with improved technology support and methods. Central to the new structure are professionally managed 'alternate markets' that set prices based on open auction in which all buyers participate. Transparency and fair competition, standardization and quality control, efficiency and hygiene should be the defining characteristics of alternate market operations. The market will operate outside the purview of the

Agricultural Produce Marketing Act and be owned by professional agencies in private sector, wholesalers, retail trade associations/corporates, joint ventures and other investors. The markets be professionally managed and financed by transaction-based charges to sellers and buyers and fees for use of facilities. Volume and price information be disseminated widely to farmers' associations as well as to retailers and consumers. Key functions include efficient, professional management of the market, coordinating retailer payments to producers and resolution of disputes between users.

3.5 Forms of Alternative Marketing: The different forms of alternative marketing could be:

- a. Direct marketing by producers;
- b. Marketing through Farmers Interest Groups;
- c. Setting up of Terminal markets by the private sector;
- d. Forward markets and futures exchanges;
- e. Electronic trading – e-commerce;
- f. Setting up mega markets covering all marketing functions for domestic as well as export trade; and
- g. Introduction of negotiable warehouse receipt system.

3.6 Direct marketing enables farmers to meet the specific requirements of wholesalers from the farmers' inventory of graded produce and of retail consumers based on consumers' preferences, thus enabling farmers to dynamically take advantage of favourable prices and improve their net margin. It encourages farmers to undertake grading of farm produce at the farm gate, thus enabling farmers to improve price realisation considerably. Direct marketing obviates the necessity of farmers to haul produce to regulated markets that are not necessarily spaced on the principles of

efficiency derived through cost analysis based on operations research. Direct marketing enables farmers and buyers to economise on transportation costs and to improve price realisation considerably. It will also act as a break to monopoly of regulated market.

3.7 Direct marketing to wholesalers and agro-industrial processors presupposes prior knowledge of buyers' needs among farmers and presupposes prior knowledge of the capability of farmers among wholesalers and agro-industrial processors. Such prior knowledge cuts costs related to the gathering and assimilation of needs and capabilities. Such knowledge also has a favourable impact on the exchange of goods and payments thereof. More importantly, such knowledge enables farmers on the one hand and wholesalers or agro-industrial processors on the other hand to transact through purchase orders for long-term deliveries and payments. Such orders constitute the cornerstone for a range of contracts that include forward contracts at the personal, bilateral level.

3.8 Direct marketing (retailing) by farmers to the consumers was experimented through Apni Mandis in Punjab and Haryana. The concept, with certain improvements got popularized in Andhra Pradesh through Rythu Bazars and in Tamil Nadu as Uzhavar Santhaigal. These markets are more popular for retailing of fruit and vegetables grown in the green belt around metro-polis and have subsequently been able to attract produce from within the radius of 60 to 80 Kms. At present, these markets are being run at the expenses of State exchequer, as a promotional measure, to inculcate habit of marketing without help of middlemen by the small and marginal producers of fruit and vegetables. Considering the vastness of the country, more and more such markets need to come up in the organized sector with private investment so that they can be developed in tune with the market requirements with backward and forward linkages. There is also need to prepare cost effective lay out plans with a minimum of expenses on market infrastructure so that more and more areas are covered under the system. The rythu bazaar in Andhra Pradesh and Uzhavar Santhaigal in Tamil Nadu are required to be studied in depth for their possible propagation in other parts of the country and also in respect of other agricultural commodities. A common code of conduct and modalities with regard to ownership,



operation and need based infrastructure will have to be prepared and circulated to spread the concept of direct retailing by the farmers. The development of rural roads will greatly help this process.

3.9 Direct marketing by farmers' organizations needs to be promoted in the light of the continued criticism that both farmers and consumers suffer economic losses in the existing agricultural marketing system/structure. The similar logic holds good for consumer organizations also who can procure directly from producers and distribute to the consumers commensurate with their purchasing powers. The Government should support these organizations with schemes like providing back ended subsidy for refrigerated as well as general transport, setting up of grading and packing houses, credit at low interest etc., till they become financially self-sufficient on commercial lines, development of communication links.

3.10 Marketing through informal groups by hiring common facilities of post harvest management and hiring joint transport have also been successful in Asian countries like Philippines, Malaysia etc. The group action strengthens bargaining power of the farmers and the marketing expenses get distributed resulting into better share in the net returns. Whether self-help groups or NGOs, everybody should be encouraged to market in the interest of farmers.

3.11 In a liberalized marketing environment, for protecting the interest of growers, apart from the effective implementation of price support policy, it would be important for the farmers to organize into strong cooperatives or self-help groups (SHGs). A market friendly economy, producer or member friendly cooperatives or SHGs would be critically important in competitive trade environment but to enable them to compete effectively with private trade it would be necessary to allow them to function freely. The experience shows that unless the cooperatives are freed from the shackles of politicians and bureaucracy these may not become effective alternative to private or corporate sector. There is a need to drastically change the cooperative laws.

3.12 As another form of direct marketing, the unemployed youth could be involved in procurement of orders and supply of graded and packed products to different city dwellers. The youth could be trained in marketing practices of procuring products and supplying them. They will move into different localities to obtain door to door orders and procure supplies of needed quality and packs directly from the producers for onward transmission to the consumers. The financial assistance from the public sector to such ventures would generate entrepreneurship and provide profitable employment to the younger generation. They could be given assistance in the form of working capital to start the enterprise alongwith the necessary agri-business training.

3.13 The international demand for organic products is increasing fast. India is better placed for taking advantage for supply of such products. Marketing organisation, it is recommended should take product specific, area specific, market specific steps for increased supply of such organic products. Accredited agencies of certifying this type of products should be set up by farmers associations and the government.

3.14 Risk Management: Forward and futures contracts enable price discovery. The price discovery function allows important economic decisions to be made as to which commodities to produce; how to produce the commodities ; how much of each commodity to be produced; how much to sell and at what prices; how much to store and for how long; what commodities to consume and how much to consume and at what prices. The above questions and answers typically constitute the marketing function of an economy. Of course, storing is an economic decision that is driven by the opportunity costs and the availability of credit.

3.15 The move towards direct marketing and the move towards hedging and delivery through forward and futures contracts do not obviate the need for market yards for conducting spot transactions in general between farmers and buyers. The Expert Committee holds the view that direct marketing between farmers on the one hand and (1) wholesalers and (2) agro-industrial processors on the other hand is

effective only if farmers have an opportunity to access reliable reference prices for a range of grades, qualities and time of deliveries. Effectiveness would narrow the spread between producer and consumer prices and enhance incomes to farmers. Marketplaces of high fidelity best generate such reference prices.

3.16 Forward contract may well be regarded as direct and alternative marketing facilitator. It is an agreement between two parties to buy and sell a commodity at a predetermined future date at a price that is agreed when the contract is entered into between buyer and the sellers. The three principal elements of the forward contract are:

- a) the commodity and its characteristics are known to the buyers and the sellers but may not be known to other potential buyers and sellers;
- b) the date on which the commodity will be bought and sold is determined in advance by the buyer and seller;
- c) the price to be paid by the buyer to the seller at the future date is determined on the day the contract is entered into between the buyer and the seller, but is not made known to other potential buyers and sellers.

3.17 Forward contracts facilitate the lock in of prospective purchase and sale prices. Future markets by devetailing its functioning with spot markets can work as a tool to handle the situation arising out of good harvest as well as poor harvest for stabilization of supplies along with prices. The estimated poor harvest in the beginning of crop sowing/ planting would enable the buyers to enter in to future contracts at higher rates. The spot market operators if given incentives for holding adeuate stocks to regulate the flow in spot markets will facilitate the honouring of forward contracts. They may also after knowing the stock position can request to imports of such quantities matching the requirements of future as well as of spot markets. Thus the scenrio of good harvest will enable the future to contract as lower prices so as to signal the farmers to reduce the area of respective crops and encourage the farmers for easy and timely diversion of cropping pattern. This itself will plan for reduced/

adequate supplies for the markets in the time of good harvest. The storage shall be regulated as per the futures requirement at one end and the availability of produce at the other. There by the sudden flow of produce at the time of season gets rationalized. A digramatic view can be seen at page .....

3.18 Commodity futures markets in the country are regulated through Forward Contracts (Regulation) Act, 1952 and are under the jurisdiction of the Department of Consumer Affairs, the Ministry of Civil Supplies and Consumer Affairs, Government of India. The Forward Markets Commission (FMC) performs the functions of advisory, monitoring, supervision and regulation in futures and forward trading. Forward/futures trading is done in exchanges owned by the private associations registered under the Act. These exchanges operate independently under the guidelines of their byelaws approved by the FMC. In the country currently, futures contracts are traded for nine commodities in 20 commodity exchanges; pepper, castor seed, castor oil, potato, gur, turmeric, hessian, sacking, cotton, and coffee. Futures contracts of only potato, gur and castor seeds are traded in the multi-exchanges. International futures trading has been initiated for pepper in Kochi and castor oil in Vashi (Mumbai). In all the exchanges, futures contracts are traded through the open outcry system and settlements take place daily.

## PRICE STABILIZATION WHEN POOR HARVEST IS EXPECTED

3.19 Commodity futures contracts overcome many of the inadequacies of commodity forward markets. In the main, futures contracts are designed to overcome the two deficiencies of forward contracts; futures contracts retain all other favourable properties and characteristics of forward contracts.

3.20 A recent study conducted by the IIM, Ahmedabad has indicated that the performance of the Indian commodity futures markets is varied across the commodities, exchanges and contractors. However, they reveal the potential of performing the functions of price discovery and risk management. Nevertheless, they are still not congenial markets for the hedgers and other economic agents. They are deficient in several aspects such as infrastructure, logistic, management, linkages with financial institutions, reliability, integrity and an efficient information system which do not encourage a large group of the market players in the commodity sector to trade in this market. The linkage between the spot and futures markets seems to be poor due to domination of the speculators. Government has, therefore, to continue its efforts to strengthen and institutionalize the exchanges and to instill confidence and awareness among market players. Efforts have also to be made to extend role of exchanges in other services like warehousing, financing, investment and market intelligence, which would improve existing working of future markets.

3.21 Liberalization of Trade: With the initiation of the liberalization process in India where commodity futures markets were in dormant stage, interest in futures markets has been revived for their price risk management and price discovery roles. After committing to the agreements on agriculture under the World Trade Organization (WTO), the need for effective price risk management has become imperative to protect the agricultural sector from price volatility. The new economic liberalization policy has strengthened the process of commercialization of agricultural sector. As a result, several new agro-based industries including traditional ones are

being set up. The performance of these industries depends heavily on the price of raw materials (agricultural commodities), as they constitute a major share in their costs. High volatility in price makes agro-based industries prone to high price risks. Therefore, agro-based industries need a risk management mechanism to safeguard their business from price risk and to plan their production and sales economically.

3.22 In the process of the economic liberalization and signing of the WTO Agreement, government has given a thrust to enhance international trade in raw agricultural commodities and their value added products. This would expose the domestic market to international price risk. Since exporters generally operate their business on a thin margin, an efficient price risk management mechanism would be essential in the new environment. Withdrawal of Government's intervention from commodity sector ensures only demand and supply forces will determine market price in the new economic environment. It is also argued that an efficient price management mechanism for agricultural commodities encourages commercial banks to finance the commodity sector and attract direct foreign investment in the agricultural sector. Therefore, in the new economic environment, futures markets are expected to play a vital role in the agricultural commodity sector.

3.23 Certified Warehouses and Warehouse Receipts: Poor credit flows have had an adverse effect on the agriculture produce economies of the States. Certified warehouses and a system of warehouse receipts could lead to better credit delivery, better loan recovery and convenience in asset management. The banking sector might be more willing to extend post-harvest credit facility to the agriculture sector for wholesale trade and a system of warehouse receipts. The presence of certified warehouses would enable the development of market instruments that may reduce the pressure on State Governments to carry large inventories of agriculture produce.

3.24 Warehouse receipt when backed by a suitable legal frame work, is an instrument that shows proof of ownership of agricultural commodities. It states the quality and quantity that is owned by the receipt holder and the warehouse in which

the commodity is stored. It is issued by warehouses approved by an independent body. The warehouse receipt is issued after the produce is certified for quality and quantity. The process involves rigorous but rapid testing and grading often based on official standards. It can be successfully negotiated by endorsement without returning it to the warehouse operator. These receipt may be used in commodity linked loans. Warehouse receipts are being operated in three commodity exchnages – Coffe Futures Exchange Indian Ltd. (COFEI), SOPA Board of Trade (SBOT) and BOOE. These boards have setup institutional framework for warehouse receipts. There is tremendous scope for massive expansion of use of warehouse receipts.

3.25 Warehouse receipts can play an important part in making indian agriculture more responsive to market opportunities and more competitive in relation to world markets. They can also be made an important instrument to make it more attractive for banks to lend to the agricultural sector, to reduce the cost of public support for agricultural marketing, to reduce transaction costs and to improve price risk management. They enable to ensure increased liquidity in rural areas, lower cost of financing, shorter and more efficient supply chain, enhanced rewards for grading and quality, development of other productivity enhancing agricultural services and better price risk management.

3.26 The Expert Committee proposes following strategy for the Government of India:

- a. To promote development of a national warehousing receipt system for agricultural commodities, as apart of its policy of ensuring that indian agriculture is globally competitive while enhancing rural welfare and food security;
- b. To declare CWC and SWC as Acredition Agencies for certified warehouses for warehouse receipt.
- c. Laydown various standards, specification for certified warehouses, so also rules and regulation for managing them including fidality aspects.

d. All licensed warehouse to confirm to the minimum professional standards in order to provide confidence to lenders and the public in general. They will be encouraged to develop their own code of conduct for self regulation.

e. Existing warehousing laws may be suitably amended. A formal regulatory authority may be constituted to enforce standards and protect the interest of those holding warehouse receipt against negligence malpractices or fraud. The regulatory authority has to be structured to ensure its complete autonomy and freedom from political interference.

f. To promote latest information system for warehouse receipt to help in identifying ownership of produce, transferors of lien, holder of lien, hypothecation of receipt for loan and trading of the produce in the context of spot delivery.

g. On the negotiability of the instrument i.e. warehouse receipt there may be incidence of various taxes and levies which should be exempted for five years to begin with, to make these receipts popular.

h. The negotiability of warehouse receipt require amendments to various Acts of Central and State Government which may have to be looked into.

3.27 Warehouse receipts and a warehouse system where the objects of legislative efforts nearly three decades ago. A warehouse receipt Bill was drafted in 1978 with the principle, if not sole, objective of endowing upon warehouse receipts the status of negotiability under the negotiable instrument Act 1881. The warehouse receipt Bill was initiated by the Banking Laws Committee and did not proceed beyond the stage of discussion of the draft. The constitution of a Task Force comprising representative of the Commodity Exchanges, The FMC, The Ministry of Consumer Affairs and Public Distribution, the Ministry of Agriculture, The Ministry of Information Technology, NABARD and the RBI is recommended.

3.28 Warehousing Corporations: Outside of the ports, the Central and the State Governments dominate the warehousing industry, both as client and as service



provider. Warehousing facilities owned by the central and the state Governments account for 65.9 million tons of warehousing capacity. About 46 million tons of capacity is owned or leased by the Food Corporation of India and the State Food and Civil Supplies Corporations. The storage capacity that can be made available by state-owned warehousing corporations is 19.7 million tons. Notably, banks and insurance companies are the “implicit stakeholders” of more than 36 percent of this capacity.

3.29 While Government warehouses have hitherto mainly served the public sector, they constitute a major asset that can be used to further the employment of warehouse receipts. Government warehouses are present across the country. They have developed homogeneous storage and quality practices, and their warehouse receipts are accepted by most banks. Their main weaknesses in the context of liberalization and globalisation are that they are not well integrated with private supply chains; they do not inspire confidence among some lenders, particularly, international banks and they lack certain form of autonomy they need to improve services. They are also not well managed.

3.30 The existing Government warehousing corporations should play a leading role in the development of warehousing. However, they can only cover a part of the field, which should be opened up to private operators, particularly those who already provide storage services including loan facilities. Moreover, divestment should be pursued with a view to increasing their private sector orientation and autonomy. The existing usage of warehouse receipts by commodity exchanges are extremely limited. However, the institutionalization of the warehouse receipt system through the commodity exchanges is most likely to yield the best results in the context of promoting and propagating warehouse receipts, in particular electronic warehouse receipts, and a national system of warehouse receipts.

3.31 Pledge Financing: Pledge financing enables the usage of inventories of graded produce as collateral for accessing credit from the organized credit market, thus enabling farmers to take advantage of favorable prices; to hold inventory of graded

produce under favorable storage conditions; promotes rural godowns and warehousing, thus enabling farmers to hold inventory without having to dispose of produce at adverse prices in the regulated markets; advances grading of farm produce to the farm gate, and enables identity preserved storage closer to farms, thus enabling farmers to improve price realization considerably.

3.32 Produce Marketing Loan Scheme formulated by the Government in 1988, could not take off due to its limited applicability. There is an imperative need to improve the flow of credit to agricultural produce marketing to afford to the growers a reasonable opportunity to hold on to their produce in falling markets at the time of harvest. The recently announced 'National Agriculture Policy' of the Govt. of India lays emphasis on the need for adequate institutional credit for marketing of agricultural produce, creation of storage facilities, improving marketing infrastructure, etc. Marketing credit can be improved by introducing a user-friendly pledge financing scheme. The Committee recommends that Credit policy of the Government should support pledge financing by treating it as priority sector lending to agriculture with the facility of concessional refinance and a major thrust given to its implementation to save the farmers from resorting to distress sales after harvesting.

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## 4. AGRICULTURAL MARKETING INFRASTRUCTURE

4.1 The Rationale: Infrastructure consists of a combination of national assets which sustain the addition of place, time and form utilities to the products and services. These include apart from the Government institutions and organizations, roads, railways, warehouses, market yards, cold stores, processing units, research and training institutions, means of communication and transportation including air cargo, sea cargo etc. The basic rationale of any infrastructure is the sustenance it provides to production activity, income generation and social service supplies. It has also positive effect on income distribution because low per capita infrastructure limits the access of small and marginal farmers to the market.

4.2 The relationship between agricultural development and investment in infrastructure has been long recognized. Roads stimulate agricultural change and modernization not only through their immediate effects on relative prices and marketing opportunities but also through backward linkages. The roads open up opportunities for commercial agriculture and encourage shifts to production of higher value, transport – sensitive products (fruits, vegetables, dairy, poultry and marine products). Roads also improve access of the people to extension agents, banks, markets and health services. Market infrastructure is important not only for the performance of various marketing functions and expansion of the size of the market but also for transfer of appropriate price signals leading to improved marketing efficiency. Infrastructure facilities lead to reduction in marketing costs which is crucial for increasing the realization of growers and reducing the costs to the consumer.

4.3 The infrastructural facilities can be classified as physical and institutional. The roads, railways, transport facilities, electrification and storage structures are physical infrastructure whereas cooperatives, local self-government, banking institutions, extension agencies, marketing organizations and market intelligence net work are institutional infrastructure. For over four decades after independence, the public sector in India held a monopoly in the provision of most of the infrastructures. Till 1991, when the current period of economic reforms started,

electricity, railways, roads, telecommunications, postal services and ports were among the sectors reserved for the public sector. However, after 1991, virtually all sectors of infrastructure have been opened to private investment. Nevertheless, for providing infrastructure in remote and difficult areas, the public sector would need to continue to play an important role.

4.4 Market Surplus: In order to assess the adequacy of agricultural marketing infrastructure in the country, it is imperative to estimate the availability of agricultural production and marketed surplus. Generally, there is positive association between production and marketed surplus. Several studies carried out by individual researchers and national and international organizations provide the projections of both demand and supply of agricultural commodities at different points of time. Projections for too distant a period involve several assumptions which may not hold good. The Committee has, therefore, used the projections of production of various farm products as given by Kumar and Mathur for the period 2006-07 (para 2.4-Table).

4.5 Projections of production and marketed surplus of various farm products for the year 2006-07 as given in Table 1(para 2.4) show that even at the existing marketed surplus-output ratios, the quantities which the marketing system will be required to handle in future are quite large. For example rice output is projected at 103.5 million tonnes, meaning thereby that paddy output available for milling with rice milling sector would be around 155 million tonnes. The marketed surplus of all cereals taken together would be 102.74 million tonnes. As regards pulses, the marketed surplus is projected at 15.20 million tonnes which will require considerable increase in the pulse milling capacity. Reduction of proportion of population on agriculture would enable rise in market surpluses.

4.6 The marketed surplus of oilseeds is projected to go up from 17.19 million tonnes during 1999-2000 to 26.90 million tonnes during 2006-07. In the case of sugarcane, the marketed quantity is projected to reach 327.75 million tonnes. Raw cotton output is projected at 3.2 million tonnes during 2006-07. Similarly fruit and

vegetables marketing system will be required to handle 91.88 million tonnes of vegetables and 68.38 million tonnes of fruits.

4.7 As regards livestock products, it is projected that by 2006-07, the marketed surplus of milk would be 71.7 million tonnes, meat and eggs 6.0 million tonnes and of marine products 9.80 million tonnes. Considering all the perishables together (fruits, vegetables and livestock products), the marketed surplus is anticipated to go up by 43.4 percent during the next seven years from 172.69 million tonnes during 1999-2000 to 247.76 million tonnes during 2006-07. The capacity to clean, grade, pack, process and transport these perishables would have to expand to handle the additional marketed quantities.

4.8 From the view point of complete supply chain, from farm to the market, the infrastructure for all types of perishable horticulture produce is required at following levels:

(a) Small pre-cooling units and or zero-energy cool chambers in the production areas where the field heat of the produce is to be removed at fast rate to bring down the temperature of the produce to the desired level before putting the product in the cold storages. The refrigerated transport units from the farm to the cold storages are also utilized as mobile pre-cooling units for this purpose;

(b) Collection Centers near to the farms;

(c) Medium to small cold storages having multi-product, multi-chamber facilities are the most popular segment where horticulture produce is stored as transit godowns;

(d) Specialized cold storage with facility of built in pre-cooling; high humidity and Controlled/Modified Atmosphere are required for storage of the produce for a longer period. These specialized storages are essential for extended shelf life of the produce and without these storages the requirement of storing the produce to meet the demand in the off season is not feasible;

- (e) Other components like ripening chambers close to the markets and display cabinets at retail outlets;
- (f) Linkages for conversion of fresh produce in other marketable forms;
- (g) Integrated Pack Houses to serve farms in respective regions having an area of around 5000-10000 hectare. Farms associated with each of the centers would collect farm produce and bring them to common cold storage centers, where these products could be given treatments, such as washing, sorting, grading and packing. These products will then be preserved in the appropriate cold storage facility. The services of these centers will not only increase the value of the farm product, but will also remove most of the unwanted bio-degradable bio-mass from the horticulture products, which can be utilized as farm manure or even as cattle feed.

4.9 The electronic trading would be more appropriate form of direct marketing between different buyers and sellers. Every market committee should be provided with facility of electronic trading by setting up a special kiosk for the purpose. The young entrepreneur who can set up portals on their own to provide such facilities could be supported financially through a plan scheme. Their responsibilities would include to inform the buyers and sellers about online demand of different products; product specifications with regard to quality, pack size, packaging material, quantity and the time frame of supply; the transport cost involved and the marketing charges likely to be incurred in the market where the goods are to be delivered; facilities available to the farmer in the buying market; Re-handling of the produce, if necessary, in the supplying market to suit to the requirement of the buyer market; the rules and regulations of the destination market, if it is located outside the state at distant place, and other specific information as may be conducive for the seller to transact the business with the purchasers; and the legal provisions related to storage, transportation, phyto-sanitary requirements etc.

4.10 Telephone is the most convenient way of communication which can reduce cost of marketing besides meeting other needs in the villages. However, upto March

2001, only 59 per cent of 6,70,000 villages were connected by telephone. The tele-density i.e. number of telephones per hundred population was only 3.5 per cent compared to an average of 16 in the world and 60 in the developed world. Though, it has been targeted to increase this to 7 per cent by 2005 and 15 by 2010, the progress seems to be slow. There is a need to speed up the investment in this regard. Telephone connection technology by telephone lines seems to be slow and requires heavy investment for laying telephone lines. Therefore, the option of wireless technology (WCL), should be examined. The Committee recommends that all the remaining villages should be connected within five years. Also, at the same time e-communication should be encouraged either through village panchayat or private entrepreneurs. Such communication or Cyber Café or village kiosks can become information centers.

4.11 Rural Connectivity: Rural roads constitute one of the most important marketing infrastructure which reduce the cost of production and marketing by providing external economies to farmers, traders and public at large. It is well known that investment in infrastructure of this type has very high returns to the society. The status of rural roads in India indicates that only 47.83% villages were covered with roads till mid 90s as can be seen from the Table below:

Table – Details of Road Connectivity in India

Group of villages with population	Villages connected with road	% age of villages connected	Villages not connected with roads	% age of villages not connected	Total
<1000	172062	37.45	280733	63.55	452795
1000-1500	44031	75.88	13904	24.12	57935
>1500	65698	91.73	5713	8.73	71411
<b>Total</b>	<b>281791</b>		<b>300350</b>		<b>582142</b>

Source : Govt. of India , Handbook of Transport Statistics in India , 1999, Ministry of Surface Transport.

Therefore, there is an urgent need for investment in providing connectivity to remaining villages. Considering average road length as 4 km., to connect each village with the main road, public yard or sub-yard, the total length of rural roads required to connect to remaining 3.7 lakh villages comes to around 14.8 lakh kms. If average cost is taken as Rs.5 lakhs per km, the investment requirement is Rs.74,000 crores. Though the Government of India has made special provision for link roads in rural areas under Prime Minister's programme there is a need for additional investment.

4.12 Physical Facilities in Markets: Agricultural produce markets established under market regulation programme have been playing an important role in providing market places to the farmers to dispose off their produce. These have also provided physical facilities and an institutional environment to the traders, processors and other market functionaries for conduct of their trading activities. The studies revealed that farmers, on an average, get a reasonably higher price by selling their produce in the regulated market yards compared to rural, village and unregulated wholesale markets. Most of the regulated market yards in the country at present lack facilities for handling the produce arriving there. The space for auction platform is less and the number of shops and godowns in the premises is small. It reduces the effective participation of traders. Absence of storage godowns at market level further perpetuates the problems of traders in general and continuous movement of goods in particular. The number of fruit and vegetables markets brought under regulation is small. Further the markets, which have been exclusively developed for handling of fruits and vegetable, do not have sufficient facilities for handling the produce available in the area.

4.13 The Directorate of Marketing and Inspection and several state governments have assessed the requirements of investment for development of market yards in respective states. Though several questions relating to the desirability of continuing



with government sponsored market yards are being raised, the Expert Committee is of the view that creation of physical infrastructure at primary market places is absolutely essential irrespective of the institutional arrangements for managing these yards. As shown in Annexure-III, the investment requirement for development of market yards/sub-yards during the next ten years is estimated at Rs.6026 crores.

4.14 Specialised Markets: Apart from general purpose markets, there is need for developing specialized markets for fruit and vegetables. It has been assessed that there are at least 241 such places in the country where fruit and vegetables markets should be developed. The infrastructure required for such markets depends on the volume of arrivals which in turn depends on the size of population to which these markets cater. The investment requirement for fruit and vegetables markets in the country is around Rs.970 crores. The details are tabled below:

**Investment Requirements for Development of Fruits and Vegetables  
markets** (Rs. In crores)

Size of Population	No. of Markets	Investment Required
1 to 2 lakhs	126	252
2 to 5 lakhs	72	288
Above 5 lakhs	43	430
<b>Total</b>	<b>241</b>	<b>970</b>

4.15 Farmers' Markets: Several State Governments have initiated a process of direct marketing by producers to the consumers. The states of Punjab , Haryana, Rajasthan, Tamil Nadu and Andhra Pradesh have established Apni Mandi in their areas. However, this has been promoted so far only at the state headquarters and at some district headquarters. There is a need to promote these in all the districts. The

Committee recommends that farmers markets be promoted in all the districts of the country to accelerate the process of direct marketing by the farmers.

4.16 Rural periodic market is the first contact point for producer – sellers for encashing their agricultural produce and buying other goods needed by them. There are in all 27294 rural periodic markets including those for livestock, in the country. But even minimum necessary infrastructural facilities do not exist in most of these rural periodic markets. There is urgent need to develop these rural periodic markets in a phased manner with necessary infrastructure amenities to have a strong base level link in the marketing chain. Once developed, these places, where periodic markets function, can also serve as farmers/consumers markets. The investment requirement for developing these primary rural market places is estimated at Rs.2146 crores (Annexure-III).

4.17 Storage/Warehousing: Storage infrastructure is necessary for carrying over the agricultural produce from production periods to consuming periods. Lack of adequate scientific storage facilities cause heavy losses to farmers in terms of huge wastage in quantity and quality of products in general and of fruit and vegetables in particular. Seasonal fluctuations in prices are aggravated in the absence of proper scientific storage facilities. Central and State Warehousing Corporations have constructed warehouses in the different States. Food Corporation of India and some State governments have also created warehousing facilities and godowns. The total covered storage capacity available with FCI., CWC and SWC is estimated at 26.4 million tonnes. In addition, storage capacity of around 25.3 million tonnes is available with public, private and cooperative sectors. In the background of 200 million tonnes production the available storage capacity of 52 million tonnes is quite inadequate. It is estimated that about 20 million tons of grains are stored in the form of CAP(Covered & Plinth). This clearly shows that the country needs much more facility than what is available now. This is specially more important for hill and remote areas in several states. For an additional 20 million storage capacity the investment required @Rs.2700 per tons is Rs.5400 crores. The private sector needs to be encouraged to enter the storage and warehousing activity and make investment of this magnitude.

4.18 The Finance Minister in the 2001-2002 Budget has announced creation of Rural Godowns for non-perishables on the lines of construction of cold storages under the back-ended subsidy scheme implemented by the National Horticulture Board. In this connection, in the light of past experience, the Expert Committee recommends that definition of rural godown should include a house, warehouse located in a rural area where a rural periodic market/market yard/sub-yard/collection centers for different agricultural commodities already exists. It may also include D class municipalities or harvesting centers. Any private entrepreneur, cooperative, APMCs, SWC/CWC, registered NGOs, Farmers Registered Organisations, Accredited microcredit organisations and self-help groups should be eligible to construct and operate rural godown under the scheme.

4.19 The Godowns should be of viable capacity and rat proof with scientific storage following the specification drawn by CWC/SWC. The growers/process's, State procurement agencies, wholesalers, other agencies involved in PDS etc. should be included as potential users. The subsidy to the construction of godowns may be limited to 25% of the total cost. The godowns should be declared as deemed warehouses under the State Warehousing. APMC market fee, sales tax, purchase tax, octroi etc. should not be leviable on the goods stored. Similarly, provisions of Essential Commodity Act, Labour Act, Mathadi Act, Shop Establishment Act, Industrial Disputes Act etc. should not be applicable to these Warehouses. The material stored in rural godowns should be backed by warehousing receipts with common regulatory framework for negotiability. The godown owners/operators should be permitted to play the role of on-lender so as to channel credit to potential users. Considering the importance of rural godowns to farmers, bankers/financiers should be allowed maximum spread of 2% or less over the NABARD refinance rate.

4.20 Cold Storage: India produces 134.5 million tons of fruit and vegetables and the output is likely to go up during the next 10 years. It is a matter of concern that more than 30 per cent of fruits and vegetables produced in the country are lost due to lack of proper handling, storage and processing facilities. Cold storages are most important infrastructural need for perishable and semi perishable commodities which need an

immediate attention. Presently a total of 4199 cold storages are existing in the country with a total storage capacity of 15.38 million tonnes. The sector-wise availability of storage capacity is given below:

Sector-Wise Distribution of Cold Storage Facilities(as on 31<sup>st</sup> March 2001 )

S. No.	Sector	Number of cold storages	Capacity( Lakh MT)
1	Private	3739	146.13
2	Co-operative	310	6.80
3	Public	150	0.91
4	Total	4199	153.85

4.21 The present storage capacity available is sufficient only for 10 per cent of total production of fruits and vegetables. In the next 10 years with the anticipated increase in production of fruit and vegetables and other perishable commodities, the cold storage capacity requirement would be much higher. Foreseeing the future requirements of the fresh/precooked/frozen fruits and vegetables and their products as well as anticipated change in the food habits in favour of processed food, the capacity requirement for post harvest management of perishables is estimated at more than five times the presently available capacity. In the next 10 years, 15000 additional cold storage units with a capacity of 45 million tonnes should be created. The additional capacity requirement would need an investment of the order of Rs.27,000 Crores. The investment should basically be made by the private sector only. In future, there would be a need for multi-chamber type of cold storage units for various perishable and other products. For encouraging private entrepreneurs there is a need to provide subsidy to make the units viable for some initial years. This apart, the regulatory arrangements should also be reviewed and simplified for attracting private investment in this venture.

There is a need to provide incentives in reducing current expenses such as tax relief in electricity.

4.22 Reefer Vans/Containers: The country would also require reefer container/vans for transport of perishable items for domestic and export marketing. At present their availability in the country is negligible in comparison to the present production of perishable commodities. For handling the expected higher production in the next 10 years, at least 3000 reefer containers/vans with a capacity of 8 tons each would be required. This would require an investment of Rs.600 crores, which should be encouraged in the private and cooperative sector. There is a need to encourage the investors in this area by providing incentives.

4.23 Cleaning, Grading and Packaging: The importance of these facilities can be hardly over emphasized. At present, the grading facility is available only in 1321 markets out of total number of 7127 regulated markets. The quantity graded at producers level is almost negligible. There is a need to create facilities for cleaning, grading and packaging not only at primary level but also in the villages from where produce is brought to the market for sale. In the absence of such facility at the village level, the kind of pollution and congestion created at market yards during the peak arrivals period is well known. The APMCs should encourage private entrepreneurs to promote such units in or around the yard/sub-yards. There is need to promote proper packaging after grading so that further chances of adulteration or temptation may not be there. Besides this there is a strong need to educate the farmers for proper packaging and grading before they bring the produce to the market. Scientific packaging should be encouraged at the farm level through subsidy support. The Expert Committee feels that this is an important activity, and an investment of Rs.2000 crores should be earmarked for this purpose during the next 10 years.

4.24 Export Zones and Food Parks: With a view to taking advantage of new international trade environment, there is a need to encourage export of high value traditional/non- traditional products grown in various parts of the country. Commodities having export potential are several fruits and vegetables, raw

as well as processed and packed spices like cumin, fennel, coriander and other farm products like fenugreek and hena for which there is significant demand by Indian Diaspora and others in several countries. However, there is a need to educate and train the growers of these crops in producing, grading and packing for overseas markets and create necessary infrastructure. A scheme of creating Export Oriented Agri-Zones (EOAZ) has been announced by the Govt. of India (Ministry of Commerce) which should be promoted by providing institutional and physical infrastructure in each of these as per the needs of the specific commodity. In some of EOAZs, there is also a need to establish what is called Food Parks. In these parks, some common facilities like electricity and warehouse should be created with central government assistance which will help in attracting investment by the private sector and the state government. While most of the investment should be made by the private entrepreneurs, as a way of incentive, government should invest in common facilities, and quality certification. The estimated public investment is Rs.200 crores and private investment of around 400 crores on fifty such EOAZs. In identification of EOAZs and Food Parks, the Government of India, through APEDA and DMI should take an active stance, rather than leaving it to the state governments. The Committee further recommends that commodity wise export potential studies be commissioned before establishing EOAZs.

4.25 Processing and Value Addition: Considering the increase in demand for value added and processed products, there is a need to enhance the capacity of agro-processing sector. This will not only help in stabilizing the prices realized by farmers but also in creating employment in rural areas. The food-processing sector alone provides tremendous potential in this area. For attracting private initiative and investment in food processing, the Government of India through Department of Food Processing and National Horticulture Board have already formulated several schemes of assistance. A ten year tax holiday has been announced. However, the state governments should also come forward and grant relief in terms of sales tax and other local taxes on processed products. Cheaper processed products will expand demand for such products.

4.26 At present, value addition is estimated at only seven per cent and processing only two percent of the total production. Within next ten years, there is a need to increase value addition to 35 percent and processing to at least 10 percent. Quality control and standardization will be extremely important in this endeavour. The Central government should establish or encourage a network of food analysis laboratories in the country. This will also be necessary to face competition from imported processed products.

4.27 The investment potential in value addition and food processing is quite large. According to our estimates, the potential is Rs.150,000 crores. If conducive policy environment and incentive frame work is created, private sector can be attracted to make investment of this magnitude. The state-wise details of investment potential in food processing are given in Annexure-IV.

4.28 Sources of Investment: The investment potential in agricultural marketing system is quite considerable. The investment in agricultural marketing system will go a long way in making agricultural sector vibrant and enable it to face the competition of liberalized international trade environment without adversely affecting the livelihoods of those who depend on farming. However, for realizing the potential of investment, a major part of which need to come from the private sector, a conducive and favourable environment would have to be created. For attracting the private sector investment at a level visualized by the Expert Committee, there is a need for (a) making complementary investment by the State and Central government; (b) subsidizing a few activities to enable the private sector initiatives to attain viability; (c) active stance by the Central government in some initiatives; (d) reducing the regulatory controls and simplifying the procedures; and (e) ensuring adequate credit flows to agricultural marketing activities. It is in this context, that the Expert Committee recommends that agricultural marketing and trade activities like construction of storage structure; rural godowns; cold storages, reefer vans; cleaning, grading & packing houses; export oriented agri-zones; and agro – processing and value addition should be included under the definition of priority sector for the purpose of lending by financial institutions.

The sector-wise investment potential as visualized by the Expert Committee is shown in Appendix- V.

4.29 For a long term sustainable and integrated development of horticulture a fresh look is also required to be taken at some of the legal provisions as laid down under various acts and rules framed there under. The following are important:-

a) Excise Laws: Presently the alcoholic beverages based on fruit & vegetables are clubbed with other alcoholic beverages. Whereas world over items like wines and beer which are based on fruit & vegetables and have low content of alcohol (ranging below 11-12%) are considered as items of food and are promoted as health drinks. With removal of quantitative restrictions there is a possibility that larger quantity of such beverages will be imported into the country. This sector has not developed in India so far because the Excise laws have implications both in terms of financial pricing of the products as well as restrictive legal frame work for setting up and operation of units for the manufacture of these health drinks. The Government of India has given a boost to the industry based on fruits & vegetables by allowing a complete exemption to the products from Excise Duty, as per the declarations in the Budget for 2001-2002. However, this declaration covers the items like pickles, sauce, ketchup and juices, etc. It is proposed that a similar treatment be given to the alcoholic drinks based on fruit & vegetables such as beer, wine, tadi and apple-cider and other similar range of products.

b) Minor Forest Produce – Under Forest Act : Presently a variety of products are being collected by petty contractors by ruthless exploitation from the forests. The policy should allow the production of such items on commercial basis on private lands. The forest laws should be amended to this effect. To cite some examples, the following fruits are regularly picked from the wild plants by the villagers and offered for sale in towns. These fruits fetch very good price and there is already trading worth lakhs of rupees in these fruits. So it is worthwhile to grow these fruits on regular scale as orchard or wasteland crops.



- i) Wild pomegranate
- ii) Kaphal (Myrica nagi Thunb)
- iii) Wild fig
- iv) Lassora (Cordia oblique Wild)

Similarly, there are vast varieties of forest produce falling into the sub-categories of horticulture e.g. herbs, medicinal plants, vegetables, spices, flowers, honey, mushrooms, staple food supplements like buckwheat in the hills, etc.

c) Narcotic Drugs and Psychotropic Substances Act, 1985 : The present legal framework is restrictive to the extent that it discourages the commercial production of the narcotic items which can be converted into pharmaceutical products. Therefore, provisions may be created for a balanced development for cultivation and processing of such items.

d) Plantations – A New Definition : The word “Plantation Crops” as mentioned in some labour laws and Land Ceiling Act has a rather limited meaning pertaining mainly to coffee, tea, rubber, etc. To cover a large number of crops under plantations with a more rationale and more scientific approach is need of the day. If plantation is used as generic term for an advanced form of agriculture where various types of management from the selection of land, selection of species to be grown, the financial support, the management of labour, the processing and marketing are all done at a higher level than what is done for ordinary agricultural crops, the horticulture is bound to get a fillip. The existing legal framework will open new avenues for development of entire horticulture sector if production of fruit & vegetables, medicinal & aromatic plants, spices, is also brought under the definition of plantation.

## **5.MARKETING EXTENSION, TRAINING AND RESEARCH**

5.1 Multilevel Approach: In order to strengthen and develop agricultural marketing system in the country, efforts in the area of training and extension have to be made at three levels. At policy level, it is necessary to formulate an effective policy on agricultural marketing under which various components of marketing programmes and activities can be integrated and coordinated. At managerial level, the managerial and technical capabilities of those technical institutions involved in the implementation of the marketing policy needs to be improved to enable to work to be carried out more efficiently and economically. At farm level, marketing policies and programmes should assist farmers in marketing their produce, purchase their inputs and raise their incomes. At farm level, however, the effectiveness of Government policies and programmes often loses its impact, especially for those farmers whose marketable surplus is too small and not oriented to marketing requirements.

5.2 In India , although at village and farm level agricultural production extension services exist but marketing extension work designed to benefit farmers and other market functionaries does not exist. Marketing Extension has not been accorded due importance it deserves in the light of shifting agricultural policies towards sound marketing system. Consequently, overwhelming number of States do not have even separate marketing extension cell to undertake regular extension activities. In the absence of emphasis on marketing extension, technology transfer in the field of agricultural marketing has been sluggish.

5.3 As the days of the mass production and mass marketing are now being replaced by customer based or market driven strategies , an effective marketing extension service is need of the hour. This has added significance in the light of post WTO scenario. If the Indian farmers have to withstand the possible onslaught of international competitors both in domestic as well as overseas markets the marketing extension would be an effective instrument to safeguard farmers interest through proper education and guidance on regular basis . The marketing extension service to assist small and

marginal farmers in solving the problems faced in marketing their produce is therefore, a sine-qua-non in the free trade environment.

#### 5.4 The marketing extension envisages:

i) Advise on product planning- Even for small farmers, the concept of product planning i.e. the careful selection of the crops and varieties to be grown with market ability in mind, is an important starting point. Providing this basic advice to the farmers is very essential to enable them to withstand the competition in the market.

ii) Marketing Information - The farmers need information on two aspects of marketing viz. current price and market arrival information and forecasting of market trends. This information has also to be supplemented with other information about reaching a particular market to get the particular price, arrangements available in the market related to storage, transactional methods, quality requirements, post-harvest handling requirements etc. Along with the information of spot market, the forward and futures market prices are also required to be disseminated to the farmers. They have also to be educated or trained in taking appropriate signals from the forward and futures prices. In order that the information should be area specific, crop specific buyer specific etc. there is a need that every agricultural market should have an extension cell equipped with internet and other audio-video facilities necessary to educate farmers in various aspects of marketing functions and services. The information required by other market functionaries should also be collected and disseminated to its users.

iii) Securing markets for farmers - The extension agency can advise farmers 'in several ways. For grains to be sold to the government procurement agencies the extension workers can advise on how, when and at what price to sell the designated food grains to the Government agencies. For cash crops, farmers need assistance in making contract marketing arrangements with processors, wholesale traders or other bulk buyers.

iv) Advise on alternate marketing - In order to avoid 'gluts' in the small local markets, farmers can be advised to take benefit of warehousing with pledge finance schemes, entering into forward contracts or go in for futures trading. A planned

marketing strategy will benefit the producers in terms of real income and help stabilize local market prices and market supplies in terms of raising farmers income .

V) Advise on improved marketing practices - Farmers need education on improved harvesting methods, standardization and grading, improved packing and handling practices, appropriate storing methods etc. for profitable marketing of his produce.

vi) Advise on establishing and operating markets - Marketing extension should help rural population to establish and operate markets on their own to save from exploitative elements. Run by the farmers the rural markets particularly can become centers of training farmers as well as traders with regard to different marketing practices. Operating within the framework of marketing rules and regulations, the rural population will be able to protect their interests better when they visit distant wholesale or terminal markets.

5.5 Need for Wider Reach in Private Sector: Considering the limited reach of public extension service, it is felt that privatization of extension services with appropriate financial backup from the public sector is considered more appropriate and practical. Privatization of extension activities would facilitate tailor made extension services beneficial to both farmers as well as entrepreneurs. The NGOS, Cooperatives, Trade Associations, Private Limited companies, and corporate bodies should be allowed and encouraged to undertake marketing extension. To facilitate private agencies to undertake extension programmes on regular basis for the country as a whole, a 24 hours TV Kisan Channel on Doordarshan is necessary. There are 75 channels operated by Doordarshan, out of this one channel should be devoted exclusively to the farmers service. The Kisan Channel would be best visual media to educate farmers by public as well as private agencies for both agricultural as well as marketing extension service.

5.6 A micro level study for every district is required to be undertaken with regard to research, training and extension requirements of crops grown and the markets served by various agricultural products grown. The rural periodic markets and wholesale

assembling markets where farmers visit frequently need to be provided with extension units to undertake regular activity to educate farmers in various agricultural marketing issues.

5.7 Training in Agricultural Marketing: A substantial training effort will be needed to upgrade technical, managerial and organizational skills and knowledge of field and marketing personnel. The major thrust of the training in the changing scenario should be :-

- a) Agri-business management
- b) WTO and its implementations
- c) Post-harvest management
- d) Grading, Standardization and Quality assurance
- e) Information technology
- f) Emerging areas in agricultural marketing
- g) Organic Food Marketing ( OFM)
- h) Market led extension
- i) Post-graduation courses in State Agricultural Universities
- j) Entrepreneurship programmes for rural Agri - clinics.
- k) Training of Trainers ( TOT)

5.8 In view of the changes in agriculture in general and agricultural marketing in particular, there is need to orient the faculty of the national level nodal institutes. Until and unless the faculty is exposed to the complex international problems and ground realities of Indian fields, it is not fair to expect solution of all problems from them. At the

same time, they should be trained involving practical problems of farmers in the fields. The skill should be developed in management, planning and leadership.

5.9 Research in Agricultural Marketing: Research in agricultural Marketing assumes the most important role in the agricultural marketing. Hence we should undertake need based research and play proactive role in the area of research marketing effectively. In its endeavor to impart training the research in agricultural marketing would establish strong relationship with client organization and strive to serve farmers, consumers and select organization. Following area have been identified for potential research marketing:

- a) Marketing technology adaptable to Indian conditions like labour intensive technology without compromising quality;
- b) Dynamic studies of comparative advantage of commodities of India
- c) Provide Outlook information for prices and production for long, medium and short term decisions.
- d) Structure conduct and Performance of Agricultural markets
- e) Study on cost and margins of agricultural crops

5.10 IT Application in Agricultural Marketing: Agricultural produce marketing requires connectivity between the market and exporter/growers/traders, industry consumers, through wide area network (WAN) of National and International linkages in order to provide day-to-day information with regard to commodity arrivals and prevailing rates etc., to provide links for online International Market Information; to provide export-related documentation, to inform about the latest research in agricultural marketing, packaging/storage etc. related information and to provide linkage/connectivity with the World Trade Center (WTC), APEDA, NIAM, NBB, DNH, IIP, State Agricultural Marketing Boards, and universities.

5.11 Agricultural Marketing Information service ( AMIS) needs to be set up at the national level. This service will be a integrated service , incorporating the farmer advisory service with Decision support System( DSS) . Such a system will help farmers in taking a intelligent decision related to storing , pricing , marketing etc. One of the major problems in designing AMIS is that the information needs of the individual target groups are diversified. For evolving an information system, assessment of information needs of the diverse target group is very important so that the information management is holistic and integrated. For this, forums should be formed to assess the quest of information among the beneficiaries.

5.12 The system should be broad based to cover information related to storage, transport, weather forecast, export potential etc. At the state level, the Marketing Boards or the Directorates should provide the consolidated information to all the market users. The coordinating agency will take stock of information availability and its generation process and distribute it to the need based target groups.

5.13 E-Catalogue for Commodity Profiles: In the present time of export competitiveness, each and every product needs to be publicized highlighting its characteristics on nutrition values, chemistry, quality standards, seasonally, quantity for supply and prices etc. A brief commercial profile of the commodity would help the buyer in making comparative analysis on account of cost and margins. Therefore, it is necessary that each commodity have specific commercial profiles giving the details as mentioned above. AR profiles should be transmitted to international markets through "Web Pages". Main objective of the scheme will be a) to prepare commercial profiles of exportable commodities and b) to give exposure of commodities to the international markets.

5.14 The farmer advisory service should be leveraged to the platform of Information Technology. This IT has the scope being a vehicle for transfer of knowledge. The successful experiment for transferring "lab to land: needs to be replicated in dissemination of knowledge of post harvest management aspects marketing and management

aspects. A development of Expert System would provide all the information from production to marketing of the commodity.

5.15 National Atlas of Markets : The mapping of the agricultural markets of the country is a pre requisite for carrying any planning/developmental activity. All the regulated markets along with their classification on the national maps will give synoptic view of the distribution of the markets. The infrastructure facilities, the quantum transacted, the area and population served, the outflow and the inflow of the commodities are the various aspects which should be mapped out. This would be useful for research and policy making The National Atlas of Agricultural Markets will be based on the application of GIS tools, such mapping activity then can also be put on the internet for it's greater usage.

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