Draft

Manual on

Agricultural Prices and Marketing

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CHAPTER-I

INTRODUCTION

Agricultural development has been considered to be an indicator of the quality of life at the grassroots level making it what may be called peoples sector. In regard to the importance of agriculture in a broader socio-economic sense, all the three basic objectives of economic development of the country, namely, **output growth, price stability and poverty alleviation** are best served by growth of agriculture sector. If public investment and market infrastructure in agriculture continue to be inadequate, there could be a serious problem of competitiveness and adequate supply response.

No doubt, India is a large producer of several agricultural products. In terms of quantity of production, India is the top producer in the world in milk, and second largest in wheat and rice. We should, therefore, be concerned about improving quality while maintaining the lead in quantity. In a modern economy, it is inconceivable that the role of middlemen can be eliminated. This underscores the need to regulate the middlemen in order to make them more efficient, competitive and accountable. It is necessary to move to a situation where an efficient system of market intermediaries is created in agriculture sector. The current regime of subsidies does not tackle the **major problem of agriculture viz. uncertainty**. Uncertainty of weather may be alleviated by insurance-mechanisms but unfortunately the experience so far, with what has essentially been insurance of credit to agriculture, has not been encouraging. Commercialization of agriculture can progress only when institutional arrangements such as insurance penetrate deep within the agriculture sector. To benefit the farming community from the new global market access opportunities, the **internal agricultural marketing system** in the country also needs to be **integrated and strengthened**. In particular the market system has to be revitalized to i) provide incentives to farmer to produce more; ii) convey the changing needs of the consumers to the producers to enable production planning; iii) foster true competition among the market players and iv) to enhance the share of farmers in the ultimate price of his agricultural produce.

1.1 AGRICULTURAL PRICES

Agricultural prices cover prices of agricultural products (output prices) and prices of requisites for agricultural production (input prices) at various stages of marketing. In India, the main objective of the Government's price policy for agricultural produce, aims at ensuring remunerative prices to the growers for

their produce with a view to encourage higher investment and production. Towards the end, minimum support prices for major agricultural products are announced each year which are fixed after taking into account, the recommendations of the Commission for Agricultural Costs and Prices (CACP). The CACP while recommending prices takes into account all-important factors, viz.

i) Cost of Production

ii) Changes in Input Prices

iii) Input/Output Price Parity

iv) Trends in Market Prices

v) Inter-crop Price Parity

vi) Demand and Supply Situation

vii) Effect on Industrial Cost Structure

viii) Effect on General Price Level

ix) Effect on Cost of Living

x) International Market Price Situation

xi) Parity between Prices Paid and Prices Received by farmers (Terms of Trade).

Of all the factors, cost of production is the most tangible factor and it takes into account all operational and fixed demands. Government organises Price Support Scheme (PSS) of the commodities, through various public and cooperative agencies such as FCI, CCI, JCI, NAFED, Tobacco Board, etc., for which the MSPs are fixed. For commodities not covered under PSS, Government also arranges for market intervention on specific request from the States for specific quantity at a mutually agreed price. The losses, if any, are borne by the Central and State Government on 50:50 basis. The price policy paid rich dividends.

1.2 AGRICULTURAL MARKETING

Agricultural marketing is defined as the study of entire gamut activities that direct the flow of goods and services from the primary producer to ultimate consumer. Agriculture is a production activity Involving conversion of solar energy into palatable/usable form in harmony with nature. In traditional varieties cultivation, seeds are used from previous year production. Land is ploughed with farm animals. Family labour does weeding, harvest and cleans the grains. Usually the input used in production is mostly from own sources, purchased inputs are very minimum. In the case of high yielding varieties cultivation input use is intensive.

The demand for farm inputs is derived demand. That is to produce a crop (primary demand) many inputs are required. **Agricultural marketing is the study of all the activities, agencies and policies involved in the procurement of farm inputs by the farmer and the movement of agricultural products from the farmer to the consumers.** It includes organization of agricultural raw materials supply to processing industries, the assessment of demand for farm inputs and raw materials. Agricultural marketing plays an important role not only in stimulating production and consumption but in accelerating the pace of economic development.

1.3 OBJECTIVE

The broader objective here is to prepare a Manual on Agricultural Prices and Marketing highlighting the importance of the sector, significance and measurement needs, performance indicators, statistical standards adopted at the National and International level and examining the deviations, if any, survey methodologies and data sources, sampling consideration.

The Central Statistical Organization, Ministry of Statistics and Programme Implementation, Government of India, conscious of the basic importance of agricultural price statistics, has, over the years, been active in promoting meetings and seminars to discuss the utility of these statistics and to review the current status of agricultural price collection and marketing system in India. In pursuance of the suggestions made at various levels, the CSO decided to get a manual on agricultural prices and marketing prepared by IASRI, New Delhi, for the benefit of the officials placed in different ministries of GOI, research scholars, international organizations etc. for planning and policy formulation relating to agricultural prices and marketing.

1.4 NEED OF AGRICULTURAL PRICE DATA

Agricultural prices are important economic variables in a market economy. Price relationships have a significant influence on decisions relating to the type and volume or agricultural production activity. They provide a measure for reaching judgment on policy formulation and administrative and executive action. Being crucial for purposes of decision-making in the sphere of economic activities, price data acquire considerable importance. Their collection and compilation, therefore, deserve attention no less than that given to obtaining information on other socio-economic characteristics. The systems to be adopted in the compilation of price statistics must, therefore, be meaningfully determined in relation to their end uses.

Since the agricultural producer is both a seller of his produce as well as a buyer of agricultural production requisites, agricultural prices cover not only the prices ”received” by farmers (”output” prices) but also the prices ”paid” by farmers (”input” prices). The farmer is also, of course, a buyer of consumer goods for use in his own household. Prices for such purchases are not to be regarded as "agricultural prices”, and are not, therefore, strictly within the coverage of this manual.

1.5 USES OF AGRICULTURAL PRICE DATA

1.5.1 BY INDIVIDUAL FARMERS

In the short run, an individual farmer needs output prices to determine the pace and volume of his sales so as to optimize the return from his farm production. In the long run, knowledge of price trends helps a farmer to formulate the investment plan on his farm and to take decisions on the structure and nature of his enterprises. An understanding of the normal differences in the prices of his products and production requisites during the year helps a farmer to react logically to the marketing situations in order to optimize the planning of the sale of his products and the purchase of his supplies. His production plans are governed by the price expectations of the various commodities he can produce, and these expectations are based on the trends both of output prices as well as the prices of the agricultural inputs that he has to buy.

1.5.2 BY PRIVATE AND COOPERATIVE BUSINESS ORGANIZATIONS

Business organizations use agricultural prices data in a number of ways, such as planning the character, location and size of their agricultural business enterprises; determining the time and place for purchasing agricultural production requisites; deciding on inventory expansion or contraction and hedging; selecting the markets and time of sale or their produce so as to reap the best advantage; and formulating credit policies. These organizations also use price data to decide on the nature and volume of storage accommodation needed for stocking goods and to determine the quantum of flow required from time to time to keep prices from fluctuating sharply.

1.5.3 BY PUBLIC AGENCIES

Public agencies use price data in planning agricultural programmes and ensuring that the allocation of available resources to different uses is consistent with the price system. Profit expectations from alternative agricultural development plans depend on the structure and behavior of both output and input prices. Both product substitution in domestic agriculture and planning of regional production

programmes are facilitated by adequate price data. With their aid, public agencies can make necessary adjustments to agricultural programmes if faced with price distortions, and can modify input-output price relationships to ensure the success of those programmes. Public agencies need price data more importantly for formulating agricultural price policies, such as direct control of prices or indirect influence upon prices (through measures like subsidies, indirect taxation, import/export duties) with a view to stabilizing prices or attaining the desirable goals of adequate production, supply and distribution. Decisions on policies and measures on market intervention, output price support, regulation of the supply and demand of individual commodities and control of prices of agricultural inputs also depend on price data. Public agencies must keep price behavior under constant study with a view, for example, to diagnosing the factors leading or about to lead to inflationary or deflationary pressures in order to take timely remedial actions. Overall economic planning, of which agricultural development is a part, uses price data as a major determinant of the resources required to achieve the desired goals. Public agencies need price data in working out and operating international trade agreements, customs unions and regional common markets. Public agencies disseminate market intelligence and price outlook data for agricultural products and requisites to help farmers in taking decisions an their sale and purchase operations.

1.5.4 IN AGRICULTURAL SECTOR ACCOUNTS

Price data are used in constructing economic accounts for agriculture within the general framework of national accounts. This involves the estimation of the value of agricultural output, expenditure on goods and services purchased by farmers and total agricultural income. The data so computed enable the trend in agricultural income and the share of agriculture in total national income to be properly studied.

1.5.5 IN AGRICULTURE'S TERMS OF TRADE

Raw price data, when properly processed, can yield index numbers. Index numbers of prices received by farmers, studied over time, indicate the extent to which changes in the value of output or farm disposals are attributable to changes in prices. Similarly, index numbers of prices paid by farmers throw light on the contribution of prices to changes in the total expenses incurred by farmers. The ratio of the two indices gives agriculture's terms of trade with the rest of the economy, and can be useful in explaining the variations in farmers' prosperity from time to time.

1.5.6 OTHER USES

Price data are needed by economists, planners, administrators and others for a variety of uses. They can provide an explanation of the changes in the socio-economic pattern of society, the nature of demand for farm policy legislation, and the pressures for greater social justice. Commodity price data are used for generating price elasticities, so useful for making demand projections and for giving a forward view of possible emerging imbalances. Price data constitute the basis for various cost studies e.g. cost of production, cost of marketing and distribution, cost of living. They can also be used for working out the return from investment; the cost of subsidizing agricultural output and input commodities; and the cost of adjusting wages and allowances. To the extent that prices influence the shares of the participants in economic activity, price data provide the most significant economic indicator and are indispensable for a proper understanding of given economic phenomena. Price data enter all economic studies, whether it be the measurement of that part of the population living below the poverty line; the determination of increases in wages and allowances needed to offset the rise in the cost of living; the evaluation of changes in the purchasing power of money; the examination of variations in per capita incomes; or the assessment of the impact of a country's budget on its national economy.

1.5.7 TWO BROAD GROUPS OF USES

From the foregoing it is obvious that the uses to which price data are put are many and varied. These uses, however, possess two broad characteristics (i) their use for purposes of comparison and (ii) their use for purposes of valuation.

1.5.7.1 COMPARISON

The use of price data for comparison purposes takes several forms. Temporal comparison is effectuated by comparing the prices of a commodity in a market or a country over time, with a view to studying the order of change in the price position over the given period. Spatial comparison is made by comparing the prices of a commodity at a given point of time at different markets in the same country, or in different countries, to 'observe the relative levels of prices of the commodity. Comparison of prices of a commodity over the different marketing stages through which it passes throws light on the marketing margins. Inter-commodity comparisons of prices reveal the order of change or parity in the prices of a commodity in relation to others. Inter-sectoral comparisons of prices are often made, say, between agricultural prices and industrial prices, to gauge, inter-alia the terms of trade of one sector vis-à-vis the other.

Whatever form the comparison of price data takes, the data ought to satisfy the essential criterion of being ”comparable”. Comparability requires that price data should reflect the true state of supply and demand of the commodity undiluted by the impact of other operating factors. In a meaningful temporal comparison, this would be possible only if price attributes, other than the time of transaction, are kept constant. Thus, while the time factor changes, the quality specifications of the commodity, the concept of price, the unit of measurement, the market and other characteristics of transactions should not change. Otherwise, it would be difficult to isolate the effect of the solitary factor of temporal change on prices. Similarly, for valid spatial comparison, price attributes other than space should be kept constant. Appropriate considerations of comparability of price data need to be kept in view in other forms of comparison too.

For comparison purposes, the price data are maintained in the form of (i) absolute price quotations for different, but specified grades of specified commodities, (ii) price relatives and (iii) price index numbers.

1.5.7.2 VALUATION

Valuation of agricultural output in a country is made when constructing the economic accounts for agriculture, and estimating the share of agriculture in the national product. For calculating index numbers of agricultural production or output, it is necessary to value quantities produced or marketed at constant prices, or to apply appropriate price index numbers to current priced value aggregates. For example, the FAO index numbers of production of individual countries in the new series (1969-71=100) are constructed using national average producer prices as weights, each price weight being the three-year (1969-71) weighted average price of individual commodities produced in these three years.

For valuation purposes, price data have to satisfy at least two major requirements. Firstly, the price should be of the nature of a unit value i.e. it should represent the average price per unit quantity. In the averaging process, prices of different grades of the concerned commodity would be weighted together, if data are available, by the proportion of quantities of the various grades produced or marketed. Secondly, Information should be available on the components of price such as subsidies, indirect taxes, commissions and other charges included in the price. Such components are often difficult to identify, particularly if they are not directly associated with the price quoted in the market. For example, if a subsidy granted for the production of a commodity is linked with the area grown, it would not be identifiable as a part of the market price.

1.5.7.3 INFLUENCE OF FINAL USE ON THE PRICE COLLECTION SYSTEM

The choice of the system to be adopted in the collection and compilation of price data is influenced, to a considerable extent by the type of use - comparison or valuation to which the data are intended to be put. The price statistics should satisfy all the requirements needed for the purpose in view. Collection of market quotations of specified varieties is essential for temporal comparison; for valuation purposes, however, what is relevant is the unit value.

The nature of the use of price data should also determine the stage of marketing transaction to which the data should relate. Prices relating to the first stage in the marketing process (i.e. when the farmer parts with his produce) have no relevance for measuring the changes in the purchasing power of money, or for studying the changes in the cost of living. Likewise, prices relating to the last stage in the marketing process (i.e. when the ultimate consumer or exporter buys the commodity) are meaningless for evaluating farm incomes. Generally, a public agency entrusted with the task of collecting and compiling agricultural output and input prices is required to maintain price data usable for all purposes, i.e. for both temporal and spatial comparisons, as well as for valuation. The agency has, therefore, to be very clear about the distinguishing features of the various types of agricultural prices.

CHAPTER-II

MEASUREMENT NEEDS OF THE SECTOR

2.1 AGRICULTURAL PRICES

The price fixation is undertaken by the government such that the productive resources are channeled into production of required food commodities and also generates enough income to farmers for decent living and provide for capital formation in agriculture for future production. For the consumers, especially people living below poverty line, it should be at affordable prices. To advice the government to fix minimum support prices and procurement prices the Agricultural Prices Commission was set up in 1965. Later its name was changed to Commission for Agricultural Costs and Prices (CACP) in 1980 by broadening the terms of reference. The Commission is a statutory body. The Commission submits separate reports recommending prices for Kharif and Rabi season crops. The Central Government after considering the report of the commission and views of the State Governments and keeping in view the demand and supply situations in the country, takes decision on the level of administered prices. The Commission recommended two sets of prices, minimum support prices and procurement prices. Minimum Support Price fixed by the government to protect the farmers against excessive fall in price during bumper production years. Minimum support price has been assigned a statutory status in case of sugarcane and as such the announced price is termed as statutory minimum price. There is statutory binding on sugar factories to pay the minimum announced price at and all those transactions or purchase at price lower than this are taken as illegal. The minimum support prices for different agricultural crops viz., food grains, oil seeds, fibre crops, sugarcane and tobacco are announced by the Govt. of India before the start of the sowing season of the crop. This makes it possible for the farmer to have an idea about the extent of price insurance cover provided by the government for the crop. The Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) is responsible for the collection, compilation and dissemination of the price data of agricultural commodities.

2.1.1 The price data are collected in terms of (i) weekly and daily wholesales prices, (ii) retail prices of essential commodities, and (iii) farm harvest prices. Weekly wholesale prices cover 140 agricultural commodities from 620 markets. The data are collected by price reporters appointed by the State Governments or Agricultural Marketing Committees and forwarded to the State Directorates of Economics and Statistics (DESs). Daily wholesale prices cover 12 commodities

(rice, paddy, wheat, jowar, bajra, ragi, maize, barley, gram, sugar, gur and khandsari) from 617 market centres. On receipt of the prices from various State agencies, the Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) forwards the same to the Economic Adviser, Ministry of Commerce and Industry for monitoring wholesale prices. Wholesale prices of certain important cereals, gram and sugar are also sent to the Cabinet Secretary on alternate days for direct monitoring. Retail prices of essential commodities are collected on a weekly basis from 83 market centres in respect of 88 commodities (49 foods and 39 non-foods) by the staff of the State Market Intelligence Units, State Directorates of Economics and Statistics (DESs) and State Department of Food and Civil Supplies. Flow of data from these agencies is not considered satisfactory. Farm Harvest Prices are collected by the field staff of the State revenue departments for 31 commodities at the end of each crop season and published by the DESMOA. It brings out a periodical publication entitled "Farm Harvest Prices of Principal Crops in India".

2.2 AGRICULTURAL MARKETING - GENERAL FEATURES

Agricultural marketing system can be analyzed by looking at the farmers' marketing practices, marketing channels and the structure of markets. The marketing system and farmers' marketing practices have undergone considerable changes during the last 50 years owing to the expansion of the size of the market, increased availability of infrastructure and changes in the pattern of demand and consequently introduction of new methods of processing, packaging, storage and transportation. Farmers' marketing practices and evolution of marketing system are guided by the shelf-life of the commodity. All agricultural products do not have the same shelf-life. Some products are perishable, some are less and some are even durable. Cotton and jute versus fruits, vegetables and milk are contrasting examples of agricultural products having long and short shelf-life. In between these two extremes are other agricultural commodities. Owing to the increase in marketed surplus and need to make these available in the off-season and at Places other than production points, functions of storage, processing, transportation, packaging and grading are required to be performed either by the farmers or by market functionaries.

2.2.1 MAIN CHARACTERISTICS OF MARKETING

Optimization of input use and output produced: Agricultural marketing leads to the optimization of resource use and output management. An efficient marketing system can contribute to an increase in the marketable surplus by scaling down the losses arising out of the Agricultural Marketing inefficient processing, Storage and transportation. A well-designed system of marketing can

effectively distribute the available stock of modern inputs and thereby sustain a faster rate of growth in the agricultural sector.

Increase in farm income: An efficient Marketing system guarantees to the farmers better prices for farm products and induce them to invest their surpluses in the purchase of modern inputs so that productivity may increase. This again results in increase in the marketed surplus and income of the farmers.

Widening of markets: A well known marketing system widens market for products by taking them to remote corners of the country to areas far away from the production point e.g. paddy produced in Punjab and Haryana are sold in remote tribal areas. Another example is potato. The widening of the market helps in increasing the demand on a continuous basis and thereby guarantees a higher income to the producer.

Growth of agro-based industries: The agricultural marketing system helps in the growth of agro-based industries and stimulates the over all development process of the economy. Many industries depend on agriculture for the supply of raw materials e.g. sugar industry, cotton industry, and silk industry.

Price movements: An efficient marketing helps the farmers in planning their production in accordance with the need of the economy. This work is carried out through the price signals.

Adoption and spread of new technology: The marketing system helps the farmers in the adoption of new scientific and technical knowledge.

Employment: The marketing system provides employment to millions of persons engaged in various activities such as packaging, transportation, storage and processing.

Addition to National income: Marketing activities add to the Nation's Gross National Product.

Better living: Any plan of economic development that aims at diminishing the poverty of agricultural population, reducing consumer food prices, earning more foreign exchange or eliminating economic waste has to pay special attention to the development of an efficient marketing for food and agricultural products.

Creation of Utility: Marketing creates the following four types of utilities of the product:

Form Utility: The processing function adds form utility by changing the raw material into finished products e.g. paddy- rice; Wheat- bread, biscuit, cake; Milk- ghee, cream, cheese, skimmed milk, butter.

Place Utility: The transportation function adds place utility to products by shifting them to a place of need from the place of plenty e.g. potatoes in plain, milk at urban places.

Time Utility: The storage function adds time utility to the products by making them available at the time when they are needed e.g. tamarind, rice in off-season.

Possession Utility: The marketing functions buying and selling helps in the transfer of ownership of goods from one person to another in the marketing system. The points of view of producer, middlemen, and consumers are different, but each is individualistic and concerned with his profit. From the producer point of view, it is important to know whether the prices prevailing in the market enable him to continue to produce or not, and what he should produce and where and at what time he should sell it. Large-scale production requires skill to sell it at remunerative price. A consumer looks at marketing from the point of view of good and the prices at which they are offered. Middlemen try to increase his profit margin by discharging various marketing functions. Marketing has greater importance and significance for the society as a whole than for any of the individual beneficiaries of the marketing process.

2.2.2 BENEFITS OF EFFICIENT MARKETING

1. **Any increase in the efficiency** of the marketing process, which results in lower costs of distribution and lower prices to consumers, really brings about an increase in the National Income.
2. **A reduction in the cost** of marketing is a direct benefit to the society.
3. **Marketing process brings new varieties**, quality and beneficial goods to consumers. It provides connecting link between production and consumption. **Approximately one third of all persons gainfully employed** in the country are engaged in the field of marketing and about one forth of National Income is earned by marketing profession.
4. **Scientific marketing has a stabilizing** effect on the price level. If producers produce what consumers want and consumers have a wide choice of products there are no frequent ups and downs in price.
5. **Marketing is a catalyst** for the transmutation of latent resources in to actual resources, of desires into accomplishments and development of responsible economic leaders and informed economic citizens.
6. **Marketing brings to the farmers useful** implements, tools and fertilizers etc. and the benefits of the use of machines and free after-

sales service, and make them modem farmers. Scientific marketing also remedies the imbalance in the supply of making available the surpluses to the deficit areas. If the functions of marketing are not performed properly, the economic system may get out of balance resulting in piling up of goods with retailers, wholesalers and manufacturers, which lead to closure of factories and retrenchment of workers. Thus it plays an important role in economic stability of a country.

2.3 ISSUES AND PERFORMANCE INDICATORS

Agricultural prices are important economic variables in a market economy. Price relationships have a significant influence on decisions relating to the type and volume or agricultural production activity. They provide a measure for reaching judgment on policy formulation and administrative and executive action. Being crucial for purposes of decision-making in the sphere of economic activities, price data acquire considerable importance. Their collection and compilation, therefore, deserve attention no less than that given to obtaining information on other socio-economic characteristics. The systems to be adopted in the compilation of price statistics must, therefore, be meaningfully determined in relation to their end uses.

2.3.1 AGRICULTURAL PRICE POLICY

Agricultural price policy is basically aimed at intervention in the agricultural produce markets with a view to influencing the level of fluctuations in prices and price-spread from farm-gate to the retail level. The instruments of agricultural price policy comprised mainly the controls/restrictions of various forms, imports of food grains and distribution of imported grains at below the market prices. The broad framework of the policy was specified in the terms of reference of the Agricultural Price Commission (APC), which was set up in 1965, to advise the government on a regular basis, for evolving a balanced and integrated price structure. While formulating the price policy, the Commission was required to keep in view not only the need to provide incentives to the farmers for adopting the new technology and maximising production but also the likely effect of the price policy on cost of living, levels of wages and industrial cost structure. The thrust of the policy had been to achieve the twin objectives of assuring remunerative prices to the farmers and providing food grains to the consumers at reasonable prices. The framework of the policy was modified in 1980 when the balance between demand and supply was in sight (Ministry of Agriculture, 1980). The emphasis of the policy, as reflected in the revised terms of reference of APC (later renamed as Commission for Agricultural Costs and Prices—CACP), shifted

from maximising the production to developing a production pattern consistent with the overall needs of the economy. Further, the Commission was also asked to monitor the movements in the terms of trade for the agricultural sector, which reflected the emerging concern for fair sharing of gains of use of technology and public investment between farmers and consumers. The policy was reviewed in 1986 when a long term perspective for agricultural price policy was presented to the Parliament (Ministry of Agriculture, 1986). It was emphasized that the policy should seek to build into the system the major factors which in the long run influence the prices of agricultural commodities for making the farm sector more vibrant, productive and cost effective. The agricultural price policy was again subjected to a rigorous review after a Programme of economic reforms was launched in 1991 and India became a signatory to the new world trade agreement, which for the first time included agriculture also (Acharya, 1997a and 1997d). Several policy instruments and complimentary policies were used to achieve the objectives of agricultural price policy (Acharya, 1997d). The important policy instruments currently in vogue include:

i) Assurance of minimum support prices for 24 crop products;

ii) Selective market intervention scheme (MIS) for other crops;

iii) Products which are not covered under minimum support price scheme;

iv) Imposition of levy on rice millers and sugar factories for procurement of a specified quantity of rice and sugar;

v) Implementation of statutory minimum support prices in case of sugarcane as the buyer for this is only sugar factories;

vi) Maintenance of buffer stocks of wheat and rice;

vii) Distribution of foodgrains and sugar under PDS in limited quantities at subsidised prices;

viii) Open market purchases of some commodities by public agencies at market prices during the peak arrival period and also their open market sales at fixed prices;

ix) Encouragement to producers cooperatives to undertake marketing on behalf of the farmers;

x) Regulation of the activities of traders and processors; and

xi) Creation of marketing infrastructures for facilitating marketing of agricultural commodities.

2.3.2 ADMINISTERED PRICES

1. The administered price regime currently in vogue includes:
2. Minimum support prices (MSP) for 24 commodities including seven cereals (paddy, wheat, barley, jowar, bajra, maize and ragi); five pulses (gram, arhar/tur, moong, urad and lentil); eight oilseeds (groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesamum, safflower seed and nigerseed); copra, raw cotton, raw jute and virginia flu cured (VFC) tobacco;
3. Statutory minimum prices for sugarcane;
4. Levy prices for rice and sugar; and
5. Central issue prices for rice, wheat and coarse cereals for sale under public distribution system (PDS).

2.3.3 PRICE SUPPORT POLICY:

The Minimum Price Support Policy (MSP) linked to procurement has served the country well in the past three decades. However, in recent years it has started encountering problems mainly because of surpluses of several agricultural commodities and excessive built up of stocks with FCI. Even deficit states like Bihar, Assam, Eastern U.P. have started generating surpluses of certain cereals. Also, as a result of operation of the pricing Policy, private trade has not been able to play its role particularly in respect of two major cereals, namely wheat and rice that account for over 70 per cent of total food grain production in the country. Under the MSP scheme, prices of major agricultural commodities are not only exogenously determined but these prices are defended through nodal procurement agencies like FCI. The adverse effects lay hidden as long as the country operated in a situation of shortages in a relatively closed economy. Bringing equilibrium in the market, a function that is normally performed by private trade, was successfully performed by the public sector nodal procurement agencies. In the process the private trade has been marginalized. In the changing environment, it is essential to think of an alternative policy, particularly if the private trade is to be restored its rightful role in the market place.

2.3.4 IMPACT ASSESSMENT

The assessment of impact of agricultural price policies pursued in India can be approached from several angles *viz.* achievement of national objectives, incentives or disincentives created for farmers, and distortions, if any, created in the marketing system. The impact of agricultural price policies can be summarized as follows (Acharya, 2001):

i) The policy has been instrumental in creating a fairly stable price environment for farmers to induce them to adopt new production technology and thereby increase the output of foodgrains. The improvement in the level of food security in India during the last three decades has been widely acknowledged the world over.

ii) Geographically dispersed growth of cereal production during the last two decades coupled with public distribution system of cereals helped in increasing the physical access to food.

iii) Supply of subsidized inputs to farmers and subsidized distribution of foodgrains, which enabled to keep the real prices of cereals declining vis-a-vis the per capita income, helped in improving the economic access to staple foodgrains.

iv) While the farmers were provided some degree of price insurance through a policy of minimum support prices, the policy tried to achieve a fair sharing of gains of technological progress and public investment between farmers and consumers.

v) Apart from the increase in physical and economic access to food and an assurance of a reasonable return to growers of staple food, the incentive framework created by the price policy helped in diversification of cropping and production pattern in agriculture. While such shifts in cropping and production patterns occurred at the margin, these helped in increasing the production of oilseeds, fruits, vegetables and livestock products, thus improving the nutrition security to a great extent.

vi) Owing to the decline in the real prices of basic staple food, the industry and the organised sector could keep their wage bills low, as rice and wheat have a considerable weightage in the consumer price index. The benefits of price policy and input/food subsidies have, thus, been shared by all sections of society i.e., surplus-producing farmers, other farmers who are net purchasers of cereals, landless labourers, urban consumers and industry.

vii) The kind of policy and programmes followed in the country resulted in some distortions in the normal functioning of the open market. For example, in the case of cereals, while the spread between wholesale and retail prices was not found to be excessive, the inter-year price rise has been considerable lower and, in several situations, was even lower than the storage cost, which did not

encourage the participation of private trade in storage and related trading activities in foodgrains.

viii) As regards the spatial integration, there is ample evidence to show that in the case of rice and wheat, the markets have demonstrated high degree of integration and the integration has further increased during the nineties. In contrast, the markets for coarse cereals like jowar did not demonstrate high degree of integration (Wilson, 2001). There is, thus, evidence to believe that market intervention, through price policies, has been cautious and selective and market imperfections observed are due to infrastructure bottlenecks, stringently market regulations, lack of market information flows and such other factors and not necessarily due to pricing policies pursued in the country. By and large, the policies benefited farmers as well as the consumers but by their very nature and objectives affected the participation of private sector in the marketing of commodities covered by these policies. The situation in recent years has considerably changed. In several commodities, the volume of commodities entering the markets has considerably gone up. The participation of private sector is becoming more important. It is in this context that there is a need for a relook at the policies and reformulate them to attract private sector participation in agricultural marketing at a large scale. In the emerging circumstances, a road map has to be laid for an agricultural pricing policy with twin emphasis on economic viability and generation of enough incentives to the farmers for making further investment in agriculture and more particularly in its diversification. The policy should attempt to balance forces of demand and supply rather than placing greater emphasis in increasing supply alone.

2.3.5 OPTIONS FOR FARMERS

There are several areas in which farmers will be required to remain proactive to derive benefits from emerging scenario of technological changes and marketing system. There will be need for adoption of varieties suitable for different times of sowing, different durations of maturity and those amenable to processing. Farmers would need to learn the methods of preparing the produce for market, *viz.,* cleaning, grading and packaging at the farm level which will not only fetch better prices for their products but also reduce physical losses during post-harvest handling. They will also need to keep track of the prices of different grades/varieties in nearby and other markets and sell the produce where the net prices realised by them are the highest. They will have to keep track of the

facilities like pledge-loan available to them and judiciously use such facilities. In the coming years, farmers would need to reduce their price risks by entering into advance agreements with processors or bulk buyers. In this context, the farmers would need to increasingly organise themselves into groups or cooperatives for the purposes of marketing of their products, value addition and processing.

2.3.5.1 Direct Marketing

Direct marketing encourages farmers to undertake grading of farm produce at the farm-gate and obviates the necessity to haul produce to regulated markets for sale. Direct marketing enables farmers and processors and other bulk buyers to economize on transportation costs and to considerably improve price realization. In South Korea, for instance, as a consequence of expansion of direct marketing of agricultural products, consumer prices declined by 20 to 30 per cent and producer-received prices rose by 10 to 20 per cent. This also provided incentive to large-scale marketing companies to increase their purchases directly from producing areas. Direct marketing by farmers to the consumers has been experimented in the country through Apni Mandis in Punjab and Haryana. The concept, with certain improvements has been popularized in Andhra Pradesh through Rythu Bazars and in Tamil Nadu as Uzhavar Santhaigal. At present, these markets are being run at the expense of the State exchequer, as a promotional measure, to encourage marketing by small and marginal producers of fruit and vegetables without the help of the middlemen. Considering the vastness of the country, more and more such markets need to come up in the organized sector so that they can be developed in tune with the backward & forward linkages. The APMC Acts will also have to be amended to permit private and cooperative sectors to take up direct marketing of agricultural commodities from the producing areas and the farmers' fields, without the necessity of going through licensed traders and regulated markets. Such a reform will spur private initiative in building consumer oriented market infrastructure in the country.

2.3.5.2 Contract Farming

Contract farming arrangements of different types have existed in various parts of the country for centuries for both subsistence and commercial crops. The commercial crops like sugarcane, cotton, tea, coffee etc. have always involved some forms of contract farming. Even in the case of some fruit crops and fisheries, contract farming arrangements, involving mainly the forward trading of commodities have been observed. However, in the wake of economic liberalization, the concept of contract farming in which national or multinational companies enter into contracts for marketing of the horticultural produce and also provide technologies and capital to contract farmers has gained importance.

According to this, bipartie agreements are made between the farmer and the company and the latter contributes directly to the management of the farm through input supply as well as technical guidance and also markets the produce. The main features of this type of contract farming are that selected crops are grown by farmers under a buy back agreement with an agency engaged in trading or processing. In such cases, the centralized processing and marketing agencies supply technology and resources, including planting materials and occasional crop supervision. Under such contracts, the farmer assumes the production related risks, which the price risk is transferred to the company. In some cases, the company also bears the production risk, depending on the stage of crop growth at which the contract is made. If the contract is made at flowering or fruiting stage, the company bears the production risks also. In any case, the company bears the entire costs of transaction and marketing. It is this variant of contract farming which is said to be one of the ways by which small farmers can participate in the production of high value crops like fruits, vegetables, flowers etc. and benefit from market led growth.

CHAPTER-III

CONCEPT, DEFINITIONS AND CLASSIFICATIONS

3.1. AGRICULTURAL PRICES

After an agricultural product leaves the farm-gate, it may pass through anyone of a number of different marketing and distribution channels before reaching the ultimate consumer. It may move directly to the consumer (if the producer himself sells at the farm-gate, at the roadside or in a local village market); it may be sold by the producer directly to a retailer, to an exporter, or to a manufacturer particularly production under contract); or the producer may sell directly to a government controlled official marketing board which will pay fixed prices that may have been determined well in advance of harvesting, for example. Alternatively, the producer may sell to a wholesaler who will then resell to any of the buyers mentioned above either directly or through other wholesalers or middlemen. All combinations are possible. In the same way, a farmer buying the requisites of agricultural production may deal directly with retailers, wholesalers, manufacturers or importers. Thus agricultural prices derive their meaning and significance from the stage of marketing to which they relate. They may, therefore, in accordance with the above, be prices received by farmers, wholesale prices, retail prices, or export prices (for produce sold); and import prices, wholesale prices, retail prices or prices actually paid by farmers (for the purchased means of production). It is because of the wide range of marketing methods which may operate in individual countries, and the consequent wide variety of price quotations available, that it has been found most appropriate to use the principle of farm-gate prices (actual or national) for the purposes of agricultural price statistics. This principle is dealt with in detail in the remainder of this chapter. It should be borne in mind, however, that if, in any country, the vast majority of sales of agricultural commodities, or purchases of requisites of production, are made through one single marketing system, then it may be more expedient to record prices at that marketing point and not attempt to work back to notional farm-gate prices by making estimated deductions or additions in respect of transport, etc., costs. Such a situation, however, is not likely to occur in many countries.

3.1.1 PRICES RECEIVED BY FARMERS (PRODUCER PRICES)

In line with the Handbook of Economic Accounts for Agriculture (provisional) and the deliberations at the regional seminars and conferences convened by the FAO

at which the subject of agricultural producer prices has been discussed, prices received by farmers for their produce are, in principle, the prices realized by them for that produce at the farm-gate. Thus, the costs of transporting agricultural produce from the farm to the market or to the first point of sale off-farm, and of selling it there (whether these activities are performed by the farmer himself or by specialized agents) are not, by definition, to be included in the farm-gate price. The cost of such activities, if included in the price realized at the market or the first point of sale must, therefore, be deducted from that price to arrive at the estimate of the farm-gate price. It can be argued that activities such as transportation and sale of farm produce are an integral part of the agricultural production activity and that the price quoted at the first point of sale off-farm should, therefore, be taken as the price received by the farmer. Against this view, it should be noted that the first point of sale may even be the retail market, as often happens in the case of perishables, particularly where cold storage facilities are either inadequate or non-existent. Inaccuracies will result if, in evaluating the total agricultural output, a part of it is valued at the farm-gate price, a part at the wholesale market price, a part at the retail market price and a part even at the export price. To avoid this, a single, uniform concept of price received by farmer must be defined and adhered to. The concept normally used is that of the price actually or notionally received at the farm-gate. For agricultural products for which actual farm-gate prices are not available, notional farm-gate prices must be estimated by deducting transportation charges, marketing expenses and taxes, etc., paid by the farmer per unit quantity from the appropriate wholesale or retail price.

3.1.2. WHOLESALE PRICES

After an agricultural product leaves the farm-gate, it may pass through one or even two wholesale markets and a chain of other ”middlemen” before reaching the retailer from whom the ultimate consumer buys it. Where two wholesale markets are involved, the first may be only an assembling market and may be called a primary wholesale market; and the second may be a distributing market, called a secondary market. Sometimes, one comes across a third category of wholesale market, viz., a terminal wholesale market, from where there is no further resale, as for example, a market from where the product is exported. It is not necessary that the functions of assembly, distribution and export should necessarily be performed by three separate wholesale markets; a single wholesale market may perform one, two or all three of these functions. An assembling wholesale market, as its name implies, is one where, by and large, the producer-sellers or their agents assemble their products and offer them for sale in bulk or large quantities. The wholesalers buy in this primary wholesale

market for further sale to local or nearby retailers, to exporters or to another set of wholesalers who would carry the products to other places or markets for resale to retailers there. A secondary or distributing wholesale market is one where the products are brought for sale largely by the wholesalers from the assembling markets. Small quantities are brought by the producer-sellers too. The agencies buying from the secondary wholesale market are the retailers, and also the exporters or bulk consumers. A wholesale market may thus be defined as a market situated somewhere between farm-gate and retail market, usually handling a large quantity of sales for a further stage of distribution of the commodity. **Wholesale price accordingly is the rate at which a relatively large transaction, generally for further sale, is effected.** Depending upon the extent to which the transportation charges and other expenses incidental to marketing are borne by the sellers and buyers in the wholesale market, and remembering also that the wholesalers include their profit margin in their price quotations, a wholesale price may take any of the following forms:

a) In a primary wholesale market, the wholesale price of a product may refer to the price at which the wholesale buyer makes purchases from the producer-seller or his agents. This price would differ from the price the producer-seller gets, depending upon whether the buyer or the seller bears the incidental charges; and

b) In a primary wholesale market, the wholesale price of a product may also refer to the price at which the wholesaler offers it for sale to the retailers, etc. This price should exceed the price in (a) above by the wholesaler's margin of profit.

c) In a secondary wholesale market, the wholesale price of a product may refer to the price at which the wholesaler sells it to the retailers, etc. This price should exceed the price in (b) above by transportation charges, incidental expenses and margin of profit.

3.1.2.1 HOW WHOLESALE PRICES ARE COLLECTED

Wholesale prices of selected crops are collected daily as well as on Fridays on a regular basis from the selected markets/centers spread all over the country by the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India as well as by the respective state government under the Market Intelligence Scheme.

The Directorate of Marketing and Inspection (DMI) also collects wholesale prices of some commodities and publishes these in their reports from time to time. The selected markets or centres represent important urban and rural markets in the producing and consuming areas, as well as from surplus, deficit and self-

supporting regions of the country. The variety and the quality of the products are also specified for the market for collection of price information. Modal price, which means the price at which most transactions take place during peak marketing period, is collected and compiled. The Directorate of Economics and Statistics obtains (a) Daily wholesale prices of food grains from 140 primary, secondary and terminal Markets; and (b) Weekly wholesale prices (Friday of the week) in respect of 130 agricultural commodities from 530 markets.

3.1.3 RETAIL PRICES

Retail prices are established in transactions in which quantities dealt with are relatively smaller than in wholesale transactions and in which the final consumers of the agricultural product participate as buyers. Retail prices of agricultural commodities are collected in most countries. Unlike farm-gate prices, they are available throughout the year. Retail prices are used in constructing consumer price indices, in undertaking studies into cost of living and levels of living, and in determining cost of living allowances for wage earners. If an agricultural producer sells his product in the retail market directly to consumers, the notional farm-gate price received by the producer is estimated by deducting transportation and marketing charges from the retail price. If, however, the product is brought for sale from a wholesale market, then deductions from the retail price must be made for transportation and marketing charges, and for margins of profit, at both wholesale and retail stages, to arrive at the notional price received by the farmer at the farm-gate.

3.1.3.1 HOW RETAIL PRICES ARE COLLECTED

The Labour Bureau, Ministry of Labour, Government of India has been entrusted with the task of collecting retail prices at the national level. The retail prices of few commodities are collected through the National Sample Survey Organization (NSSO) from a set of 422 villages for building up the consumer price index numbers. These index numbers for industrial workers and agricultural labourers are compiled and published for 15 States as well as on All-India basis. The Directorate of Economics and Statistics also collects daily retail prices of vegetables, fresh fruits, fish, livestock products and food grains from 90 centres and weekly retail prices of agricultural commodities from 215 centres. The commodities included for collection of retail prices are ‘food articles’ like cereals, pulses, vegetables, edible oils, milk, ghee, sugar, salt, tea, coffee, gur, spices, meat and fish; ‘fuel and light’ like kerosene, match boxes and dung cake; and ‘others’ like clothing, footwear, tobacco, supari, pan, bidies, country liquor, soap, tailoring and barber charges. Data on all the three types of prices are available in

raw form and are processed as per the need with the help of various statistical techniques.

3.1.3.2 CURRENT STATUS

The Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) is responsible for the collection, compilation and dissemination of the price data of agricultural commodities. The price data are collected in terms of (a) weekly and daily wholesales prices, (b) retail prices of essential commodities, and (c) farm harvest prices.

Weekly wholesale prices cover 140 agricultural commodities from 620 markets. The data are collected by price reporters appointed by the State Governments or Agricultural Marketing Committees and forwarded to the State Directorates of Economics and Statistics (DESs). Daily wholesale prices cover 12 commodities (rice, paddy, wheat, *jowar, bajra, ragi, maize,* barley, gram, sugar, *gur* and *khandsari*) from 617 market centres. On receipt of the prices from various State agencies, the Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) forwards the same to the Economic Adviser, Ministry of Commerce and Industry for monitoring wholesale prices. Wholesale prices of certain important cereals, gram and sugar are also sent to the Cabinet Secretary on alternate days for direct monitoring.

The detail instructions for collection and reporting of daily and weekly Wholesale and Retail prices of Agricultural Commodities in the prescribed proformae are given in the Appendix.

Retail prices of essential commodities are collected on a weekly basis from 83 market centres in respect of 88 commodities (49 food and 39 non-food) by the staff of the State Market Intelligence Units, State Directorates of Economics and Statistics (DESs) and State Department of Food and Civil Supplies. Flow of data from these agencies is not considered satisfactory.

Farm Harvest Prices are collected by the field staff of the State revenue departments for 31 commodities at the end of each crop season and published by the DESMOA. It brings out a periodical publication entitled “Farm Harvest Prices of Principal Crops in India”.

3.1.3.3 DEFICIENCIES

Wholesale prices data are received in the DESMOA mostly through postal mail, which entails delay. Data on retail prices of the essential commodities are received with a time lag of about five to six weeks and the response rate is only of the order of 60 per cent. Supply of data through post is stated to be the reason for delay. The State Governments generally use part time reporters who

are not fully conversant with the connotations of the different terms used in price data collection and they do not pay adequate attention to the reporting work. The main deficiency in the collection of price data arises due to large non-response. There is no coordination among the State agencies concerned nor an adequate supervisory check over price collection.

3.1.4 EXPORT PRICES

Export prices are determined in export markets for products intended for delivery outside the customs boundary of the country. Export markets are also described as terminal wholesale markets, where the valuation of the product is made as free-on-rail, or free-alongside-ship or free-on-board, lf the producer-seller sells his product in such markets, the notional farm-gate price is worked backwards by deducting from the export price the transportation charges and all other incidental expenses incurred by him.

3.1.5 PRICES PAID BY FARMERS

The concept of prices paid by a farmer is the counterpart of prices received by a farmer and covers all prices paid by him as he participates in the transaction of goods and services in his capacity as a buyer of the means of agricultural production. Just as the price received by a farmer for his produce is the price realized by him for that produce at his farm-gate, so the price paid by a farmer for an agricultural production requisite is, in principle, the price paid by him for that item at his farm-gate or village site. If a requisite of agricultural production is bought off-farm, say, from a factory or a government store, the expenses incurred in transporting it to the farm must be added to arrive at the estimate of the price at the farm-gate. If, however, it is purchased from a local blacksmith or tradesman in the village, then the purchase price can be taken as the farm-gate price paid by the farmer.

3.1.6 CONCEPTUAL DISTINCTION BETWEEN PRICES RECEIVED AND PRICES PAID BY FARMERS

Both prices received by farmers and prices paid by farmers have the same common locational reference, that is, the farm-gate, but there is an important distinction as to the stage of marketing to which the two sets of prices relate when first collected. In most instances, the farmer sells wholesale but buys retail. Therefore, farm-gate prices received by farmers are usually derived from the average wholesale price at which they dispose of their produce; while farm-gate prices paid by farmers are, in general, calculated from the average retail price at which they make purchases.

3.2 UTILISATION OF PRICES RECEIVED AND PRICES PAID

As has already been indicated, prices received by farmers are used in preparing economic accounts for agriculture, and in the context of policies related to output price support, farm incomes, resource allocation to different commodities, etc. Prices paid by farmers for materials used in current agricultural production, for factor services and for investment goods are also needed for the agricultural accounts; in addition, they are used for constructing price deflator series to calculate value aggregates consistent with the national accounting framework. The two sets of prices are also converted into index numbers which can indicate the parity between prices received and prices paid by farmers and can act as warning signals to public agencies to consider either raising the output prices for agriculture or lowering the prices of agricultural inputs (or vice versa), in order to correct imbalances developing between the two. So important are parity index numbers to policy makers, particularly in countries where agriculture represents a significant proportion of the national economy, that the task of collection and compilation of agricultural prices is accorded high priority in national programmes for price statistics.

3.3 FOOD CORPORATION OF INDIA (FCI)

An efficient management of the food economy with a view to ensuring an equitable distribution of food grains at reasonable prices to the vulnerable sections of society is essential in the present socio-economic environment of the country. Food Corporation of India (FCI) was born on January 01, 1965. It has initially served only four States in the southern part of the country. Later on it extended its services throughout the country. The main functions of FCI are:

a) To procure a sizeable portion of the marketable surplus of food grains and other agricultural commodities at incentive prices from the farmers on behalf of the Central and State Governments.

b) To make timely releases of the stocks through the public distribution system (fair price shops and controlled item shops) so that consumer prices may not rise unusually and unnecessarily.

c) To minimize seasonal price fluctuations and inter-regional price variations in agricultural commodities by establishing a purchasing and distribution network and

d) To build up a sizeable buffer stock of food grains to meet the situations such that may arise as a result of shortage in internal procurement and imports.

3.4 AGRICULTURAL MARKETING

Agricultural marketing is the study of all the activities, agencies and policies involved in the procurement of farm inputs by the farmers and the movement of agricultural products from the farmers to the consumers. It includes organization of agricultural raw materials supply to processing industries, the assessment of demand for farm inputs and raw materials. From the producer point of view, it is important to know whether the prices prevailing in the market enable him to continue to produce or not, and what he should produce and where and at what time he should sell it. Large-scale production requires skill to sell it at remunerative price. A consumer looks at marketing from the point of view of goods and the prices at which they are offered. Middlemen try to increase his profit margin by discharging various marketing functions. Agricultural marketing system can be analyzed by looking at the farmers' marketing practices, marketing channels and the structure of markets. The marketing system and farmers' marketing practices have undergone considerable changes during the last 50 years owing to the expansion of the size of the market, increased availability of infrastructure and changes in the pattern of demand and consequently, introduction of new methods of processing, packaging, storage and transportation.

Farmers' marketing practices and evolution of marketing system are guided by the shelf-life of the commodity. All agricultural products do not have the same shelf-life. Some products are perishable, some are less and some are even durable. Cotton and jute versus fruits, vegetables and milk are contrasting examples of agricultural products having long and short shelf-life. In between these two extremes are other agricultural commodities. Owing to the increase in marketed surplus and need to make these available in the off-season and at places other than production points, functions of storage, processing, transportation, packaging and grading are required to be performed either by the farmers or by market functionaries.

3.4.1 AGRICULTURAL MARKET INTELLIGENCE

3.4.1.1 CURRENT STATUS

On the recommendation of the Agricultural Prices Enquiry Committee, (1954), the Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) set up 14 Market Intelligence Units (MIU) in the capitals of Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. **The market intelligence units are intended to help the DESMOA in the formulation, implementation and review of the agricultural price policy relating to procurement, marketing, storage, transportation, import, export and credit, etc.** The units furnish regular reports on market arrivals, off-takes, stocks, crop prospects, and outlook of market prices. They are also required to give their appraisal of production of various kharif and rabi crops at regular intervals to help preparation of crop forecasts. Though the data to be supplied by the market intelligence units are of great utility, the units have ceased to be effective in discharging their functions mainly due to a lack of proper direction and control of their activities. Over the years, the staff strength of the units has been considerably reduced resulting in even worse performance.

3.4.2 MARKETABLE SURPLUS AND POST-HARVEST LOSSES

3.4.2.1 CURRENT STATUS

The Directorate of Marketing and Inspection (DMI), Ministry of Agriculture has been conducting surveys on marketable surplus and post-harvest losses of food grains. The surveys provide information on marketable surplus ratios as well as on a variety of other important items like farm retention for family consumption, for seed, feed and wastage, etc. The present surveys collect information on these parameters using the methodology approved by a Technical Committee constituted for the purpose under the Chairmanship of the Agricultural Marketing Adviser to the Government of India. The surveys cover the following crops: Paddy, Wheat, Jowar, Bajra, Maize, Ragi, Barley, Red Gram, Gram, Green Gram, Black Gram and Lentil. **The sampling methodology used is that of stratified multistage random sampling and consists in selecting 20 per cent of the districts in a State, 15 villages in each selected district and 10 cultivator households from each selected village with a maximum of 100 districts, 1,500 villages and 15,000 households**.

The fieldwork of the surveys is conducted by designated State Agencies through field investigators employed by them under the overall supervision of the

Directorate of Marketing and Inspection. The data so collected are analysed with the support of IASRI and published. The information collected through these surveys is used in the National Accounts Statistics, and Ministry of Commerce and Industry in fixing the weights for certain agricultural commodities while compiling the all-India Index Number of Wholesale Prices in addition to its uses in planning and procurement operations and market development programmes.

3.4.3 MARKETABLE SURPLUS

The marketable surplus is that quantity of the produce, which can be made available to the non-farm population of the country. The marketable surplus is the residual left with the farmers after meeting his family consumption, farm requirements, social and religions payments. This may be expressed as:

$$MS = P - C$$

where,
MS = Marketable Surplus;
P = Total Production; and
C = Total requirement of farm family.

The marketable surplus differs from region to region and within the same region, from crop to crop. It also varies from farm to farm. On a particular farm, the quantity of marketable surplus depends on the following factors.

1) Size of holding
2) Production of Commodity
3) Price of the Commodity
4) Size of family and
5) Requirements of seeds and feed

3.4.4 MARKETED SURPLUS

Marketed surplus is that quantity of the produce, which the farmer actually sells in the market, irrespective of his requirements for family consumption, farm requirements, social and religious payments. The marketed surplus may be more, less or equal to the marketable surplus. Marketed surplus is more than the marketable surplus when the farmer retains a smaller quantity of crop than his actual family and farm requirements. This is true especially of small and marginal farmers whose need for cash is immediate. The situation of selling more than marketable surplus is termed as distress or forced sale. Such farmers generally buy the produce from the market in a later period to meet their requirements. The marketed surplus is less than the marketable surplus when the farmer retains some of the surplus produce. This situation holds well under:

a) Large farmers generally sell less than the marketable surplus because of their better retention capacity. They retain extra produce in the hope that they would get a higher price in the later period. Sometimes farmers retain the produce even up to the next production season

b) Farmer may substitute one crop for another crop either for family consumption purpose or other farm requirements because of the variation in prices. With the fall in the price of the crop relative to a competing crop, farmer may consume more of the first and less of the second crop. The marketed surplus may be equal to the marketable surplus when the farmer neither retains more nor less than his requirement. This holds true for perishable commodities and agricultural raw materials like cotton, jute etc.

Given the average size of farms and consequently lower farm output, the farmers marketing practices are determined by the surplus available with the individual farmer. The market structure and conduct on the other hand determine the incentives for the farmers to sell their surpluses. Also, the market structure and conduct depend on the quantity of surpluses available to be handled by the system. In this context, the estimates of marketed surplus assume critical importance both for the farmers as well as for the marketing system. Volume of marketed surplus also affects the supplies of food for the non-farm population and fibre and raw material for the agro-industry and for exports. Naturally, the estimation of marketed surplus has attracted the attention of researches as well as the policy-makers.

The marketed surplus and marketable surplus in the context of small farm agriculture are not the same. While the marketable surplus is the difference between farm output and family and farm needs, the marketed surplus is the actual quantity marketed by the farmers. The marketed surplus may be even higher than the marketable surplus. This is what is called distress sale, which is particularly true in foodgrains and other food items on marginal and some small farms.

3.4.5 ROLE OF GOVERNMENT IN PROMOTING AGRICULTURAL MARKETING

In the interest of public welfare, the government intervenes in the marketing system. The extent of intervention depends on the objectives of the government and the extent of defects and malpractices prevailing in the system. Government intervention may be direct or indirect, and it may take anyone or a combination of the' following forms:

1. Framing of rules and regulations for the protection of the interest of some sections of the population. This may include restriction on activities of traders, licensing and market regulation.
2. Promotional activities such as storage and warehousing, transportation and communication facilities, credit facility, grading and standardization, and encouragement of co-operative marketing.
3. Administration of prices at different levels of marketing guaranteeing minimum support prices to producers, providing commodities at fair prices to consumers, and fixing the rates of commission charged by commission agents.
4. Influencing supply and demand by import, export, internal procurement and distribution.

3.5 MARKETING CHANNELS AND FUNCTIONARIES

Agricultural commodities move in the marketing chain through different channels. The channels are distinguished from each other on the basis of market functionaries involved in carrying the produce the farmers to the ultimate consumers. The length of the marketing channels depends on the size of market, perishability of the commodity and the nature of demand at the consumer level (Raju and Von Oppen, 1980).

The marketing channels for agricultural commodities in general can be divided into following four broad groups:

1. Direct to consumers
2. Through wholesalers and retailers
3. Through public agencies or cooperatives, and
4. Through processors

Main Features

The quantities moving in these sets of channels vary from commodity to commodity and state to state. But some general features of the importance of these channels can be summarized as follows:

i) The proportion of marketed surplus going directly from the farmers to consumers continues to be small (around one or two per cent) and has decreased over the years due to the increase in marketed surplus, shifting of processing from consumer to the processors and increase in the demand for packed and branded products. As the price received by the farmer in this channel is higher (both in

absolute term and as a proportion of consumer's price) than others, the government is encouraging direct marketing by the farmers through such schemes as **apni mandi, rythu bazaar and uzhavar sandies**.

ii) The private trade, despite government intervention, has continued to dominate the trade in agricultural commodities. The quantity of agricultural producers handled by the government agencies has been about 10 per cent of the total value of marketed surplus. Further, around 10 per cent of the marketed surplus was handled by the producers or consumers cooperatives. Thus, nearly, 80 per cent of the marketed surplus of agricultural products in India is handled by private sector.

iii) The main functionaries in the marketing channel for agricultural commodities include village traders, primary and secondary wholesalers, commission agents, processors and retailers including vendors. Public agencies, farmers cooperatives and consumers' organizations also perform many of these marketing functions.

iv) Marketing channels for various cereals in India are more or less similar.

3.5.1 COMMON MARKETING CHANNELS IDENTIFIED FOR WHEAT

a) Farmer-consumer

b) Farmer-village trader-consumer

c) Farmer-wholesaler-retailer-consumer

d) Farmer-village trader-wholesaler-retailer-consumer

e) Farmer-wholesaler-wheat miller (flour-mill) - retailer of flour-consumer

f) Farmer-government agency (FCI)-wholesaler or flour miller-retailer-consumer

g) Farmer-government agency (FCI)-fair price shop (FPS)-consumer

Majority of the States has enacted the Agricultural Produce Market Acts. The States or Union Territories yet to enact their own legislation are Kerala, Manipur, Meghalaya, Nagaland, Sikkim, A&N Islands, Dadra & Nagar Haveli, Daman and Diu and Lakhswadeep. Infrastructure in the regulated markets has been created as per the need in terms of volume of market arrivals. The regulated market with larger arrivals of produce have been designated as

principal market yards and those with lower arrivals and turn over as sub-market yards. Each market yard is attached to one or the other principal market to minimize the establishment costs. On the whole, these are in the ratio of 1:2 i.e., on an average, each principal yard has two sub-yards.

The establishment of regulated markets helped in creating orderly and transparent marketing conditions in primary assembling markets. Further, increase in the number of regulated market yards, from a meagre 286 at the time of Independence to 7,161 in 2001, helped in increasing the access of farmers to such orderly market places. This development, coupled with construction of approach roads and roads network linking primary markets with secondary wholesale and terminal markets, also improved the process of price discovery at the primary market level where most of the small farmers dispose off their produce. Increase in physical access of farmers to market places, apart from reducing transaction costs of farmers, helped small farmers more who have low-marketed surplus and could not transport their surpluses to long distances. Though precise data on the proportion of benefits of regulated markets going to the small and marginal farmers are not available, there is evidence to show that expansion of such physical infrastructure in rural areas has helped small and marginal farmers more by increasing their excess to the markets (Ahmed, 1992) (ANNEXURE-V).

The number of regulated markets is relatively more in geographically larger States like Andhra Pradesh, Bihar, Maharashtra, Madhya Pradesh, Uttar Pradesh and West Bengal. These six states together account for 61 per cent of total regulated markets in the country. The Punjab and Haryana States though geographically small, have a large number of regulated markets owing to sizable quantity of surpluses of rice and wheat. These two states account for 13.4 per cent of the total regulated markets in the country (ANNEXURE-VI).

The number of commodities brought under the ambit of regulation varies from state to state. However, these include almost all the important agricultural commodities produced in that area/state. The commodities notified for this purpose generally include food grains (cereals and pulses), oilseeds and oils, fibre crops, fruits, vegetables, livestock products, seed spices, forest products, dry fruits, narcotic crops, sugar, gur, fodder and grasses. The state governments, by notification, add or delete the commodities from the list of regulations from time to time (ANNEXURE-VII).

3.5.2 MARKET FUNCTIONARIES SUPERVISION

The officials of the market committee supervise the day-to-day functioning of regulated markets i.e. the Secretary, auction-clerks and other staff. The administrative decisions are taken by the nominated/ elected market committee. The market committee consists of representatives of all sections i.e. farmers, traders, co-operative marketing societies, co-operative or commercial banks, autonomous bodies (Panchayat Samithi and Municipal Board of the area) and government officials. The number of farmer members is more than that of other interest groups. The sources of funds to market committee for meeting administrative expenditure, to create additional facilities in the market area are market fee, license fee/renewal fee and subsidy from the government (ANNEXURE-VIII & ANNEXURE-IX).

Settlement of Disputes: Disputes arising between producer-seller and traders by reason of the quality of the produce, sub-committee of the market committee solves account and deductions of unauthorized charges. This avoids legal complications and unnecessary expenditure.

3.5.3 STATE AGRICULTURAL MARKETING BOARDS

These were established to supervise and provide guidance to market committees. The main functions of the board are:

i) To carry out the training of officers and staff, create facilities for grading and standardization, construct market road and approach roads to the markets, construct market yard and sub-yard, establish and maintain the Board office and others as specified;

ii) To tender advice to the government on the functioning of market committee and on improvement in agricultural marketing as and when referred to, and

iii) To frame bye-laws, help in the functioning of market committees and supervise their operations.

Council of State Agricultural Marketing Boards (COSAMB)

The COSAMB, an apex body of the State Marketing Boards was established in February 1988. The need for such a body was felt to co-ordinate the activities of State Marketing Boards, especially those connected with credit mobilization, central assistance for market development and some common problems.

Co-operative Markets

The efforts of the government to improve the marketing system of agricultural commodities have been only partially successful. The progress of regulated

markets is not uniform in all areas. So the establishment of co-operative marketing societies is another step taken to overcome the problems arising out of the present system of marketing agricultural produce. A cooperative sales association is a voluntary business organization established by its member patrons to market farm products collectively for their direct benefit. It is governed by democratic principles, and savings are apportioned among members on the basis of their patronage.

The main functions of co-operative marketing societies are:

i) To market the produce of the members of the society at fair prices;

ii) To safeguard the members from excessive marketing costs and malpractices.

iii) To make credit facilities available to the members against the security of the produce brought for sale.

iv) To make arrangements for the scientific storage of the member's produce. To provide the facilities of grading and market information which may help them to get a good price for their produce;

v) To introduce the system of pooling so as to acquire a better bargaining power than the individual members having a small quantity of produce for marketing purposes.

vi) To arrange for the export of the produce of the members so that they may get better returns.

vii) To act as an agent of the government for the procurement of food grains and for the implementation of the price support policies.

viii) To make arrangement for the transport of the produce of the members from the villages to the market on collective basis and bring out a reduction in the cost of transportation. .

ix) To arrange for the supply of inputs required by the farmers such as improved seeds, fertilizers, insecticides and pesticides.

Types of Cooperative Marketing Societies: On the basis of the commodities dealt in by them, the cooperative marketing societies may be grouped as

i) Single commodity marketing societies e.g. Sugarcane Cooperative Marketing Society, Cotton Cooperative Marketing Society, Milk Cooperative Marketing Society.

ii) Multi-commodity cooperative marketing societies.

iii) Multi-purpose, Multi-commodity cooperative marketing societies.

Structure: The cooperative marketing societies have both two-tier and three-tier structures. Two-tier structure / Three-tier structure State level marketing Federation Primary co-operative marketing District marketing societies (Taluk Level) Taluk Primary Cooperative marketing societies. Three-tier structure is found in Assam, Bihar, Kerala, Madhya Pradesh, Karnataka, Orissa, Rajasthan and West Bengal. In all other States, two-tier structure is functioning.

Two types of members in co-operative marketing societies

a) Ordinary Members. Individual Farmers, Co-operative farming societies and service societies of the area may become the ordinary members of the co-operative marketing society. They have the right to participate in deliberations of the society share in profits and participate in decision-making process.

b) Nominated members. Traders with whom the society establishes business dealings are enrolled as nominated members. Nominated members do not have the right to participate in decision-making and share in profits.

Sources of Finance

i) **Share Capital:** Farmer members and state government subscribe to the share capital of the marketing societies.

ii) **Loans:** The societies can avail loans from the Central and State cooperative banks and Commercial banks by pledging and Agricultural Marketing hypothecation and also by advancing credit to the extent of 50 per cent of owned capital.

iii) **Subsidy:** Societies get subsidy from the government for purchase of grading machines and transport vehicles to meet their initial heavy expenditure. They also get a subsidy for a part of the cost of the managerial staff for a period of 3 years to make them viable.

Suggestions for strengthening of Cooperative Marketing Societies

i) The area of operation of societies should be large enough so that they may have sufficient business and become viable.

ii) Storage facilities, transport facilities, accommodation and drinking facilities should be strengthened in the societies.

iii) Cooperative feeling among members should be inculcated by proper education and adequate representation should be given to small and marginal farmers in their organizational set up.

iv) In selection of officials of cooperative marketing societies weight age should be given to business experience and qualification. After selection proper thinking should be given.

3.5.4 MARKET FUNCTIONS

It includes the services and functions of different specialized institutions and middlemen. Different commodities have special marketing problems therefore the results of the study of one commodity may not be applicable to other commodity. Also the same commodity will have different problems in different regions. Various approaches have been suggested and used to study marketing problems. These are functional, institutional, commodity and behavioral approaches.

i) Functional Approach: A marketing function is an act, operation on service by which the original producer and the final consumer are linked together. Marketing consists of many operations and an operation may be performed several times in the marketing process. The functional approach splits down the field of marketing into a few functions. This method analyses in detail the specific functions of marketing such as buying, selling, transportation, storage, standardization, grading, financing, risk taking and marketing research. The advantages of the functional approach in the study of agricultural marketing problems are:

1. We can make inter functional comparison of the marketing costs.
2. Inter agency comparison of the cost of performing a marketing function can be made.
3. Inter commodity comparison of cost of performing the various functions can also be made.

The demerits of this approach are:

i) An undue emphasis on functions of marketing does not permit one to know how these functions are applied to specific business operations.

ii) The marketing functions are so numerous that it is difficult to eliminate the unnecessary from the necessary functions.

ii) Institutional approach: To study of marketing problems implies a study of agencies and institutions, which perform various functions in the marketing process. The nature and character of various middlemen and other related agencies involved in the movement of the product are studied. The human

element receives the primary emphasis. The agencies and institution, which perform various marketing functions, are individuals, partnership, corporation, cooperatives, or government organizations. Agencies and Institution Individual Partnership Corporations Cooperatives Government Taluk organization Commission, FCI, Co-operative, Coffee Board, Marketing Tea Board, Societies, NAFED, Wholesaler, APEDA, Retailer MPEDA. These agencies vary widely in size and ownership. They get their reward in the form of marketing margins. This approach helps us to find answers to the problems of 'who does what' in the marketing process, whether the Marketing and Markets margin of the agency is commensurate with the services rendered, which government regulations are necessary so that their unlawful activities may be curbed, and how to simplify the procedural system. The serious limitations of this method are that it leaves one with an inadequate understanding of marketing. Since the material presented is often largely descriptive and does not show effectively the inter-relations of the institutions studied.

iii) Commodity Approach: Under this approach, the commodity is the pivot around which all institutional and functional details are studied. The problems of marketing differ from commodity to commodity mainly because of the seasonality of production, the variations in its handling, storage, processing and the number of middlemen involved in them. For example, potatoes are stored in cold storage, while wheat is stored in godowns. Paddy, pulses and oil seeds are processed at miller's level. The main advantage of this approach is that it is concrete since all work relates to a specific product but it is a time consuming process and often results in excessive repetitions.

iv) Behavioural System Approach: This approach refers to the study of behaviour of firms, institutions and organizations, which exist in the marketing system for different commodities. The marketing process is continually changing in its organization and functional combinations. An understanding of the behaviour of the individuals is essential if changes in the behaviour and functioning of the system are to be predicted. Under the approaches to study of marketing we have seen the marketing functions which can be broadly classified as:

1. Functions of exchange which includes selling and buying.
2. Functions of physical supply, which consists of transportation, storage and warehousing.
3. Facilitating functions: comprise of financing, risk taking, standardization and market information Functions of Exchange the process of passing goods into the consumer's hands is called function of exchange. It

includes buying, assembling and selling. Buying and Assembling Buying is the first step in the process of marketing. Buying involves careful planning and needs setting up of policies and procedures. The following points are considered before a particular product is bought. What to buy (Product)?

a) When and how much to buy? (Time and quantity).

b) From whom and where to buy? (Source).

c) On what terms and conditions and prices? (Price).

Assembling starts after the goods have already been purchased. It is a function separate from buying. Buying involves transfer of ownership of the goods where as assembling involves creating and maintaining of stock of goods purchased from different sources. The problems encountered in assembling of agricultural products are:

1. Seasonal production
2. Difficulties in controlling quantity and quality
3. Non- availability of information about sources of supply
4. Low quantity of marketable surplus.

v) Selling Function: The function of marketing is to ensure that the right product is made available at the right place, in the right quantity, at the right price, at the right time and under the right impressions to the consumer. All these righteousness is made possible by performing the sales function. Through selling function desires are created hence it is called as creative function. Selling is also often referred to as distribution function because distribution makes good move from the place of production to the place of consumption. This is achieved through selling function. Thus buying, assembling and selling functions are directly concerned with change in the ownership of goods. They are complementary in nature. For every sale there is a purchase and for every purchase there must be sale. And, assembling precedes a sale and assembling follows buying. Forms of sales of agricultural produce in India are:

1. Under Cover: Under this system buyer or his representative indicates the price he is prepared to pay by clasping the hand of seller's agent under cover of cloth and pressing or manipulating the fingers e.g. cattle sale.
2. By open auction: The broker invites bids for the produce and to the highest bidder is sold the Produce. e.g. vegetables by commission agents.
3. By private agreement.
4. By quoting on samples.

5. Dara Sales: The heaps of grain of different quantities are sold at a flat price.
6. Close tender system: In regulated markets.
7. Moghum Sale: The sale is based on the verbal understanding between buyers and sellers without mentioning the rate as it is understood that buyer will pay the prevailing rate e.g. Flowers and vegetables by Commission agents.

vi) Functions of physical supply/distribution: It includes determining warehouse locations (establishing a material handling system, maintaining an inventory control system, establishing procedures for Marketing and Markets processing orders) and selecting mode of transportation. Transportation and storage account for the major share in the total distribution cost. Transportation it is a necessary function of marketing because the most of the markets are geographically separated from the areas of production. It enhances the economic value through creation of place utility. The important functions of transport are:

1. It helps in the growth of industries whose products require quick marketing e.g. vegetables, flowers, milk and fish.
2. It increases the demand for goods through widening of market
3. It creates place utility. As such transportation bridges the gap between production and consumption centers.
4. By virtue of improvement in the speed of transport it offers time utility to products.
5. It helps in stabilization of prices by moving commodities from surplus area to deficit area.
6. Ensures even flow of goods into the hands of consumers.
7. It enables to consumers to enjoy the benefits of many goods not produced locally.
8. Transport intensifies competition, which, in turn, reduces prices. Prices are also reduced because of the facilities offered by transport for large-scale production. Classification of transport broadly, the various modes of transport fall under the three categories: Land, Water and Air. These are further classified on the basis of the vehicles used.

Road Transport

Merits: It is cheap, safe and flexible.

Demerits: It has got limited carrying capacity, slow speed, and unstable rates.

Rail Transport

Merits: Most suitable for heavy and bulky commodities. Long distance is quickly covered, cheap, all weather friend transport,

Demerits: Inflexibility, non-suitable for local transport and lesser accessibility.

Water Transport

Merits: Cheapest means of transport, high carrying capacity, creator of international trade and especially suitable for certain areas (forest products).

Demerits: Low speed, seasonal difficulties, longer journey required, international and political problems and limited area of operation.

Agricultural Marketing Air transport

Merits: Rapid speed, no barriers and boon to perishable commodities.
Demerits: High rate, low carrying capacity, dependence on climatic conditions and high rate of accidents.

3.5.5 MARKET CLASSIFICATION

The word market comes from the Latin word "marcatus" which means merchandise or trade or a place where business is conducted. The market, in economic sense, refers not to a place but to a commodity or commodities, and buyers and sellers are in free intercourse with one another. Components of a market for a market to exist, certain conditions must be satisfied. These conditions should be both necessary and sufficient. They may also be termed as the components of a market.

1. The existence of a goods for transactions (Physical existence is, however, not necessary).
2. The existence of buyers and sellers.
3. Trading Operations between buyers and sellers;
4. Geographical demarcation of area such as place, region, country or the whole world.

The existence of a perfect competition or uniform price is not necessary. **Classification of markets:** Markets may be classified on the basis of dimensions like area, time, commodities, volume and competition.

1. On the basis of area: On the basis of area from which buyers and sellers usually come for transactions, markets

a) **Local or Village markets:** A market in which the buying and selling activities are confined among the buyers and sellers drawn from the same village or nearby villages. The village market exists mostly for perishable commodities.

b) **Regional Markets:** A market in which buyers and sellers for a commodity are drawn from a longer area than the local markets. Regional markets in India usually exist for food

c) **National Markets:** A market in which buyers and sellers are at the national level.

d) **International Market:** A market in which the buyers and sellers are drawn from the entire world. These are the biggest markets from the area point of view. These markets exist in the commodities, which have a worldwide demand and or supply such as coffee, machinery, gold, silver etc. The storage facility, transportation preservation and processing techniques used can enhance the area dimension of market for a commodity. e.g. mushroom local to wider area by dehydration; milk -pasteurization enhances the area dimension from local to regional.

2. On the basis of time span: Markets on the basis of time span can be grouped as follows:

a) Short period Markets: The markets, which are held only for a few hours are called short period markets. The products dealt with in these markets are of a highly perishable nature, such as fish, vegetables, milk and flowers.

b) Long-period Markets: These markets are held for a longer period than the short period markets. The commodities traded in these markets are less perishable and can be stored for some time e.g. food grains and oil seeds. The prices are governed both by the supply and demand forces.

c) Secular-Markets: These are markets of a permanent nature. The commodities traded in these markets are durable in nature and can be stored for many years. Example is markets for machinery and manufactured goods.

3. Classifications of markets based on commodities: It includes two aspects

a) Number of commodities and

b) Nature of commodities.

a) **Number of Commodities:** A market may be general or specialized on the basis of the number of commodities in which transactions are completed.

i) **General Markets:** A market in which all types of commodities, such as food grains, oil seeds, fiber crops, gur etc. are bought and sold is known as general markets. These markets deal in a large number of commodities.

ii) **Specialized Markets:** A market in which transactions take place only is one or two commodities are known as specialized market. For every group of commodities, separate markets exist. The examples are food grain markets, vegetable market, wool market and cotton market.

b) **Nature of Commodities:** On the basis of the type of goods dealt in markets may be classified in to the following categories.

i) **Commodity Markets:** A market which deals in goods and raw materials such as wheat, barley, cotton, fertilizer seed, gold etc. are formed as commodity markets.

ii) On the basis of volume of transactions there are two types of markets on the basis of volume of transactions at a time:

a) **Whole Sale Markets:** A wholesale market is one in which commodities are bought and sold in large lots or in bulk. Transaction in these markets takes place mainly between traders.

b) **Retail Markets:** A retail market is one in which commodities are bought and sold to the consumers as per their requirements. Transactions in these markets take place between retailers and consumers. The retailers purchase in wholesale markets and sell in small lots to the consumers. These markets are very near to the consumers.

iii) **On the basis of degree of competition:** On the basis of competition, markets may be classified into the following categories.

a) **Perfect Markets:** A perfect market is one in which the following conditions hold good.

1. There are a large number of buyers and sellers.
2. All the buyers and sellers in the market have perfect knowledge of demand, supply and prices.

3. Prices at anyone time are uniform over a geographical area, plus or minus the cost of getting supplies from surplus to deficit areas.
4. The prices are uniform at anyone place, over periods of time, plus or minus the cost of storage from one period to another.
5. The prices of different forms of a product are uniform plus or minus the cost of converting the product from one form to another.

b) **Imperfect Markets:** The markets in which the conditions of perfect competition are lacking are characterized as imperfect markets. The following situations, each based on the degree of imperfect, may be identified.

i) **Monopoly Market:** Monopoly is a market situation in which there is only one seller of a commodity. He exercises sole control over the quantity or price of the commodity. e.g. Railways.

ii) **Duopoly Market:** A duopoly market is one, which has only two sellers of a commodity, e.g. two retailers in a village.

iii) **Oligopoly Market:** A market in which there are more than two but still a few sellers of a commodity is termed as an oligopoly market e.g. different airlines operating in our country.

iv) **Monopolistic Competition:** When a large number of sellers deal in heterogeneous and differentiated form of a commodity, the situation is called monopolistic competition. e.g. Tea and Coffee by different companies, pump sets, fertilizers etc.

3.5.6 MARKET MARGINS

The Directorate of Marketing and Inspection (DMI) has also estimated costs and margins of a number of agricultural commodities. The DMI studies revealed that costs and margins account for 30 to 35 per cent of consumer's price in foodgrains, 45 to 55 per cent in fruits and vegetables and 12 to 36 per cent in oilseed crops. The results further reveal that the costs were higher when farmers adopted private channels in marketing of surplus produce compared to the institutional channels (Bhatia, 1996).

The gross marketing margins in marketing of agricultural products have also been worked out from National Accounts Statistics (Acharya, 1998). In this

approach, difference between the total consumer expenditure on a particular farm product and the value of the output at the farm level has been used to estimate gross marketing margin. Based on a aggregate accounting, the gross marketing margins (GMM) as percentage of consumer's price is 19.2 in cereals, 7.2 in oilseeds, 32.9 in fruits and vegetables, 6.7 in milk and milk products, 37.2 in sugarcane/sugar with an overall average of 19.3 per cent for all agricultural commodities.

The marketing efficiency can be increased by reducing costs and margins for given level of marketing functions. Obviously this can be achieved by (i) reducing losses during storage, transportation and handling by providing scientific know-how and facilities for these activities to farmers; (ii) establishing farm-retail outlet linkages; (iii) establishing retail chains/supermarkets to achieve scale economies; and (iv) establishing farmer-processor linkages (backward and forward integration) by organization of marketing on cooperative lines. The APMCs should take initiative in establishing such linkages on the basis of mobilize, organize, operate and transfer (MOOT). It may be mentioned here that in developed countries like United Kingdom, farmer's cooperatives handle 80 per cent milk, 54 per cent oilseeds, 40 per cent peas, 36 to 80 per cent fruits and 27 per cent cereals (Bawcutt 1996).

3.6 MAKING MARKETING INFORMATION SERVICES RELEVANT TO FARMERS

Accuracy, availability, **applicability** and **analysis** are the four "A's" of market information. If MIS are to have any meaning for farmers the information they provide must be accurate and farmers must understand to which product, quality, etc. the prices refer. Further, even if prices are completely accurate, they are of much use if they are only available to farmers too late for them to use effectively. I will spend most of this presentation looking at ways of quickly disseminating information to farmers, both now and in the future as the possibilities offered by new technology open up. Thirdly, farmers need to be able to apply the accurate information made available to them. This requires knowledge of how to convert prices they receive from the MIS into a realistic price at their local market or farm gate. Finally, farmers need long-term data, which has been analyzed in such a way that they can make decisions about when to plant and harvest and what new crops to diversify into.

3.6.1 ACCURACY

Providing accurate information requires attention to a lot of different issues. FAO has a publication on how to set up an MIS and this goes into considerable detail about how to ensure prices are accurate.. MIS need to ensure that there is

agreement on the variety of each product. There were 63 varieties of Mango on display. Clearly the MIS cannot cover 63 varieties of one product but it does need to make sure that when it reports on mango prices farmers know which varieties are being referred to. Then there is the question of quality. Does the price of mangoes refer to beautiful, clean unblemished mangoes; to dirty, bruised mangoes, or to something in between the two extremes? MIS in each country need to agree on quality definitions and consistently apply them throughout the country. Otherwise you could have the situation where farmers who have poor quality mangoes to sell would hear that the price was high in Yangon market, and would go to the market, only to find that the price quoted by the MIS was for the top quality. FAO recommends that the concept of "Fair Average Quality" should be used as the basis for price reporting. The type of transaction can be confusing for farmers and often, probably, for the price collectors themselves. In one market there may be several types of transaction: farmer selling to retailer; farmer selling to wholesaler; wholesaler selling to retailer; trader selling to wholesaler; trader selling to retailer; retailer selling to consumer, not to mention the role of commission agents in some countries. Which price does the MIS report on? There are two main criteria to be adopted: which price is most useful to the farmer and, balancing that, which price is easiest to collect. Whatever transaction price is used, it must be used consistently. And farmers must understand that that is the transaction type referred to. It is not always easy to get the actual transaction price and I must admit that collection of prices in markets is a hard job. You cannot just go and ask the trader, because often the price paid is subject to negotiation and the price the trader quotes may not be the final price. And if prices vary, how does the collector arrive at a suitable "average" to broadcast on the radio. These are important issues, too complex to go into here, but market information services do need to develop clear guidelines to give to their collectors.

3.6.2 AVAILABILITY

1. For information to be available and timely it should preferably reach farmers on the same day on which it is collected, or early on the following morning. The means efficient MIS operation is essential and the local media must be willing to cooperate. Efficient MIS dissemination usually involves price collection early in the day, rapid completion of price-collection forms and speedy distribution to the relevant media. For crops that change price rapidly, such as vegetables, prices should ideally be collected and disseminated on a daily basis. Indonesia is one good example of this, but I am sure there are others. Where faxes exist phones should not be used as there is a risk of prices being misheard. Where e-

mail exists this should normally be used in preference to faxes, to avoid the need for data to be entered on computer twice, once in the provinces and once in HQ. In some circumstances, however, it may be quicker for a data collector to write prices on a price collection form and then fax this to the local radio station and HQ, rather than going to the trouble of first entering the information on a computer.

2. Of course, there is no need to collect data on a daily basis and process it rapidly if you have not made arrangements to broadcast the information. In Bangladesh, for example, only a few grain prices are broadcast on the radio, and then irregularly. Here in Myanmar the situation is even worse as no agreement has been reached for the broadcast of market prices.

3. When we did the Indonesian study we found that every farmer we met listened to the price broadcasts on the radio. In theory, radio is best way of reaching farmers. However, this assumes that farmers do, indeed, listen to local radio stations. That cannot be taken for granted. When we were working to set up the Cambodian MIS we asked farmers which radio station they listened to. "Voice of America" was the reply. I seriously thought of e-mailing Washington with daily prices, with the request that they broadcast them. Three weeks ago I was in Bangladesh. There farmers now prefer television to radio. Although most cannot afford a TV there is always one in a village and for a small fee farmers can watch every night. Those that do listen to radio don't, like their counterparts in Cambodia, think much of the local radio stations. However, in Bangladesh the preference is for the BBC.

4. In some countries, there are no local stations and broadcast have to be on national radio. This makes it difficult to provide sufficient information of relevance to farmers all over the country. One programme every night with half an hour of price would be rather boring. In other countries there are local stations but they do not carry market prices. On the other hand, I am sure you will hear later from Khamtanh Thadavong how successful the new MIS was in getting collaboration from all of the local stations in Laos. However, that success was only achieved by making a small payment to the radio stations and resources for such payments are already running out. Many stations do want to be paid although, in general, we recommend against this as most MIS are in no position to pay. We believe that radio stations should regard MIS as similar to the news, that is, it should be a public service. No radio station asks the Meteorological Office to pay to broadcast weather forecasts.

5. It was noted that Television is becoming increasingly available and in many countries even the poorest farmers have access. However, television is invariably a national rather than a local service and in broadcasting prices would have the same problems as national radio. Bangladeshi farmers justifiably pointed out to me that if Bangladesh TV could broadcast share prices from the local stock market, of interest to about one per cent of the population. However, it is not that simple, and the reality is that we will have to use radio broadcasts for many years to come. That means we will have to both persuade the stations to broadcast prices and persuade television watching or Voice of America listening farmers to switch to the local radio station for a few minutes to listen to prices.

6. Alternative ways of making information available to farmers include the use of the internet and e-mail. We will be hearing from Mr. Dhankar about the use of the Internet in India and I hope we will learn from him how farmers are able to access market information in this way. Technology is developing rapidly and the possibility for people in remote areas to gain broadband access to the internet from satellite transmission is developing rapidly. These days, the availability of a suitable electricity supply is often a greater constraint than the availability of internet technology. Nevertheless, the fact that it is technically possible to get market prices to remote areas by internet does not necessarily mean that it will happen. Computers and internet subscriptions cost money and even if a country can find the resources to set up a network of "tele-centres" there still has to be a means of getting the information from the center to the farmer.

7. Mobile telephone transmission has been used by MIS in at least two African countries. It may be a useful way for traders to obtain information but smaller farmers will not be able to afford a phone. Perhaps the Programme of the Grameen Bank in Bangladesh, where women are loaned money to purchase a mobile phone, which they let other villagers use for a fee, could be one possibility. Farmers will, however, have to be able to afford both the phone call and the fee charged by the MIS. It is unlikely that information disseminated in this way will be sent out free of charge.

8. Some televisions are equipped with a system called Teletext, that enables viewers to access pages of information. This system has been effectively used by the MIS Hungary, for example. Farmers can be supplied with information free of charge on a daily basis, and there are few limitations on the amount of data that can be supplied. I understand that in China

fixed-line phones have been used to enable market information to be accessed, for a fee. Touch-tone phones can be used to specify the type of information required.

9. In terms of getting information to farmers to enable them to make quick commercial decisions, the printed media is generally unsuitable. Limiting dissemination to newspapers and magazines is a major weakness of several MIS around the world, including, as I have already noted, that have is Myanmar. While the FAO project to set up the MIS here was very well implemented, the prices are being collected efficiently and on a regular basis, the fact that approval to disseminate prices on the radio has not been obtained is a cause for considerable concern. I take the opportunity of this meeting to once again request the government to permit price Broadcasts.
10. In most countries a significant proportion of farmers are Illiterate, making it difficult for them to see price information in daily newspapers. However, they can usually find someone who can read for them? A bigger problem is that newspapers rarely reach rural areas. Magazines, such as the weekly extension magazine used to disseminate information in Myanmar, are useful for providing indications of long-term trends, but of no value if farmers want to know the price in Yangon market yesterday.

3.6.3 APPLICABILITY

1. Prior to setting up an MIS, or revising an existing one, it is necessary to carry out a detailed examination of how the marketing system functions and to fully identify the needs of farmers. This was well done by GTZ when it assisted Indonesia in the 1980's. Tomorrow, U Kyaw Myint and colleagues will tell you how we approached the problem in Myanmar.
2. So MIS need to try to give farmers information from markets most applicable to them. However, this is not always possible, for reasons of cost and logistics. Where it is only possible to give prices for large city wholesale markets, then farmers have to be helped to understand how to translate those prices into something applicable to them. That is, they need assistance in understanding the issues I raised at the beginning of this presentation, concerning variety, quality, type of transaction, etc. They also need to understand the costs incurred between their farm gate and the city market. Such information can be conveyed to them through radio broadcasts and through extension workers. In the past, extension workers have rarely been trained about marketing but extension Services are now

beginning to recognize the importance of their staff being able to advice on marketing and post-harvest handling, as well as on production issues.

3.6.4 ANALYSIS

Some MIS are good at providing timely price information to farmers. Few, if any, are good at providing analysis of time series of such information to enable farmers to plan off-season production, to decide whether to diversify or to decide whether to store in the expectation of higher prices later in the year. MIS generally lack both the analytical skills and the time to do such work. Some produce annual reports but it is difficult for farmers to use such reports without assistance.

3.7 RESOURCES FOR SUSTAINABLE OPERATION

1. If MIS are to be relevant they must provide information on a consistent basis. Market information is not something that can be broadcast for a week and then forgotten about for a month. It has to be broadcast every day, every other day or every week without fail. Governments should not initiate MIS unless they are sure that resources will be available to maintain the service. In most countries government support is likely to be essential for many years to come.
2. In some cases farmers and traders can be charged information. However, most small farmers would have trouble in paying and, anyway, it is difficult to see how they could be charged if the aim is to get information to them as quickly as possible (charges could be made for a newsletter but this would take time to reach the subscribers. Radio is quick, but then it is not possible to charge the users). Consideration could be given to a two-tier system. Basic information could be provided by radio for free to small farmers. Traders and large farmers requiring more detailed information could be supplied, for a fee, with more detailed information by e-mail or phone.
3. Other revenue sources could include the provision of consultancy services, either ad hoc market research services or services based on analysis of the detailed information already available to the MIS. This has been tried, for example, by the MIS in Moldoya in the former Soviet Union. A problem experienced there was that so much freelance work was required in order to fund the MIS that staff did not have enough time to implement the MIS property. There is no reason why the private sector should not pay for information. I was told in Bangladesh that agribusiness companies often request specific reports from the Department of

Agricultural Marketing. Preparing such reports could, in future, be used to fund the MIS. Other sources of funding, particularly for radio braodcasts and written reports, could be sponsorship and advertising. Myanmar's weekly reports are surrounded by adverts and I am sure we shall see some examples this week. However, small farmers generally have limited purchasing power and are thus not a particularly attractive market for advertisers, with the exception of input suppliers.

4. If MIS cannot raise revenue it may not be possible to reduce costs. In Bangladesh, for example, is it really necessary to collect 399 prices from 128 rural markets? Little of the information collected is ever disseminated. MIS need to examine the data they collect from the standpoint of whether they are now, or are ever likely, to use it.

3.8 INTERNET BASED SYSTEM (AGMARKNET) - A NEW DIMENSION

1. Internet provides a completely new dimension to information utilization. Free electronic text, images, software, and many other forms of data are increasing the number, volume, diversity, as well as the number of server/host. Internet means free access, and has been, up till now operated by the "Internal Principle" that is fundamentally different from the "Conventional" commercial database distribution. Despite a growing awareness and attempt to commercialize the services and products within the internet, the market information has been regarded as a public good in India because of presence of large number of small and marginal farmers who are unable to pay for information. Exploring on the internet for the farmers would provide wider marketing opportunities & social acceptance for this new media, a derivation from earlier, needs promotion. Basic functions of transfer of knowledge, changing attitude, behaviour and skills to the farmers of earlier media needs to be incorporated in the new media—Internet, so that it takes over traditional media in the interest of the farmers.

2. Professor Eisuke Naito of National Centre for Science Information System, Tokyo, Japan defines information as "a dynamic process in which a solution to a problem is gained by consolidating knowledge judged to be matching the solution seeking". Knowledge recorded and stored on paper or any digital media is only in a static state without any action for solution. Without decision making and the corresponding action following a solution, the recorded knowledge and data gathering are not completely utilized. The agricultural marketing information service envisages utilization of recorded knowledge for solution—making it information. The

distinct advantages of electronic media viz. instant access, remote access, simultaneous access and high speed search over volume of available knowledge form part of the internet based marketing information service envisaged to be developed.

3. A large amount of data with more accuracy can be stored in computer, analyzed and retrieved within shortest possible time. AGMARKNET will ensure dissemination of data through network to any distance with the help of communication devices for the benefit of farmers, traders, consumers, etc. The improved communication system will enable the producers to know about probable markets where they can dispose of their produce more profitably. The traders and consumers can also derive maximum advantage out of their purchases at low communication cost. The modernization of market information system will lead to the efficiency in the markets and increased participation of the farmers.

3.9 DIRECTORATES/BOARDS AND DMI, FARIDABAD

- Imparting Training to the officials at all the three levels to ensure effective use of the computing facilities;
- Development and implementation of a customised application software in the identified AGMARKNET nodes and State Agricultural Marketing Boards/Directorates and DMI to up-link data on daily prices (Minimum, Maximum, Modal) (commodity-wise, variety-wise, origin-wise, grade wise) and arrivals data (commodity-wise), to the respective State Marketing Boards / Directorates and DMI Headquarters for upgrading in the AGMARKNET server for Internet/Intranet Access;
- Providing necessary support to the users for implementation of the system;
- Designating Nodal Officers in states for coordinating with the users at AGMARKNET nodes;
- Design and Develop Agricultural Marketing Portal for DMI, Faridabad as well as at State Levels.

3.10 STATE AGRICULTURAL MARKETING BOARDS

1. Identification of location of markets for connectivity under the Directorates of Marketing scheme based on importance of the market in commodity flow patterns.
2. Administration/implementation of the scheme at market level.

3. Provide necessary administrative and financial sanctions for
4. markets for smooth implementation of the scheme.
5. Liaison with State NIC units and DMI offices for monitoring of progress, removal of impediments if any in day to day functioning of the scheme.
6. Undertake research for which information through computer network is to be provided to farmers. Transforming information available for practical use by farmers & undertake market led extension.
7. Generate reports in local language at state level.

CHAPTER-IV

SOURCES AND SYSTEMS

4.1 INTRODUCTION

Price data available in India can broadly be classified into two categories viz. prices relating to bulk transactions, and prices in respect of small transactions. Prices relating to bulk transactions include wholesale prices, farm harvest prices, export and import prices, etc. In contrast, retail (consumer) prices are essentially the prices paid by customers in respect of various commodities and services. The retail prices are customarily collected for those items which are contained in the consumer basket of goods and services of different segments of population such as Industrial Workers, Urban Non-manual Employees, Agricultural Labourers and Rural Labourers. Often, certain other categories of prices are also identified, which are that of controlled / administered prices, and spot prices of precious metals namely gold and silver.

4.2 PRICE REPORTING SYSTEM IN INDIA

Price is basic economic indicator. It plays a vital role in economic planning for development. The earliest series of wholesale prices data available in India relate to 1897, and were published in the **'Prices and Wages'**, a publication of the Department of Commercial Intelligence & Statistics, Govt. of India up to 1922. Till 1948, the official data were collected by the then Central Department of Agricultural Marketing, Department of Commercial Intelligence and Department of Food; but the coverage was limited to a few important markets. In 1948, this work was transferred to the Directorate of Economics & Statistics in the Ministry of Agriculture. In 1954, a Committee of Enquiry was set up under the Chairmanship of Adviser, Planning Commission to make recommendations for setting up of efficient machinery for the collection of prices of agricultural commodities. The present system of collection of wholesale prices in India has been evolved on the basis of the recommendations of this Agricultural Prices Enquiry Committee.

4.2.1 REPORTING AGENCIES

Under the Scheme for Improvement of Market Intelligence (since the Second Plan), the State Governments and Union Territories have appointed Technical Reporting Agencies in important assembling/consuming markets. At present, different State Agencies, e.g. Bureau of Economics & Statistics, Revenue Department, Marketing Department, Registrars of Cooperative Societies, Department of Civil Supplies, Market Produce Committees etc, report

wholesale/retail prices to the Directorate of Economics & Statistics. The wholesale/retail prices data thus collected from different markets are published every week in the "**Bulletin of Agricultural Prices**", a priced publication, the monthly journal "**Agricultural Situation in India**" and the Annual publication, "**Agricultural Prices in India**".

4.2.2 FARM HARVEST PRICES

Farm prices have been defined as the average wholesale price at which the commodity is disposed of by the producer at the village site during the specified harvesting period. The price data is collected every week from a certain number of representative villages in each district on purposive basis during the specified harvesting period (generally six to eight weeks during tile peak period of marketing after the commencement of harvest). In such selected village, the prices at which commodity is sold by the producer is recorded on every Friday during tile peak period of marketing. If no sales take place on that day, the price at which the commodity was sold last during the week is recorded. The weekly prices of the selected villages are averaged for tehsils & districts by taking their simple mean. The method of striking the average price for the State as whole is worked out with the district production figures for the current year as weights. Farm harvest prices are collected for 25 commodities in this Directorate from 19 States & Union Territories. These are reported by different State agencies viz. Bureau of Economics & Statistics, Directorate of Agricultural Statistics, Directorate of Land Records. At present, the Farm (Harvest) Prices are published in "**Farm (Harvest) Prices of Principal Crops in India**".

4.2.2.1 HOW FARM HARVEST PRICES (FHP) ARE COLLECTED

Farm harvest prices (FHP) are collected in respect of 19 crops viz:, paddy, jowar, bajra, maize, ragi, wheat, barley, gram, groundnut, rapeseed and mustard, sesamum, linseed, castor seed, cotton, jute, mesta, sugarcane, potato and tobacco by the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India on a continuous basis. For quoting farm harvest prices, first of all a particular variety of the crop, which is most extensively cultivated in the district is selected. The harvest period for each crop is fixed by the state government to facilitate proper recording. Harvest period is usually of 6 to 8 week's duration after the commencement of harvesting. FHP is reported at the district and state levels. Presently 12 States and 2 Union Territories using a common methodology collect farm harvest prices. The data in other States are collected only from a few selected centres and thus are not fully representative of prices prevailing in rural areas. Price data during the harvest period are reported every Friday. The simple arithmetic average is taken to represent the harvest

season price of that crop at the village level. The simple arithmetic average of the village price gives the tehsil level prices and the average at the district level is the simple arithmetic average of tehsil prices. The average farm harvest prices for each crop for the state as a whole are worked out at the state headquarters by DES, which is the weighted average of the district prices using the quantity of the base period average production of the crop in the district as weight. The State Bank of India also collects and compiles harvest prices of important agricultural commodities and publishes them in their journal 'State Bank of India Monthly Review'.

4.2.3 WHOLESALE PRICES

Wholesale prices have different connotations in so far as they are being used by different departments. The Ministry of Agriculture defines wholesale prices as the rate at which a relatively large transaction of purchases, usually for further sale, is effected. However, according to the Office of the Economic Adviser, Ministry of Industry which compiles the WPI, the whole sale prices represent transaction at the primary stage which broadly corresponds to producers' prices.

The Office of the Economic Adviser (OEA), Ministry of Industry compiles Wholesale Price Index (WPI) Numbers for all-India, on weekly basis. The WPI series, on base 1981-82, covered in all 447 commodities. The sector-wise break up of 447 commodities is i) primary articles–93 (food articles–44, non-food articles–28, minerals-21); ii) fuel, power, light and lubricants–20; iii) manufactured products-334. In all 2,371 quotations of wholesale prices in respect of 447 commodities were collected, on weekly basis, through official as well as non-official sources. The official sources are Directorate of Economics and Statistics, Ministry of Agriculture; Agricultural Marketing Departments of Central and State Governments, State Directorates of Economics and Statistics, District Statistical Offices, Registrars of Co-operative Societies and other primary agencies belonging to various State Governments. The non-official sources are various chambers of commerce, trade associations, leading manufacturers and prominent business houses. The weights of items were assigned in proportion to their share in the total value of transaction (output) in the economy. The weights at major group, group levels are as given below:

Major Group/Group	**Weights**
I. Primary Articles	**32.295**
(a) Food Articles	17.386
(b) Non-food Articles	10.081
(c) Minerals	4.828

II. Fuel, Power, Light and Lubricants	**10.663**
III. Manufactured Products	**57.042**
(a) Food Products	10.143
(b) Beverages, Tobacco and Tobacco Products	2.149
(c) Textiles	11.545
(d) Leather and Leather Products	1.018
(e) Others	32.187
TOTAL	**100.000**

Laspeyres base-weighted formula is used to compile WPI. Price relatives are calculated as percentage ratios which the current prices bear to those prevailing in the base period; and are obtained by dividing the current prices by the corresponding base year prices, and multiplying by 100. Commodity index is computed as a simple arithmetic average of the price relatives of the quotations under that commodity. Subgroup index is derived as weighted average of the indices of the commodities included in that subgroup. Group index is obtained as weighted arithmetic average of the indices of subgroups included under that group. The major group index is arrived at as weighted average of the indices of the groups that are included under that major group. Index for all commodities is computed as weighted average of the indices for major groups.

The WPI Numbers for various commodities along with salient features are released through Press Note, on weekly basis. The time lag in release of the index is two weeks. With a view to revise the base year (1981-82) of WPI, a Working Group was set up by the Ministry of Industry. The Working Group submitted its report to the Government and the same has been accepted. The Working Group has recommended for shifting the base year (1981-82) of the series to 1993-94 and the weights at major group and group level as given below:

Major Group/Group	Weights
I. Primary Articles	**22.025**
(a) Food Articles	15.402
(b) Non-food Articles	6.138
(c) Minerals	0.485
II. Fuel, Power, Light and Lubricants	**14.226**
III. Manufactured Products	**63.749**
(a) Food Products	11.538
(b) Beverages, Tobacco and Tobacco Products	1.339
(c) Textiles	9.800

(d) Leather and Leather Products	1.019
(e) Others	40.053
TOTAL	**100.000**

The Ministry of Industry started releasing the WPI series on base 1993-94 from April, 2000. The series covers in all 435 commodities. The sector- wise break-up of commodities is (i) Primary Articles-98 (Food Articles-54, Non-food Articles-25, Minerals-19) (ii) Fuel, Power, Light & Lubricants-19, and (iii) Manufactured Products-318.

4.2.4 RETAIL PRICES OF ESSENTIAL COMMODITIES

Under the scheme entitled "Price Position of Essential Commodities", the Directorate of Economics & Statistics has been regularly collecting data for certain group of essential commodities from number of centers spread all over the country. The primary objective of the scheme is to supply the retail prices of essential commodities regularly every week to the concerned Departments/Ministries so that appropriate measures for achieving the desired stability in prices are taken in time. The Committee to review the scheme "Price position of Essential Commodities" submitted its report in April 1987, which was subsequently approved by Special Action Committee on Monitoring of Prices (SACP). The Committee revised the list of (49 groups) Commodities and suggested changes in their units, varieties and specifications etc. according to present requirements and conditions. The committee also examined the list of 113 centers/markets selected all over the country and suggested changes.

At present, on the basis of recommendations of the Committee to review the scheme, the retail prices in respect of 43 Food and 42 Non-Food commodities are being collected through the market level price reporting agencies of the States every week/month ending Friday respectively from 83 centers/markets selected in all the States/Union Territories. The list includes all the State capitals & Union Territories Headquarters. The information received is disseminated in the form of "Weekly Bulletin on Retail Prices of Essential Commodities" with the time lag generally not exceeding two weeks. The information on retail prices is being received by the Directorate of Economics & Statistics directly from the markets/centers through the appointed as market level agencies. Arrangements for the collection of price data were made largely through the existing agencies in the States, e.g. State Market Intelligence Authorities, Bureau of Economics and Statistics and Departments of Food & Civil Supplies.

4.2.5 TAXONOMY OF PRICES

Price for a commodity is essentially its power to command money in exchange for itself. In other words, price is the "money-name' of the value of the commodity. Price is neither a flow, nor a stock economic variable, but can be thought of as a ratio between actual or potential flows; a flow of cash and a low of goods. Thus, with time unit appearing both in the numerator and. denominator, it cancels out. The fundamental principle of price theory is that all prices are related to one another. Consequently, the concepts of absolute and relative prices emerge. Absolute price of a commodity is the money-value one pays to acquire the good; whereas, relative price is the price of the good expressed in terms of how much of other goods must be given up to purchase a unit of the good in question. To obtain relative prices, comparison with other prices needs to be made. Customarily, relative price of a good is expressed as the ratio of its absolute price to the average prices of all other goods. Under certain conditions, all other goods can be treated as a single composite good. For example, the relative price of diesel is the ratio of absolute price of diesel and the average price level, which might be represented by an appropriate consumer price index. The prices of goods that we come across in the market, are absolute prices; and are of different types. Important of them are: wholesale prices, retail prices; and other prices such as control-prices, spot prices and security prices. Variants of the above categories of prices are producer's prices, farm harvest prices, rural retail prices, etc.

4.2.6 INDEX NUMBERS

Prices especially wholesale prices (WSP) and farm harvest prices (FHP) are also converted into index numbers using a common base year/years. Group index numbers are also constructed by using appropriate weighting scheme. The index numbers are in percentage terms and makes the inter-temporal and inter-commodity comparison easy. The available price index numbers are:

i) Wholesale price index numbers.

ii) Consumer price index numbers for industrial workers.

iii) Consumer price index numbers for agricultural labourers.

iv) Consumer price index numbers for non-manual employees/middle class.

v) Index numbers of harvest prices of principal crops.

vi) Index numbers of prices received by farmers.

vii) Index numbers of prices paid by farmers.

viii) Index numbers of terms of trade for farmers.

4.2.6.1 INDEX NUMBERS OF WHOLESALE PRICES IN INDIA

The Index Numbers of Wholesale Prices (WPI) is an indicator constructed and utilized for gaining knowledge with regard to the rising or falling trends in the behavior of prices of selected commodities and groups of commodities during a given period of time. Index numbers of prices are used to feel the pulse of economy. They are also used sometimes as indicators of inflationary or deflationary tendencies taking place in the economy. Another major use to which such index numbers are put is in deflating national aggregates such as national income. Index Numbers are specialized averages because they are used for the purpose of comparisons in situations where two or more series are expressed in different units or the series is composed of different types of items. An average of all the items expressed in different units is obtained by using the technique of index numbers which measure the effect or impact of changes over a period of time.

4.2.6.2 ISSUES IN THE CONSTRUCTION OF INDEX NUMBERS

i) Purpose of the index: A clear statement as to what the index is intended to measure, why and how has to be made. There is no all-purpose index. Every index number has a limited and particular use to which it is intended to be put. All other things like the base year, number of commodities/quotations, choice of centres/markets, sources of data supply etc. are to be decided in the light of the purpose of the index.

ii) Scope of the Index: Scope of the index has to be defined completely and in very clear terms.

iii) Selection of appropriate weights: Since different items included in the commodity basket for the index differ in the extent of their importance or significance, there arises a need to assign or allot to each selected commodity an appropriate weight. Weighting refers to a conscious effort made to assign to each commodity an influence that, in the final result, is proportionate to its relative importance.

The determination of appropriate weights that would 'apply to the various commodities used in the index construction is often a very difficult and demanding task and hence has to be done with a lot of care, using a sound sense of judgment. We have a choice between using (a) fixed weights and (b) fluctuating weights. Conceptually speaking, the latter method is the better one. However, from a practical stand point, the method of using fixed weights is often the only feasible method that can be adopted.

4.2.6.3 CALCULATION OF INDEX NUMBERS OF WHOLESALE PRICES IN INDIA

The Office of the Economic Adviser, Ministry of Industry, has been compiling Index Numbers of Wholesale Prices (WPI) since 1942. A number of revisions in the base year have been affected since then. Until! June, 1989 the office was operating the series of WPI which had 1970-71 as its base year and was based on 1295 price quotations relating to 360 commodities. The current series of WPI with base 1981-82 came in vogue from July, 1989. This series has been significantly expanded in terms of both the number of items and the number of varieties/quotations/market centres in order to take into account the structural changes that had taken place in the Indian economy between the revision in the base year from 1970-71 to 1981-82. The revision of base year (1981-82=100) was undertaken in pursuance of the recommendations of the Working Group on revision of Index Numbers of Wholesale Prices in India. The selection of items has been guided by their relative importance in the economy. The current series covers as many as 2371 quotations constituting 447 commodities.

4.2.6.4 COLLECTION OF DATA ON PRICES

Weekly Price quotations for the selected varieties as prevailing on or each Friday are collected. Price data are collected through official as well as non-official sources. The official sources include: (i) Directorate of Economics and Statistics, Ministry of Agriculture, (ii) Agricultural Marketing Departments of the Central and State Governments, (iii) State Bureau of Economics & Statistics, (iv) District Statistical Officers and other primary agencies belonging to the state Governments. The non-official sources include the Chambers of Commerce, Trade Associations and leading manufacturers and business houses.

4.2.6.5 METHOD OF CALCULATION OF THE INDEX

There is no change in the method of compilation of the index for the 1981-82 series as compared to the method used for the earlier WPI series. It is calculated on the principle of weighted arithmetic mean, according to the Laspeyre's formula which has a fixed base year weighting diagram operative through the entire life span of the series.

The formula used is as follows:

$$I_{WP} = \frac{\sum_{i=1}^{n} I_i \cdot W_i}{\sum_{i=1}^{n} W_i}$$

where I_{WP} : Index Number of Wholesale Prices of sub-group / group / major group / all commodities,

W_i : Weight assigned to the i^{th} item / sub-group / group / major group,

I_i : Index of the i^{th} item / sub-group / group / major group for i = 1, 2, ….,n being the total Number of groups.

Price relatives are calculated as the percentage ratios which the current prices bear to those prevailing in the base period, i.e. by dividing the current prices by the corresponding base year prices and multiplying it by 100. The commodity index is arrived at as the simple arithmetic average of the price relatives of the varieties or quotations selected under that commodity. The sub-group index is derived as the weighted average of the indices of the commodities included in that sub-group. The group index is obtained as the weighted arithmetic average of the indices of the sub-groups included under that group. The major group index is arrived at as the weighted average of the indices of the groups which are included under that major group. The 'All Commodities' index is obtained as the weighted average of the major group indices.

4.2.6.6 Provisional vs Final Index

Because of the late receipt of a few returns, the weekly index of wholesale prices at the time of its initial compilation is provisional. In such cases, the prices of the missing quotations are either repeated or estimated, depending on the nature of the commodity. The provisional index is made final after a period of eight weeks by which time almost all the required price data become available. In case some price returns are received late by more than eight weeks, the same would be used only with effect from the week for which the index is being finalized in the current week and no index finalized earlier is revised.

4.2.6.7 Linking Factor

In order to maintain continuity in the index series, it is imperative to provide a linking factor between the new and old series. Of the three commonly known methods of linking, viz. (i) arithmetic conversion method, (ii) ratio method and (iii) regression method. The arithmetic conversion method is the simplest and operationally the most convenient one. The Office of the Economic Adviser has been using this method to link the various WPI series. The choice of linking method, is, however, left to the users.

4.2.6.8 USES OF THE WPI

The WPI is used as a measure of inflation in the economy. It is also made use of by others. The wholesale price index numbers are used extensively by various research bodies/organisations, Reserve Bank of India, Planning Commission, and other government and non-government organisations. It is also used for working out escalation costs for supply of raw materials and in construction work. Use of WPI data is also made use by many other ministries to monitor prices of items concerning their departments. Time series data on WPI are also being used by a large number of researchers all over the country.

4.3 CONSUMER PRICE INDICES

On account of the importance of the subject, the International Labour Organisation (ILO) had set general guidelines and standards for compilation of Consumer Price Indices by all the member countries. In principle and practice, a Consumer Price Index (CPI) measures changes over time in the general level of prices of goods and services that a reference population acquire, use or pay for consumption.

There are four Consumer Price Indices (CPIs) released on monthly basis at national level viz. CPI for Industrial Workers, CPI (IW); CPI for Urban Non-Manual Employees, CPI (UNME); CPI for Agricultural Labourers, CPI (AL); and CPI for Rural Labourers CPI (RL). The CSO publishes CPI (UNME), whereas the other three CPIs are brought out by the Labour Bureau, Ministry of Labour. Wholesale Price index (WPI) is compiled and released on weekly basis at national level by the Ministry of Industry.

4.3.1 CPI (UNME) COMPILED BY THE CENTRAL STATISTICAL ORGANISATION, MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION

CSO has been compiling Consumer Price Index Numbers for Urban Non-Manual Employees CPI (UNME), on monthly basis, since 1961. The weights for the index on base 1960, were based on the estimates generated from the data collected through middle class family living survey (MCFLS) conducted during 1958-59 covering 36,000 urban non-manual employees families in 45 selected urban centers across the country. With a view to revise the CPI (UNME) series on base 1960, a scheme for MCFLS was proposed for inclusion in Fifth Five-Year Plan. However, the scheme was not approved. An MCFLS covering 45,000 UNME families in 59 selected urban centers was conducted during 1982-83. Depending on the size of the centre, the number of families canvassed varied from 432 to 1,728. Using the weights, derived from the data collected through MCFLS conducted during 1982-83, the current CPI (UNME) series on base 1984-85, is being compiled and released since November, 1987. The number of items of

goods and services, for which retail prices are collected, on monthly basis, from 1022 markets in 59 urban centers by NSSO for compilation of CPI (UNME), varies from centre to centre. The smallest number of items is in the case of Imphal, with the number being 146. The largest number of items is in the case of Delhi; with the number being 345. The various items of goods and services, are grouped into five main groups, namely, i) food, beverages and tobacco; ii) fuel and light, iii) housing, iv) clothing, bedding & footwear; and v) miscellaneous. The weights at all-India level, in respect of group / sub-groups of items of goods and services are given in Annexure-I.

The Index numbers are compiled using Laspeyres' Index formula. For each centre, the index is compiled firstly at sub-group level, then at group level and General Index level, which is called the centre index, is compiled. In order to compile an average all-India index the centre indices are combined using center weights, weights being the ratio of total consumption expenditure of estimated number of families allocated to a centre in the State to the sum of all such expenditures over all centers in the country. The centre-wise and all-India CPI (UNME) along with salient features are released every month with a time lag of about two weeks. An exercise to revise the base year from 1984-85 to 2001-02 has already been initiated.

4.3.2 CPI (IW) COMPILED AND RELEASED BY THE LABOUR BUREAU, MINISTRY OF LABOUR

The Labour Bureau compiles Consumer Price Index Numbers for Industrial Workers CPI (IW), on monthly basis, using the retail prices collected from 261 markets in 76 centres by the officials of various State Governments, Labour Commissioners, etc. The number of items in the consumption baskets of different centres generally varies between 120 to 160, depending upon the prevailing situation in each centre and the consumption pattern of the centre. The various items of goods and services are classified into six main groups, namely, (i) food, (ii) pan, supari, tobacco & intoxicants, (iii) fuel & light, (iv) housing, (v) clothing, bedding & footwear, and (vi) miscellaneous. The base year of the index is 1982 and the weights for the index are based on estimates generated from the data collected through Working Class Family Living Survey (WCFLS) conducted during 1981-82. The weights at all-India level, in respect of groups / sub-groups of items of goods and services are given in Annexure-I. The indices for all-India (computed from the indices of 70 centres) and 76 centres are released, on monthly basis, with a time lag of one month. The earlier base year of the index was 1960 and the weights for the index were based on the estimates generated from the data collected through WCFLS conducted during 1958-59 in 50 centres. A fresh WCFLS for selection of items in the consumption basket of goods and

services, and revision of base year of the current series on base 1982, to a more recent base year is in progress.

For WCFIES conducted during 1981-82, a working class family was defined as one (i) which was located within the centre, (ii) which had at least one member working as manual worker in an establishment in any of the seven sectors of employment covered viz. factories, mines, plantations, ports and docks, public motor transport undertakings, electricity generating and distributing establishments, and railways; and (iii) which derived 50 per cent or more of its income during the calendar month preceding the day of enquiry through any manual work. The retail prices used in the compilation of CPI(IW) are collected by the Labour Bureau through part-time price collectors, who are employees of the State Bureaus of Economic and Statistics or State Labour Commissioners offices on weekly/monthly basis and from selected markets and shops/outlets. A sixmonthly House Rent Survey is conducted for collection of house rent data for compilation of House Rent Index, which is revised in January & July. The specifications/units of various items are fixed at the time of organization of price collection work, so that price data are available on continuing basis throughout the life of the series. The price collection day & time is also fixed, keeping in view the local purchasing habits of working class at particular centre. The data is processed by the Labour Bureau.

The Index numbers are compiled using Laspeyres' Index formula. For each centre, the index is compiled firstly at sub-group level, then at group level and General Index level, which is called the centre index, is compiled. In order to compile an average all-India index the centre indices are combined using center weights, weights being the ratio of total consumption expenditure of estimated number of families allocated to a centre in the State to the sum of all such expenditures over all centers in the country.

4.3.3 CPI (AL) AND CPI (RL) COMPILED BY THE LABOUR BUREAU, MINISTRY OF LABOUR

The Labour Bureau also compiles Consumer Price Index Numbers both for Agricultural Labourers CPI (AL) and Rural Labourers CPI (RL), on monthly basis, using the retail prices in respect of 260 items of goods and services, collected by NSSO from fixed markets in 600 sample villages in 20 States spread over the country. The various items of goods and services, are grouped into four main groups, namely, i) food, ii) fuel & light, (iii) clothing, bedding & footwear; and iv) miscellaneous. The items of goods and services are common but the varieties of most of the items differ from village to village. The base year of both the indices is 1986-87. The weights for both the indices are based on the estimates

generated from the data collected through household consumer expenditure enquiry conducted by NSSO in its thirty eighth round during 1983. The weights at all-India level, in respect of group / sub-groups of items of goods and services are given in Annexure-X. It is only the weights at the compilation stage, which are different for both the labour class households i.e. agricultural labour households and rural labour households. As the housing cost of the rural labour population was observed negligible in the base year, data on house rent have not been collected, and as such the housing index (as a part of general index) is not being compiled. The Labour Bureau started releasing CPI (RL) series for all-India and 20 States since November, 1995. The population of agricultural labour households is about 60 per cent that of rural labour households. The indices for all-India and 20 States are released, on a monthly basis, with a time lag of 3 weeks. The CPI (AL) and CPI (RL) for all-India are based on the respective indices in respect of 20 States only.

An agricultural labour / rural labour household is considered as one which derived 50 percent or more of its income from gainful employment on occupations of one or more of its members as agriculture/rural labour. A person is considered engaged in agricultural labour if he/she follows one or more of the following agricultural occupations in the capacity of a wage paid manual labour, whether paid in cash or kind or both:

(i) farming,

(ii) dairy farming,

(iii) production of any horticultural commodity,

(iv) raising of livestock, bees or poultry,

(v) any practice performed on a farm as incidental to or in conjunction with farm operations (including forestry and timbering) and the operation for market and delivery to storage or to market or to carriage for transportation to market of farm produce. Carriage for transportation refers to the first stage of the transport from farm to the first place of disposal. Working in fisheries was excluded from agricultural labour.

A person who does manual work in return for wages in cash or kind or partly in cash and partly in kind (excluding exchange labour) is a wage paid manual labour. Persons who are self-employed doing manual work are not treated as a wage paid manual labour. Peoples living in rural areas and engaged in manual labour by working in agricultural and / or non-agricultural occupations in return for wages paid either in cash or in kind (excluding exchange labour) is considered as rural labour. Thus, rural labour includes both agricultural labourers and other labourers as well.

The index is worked out using Laspeyres' weighted aggregate method. First the price relative of each item in respect of each village is worked out. A simple average of village-wise price relatives of the item is calculated at the zonal level in the State. Zonal price relatives are weighted to arrive at the average State level price relatives. The State index is worked out as the weighted average of the State level price relatives, the weights being the proportion of consumption expenditure as determined by the Consumption Expenditure Survey of the rural and agricultural labour households. All-India Index is worked out as a weighted average of the State index numbers, weights being the estimated consumption expenditure in respect of Rural and Agricultural Labour Households in each State as a proportion of total of such expenditure for all the States for which the index is being compiled separately. An exercise for revision of the base year is underway.

4.4 STANDARDIZATION OF THE PROGRAMME OF COLLECTION OF PRICES RECEIVED BY FARMERS

4.4.1 MARKET PROCEDURES SURVEY

Before drawing up any programme of price collection suited to a particular country, it is necessary first to collect information on the procedures adopted therein for the marketing of different agricultural commodities. From the farm, one commodity may go directly to the exporter, another directly to the processor or miller, a third directly to the retail market and a fourth may pass through several stages of marketing before reaching the ultimate consumer. If prices for these commodities are not available at the farm-gate, they will have to be collected at the first point of sale which will vary for each of the four commodities. A commodity may also pass through other channels; e.g. an itinerant merchant may collect the produce of small farmers for sale in a nearby market; a commission agent may locate appropriate buyers; processors (flour millers, rice millers, cotton ginners, tobacco curers) may process the commodity and sell it in processed form; a cooperative marketing society may undertake to sell the produce of its members; and transporters, shippers, forwarding agents and warehousemen may also play a part. All these and related aspects will have a bearing on the organization of a system of price collection, definitions of the prices and instructions to the price reporters. Hence there is a need for a study - however broad - of the marketing procedures followed for each commodity. Information on the seasonality of marketing and of prices, and on government taxation, subsidy and price regulation will also be useful when formulating the price collection programme. While the items on which information may be collected will depend on the requirements of those drawing up the programme, the following deserve consideration:

- Names of agricultural commodities and
- Major varieties grown in the country; regions of concentration of production for each
- commodity.
- Harvesting period for each commodity.
- Marketing procedures adopted; different stages of marketing;
- Channels through which a commodity passes before reaching the final consumer.
- Which commodities mainly enter domestic consumption and which are grown mainly for export.
- Location of markets with an indication of their size (annual turnover may be a suitable indicator).
- Seasonal variations in quantities sold and in prices.
- Major agencies engaged in sale or purchase operations.
- Processing facilities and their location.
- Storage, accommodation and its location.
- Government taxation and subsidy policies.
- Government price regulation measures.

Information on marketing procedures can be obtained through properly designed surveys or from agencies and individuals who are either in the business of sale and purchase of agricultural commodities or are otherwise knowledgeable. The information once collected would need to be checked periodically and brought up-to-date, since significant changes could necessitate revisions to the price collection programme.

4.4.2 TECHNICAL CONSIDERATIONS

In standardizing the programme of collection of prices received by farmers, several technical aspects connected with price reporting require to be considered with a view to ensuring that the data are collected at a reasonable cost, on a uniform basis, with adequate accuracy, and are suitable for the purpose for which they are obtained. These aspects pertain to the framing of standard definitions of product, variety and quality; time, period and frequency of price collection; unit of quotation; selection of markets, etc.

4.4.3 DEFINITION OF PRICES RECEIVED BY FARMERS

The price received by a farmer for an agricultural commodity produced by him has been defined as the average (notional or actual) price measured at his farm-gate at which he disposes of the commodity. Where sales do not take place at the farm-gate, the notional price must be estimated by subtracting from the wholesale or retail price, as the case may be, those costs included in that price such as the transportation expenses, marketing charges and taxes, etc., paid by the farmer for activities which take place after the product has left the farm-gate. For ascertaining the magnitude of these deductions, it will be necessary to undertake appropriate surveys or other investigations.

4.4.4 TECHNIQUES OF AVERAGING-PRICES

The price should be an average price. Different lots of a commodity may not all be marketed at a uniform, identical, price. Even if they belong to the same variety, the prices may-differ according to difference in moisture content, refraction, admixture, etc. The price of a commodity can thus vary within a range every day. But, for purposes of comparison of prices over two or more points of time, it is more convenient and meaningful if, for each point of time, a single quotation, instead of a range, is available. The single quotation should neither be the minimum price nor the maximum price quoted in the reporting day in as much as these two extremes will not be representative. For the same reason, it should neither be the opening nor the closing quotation of the day. It should be an average of the day’s quotations, a measure of the day's central tendency.

What kind of average should it be? If it is to be an ”arithmetic average” or ”median”, the price for each transaction during the day will have to be recorded. It is to be the "weighted mean”, data will be needed additionally on the quantities transacted at each price. This is a laborious task and while there is no objection to using such averages, the time and energy spent on the operation would hardly be commensurate with the advantage to be gained. The purpose would be served equally well by taking the modal price, i.e. the price at which the majority of the day's transactions take place. Oral enquiry about such price - the most commonly quoted price - in the reporting day should be enough to reveal it. (It should be emphasized that we are here speaking of prices actually agreed for transactions, not prices asked for, or offered, in advance of the transactions being completed). The modal price gives the overall sense of the market and may be established at the wholesale or retail level, or for farm-gate prices. Subject to one important condition, modal prices are satisfactory for valuation purposes too, although for an accurate valuation it is necessary to have data on quantities and prices involved in each transaction, or for a representative sample

of such transactions. The condition is that not only should the modal price be the price at which the major number of the day's transactions takes place, but it should also be the price at which the major part of the total quantity marketed is transacted. For instance, if 10 quotations at the same price for lots of 1 ton each were accompanied on the same day by 2 lots of 10 tons each at a very different price, the modal price (i.e. the former) would not be sufficiently accurate for valuation purposes and would be misleading as a price average.

4.4.5 SELECTION OF COMMODITIES

In formulating a programme for the collection of prices, it is necessary to make a selection of the commodities for which data are to be obtained. In market economies, practically all agricultural commodities find their way to the market. Accordingly, in a comprehensive programme of price collection, all agricultural commodities offered for sale should be covered. But if their number is very large, then a selection must be made depending upon the uses for which the data are needed and the resources available for their collection; the remaining commodities can be included later when necessary or feasible. As first priority, those commodities for which estimates of production are available should be included since this enables an accurate evaluation to be made.

4.4.6 SPECIFICATION OF VARIETY AND QUALITY

When reference is made to the price of an agricultural commodity, there is generally an implicit assumption that the commodity is homogeneous, i.e. that each unit thereof is a perfect substitute for any other unit. In practice, this assumption is rarely correct. Not all wheats, for example, are the same wheat. Wheat has several botanical varieties: Triticum durum, Triticum vulgare, Triticum turgidum, Triticum dicoccum, and Triticum compactum. Of these varieties, the first two are widely grown. Each variety is sub-divided into a few colour groups. Durum has two colour groups: amber and red; vulgare has three: white, amber and red. The kernel structure of the grain varies from soft to semi-hard and hard. Durum wheat is also known as macaroni wheat: it has a high gluten content and is much used in, making semolina and vermicelli. For these characteristics, it fetches a premium over other varieties. Vulgare is also called common wheat and is generally used by the milling industry for manufacture of flour. The same is true of many other agricultural products.

For each variety of a commodity, there may be several qualities. Wheat, for example, may be designated by different grades, depending on the percentages it contains of foreign matter (like dust, chaff, straw); edible food grains other than wheat; wheat of other varieties mixed with the main variety; or damaged, immature, shrivelled, and weevilled grains. Uniformity of size, shape and colour

and the moisture content are other factors taken into account in determining the grade. A commodity may thus consist of several varieties and for each variety there may be several grades. Prices of the commodity will therefore vary with the difference in botanical and commercial characteristics. Some varieties and qualities will command a high premium while others will sell at a discount.

What varieties and qualities then should be specified? A comprehensive programme for collection of prices may provide for collection of price statistics of most varieties and qualities of an agricultural commodity. In this case, a spectrum would result throwing light on inter-varietal and inter-quality differences in prices of the same commodity. Prices of those varieties and qualities most needed can then be selected, while the full range of price data along with quantities of each variety and quality marketed would be available for valuation purposes. Such a comprehensive programme is possible only if the volume of work involved is manageable with the available resources. The volume of work can be reduced if the varieties and qualities of a particular commodity can be standardized into a few. Where, however, the varieties and qualities are numerous and standardization is difficult to achieve, it should be remembered that the mass of information which results is often confusing to the user apart from being expensive to collect.

There is, however, a solution. Just as the price to be collected can be the modal price, so the selected representative variety and quality may also be modal; that is, the modal price could refer to the most commonly traded variety and quality. Clearly, care must be taken, before deciding on this course of action, that limiting the price reporting to the modal variety only does not exclude some important other varieties.

The criterion for selecting the modal variety in each market should be whether it is the most commonly traded among the different varieties, and whether it is transacted continuously over the larger part of the marketing year, if not over the entire year. If the specified modal variety ceases to be transacted during the marketing year, another frequently traded variety, as close as possible to the variety originally chosen, may be substituted provided that the circumstances are fully noted since this will be of importance when constructing price indices. If such substitution has to take place, it would help the splicing of prices if quotations for the two varieties - the initial and the substitute - are collected for a few reporting days when both varieties are being traded.

After specifying the modal and substitute varieties for each market, the next step would be to prescribe the modal quality or grade composition. If quality standards are in force for a commodity, the most commonly traded quality may be chosen; otherwise, the choice may fall on what is generally called the fair average quality.

In the latter case, the grade specifications will be determined on the basis of trade descriptions and must be defined unambiguously. Situations may arise where, simultaneously with the newly harvested produce, the remainder of the old harvest is still on sale and the two are sold at different prices. In such situations, prices for the new harvest should be reported from the date when it is reasonably certain that disposals from the new harvest will be fairly continuous. Prices for produce from the old harvest should, however, continue to be recorded as long as the quantities traded remain significant.

4.4.7 TIME OF PRICE COLLECTION

If it is intended to collect data on prices and quantities involved in each transaction in the reporting day, obviously the price reporter will have to be at work the entire day unless there are some institutional arrangements (like a market committee or an association of market men) to do the job. If the prices to be calculated for the various agricultural products are the modal prices, the price reporter need not be in the market the whole day. It would be sufficient if he visits it during the peak marketing period of the day, i.e., when the bulk of the transactions usually take place. The peak period will not necessarily be the same hour of the day in all markets and throughout the marketing season or the year. Accordingly, the programme for price collection should provide for determining the peak marketing period of each market over different months of the marketing year.

4.4.8 PERIOD OF PRICE COLLECTION

Unlike most industrial products, agricultural products are characterized by seasonality. In general, the marketing year for an agricultural crop may be defined as starting with its harvesting and continuing until the next harvest. There are, of course, exceptions to this, e.g. where a crop is grown under contract and sold even before harvesting. Whether or not the agricultural producer spreads his sales over the twelve months of the marketing year after the harvest depends on the volume of output, the perishability of the crop and on the storage facilities, owned or hired, available to him. If the storage facility is inadequate or non-existent; or if the roads are fair-weather roads and not all-weather roads; or if, as the marketing year advances, snowfall or rains might interrupt the transportation or damage the commodity in transit; or if the cash needs of the producer are very pressing immediately after the harvest in all such cases, the producer will have little option but to dispose of his produce within a short period after the beginning of the marketing year. Again, even if none of these disabilities exist, the crop may be too small to permit sales to be spread over the full year. The period of collection of farm-gate prices will therefore coincide with the period

of marketing, which may stretch over a full year in some instances, but not in others. The programme for collection of prices received by the farmer should, therefore, lay down appropriate guidelines for determining, in respect of each location and each commodity, the period over which the prices should be reported. This problem will not generally arise in the case of wholesale and retail markets. They run on a regular basis, making continuous reporting of prices possible.

4.4.9 FREQUENCY OF PRICE COLLECTION

How often should prices be collected: daily, weekly, fortnightly or monthly? The answer depends on the uses to which the prices are to be put. Anyone interested in the buying and selling of a commodity, and thereby earning a profit, requires daily prices of that commodity. A state or public agency wishing to disseminate market prices for the guidance of producer-sellers through the press, price bulletins, radio or television also needs daily quotations. For administering a policy of direct market intervention, the State, with the help of daily prices, would be enabled to decide where to buy in order to support prices and where to sell in a bid to counter excessive price rises. The above are special cases which call for collection of daily prices. For other uses, such as for studying price trends, making comparisons, or watching price movements as an indication of the interaction of the forces of supply and demand, daily prices are unnecessary. A fortnight or a month, on the other hand, is a rather long period, particularly where wide variations in prices are known to occur. A week is probably the most suitable period, and instructions for price reporting might, therefore, provide for collection of prices on a specified day of every week.

Which particular day in the week should be declared as the price reporting day? Ordinarily, any day of the week would be as good as any other day excluding, of course, the day (or days) on which the market is closed. As the market opens for only one day in each week as is not uncommon for primary wholesale markets in several countries, there is no choice except to report on the weekly market day. If the market opens more often than one day per week, the reporting day should be chosen so that the weekly postal holiday does not intervene to cause additional delays in the transmission of prices to the headquarters of the organization where such communications from various reporting markets are received for compilation, study and dissemination. The day prescribed must be adhered to so that prices are reported on the same day every week. Sometimes, instead of specifying a day of the week, dates in a month are prescribed, such as the 7^{th}, 14^{th}, 21^{st} and 28^{th} of each month.

4.4.10 UNIT OF QUOTATION

In determining the unit of quotation, three points require investigation. The first concerns the unit of weight. In a country where standardized weights and measures are in use, there should be no problem and prices may be reported per standard unit of weight applicable to the commodity, such as, per metric ton, per quintal or per kg. Where, however, weights have not yet been standardized and a wide variety of local weights are in use, differing from region to region within the country, the price reporter should be provided with a table of coefficients with which to convert the prices collected in local units into standard units before reporting the latter to the headquarters. It would be the duty of the supervisor, during his inspection tours, to provide the necessary guidance to the price reporter and to verify the accuracy of the conversions.

The second requirement is to define the form of the commodity to which the unit of weight should refer. For example, in the case of wheat, should it relate to the net weight of the grain, or be inclusive of the weight of the bag, sack, or basket in which it may be brought for sale? Decisions on this point will have to be taken in advance so that they can be applied uniformly to the commodities concerned in all reporting markets in order to permit valid comparisons of prices. Prices should, however, normally refer to the unit net weight of the commodity, the weight of the container in which it is brought for sale being excluded. If there is any insurmountable difficulty in doing this, and the prices for a commodity are, for example, quoted including the container in some markets and without it in others, the facts should be specified by the reporter when reporting the prices to enable the user to make appropriate adjustments and to exercise caution when comparing such quotations.

In this context, it should also be noted that farmers generally sell their produce in the form in which it is harvested. A grower of paddy would normally sell unhusked paddy rather than cleaned or milled rice (also called dehusked paddy). A cotton producer normally sells raw cotton as harvested, that is cotton from which cotton seed has not been separated. These situations are applicable to farm-gate prices or prices in primary wholesale markets. In secondary wholesale markets and retail markets, however, the form of the product will most probably have undergone a change due to processing. There, milled rice or cotton lint (also known as ginned cotton) would be sold. The form of the commodity to which the prices refer should, therefore, be unambiguously defined and kept in view when comparing farm-gate prices with wholesale or retail prices, or when estimating farm-gate prices from wholesale or retail prices. The third requirement is how to express the price. Prices should be quoted in terms of so many units of a country's currency per unit of standard weight, and not in terms of so much

weight per unit of currency. If international comparisons of prices are desired, up-to-date information on exchange rates to convert national currency into currencies of other countries will be needed.

4.4.11 OTHER TECHNICAL ASPECTS

A few other technical problems touching on price collection must be considered. Firstly, what price should be reported if no transaction takes place on a particular reporting day. This may happen in either of two ways: either the market may be closed because of a holiday or strike, or the market may be open but there may be no transaction because of, say, the non-arrival or non-availability of the commodity, or it may have decided for some reason not to bid on that day. While these situations call for local solutions, a general rule is that, in the former case quotations for the previous day should be repeated, while in the latter case notional prices should be estimated. A notional price is a ”probable” price and may be estimated by adjusting the previous day's price for the specified variety and quality in line with the changes observed in prices of other varieties in the same market, or price changes of the specified variety in neighbouring markets. The principle underlying the reporting of the previous day’s or notional prices is to achieve continuity and comparability of quotations even when no transactions have actually taken place in the selected variety and quality in the selected market. Such situations fortunately tend to be the exception rather than the rule. Nevertheless, it must be emphasized that unless the price reporter is very experienced, his notional estimates may be inaccurate, particularly in the case of commodities where the price-quantity relationship is sensitive. The fact that estimates have been made must, therefore, always be reported.

Another problem relates to what prices to report when a public authority imposes a statutory control over market prices and yet the market transacts at different prices. This, again, is a matter calling for local solution. Whether the dual price system is legally permitted, i.e. where statutorily controlled prices apply only to certain transactions while others are left open to free market forces, or whether sales at higher than the statutorily controlled prices are not legally recognized even though they do take place, the price reporter either has to exercise his judgment as to which of the two groups of transactions represents the larger bulk and report those prices, or he must compute the weighted average of the two prices using the quantities transacted as weights. An alternative would be to quote both the statutorily controlled prices and the open (or black, or grey) market prices giving also the best estimate of the relative proportion of transactions at the two prices.

A question may arise as to whether the price reporter should obtain price quotations always from the same set of dealers, selected in advance. This arrangement is acceptable as a minimum arrangement where the price reporters are not very experienced, but the aim should be to train reporters to assess the overall sense of the market by contacting a wide variety of dealers in the reporting market, supplementing this oral enquiry with personal observation of at least some transactions during the peak marketing hour of the reporting day.

A problem sometimes occurs in distinguishing a wholesale transaction from a retail transaction. Should a limit on the quantity handled in a transaction be prescribed, so that all sales above that quantity may be regarded as wholesale and those below as retail? This would be incorrect. No hard and fast rules regarding minimum quantities can be prescribed in as much as the minima will vary from commodity to commodity and from market to market. On the other hand, dealers in the markets generally understand what a wholesale transaction is, so that market conventions will be a better guide in this matter than any written rule.

4.4.12 SELECTION OF MARKETS

In selecting markets for regular price reporting, the most important consideration is whether the national price collection authority is responsible for collecting only prices received by farmers, or prices at all stages of marketing. If the latter is the case (which is the most likely), the list of markets selected should include farm-gate locations, primary, secondary and terminal wholesale markets and retail outlets. If, however, the authority is charged with collecting farm-gate prices only, the selected list can be confined to farm-gate locations. But, if in a country, or for some commodities in a country, the majority of transactions are not made at the farm-gate, it will be necessary to select markets where the producer-sellers generally dispose of their produce.

Markets should be selected on the criterion of their being representative. A market, regardless of the volume of transactions it handles, can be considered as representative if it is sensitive to changes in supply and demand conditions; i.e., if it reacts or responds quickly to changes in prices in other markets with which it has trade links. In selecting the reporting markets from such representative markets preference should be given to those which operate throughout the year so that continuous price data would be available and, in the interests of staff economies, to those from which quotations for more than one commodity can be reported. The choice of the number of markets will depend on how extensive are the needs for price data. If it is intended to evaluate agricultural production by districts or by smaller regions within a country, or if the inter-

regional variations in prices within a country are known to be large, the number of markets to be selected for reporting price data needs to be much greater than if it is intended merely to observe overall price trends. Likewise, the implementation of price support measures, for example, would call for a much larger spread of markets than that needed for constructing price indices.

As a general rule, the number of reporting markets should be such as to ensure that the calculated national, regional and sub-regional average prices for a given commodity are sufficiently accurate for the objectives in view. At the sub-regional level, the concerned authority may require information on prices in respect of a few important markets, located within its administrative jurisdiction for, say, an appraisal of the economic situation or an estimation of the value of agricultural output in the sub-region. The total number of markets for all sub-regions within a region may turn out to be too large for the purposes of the regional authority who may therefore, for its own uses, select a manageable number of markets from the sub-regional lists. Likewise, the national price collection authority may find the total number of markets in all regional lists too unwieldy for its purposes and may therefore select from the regional lists only the more sensitive and important markets. Thus, the sub-regional lists will include the regional lists, and the regional lists will include the national list of markets.

In conclusion, while the number of markets should be selected in the light of technical considerations such as those mentioned above, a limiting factor is the availability of trained reporting staff and/or resources for appointing new staff. It should be the aim, however, to strengthen the reporting staff gradually over the years until all the selected markets are covered.

4.4.13 DESCRIPTIVE MARKET SCHEDULES

For every market selected for price reporting, a schedule should be drawn up to show certain important details. Firstly, the schedule should give the market's identification - where is it located; in what direction and at what distance from a well-known place; and by what route is it reached? Is it situated on a river bank, or near a lake, or in hilly terrain, or in a desert area or a plains region? Is it approachable by rail, by road, or by boat? Secondly, what are the means of communication; i.e. are postal, telegraph and telephone facilities available in the market, so that the price reporter knows in advance the fastest means to adopt in case of need? For each market should be indicated details of the individual commodities traded and their varieties and qualities for which price data are to be collected. The nature of the market should also be stated, i.e. whether the market is a farm-gate location, a primary, secondary or terminal wholesale market, or a retail market. If this function varies with commodities, it should be stated

separately in respect of each. A detailed inventory of market practices should also be included.

Lastly the price reporter should be informed through the schedule about any institutions, such as a market committee or a chamber of commerce, and any individuals who are well conversant with the market, the system of sale adopted in it, the marketing practices and charges, etc., to whom the reporter may turn for clarification or closer understanding.

It should be emphasized that all the information about markets will have to be kept up-to-date and the schedules revised periodically since they will be in constant use not only by the price reporters but also in headquarters.

4.4.14 PRICE REPORTING FORM (PRICES RECEIVED BY FARMERS)

The descriptive schedules will provide essential information for the completion of the standard form which all price reporters will be required to transmit to their headquarters. Such a form should include the following details:

1. Price reporting form for prices received by farmer
2. Name of market:
3. Sub-region (county or district):
4. Region (province):
5. Prices as on (date):
6. Time of visit to market:
7. Commodity Modal Variety & Quality or Standard
8. Specification (specify)
9. Standard unit of weight (specify)
10. Prices per standard unit of weight
11. Nature of price (i.e. farm-gate, primary, whole, retail, etc. (specify)

Date of Dispatch: Signature of price reporter:

From the prices for a particular modal variety and quality recorded, the farm-gate modal price will be calculated at headquarters unless the price reporter is sufficiently experienced to determine the modal price himself.

4.5 DISSEMINATION

To maximize his income, a farmer naturally wishes to choose the optimum time and place for the sales of his agricultural commodities or his purchases of production requisites. He can be greatly assisted in this task if the price collection authorities, regional as well as national, arrange to convey to the farming community the prices for various agricultural commodities and production requisites available at different locations at given moments of time. The speed

with which this information can be conveyed to the farmer is of the essence. Accordingly, arrangements will need to be made to ensure that a particular day's market quotations for agricultural commodities reach farmers during the same day, or at least by that evening; (retail prices for production requisites, being more stable, need not be disseminated with quite the same urgency). Thus, market prices should be conveyed by the price reporters to the appropriate regional or national authority over the telephone, or by telex, soon after the peak marketing hour of the day. The authority will assemble the quotations in respect of the markets in its area into a standard statement and pass it on for broadcast over the local radio or television. The time for the broadcast would be fixed and announced in advance. The broadcast may be done everyday, or every alternate day, or even weekly depending upon the marketing system of the region. Where telephone or telex facilities are not adequate, the market reporters may use the telegraph or postal services (in which case it may not be possible to broadcast the day's prices until the next day). If broadcasting facilities are not available, price bulletins may be printed and dispatched to farmers or agencies connected with them. Use may also be made of the daily newspapers and weekly journals to give publicity to prices.

4.5.1 PUBLICATION

Prices and other ancillary data need to be published to enable their wider use and to provide a permanent historical record. Since the only information available is that which has been collected, the national price collection authority must consider carefully the scope and content of the data to be published when first formulating the programme for data collection. The publication would be brought out at regular intervals depending on the frequency at which data are reported by the price reporters. A weekly bulletin might give data for each day of the week to which it relates together with comparable data for earlier periods. Likewise, a fortnightly or a monthly bulletin might give weekly data for the fortnight or month which it covers, and some past data for ready comparison. An annual publication consolidating the information for the different weeks, fortnights or months of the year, as convenient, together with corresponding data for selected past periods, would be useful as a reference work. Suitable formats for the periodical and annual publications will need to be devised. The first issue of the periodical at the beginning of each year and every annual publication might, for example, describe the manner in which the data have been collected. This could cover the definition of price, the procedure or instructions for price collection, the commodity specifications, the nature of the different markets and locations (farm-gate, wholesale, retail, etc.) and any qualifications affecting the use of the data for comparison or valuation purposes (which can be given in footnotes to the

relevant tables). These would indicate whether a particular quotation relates to a concept different from the standard concept; or to a variety different from the standard variety; or to a different date; or is a nominal quotation; or is a slate intervention or controlled price; or includes the cost of sack or bag; or includes certain subsidies or taxes which other quotations do not; or relates to a system of payment different from that applicable to other quotations, e.g. discounts for prompt payment; and so on. This will help to avoid wrong inferences.

4.5.1.1 TIMELINESS OF PUBLICATION

The publication of data is often delayed due partly to a lack of urgency in the finalization of the manuscripts, and partly to difficulties in printing. Consequently, there is sometimes a long time lag between the date on which the publication is brought out and the date to which the data inside it relate. But timeliness, which is essential in collecting and compiling data, is no less important in publishing them. If the release of data by the national price collection authority is delayed, there is a danger of unofficial and possibly misleading data appearing earlier.

4.5.2 ANALYSIS

Analysis of price data implies studying the behavior of current prices in the context of the past in order to attempt to understand the future. The methodology varies from simple arithmetical comparisons to more complicated mathematical techniques depending upon the object of the analysis. Figures do speak, and it is the purpose of analysis to assess what they say; but the differing motivations of analysts may make the same figures tell different stories. Partly for this reason i.e. that the analysis undertaken by one agency may be doubted or challenged by another), and partly for the reason that properly to understand current price behavior often necessitates the study of certain other related data (such as those on stocks, production, flow of supplies, imports and exports of the concerned commodity), national price collection authorities generally publish price data without analyzing them. It is the policy making agencies who, taking these data and using them in conjunction with other related data, draw their own conclusions about the current price situation and the factors behind it. This knowledge is then used for decision-making of various kinds. It is important to remember that current price levels may have been influenced by related policy decisions taken in the past, and will show how far those decisions have succeeded in achieving the desired price levels. However, if the price collection authority is called upon to undertake the analysis of price data, the scope of such analysis and the methodology to be followed for the purpose in view will require to be decided. There is no problem if current prices (or index numbers based on them) are to be compared with previous prices. Such comparisons will generally be made in

percentage terms. Certain analyses may, however, require the use of special techniques. A time series has several components: secular trend, seasonal variations, cyclical movement, and irregular fluctuations. In a given time series, some or all of these components may be present. Separation of the different components of a time series will depend on whether it is desired to study a particular component or to study the series after eliminating the effect of a particular component. For such analysis, special techniques involving the fitting of mathematical curves are used. The analysis of past and current prices can also provide some indication of the future outlook. But the movement of a price in the immediate future depends not merely on the extension of a curve of past prices, but also on all other factors bearing on the expectations of supply and demand of the commodity and its substitutes. Outlook studies have assumed considerable importance in the context of planned economic development in many countries, but these studies need analytical expertise and experience in handling sensitive data. Agricultural prices are known to be affected by seasonality. From a study of past data it may look relatively easy to predict the time when prices are most likely to display a seasonal fall or peak, but the analyst has to take into account whether any action by the state to avert the seasonal fall, or to influence its magnitude in the coming year, is planned. Again, weather conditions can significantly affect the size of a crop, and the size in turn affects the prices. Knowledge of such inter-relationships is helpful in outlook studies but that alone is not enough.

4.6 DATA BASE MANAGEMENT

Data on various aspects of agricultural marketing are important for policy formulation and conducting research leading to solution of different marketing problems faced by the farmer-producers and consumers. The non-availability of primary data from different market functionaries and secondary data of time series nature from published sources has limited the scope of research in this field. There is difference in the coverage of data collected at the primary level and those published by different organisations. Published data include farm (harvest) prices at the district level, wholesale prices of selected crops for selected markets, retail prices of few selected markets of the states, market arrivals in important markets, market charges prescribed by the market committees, import and export of selected commodities at the national level and production and area of commodities at district and state level. From raw price data, index numbers are also constructed with reference to a particular base year. Since most secondary data in respect of all crops and markets on a time series basis are not available, it becomes difficult for analysts and researchers to draw meaningful conclusion unless these are supplemented by other data from

unpublished sources. The agencies engaged in collection of market information/statistics are:

i) Directorate of Marketing and Inspection, Government of India, Faridabad and Nagpur

ii) State Agricultural Marketing Boards

iii) State Agricultural Marketing Departments

iv) Directorate of Economics and Statistics, Government of India

v) Corporations such as the Food Corporation of India, the Warehousing Corporation of India, Commodity Boards and other Corporations

vi) The Agricultural Produce Market Committees (APMCs)

vii) The Revenue Department of State Governments

viii) The Directorate of Economics and Statistics (DES) of State Governments.

Marketing statistics/data are available in the following publications brought out by the concerned departments viz.:

i) Agricultural Situation in India - Monthly

ii) Bulletin on Prices - Weekly

iii) Reserve Bank of India Bulletin - Monthly

iv) Agricultural Marketing - Quarterly

v) Bulletin on Food Statistics - Bi-annual

vi) Indian Agriculture in Brief – Bi-annual

vii) Economic Survey - Annual

viii) Commodity Survey Reports - Occasional

ix) CMIE Publications - Occasional

x) Indian Journal of Agricultural Marketing - Thrice a year

xi) Indian Journal of Agricultural Economics - Quarterly

xii) Reports of Various Commissions and Corporations

xiii) Annual Reports of different Departments stating their progress

xiv) Newspapers (especially the Economic Times and Financial Express) - Daily

xv) Monthly Bulletins of Market Committees and State Agricultural Marketing Boards – Occasional.

Of the various organisations, Directorate of Economics and Statistics is the main agency collecting and compiling price statistics of agricultural commodities. This Directorate was set up in 1948 in the Ministry of Agriculture. Three types of prices – wholesale, farm harvest and retail prices of various agricultural commodities, their sub-groups and groups are collected and compiled on a regular basis using a standard methodology.

4.6.1 NATIONAL INSTITUTE OF AGRICULTURAL MARKETING (NIAM)

The National Institute of Agricultural Marketing (NIAM) is a pioneering national level organisation set up by the Government of India in year 1988 for offering specialised training, education and consultancy and for undertaking research in agricultural marketing. It is an autonomous body under the aegis of Ministry of Agriculture (previously of Ministry of Rural Areas and Employment), Government of India. The Institute is being developed as a Centre of Excellence in the field of Agricultural Marketing (NIAM, 2000). The following functions have been assigned to the Institute:

i) To provide specialised training in agricultural marketing for entrepreneurs and institutions by offering and sponsoring specialised marketing courses at various levels as necessary to supplement existing facilities;

ii) To undertake research in agricultural marketing for government, cooperatives and other institutions for demonstrating and replication of the advanced management techniques in this field;

iii) To provide advisory and consultancy services to marketing enterprises (state, private and cooperatives) in the field of agricultural marketing; and

iv) To develop and formulate investment projects in the field of agricultural marketing for public, cooperative and private institutions.

The Institute has conducted more than 300 training programmes upto 1999-2000. The Institute has also undertaken long and short-term research studies on various facets of agricultural marketing. The long-term projects handled by the Institute include formulation of master plans for the development of agricultural markets for the states of Jammu & Kashmir, Andhra Pradesh and Sikkim. The Institute has also undertaken a collaborative research project on the formulation of Integrated Action Plan for the Promotion of Handicrafts and Handlooms in the States of Uttar Pradesh and West Bengal in association with IRMA-Anand. The short-term research activities include case studies on various agri-business

activities and commodity marketing studies. The Institute has developed a data bank on various aspects of agricultural marketing including infrastructural facilities available in different market yards of Rajasthan, Delhi, Meghalaya, Jammu & Kashmir, Goa, Himachal Pradesh, Andhra Pradesh and others. The publication entitled "Statistical Abstract" containing data on post-harvest technology and different marketing aspects of national and international level is being brought out by the Institute since 1997.

4.6.2 INFORMATION SYSTEM ON PRICES

Information is the key factor deciding the quality of decisions, and subsequent actions, taken by those who are entrusted with the nation's socio-economic planning. In this problem-solving process, the more error free the data are, the more relevant the information would be, higher the quality of the decisions, and lower the uncertainty and element of risk. Information system on prices may be deemed to comprise: i) data collection, scrutiny, and storing, ii) data analysis and information generation, iii) data communication/transmission, iv) information communication / dissemination, and iv) end use. A visualisation of the information system on prices is delineated in the figure given below. Primary data on prices collected by various agencies form the foundation on which information on general price level in the country is built up.

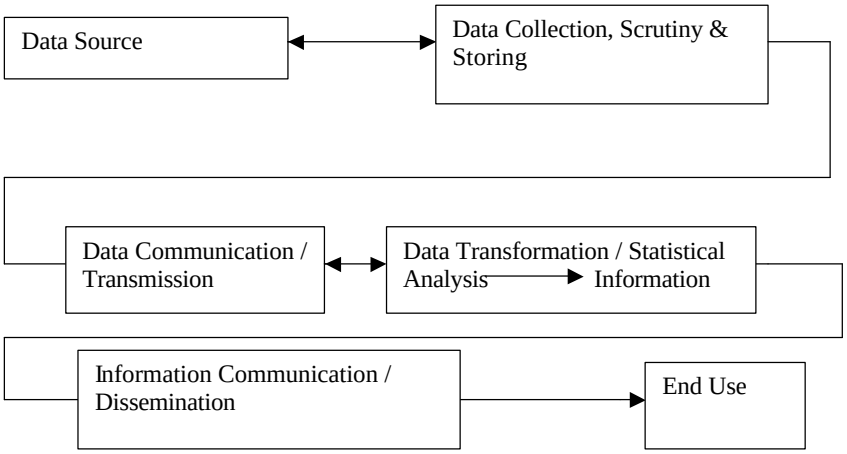

Figure: Information system on prices

4.6.2.1 INFORMATION TECHNOLOGY IN AGRICULTURAL MARKETING

Market information is needed by farmers in planning production and marketing, and is equally required by other market participants in arriving at optimal trading decisions. The existence and dissemination of complete and accurate marketing information is the key to achieving both operational and pricing efficiency in the marketing system and IT has an important role to play in the process.

There are several areas of agricultural marketing with which farmers need to be fully familiarized in order to improve price realization. Promotion of nationally and internationally acceptable standards of grading and standardization, packaging and labelling, storage and warehousing and sanitary and phyto-sanitary measures and quality certification in farm sector will enable trade and processing sector to undertake large scale agricultural marketing operations in domestic as well as international markets. Once the farm produce is standardized and labelled, backed by reputed quality certification, it can be directly offered for sale in national and international markets.

Several Ministries in Government of India take decisions directly affecting the process of Agricultural marketing in the country. Important among these are Agriculture, Commerce, Food and Public Distribution, Consumer Affairs and Health. Several central institutions set up by Government of India viz. NCDC, NAFED, TRIFED, NDDB, NHB, APEDA etc., are directly involved in implementing programs to strengthen agricultural marketing in the country and to help farmers in the process of marketing of agricultural produce. Then there are Commodity Boards and Export Promotion Councils for specific commodities and to promote exports. All the relevant programs and policies of these institutions need to be disseminated to the farm producers and the target groups to enable them to take full advantage of newer opportunities made available by the Government. Although many of these organizations have their independent web sites hosted through NIC or other internet service providers, the portal developed by NIC (AGMARK-NET) should provide linkages to these sites to access marketing related information to all market players.

Data on various aspects of agricultural marketing is important for policy formulation, infrastructure planning and research. To facilitate both the Government as well as the private sector in planning development of an appropriate marketing strategy in agriculture sector, it would be necessary to create at national level an ‘Atlas of Agricultural Markets’ which would provide information in respect of each commodity, major areas of production, movement and storage and of market and consuming centers. In parallel, commodity profile should be prepared for all major commodities outlining the market requirements in terms of quality, standards, labelling, packing, storage, transport, regulations,

taxation, warehousing, forward and futures markets etc. This information has to be translated in local languages and uploaded onto the State level portals to facilitate market led extension to farming community in local language through internet.

4.7 MARKET INFRASTRUCTURE DEVELOPMENT

A marketing system backed by strong, adequate infrastructure is at the core of agricultural marketing. 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 and entrepreneurial skills are required for creation and management of the agricultural marketing infrastructure. The situation of control by the state has to be eased to facilitate greater participation of the private sector, particularly to engender massive investments required for the development of marketing infrastructure and supporting services. Investment requirement for the development of marketing, storage and cold storage infrastructure in the country during 10^{th} Plan had been estimated to be of the order of Rs. 12,230 crores.

4.8 NATIONAL INFORMATICS CENTRE - IMPLEMENTING AGENCY

National Informatics Centre (NIC) is the nodal Scientific & Technology organization in the Ministry of Communications & Information Technology, for informatics development and networking in government, corporate and cooperative sectors for decision support. NIC offers state-of-the-art network services in the country, over C-band and Ku-band (TDMA, FTDMA & SCPC) VSATs, Wireless Metropolitan Area Networks (MANs) and Local Area Networks (LANs) with NICNET gateway for Internet resources, so as to facilitate economic, social, scientific and technological activities, and also for "macro-economic adjustment programme" of the Government. NIC implements IT projects, in collaboration with the Central/State Governments, in respect of

i) Centrally Sponsored Schemes,

ii) Central Sector Schemes,

iii) State Sector & State sponsored Programmes, and District Administration sponsored Projects.

NIC provides the state-of-the-art IT solutions to information management, information dissemination, and decision support requirements of the Central as well as state Governments, the Corporate Sector and the Cooperative Sector. NIC plays "Data Warehousing" (Data Bases & Model Bases), Network Services (Internet, Intranet), & Ex-Geographical Information System (GI Application of

Remote Sensing Data), Multi-media Information System, E-Governance & E-Commerce, Decision Technological Sectoral IT Plans, IT Training for Government Employees. NIC Project Offices have been established in 1980s, with NICNET facilities for Internet & Intranet access, through a Memorandum of Understanding (MOU), in all the Central Government (Civilian) Departments/ Ministries, 29 State Government Secretariats, 6 Union Territories Administration.

4.9 DIRECTORATE OF MARKETING AND INSPECTION (DMI)

The Directorate of Marketing and Inspection (DMI), headed by Agricultural Marketing Advisor to the Government of India (AMA), implements agricultural marketing programmes of the Central Government, under the supervision and control of the Central Ministry of Agriculture. DMI aims at bringing integrated development of marketing of agricultural and allied produce in the country, and maintains a close liaison between the Central and State Governments through its regional offices (11) and sub-offices (37) spread all over the country. DMI has a network of 22 regional Agmark Laboratories with its Central Agmark Laboratory at Nagpur. Its thrust areas functional responsibilities include:

- promotion of standardization and grading of agricultural and allied produce;
- market research and surveys;
- manpower training in Agricultural Marketing;
- market development through Regulation, Planning and Designing of physical markets;
- marketing extension to educate consumers/producers;
- administration of Meat Food Products Order (1973);
- promotion of Cold Storage; and
- market information network.

CHAPTER-V

ENSURING QUALITY STANDARDS

5.1 MARKET RESEARCH SURVEYS: CURRENT STATUS

The concept of market research survey in India dates back to 1935. It started with the establishment of the Office of Agricultural Marketing Adviser for investigation of the chain of operations from production through final distribution of crops, while establishing appropriate marketing standards. The market surveys are carried out by the Marketing Officers visiting the centres of concentrated production, as well as areas where production is relatively sparse. The information is collected by interviewing representatives of different groups of persons concerned in the production and distribution of the commodity affected, e.g., producers, wholesalers, manufacturers, railway agents, etc. Each Marketing Officer is responsible for making sure that the sample interviews are representative of all the different groups of persons in the chain of distribution. With the setting up of a Market Research and Planning Cell (MRPC) in the Directorate of Marketing and Inspection, the importance of market research has increased. While the headquarters of MRPC looks after the guidelines, questionnaire and schedules in use and synopsis for the collection and compilation of the data, the field offices located at various State capitals and important centres carry out the field surveys. The collection of data is done by teams of qualified and experienced officers through well-planned schedules and guidelines provided for the survey. The collected data are analysed and a report on each crop is published for the benefit of various market users.

Deficiencies

It is reported that the field investigators often find it difficult to collect primary data from the producers of agricultural commodities, as they do not maintain any records. As a result, the information collected depends to a large extent on individual assessment by the investigators. Even so, the survey reports provide valuable information to the planners and policy makers. Several institutions both at the Central and State level carry out market research work. As there is no standard agricultural marketing research methodology, it is difficult to have uniformity in the work. A lot of statistics go into the preparation of the reports, but the MRPC is not adequately equipped to analyse and make full use of the data collected. The Cell has not been properly supported by statistical resources.

5.2 MARKET INFORMATION

Market information may be broadly defined as a communication or reception of knowledge or intelligence. It includes all the facts, figures, opinions and other information, which affect the marketing of goods and services. Market information is useful to all the sections of the society - Farmer, Producer, Middlemen, General Economy, and Government.

5.2.1 TWO TYPES OF MARKET INFORMATION

5.2.1.1 Market intelligence

This includes information relating to such facts as the prices that prevailed in the past and market arrivals over time. It is historical nature. An analysis of the past helps to take decision about the future.

5.2.1.2 Market News

This term refers to current information about prices, arrival and changes in the market conditions. The availability of market news in time and with speed is of utmost value.

Marketing Information System is defined as a set of procedures and methods for the regular and planned analysis and presentation of information for the use of marketing decisions.

Marketing Information System (MIS)	Marketing Research
1. It suggests methods to prevent and solve the problems for the whole organization under different perspectives e.g. sales advertising, cost of distribution etc.	It presents the problems pertaining to a particular field of activity.
2. The past experiences form the basis for future and the results are future oriented.	It is only a post mortem of what had taken place already, in most cases.
3. It is fairly a wide concept and includes marketing research as one element.	It remains as a source for contributing necessary information to the MIS.
4. It is a continuous process.	It operates more often on specific problems
5. It anticipates, prevents as well as solves problems related to marketing.	It is concerned with finding out solutions for marketing problems.

5.2.2 ELEMENTS OF MARKETING RESEARCH

Market Research, Sales Research, Product Research, Packaging Research, Advertising Research, Business Economics Research.

5.2.2.1 Scope and Uses of Marketing Research

It helps in a) production of marketable goods, b) distribution of marketable goods, c) size, nature and organization of sales and d) demand creation activities.

5.2.2.2 Forms of Research

Marketing research may be classified a) Ad-hoc Research, b) Continuous Research, c) Exploratory Research, and 4) Conclusive Research.

5.2.2.3 Steps in Marketing Research

a) Problem Formulation

b) Decision on Fact-gathering Procedure Data Collection

c) The Marketing Sample Data Evaluation

d) Interpreting the Data Report Preparation

e) Executive Report

f) Technical Report

g) Data Report

h) Popular Report

5.3 AGRICULTURAL MARKETING FINANCE

Finance required for agricultural marketing represent funds required for moving the crops from the farm to the consumer or the manufacturer for further processing. Thus there exists close relationship between agricultural production, and consumption and industrial production. The growth of agriculture is a precondition for industrial development.

5.3.1 SPECIAL FEATURES OF AGRICULTURAL MARKETING FINANCE

The agricultural marketing finance assumes importance because of certain special characteristics of farming. For instance, the farmer's credit worthiness is invariably not sound for obtaining necessary finance. They are often isolated and remote from the normal opportunities of obtaining credit. The other special features are:

a) The need for finance is recurring in nature.

b) Lack of commercial knowledge makes it difficult to anticipate production prospects.

c) Sharing or shifting of risk in production is not possible.

d) Small units of production.

e) Changing climatic conditions are beyond the control of agriculturists and very often their expectations go wrong.

f) Organized marketing procedure is not adopted because of which forced sales take place in villages.

5.3.2 KINDS OF FINANCE REQUIREMENT

Some of the finance requirements in agricultural marketing are:

Farmer: Production-consumption- transport of produce to market needs finance requirements.

Middlemen: Working expenses, storage, transport needs finance requirement.

Marketing Institutions: For building storage godowns, transport vehicle loan, working capital, to grant advance against pledge of produce.

Sources of Finance:

1. Indigenous Money Lenders
2. Cooperative Societies
3. Commercial Agencies
   a) NABARD (refinance facility)
   b) Agricultural Finance Corporation Limited
   c) Agricultural Refinance Corporation
   d) Regional Rural Banks
   e) Commercial Banks.

5.4 MARKETING RISK

Risk is defined as uncertainty about cost, loss or damage. Risk is inherent in all marketing transactions. The risks associated with marketing process are of three basic types:

i) Physical Risk

This includes a loss in the quantity and quality of the product during the marketing process. It may be due to fire, flood, earthquake, rodents, insects,

pests, fungus, excessive moisture or temperature, careless handling and unscientific storage, improper packing, looting or arson. These together account for a large part of the loss of the produce at the individual as well as at the macro level. Such losses are loss to the society also and must be prevented to the extent possible.

ii) Price Risk

The prices of agricultural products fluctuate not only from year to year, but during the year from month to month, day-to-day and even on the same day. The changes in prices may be upward or downward. Price variation cannot be ruled out as the factors affecting demand for and the supply of agricultural products re changing continuously. A price fall may cause a loss to the trader or farmer who stocks the produce. Sometimes the risks are so great that it may result in a total failure of the business, and the person who owns it may become bankrupt.

iii) Institutional Risk

These risks include the risk arising out of a change in Government's budget policy, in tariffs and tax laws, in the movement restrictions, statutory price controls and the imposition of levies.

5.4.1 MINIMIZATION OF RISKS

The agencies engaged in marketing activities worry about the risks associated at every stage; and they continually try to minimize the effects of these risks. A risk cannot be eliminated because it also carries profit. The risk can be minimized by adoption of some of the measures given below:

i) Reduction of Physical Loss

The physical loss of a product may be reduced by use of fireproof materials in the storage structures to prevent accidents due to fire;

1. Use of improved storage structures and giving necessary pre-storage treatment to the product to prevent losses in quality arising out of excessive moisture, temperature, attacks by insects and pests, fungus and rodents;
2. Use of better and quicker transportation methods and proper handling during transit; and
3. Use of proper packaging material.

ii) Transfer of physical losses to insurance companies

iii) Minimization of price risks

1. Fixation of minimum and maximum prices for commodities by the government and allowing movement of prices only within the defined range.
2. Making arrangements for the dissemination of accurate and scientific price information to all sections of society over space and time.
3. Operation of speculation and hedging: The prices associated with commodities for which the facility of forward trading is available may be transferred to professional speculation through the operation of hedging.

Marketing Information Centre: Market intelligence plays a vital role in marketing of agricultural produce. If information on commodity prices and demand in various markets etc. are made available, the farmers could plan in advance the crops to cultivate and decide the market to sell their produce in order to get better returns. The above centres will have Internet facility and electronic display board. The daily price and arrivals that prevail in different regulated markets will be transmitted to all information centres which will be displayed in the electronic display boards for the benefit of farmers and traders.

A data bank on area and production of various agricultural commodities including fruits and vegetables, wholesale markets etc. is maintained in this department. These particulars are given to the entrepreneur, who intends to establish Food Processing industries in the state. It is proposed to prepare a shelf of model food processing projects through consultants and the same will be made available in all District Industry Centers for the use of entrepreneur. Agricultural Marketing and Agricultural Business department participates in all the agriculture and food related exhibitions, seminars in which the advantages of food processing and value addition are disseminated.

5.5 CODEX ALIMENTARIUS COMMISSION

To develop food standards, guidelines and related texts such as codes of practice under the Joint Food and Agriculture Organization (FAO) and World Health Organization (WHO) Food Standards Programme, the Codex Alimentarius Commission was created in 1963 by FAO/WHO. The main purposes of this Programme are protecting health of the consumers and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations.

The Codex Alimentarius Commission envisages a world afforded the highest attainable levels of consumer protection, including food safety and quality. To this end, the Commission will develop internationally agreed standards and related texts for use in domestic regulation and international trade in food that are based on scientific principles and fulfill the objectives of consumer health protection and fair practices in food trade.

5.5.1 EVALUATION OF CODEX

In December 2002, FAO and WHO completed an evaluation of the Codex Alimentarius and other FAO and WHO Food Standards work and this was discussed at a Special Session of the Codex Alimentarius Commission in February 2003. This evaluation was undertaken at the request of FAO, WHO and the Codex Executive Committee and although it concentrated on the FAO/WHO Codex Alimentarius Commission, the evaluation covered all aspects of the food standards work of FAO and WHO, which includes also capacity building and expert scientific advice. The work of the evaluation was undertaken by an independent team advised by an independent expert panel. The evaluation team consisted of five persons, three of whom, including the team leader, were external to the two Organizations. The independent expert panel had ten members drawn from all parts of the world and stakeholder interests. The evaluation also benefited from the advice of the Codex Executive Committee. The evaluation team visited 24 Member Nations and the European Community. Information was also received from an open call for public comment on the Internet and from detailed questionnaires to Member governments and stakeholder organizations. There was a very high level of responses to the questionnaires with over 100 Member Nations replying.

The evaluation found Codex food standards to be given very high importance by members. Codex standards were considered a vital component in promoting food control systems designed to protect consumer health, including issues related to international trade and the agreements on the Application of Sanitary

and Phytosanitary Measures (SPS) and on Technical Barriers to Trade (TBT) of the World Trade Organization (WTO). International standards also provide a basis for standard setting by smaller and less developed countries. Capacity building activities of FAO, WHO and Codex were found to be continuing to make a substantial contribution internationally and to individual countries both in protecting their own citizens and in benefiting from an increasingly globalized market in food.

The report of the evaluation was considered by the 25th (Extraordinary) Session of the Codex Alimentarius Commission (Geneva, 13-15 February 2003). The Commission supported the overall thrust of the Evaluation report and expressed its commitment to the implementation of strategies that would meet the objectives of the recommendations contained therein. It strongly agreed that these recommendations should be reviewed expeditiously.

In order to maintain the strong support from all Member Nations and stakeholders, the Commission agreed that in their response to the Evaluation, the Commission and its parent Organizations should work towards: greater efficiency and effectiveness in the development of Codex standards, whilst maintaining transparency and inclusiveness and procedural consistency in the process of their development; increased participation of developing Member Nations and Member Nations in economic transition in the work of the Codex Alimentarius Commission throughout the standards development process; greater usefulness of Codex standards to Member Nations in terms of relevance to their needs and timeliness; strengthening of the scientific base for risk analysis, including food safety risk assessment to improve the efficiency and effectiveness in providing expert scientific advice to the Commission and Member Nations and to improve risk communication; and more effective capacity building for the development of national food control systems.

The Commission also agreed that it should have greater independence, within the overall structure of FAO and WHO, for proposing and executing its work programme and budget, once approved by the two parent organizations. It strongly supported the recommendation that the Secretariat be expanded and that the seniority and composition of its staff should match the Commission's increased requirements.

The Commission expressed the view that there needed to be sufficient capacity within the parent Organizations to ensure that scientific advice was provided on a timely basis. It also agreed that this work needed to have greater identity within the Organizations, stronger links to Codex priorities, and internal coordination as well as significantly increased resources. Its independence from external influences and its transparency needed to be further reinforced within FAO/WHO.

It strongly recommended that WHO markedly increase its contribution to health risk assessment carried out by FAO/WHO expert committees and FAO/WHO Expert consultations. It also recommended that FAO strengthen its input in areas reflecting its responsibility and expertise. In the area of capacity building, the Commission called upon FAO and WHO to undertake a major effort to mobilize extra-budgetary funds and foster coordinated bilateral assistance in capacity building. It also called for a more coordinated approach for capacity building between FAO and WHO.

The Commission called upon FAO and WHO to provide additional Regular Programme resources, supplemented with extra-budgetary resources where necessary, to strengthen Codex and Codex-related work throughout the two Organizations. If all recommendations of the evaluation were to be implemented with immediate effect, the incremental core funding for Codex would need to increase by some US$ 1.4 million per biennium. Immediate incremental costs of implementing recommendations relating to improving the timeliness of expert scientific advice to Codex and Member Nations is estimated to be US$ 2.5 million per biennium, shared equally between FAO and WHO. It is the intention of FAO to proactively seek extra-budgetary resources to be able to implement fully the recommendations of the Evaluation of Codex and Codex-related work.

Such standards for about 278 crops/commodities have been given on the website of Codex Alimentarius Commission. For illustration purpose, Codex Standards for Maize, Wheat; and Pearl Millet have been appended in detail in the next Sub-Sections 5.5.2; 5.5.3 and 5.5.4. respectively.

5.5.2 CODEX STANDARD FOR MAIZE (CORN)
CODEX STANDARD 153-1985 (Rev. 1 - 1995)

The Annex to this standard contains provisions which are not intended to be applied within the meaning of the acceptance provisions of Section 4.A (I)(b) of the General Principles of the Codex Alimentarius.

1. SCOPE

This standard applies to maize (corn) for human consumption, i.e., ready for its intended use as human food, presented in packaged form or sold loose from the package directly to the consumer. This standard specifies requirements for whole grain shelled dent maize, Zea mays indentata L., and/or shelled flint maize, Zea mays indurata L., or their hybrids. It does not apply to processed maize.

2. DESCRIPTION

2.1 Product Definition

Maize (corn) is the shelled grains of the species defined in the scope.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Maize shall be safe and suitable for human consumption.

3.1.2 Maize shall be free from abnormal flavours, odours and living insects.

3.1.3 Maize shall be free from filth in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 Moisture Content 15.5% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Extraneous matter are all organic and inorganic materials other than maize, broken kernels, other grains and filth.

3.2.2.1 Filth are impurities of animal origin (including dead insects). 0.1% m/m max

3.2.2.2 Toxic or Noxious Seeds

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotolaria (Crotalaria spp.), Corn cockle (Agrostemma githago L.), Castor bean (Ricinus communis L.), Jimson weed (Datura ssp.), and other seeds are commonly recognized as harmful to health.

3.2.2.3 Other organic extraneous matter which is defined as organic components other than edible grams of cereals (foreign seeds, stems, etc.) (1.5% m/m max).

3.2.2.4 Inorganic extraneous matter which is defined as any inorganic component (stones, dust, etc.) (0.5% m/m max).

4. CONTAMINANTS

4.1 Heavy Metals

Maize (corn) shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide Residues

Maize (corn) shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

4.3 Mycotoxins

Maize (corn) shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity.

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985, Codex Alimentarius Volume 1B) and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. PACKAGING

6.1 Maize (corn) shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. LABELLING

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991, Codex Alimentarius Volume 1A), the following specific provisions apply:

7.1 Name of the Product

7.1.1 The name of the product to be shown on the label shall be "maize (corn)."

7.2 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

ANNEX

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
KERNELS OF OTHER COLOURS		Visual Examination
· in yellow maize. Maize grains which are yellow and/or light red in colour are considered to be yellow maize. Maize grains which are yellow and dark red in colour, provided the dark red colour covers less than 50% of the surface of the	MAX: 5.0% by weight of maize of other colours	

grain, are also considered to be yellow maize		
· in white maize. Maize grains which are white and/or light pink in colour are considered to be white maize. White maize also means maize grains which are white and pink in colour, provided the prink colour covers less than 50% of the surface of the grain	MAX: 2.0% by weight of maize of other colours	
· in red maize. Maize grains which are pink and white or dark red and yellow in colour are considered to be red maize, provided the pink or dark red colour covers 50% or more of the surface of the grain	MAX: 5.0% by weight of maize of other colours	
· mixed maize		
KERNELS OF OTHER SHAPE		Visual Examination
· in flint maize	MAX: 5.0% by weight of maize of other shapes	
· in dent maize	MAX: 5.0% by weight of maize of other shapes RANGE: 5.0% to 95%	
· flint and dent maize	by weight of flint maize	
DEFECTS		
· blemished grains: grains which are nsect or vermin damaged, stained, diseased, discoloured, germinated, frost damaged, or otherwise materially damaged	MAX: 7.0% of which diseased grains must not exceed 0.5%	Visual Examination
· broken kernels	MAX: 6.0%	ISO 5223-1983 (4.50 mm metal sieve)
· other grains	MAX: 2.0%	Visual Examination

5.5.3 CODEX STANDARD FOR WHEAT PROTEIN PRODUCTS INCLUDING WHEAT GLUTEN

(CODEX STAN 163-1987, Rev. 1-2001)

1. SCOPE

This standard applies to Wheat Protein Products prepared from wheat by various processes. The products are intended for use in foods requiring further preparation and for use by the food processing industry. Wheat gluten or wheat protein products should not be used for technological reasons e.g. coating or processing aids for foods which are gluten-free by nature (This does not preclude the use of these products as ingredients in composite pre-packaged foods provided that they are properly labelled as ingredients)

2. DESCRIPTION

2.1 Definitions

Wheat Protein Products (WPP) covered by this standard are food products produced by separation from wheat or wheat flour of certain non-protein constituents (starch, other carbohydrates).

- Vital wheat gluten is characterized by its property of high viscoelasticity as hydrated.
- Devitalized wheat gluten is characterized by its reduced property of viscoelasticity as hydrated due to denaturation.
- Solubilized wheat proteins are characterized by their reduced property of viscoelasticity as hydrated due to partial hydrolysis of wheat gluten.

3. ESSENTIAL COMPOSITION, QUALITY AND NUTRITIONAL FACTORS

3.1 Raw Materials

Wheat or wheat flour essentially free from other seeds and foreign matter in accordance with Good Manufacturing Practice.

3.2 Compositional Requirements

WPP shall conform to the following compositional requirements:

3.2.1 Moisture content shall not exceed 10 % (m/m).

3.2.2 Crude protein (N x 6.25) shall be:

- in case of vital and devitalized wheat gluten, 80 % or more
- in case of solubilized wheat proteins, 60% or more

On a dry weight basis excluding added vitamins, minerals, amino acids and optional ingredients as specified in Section 3.3.

3.2.3 Ash

The yield of ash on incineration shall not exceed:

- in case of vital and devitalized wheat gluten, 2.0 %

- in case of solubilized wheat proteins, 10 %

on a dry weight basis.

3.2. 4 Crude fibre content shall not exceed 1.5 % on a dry weight basis.

3.3 Optional ingredients

No optional ingredients are permitted in vital and devitalized wheat gluten.

For solubilized wheat proteins, the following classes of ingredients may be used:

(a) carbohydrates, including sugars

(b) edible fats and oils

(c) other protein products

(d) amino acids, vitamins and minerals

(e) salt

(f) herbs and spices

(g) enzymes

3.4 Nutritional factors

Processing should be carefully controlled and sufficiently thorough to secure optimum flavour and palatability.

Processing must not be so severe as to appreciably impair the nutritive value.

4. FOOD ADDITIVES

No food additives are permitted in vital and devitalized wheat gluten and in solubilized wheat proteins.

5. CONTAMINANTS

The products covered by the provisions of this standard shall comply with those maximum limits established by the Codex Alimentarius Commission.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Codex of Practice B General Principles of Food

Hygiene (CAC/RCP 1-1969, Rev 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997)

7. PACKAGING

WPP shall be packed in suitable hygienic containers which will maintain the product during storage and transport in a dry and sanitary condition.

8. LABELLING

In addition to the requirements of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev 1-1991) the following specific provisions apply:

8.1 Name of the food

8.1.1 Vital wheat gluten

The name of the food shall be "vital wheat gluten" or "wheat gluten".

8.1.2 Devitalized wheat gluten

The name of the food shall be "devitalized wheat gluten" or "devital wheat gluten".

8.1.3 Solubilized wheat proteins

The name of the food shall be "solubilized wheat protein" or “soluble wheat protein”.

8.2 Instructions for use

The manufacturer of WPP shall provide clear instructions for specific uses claimed on the label. Cautionary statements for gluten intolerant persons shall be on the label if required by national legislation.

8.3 Date Marking

The "date of minimum durability" (preceded by the words "best before") shall be declared by the day, month and year in uncoded numerical sequence except that for products with a shelf-life of more than three months, the month and year will suffice. The month may be indicated by letters in those countries where such use will not confuse the consumer. In the case of products requiring a declaration of month and year only and the shelf-life of the product is valid to the end of a given year, the expression "end (stated year)" may be used as an alternative.

8.4 List of ingredients

A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and added minerals, these ingredients shall be arranged as separate groups for vitamins and minerals, respectively, and within these groups the vitamins and minerals need to be listed in descending order of proportion.

8.5 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

8.6 Declaration of ingredients of animal origin

Optional ingredients of animal origin shall be declared on the label of the product to read as follows:

“Contains (state optional ingredient) of animal origin”.

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Moisture Content

According to AOAC 925-09.

9.2 Protein

Vital wheat gluten and devitalized wheat gluten

According to AOAC 979.09.

Solubilized wheat protein

According to AOAC 920.87.

9.3 Ash

According to AOAC 923.03 or ISO 2171 (1980, method B).

9.4 Crude Fibre

According to AOAC 962.09.

9.5 Sampling

According to ISO 13690:1999.

5.5.4 WHOLE AND DECORTICATED PEARL MILLET GRAINS (CODEX STANDARD 169)-1989 (Rev. 1 - 1995)

The Annex to this standard contains provisions which are not intended to be applied within the meaning of the acceptance provisions of Section 4.A (I)(b) of the General Principles of the Codex Alimentarius.

1. SCOPE

This standard applies to whole and decorticated pearl millet destined for human consumption which is obtained from Pennisetum americanum L., Senegalese varieties "souna" and "sanio".

2. DESCRIPTION

2.1 Definition of the Product

Pearl millet grains shall be whole or decorticated and suitable dried if necessary. They shall have the characteristics of the species Pennisetum americanum L.

2.1.2 Whole Grains

These are grains of pearl millet obtained as such after proper threshing with no mechanical treatment.

2.1.3 Decorticated Grains

These are grains of pearl millet from which outer parts, amounting to 20-22% of the weight of the whole grains have been removed in an appropriate manner using mechanical treatment (for example, simple abrasion).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Pearl millet grains shall be safe and suitable for human consumption.

3.1.2 Pearl millet grains shall be free from abnormal flavours, odours, and living insects.

3.1.3 Pearl millet grains shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 Moisture Content 13% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.3 Definition of Defects

Extraneous Matter is vegetable matter, shrivelled grains (grains which have not reached normal maturity), altered grains, etc.

3.4 Tolerances for Defects

Extraneous Matter - Whole pearl millet grains shall not have more than 2.0% of extraneous matter. Decorticated pearl millet grains shall not have more than 0.5% of extraneous matter. Also, whole and decorticated pearl millet grains shall be practically free from dirt, animal debris, mineral particles and diseased grains.

4. CONTAMINANTS

4.1 Heavy Metals

Pearl millet grains shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide Residues

Pearl millet grains shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

4.3 Mycotoxins

Pearl millet grains shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity.

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985, Codex Alimentarius Volume 1B), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;

- shall be free from parasites which may represent a hazard to health; and

- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. PACKAGING

6.1 Pearl millet grains shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. LABELLING

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991, Codex Alimentarius Volume 1A), the following specific provisions apply:

7.1 Name of the Product

7.1.1 The name of the product to be shown on the label shall be "millet grains," or "decorticated millet grains."

7.2 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

ANNEX

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
APPEARANCE · brown, white or green **1,000 KERNEL WEIGHT** · whole millet grains · decorticated millet grains None Defined **1 LITER WEIGHT**	 Buyer Preference RANGE: 5.0 to 10.0 g RANGE: 4.0 to 8.0 g RANGE: 750 to 820 G	Visual Examination None Defined
ASH · decorticated millet grains	 RANGE: 0.8 to 1.0% on a dry matter basis	AOAC 923.03
PROTEIN (N x 5.7)	MIN: 8.0% on a dry matter basis	AOAC 920.87
DECORTICATION	MAX: 20%	None Defined
CRUDE FIBER · whole millet grains · decorticated millet grains	 RANGE: 3.0 to 4.5% on a dry matter basis MAX: 2.0% on a dry matter basis	ISO 5498:1981
FAT · whole millet grains · decorticated millet grains matter basis	 RANGE: 3.5 to 6.0% on a dry matter basis RANGE: 2.0 to 4.0% on a dry	AOAC 945.38F; 920.39C ISO 5986:1983

HOW TO GET MORE INFORMATION ABOUT CODEX?

For inquiries about Codex work in general or the use/adoption of Codex standards in a given country or region, please contact the Codex Contact Point of the country or region. Their email and website addresses are found by choosing “About Codex” tab at the top of the page and clicking on “Members of the Codex Commission”. For inquiries about national or regional food standards or regulations, please address them directly to the authorities of the country or region concerned.

Another resource for related information is the new FAO International Portal on Food Safety, Animal and Plant Health, which provides direct, easily searchable access to a range of international standards, national regulations, scientific evaluations, and other supporting information on sanitary and phytosanitary measures.

For inquiries that cannot be handled by your national Codex Contact Point, please contact:

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APPENDIX

INSTRUCTIONS FOR COLLECTION AND REPORTING OF DAILY AND WEEKLY WHOLESALE AND RETAIL PRICES OF AGRICULTURAL COMMODITIES

I. GENERAL

1. DEFINITION OF WHOLESALE PRICES

The wholesale price is generally taken as the rate at which a relatively large transaction of purchase, usually for further sale is effected.

2. COLLECTION OF THE WHOLESALE PRICES

The price quotation should be obtained by actually visiting the market and observing the major transactions, supplemented by oral enquiries from a number of dealers in the market. The price, quotation should not be obtained on telephone or through a peon or on a hearsay basis. It should not be collected from only one particular shop in the market but should be based on a sense of the whole market. Whenever regulated markets exist, the price records of the market committee should be utilized in collecting the price quotation. The person deputed for collecting prices should be properly trained in the price collection work.

II. NATURE OF QUOTATION AND PERIOD TO WHICH IT SHOULD RELATE

3. NATURE OF PRICE QUOTATION AND INDICATION OF INCLUSION OR EXCLUSION OF COST OF BAG OR CONTAINER IN THE PRICE QUOTED.

The quotation should relate to the actual price at which the transactions take place irrespective of the terms of contract and without excluding the different incidental, such as, charges for weighment, Wholesalers' commission, charity, cost *or* container, etc. They are normally included in the price quoted. Clear indication (in footnotes) in the weekly prices returns should always be given of the fact whether a quotation is inclusive of the cost of bag or container or not.

4. INDICATION WHETHER THE RATE OF SALE OF PURCHASE TAX OR EXCISE DUTY IS INCLUDED

In case, the price of a commodity is inclusive of sales or purchase tax or excise duty, the rate of tax or excise duty included in the price quotation reported should be indicated.

5. THE DAY ON WHICH THE WEEKLY WHOLESALE PRICE SHOULD BE COLLECTED

The weekly wholesale price should be collected as on Friday every week, where the markets are held daily. Where, however, the markets are held on specified days of the week and that day is not a Friday the weekly prices reported should related to the market day preceding the Friday. If the day fixed for price reporting happens to be a holiday, the price quoted should relate to the previous / day where the holiday is known in / working advance the reporter should visit the market on the previous day and collect the price on that day. Wherever the price quotation relates to any day other than Friday, this fact should be specifically indicated. Where daily wholesale price is required to be reported, the wholesale price should be collected every day.

6. REPORTING OF MODAL PRICE

The quotation should neither be the maximum nor minimum nor average price. The quotation should be the modal price, i.e., the price at which most of the transactions have taken place during the peak period of marketing on the day of reporting. When number of transactions is few and there is no mode the price at which the maximum quantity is sold in one lot may be reported.

7. INDICATION OF THE MANNER OF TRANSACTIONS

If in a particular market, transactions take place in a different manner than that indicated above, e.g. if it is customary to quote f.p.r. price etc. the fact should be indicated clearly while quoting the price.

8. FURNISHING OF THE REAS0NS FOR CONSTANT PRICES AND NO TRANSACTIONS

If constant prices are reported for weeks together, reasons for the same should invariably be given. Similarly, if no transactions are effected in a commodity continuously for some time, reasons for the same should also be stated.

9. INDICATION OF THE REASONS FOR INCREASE OR DECREASE OF 10 PER CENT AND MORE IN THE PRICE QUOTATION

The reasons for increase or decrease of 10% and more in the price of a commodity for the week under report over that for the previous week should invariably be given in the relevant column of the weekly prices returns.

10. ADOPTION OF PRESCRIBED PROFORMA AND INDICATION OF CODE WORD "W.P.T." ON THE LEFT HAND TOP CORNER OF ENVELOPE OR POSTCARD

The weekly wholesale price should be furnished in the prescribed proformae given in Annexure-I, II (for cotton) and III (for sugarcane). The prices should be reported by ordinary post on the reporting day itself. A code word "W.P.T." may be put preferably in red ink, on the left hand top corner of the envelope or postcard containing the prices returns to enable their immediate delivery to the concerned Branch of the Directorate of Economics & Statistics. The daily price may be reported to the ECOSTAT NEW DELHI Telegraphically.

11. FURNISHING OF SEPARATE RETURNS FOR WEEKLY AND DAILY PRICES

The price reporters who are required to report daily as well as weekly prices should send a separate weekly prices return by ordinary post on every Friday in addition to the telegram reporting prices for that day. The price quotation reported in the daily telegram for Friday and the weekly return should invariably be the same.

12. REPORTING OF NOMINAL QUOTATION

The price quotation should relate to the actual transactions, nominal quotation to be avoided as far as possible. In case no transactions are effected in the selected commodity for weeks together, 'N.T.' or 'No Transaction' should be reported against the respective commodity. However, if no transactions take place in a particular commodity on the day of reporting, but the prices for other days during the week are available, the prices prevailing on the day nearest to the reporting day should be quoted.

13. PRIMARY AND SECONDARY PRICES

Primary wholesale price for a primary market and secondary wholesale prices for a secondary market may be quoted in the weekly prices returns. A market may be designated as a primary market for a commodity if the bulk of the arrivals is from villages or villages hats. On the other hand, a secondary market is a market where bulk of the arrivals is from other markets.

In the case of a primary market, sometimes it may be found that transactions between producer or village merchant or, itinerant trader and wholesalers generally take place in the morning through auction or otherwise and in the afternoon transactions also take place between wholesalers themselves or between wholesalers and retailers. In such cases prices to be reported should be those which prevail during the morning transactions only i.e., in the primary

market; afternoon prices at which transactions might take place between wholesalers or wholesalers and retailers should not be reported.

In those primary markets where the system of open auction does not prevail but producers sell their produce through broker, modal price at which the producer or village merchant or itinerant trader sell their produce should be reported and not the prices quoted by the wholesalers which would generally be the prices at which they are prepared to sell rather than the prices at which they have actually purchased.

When there are no transactions between producer or village merchant or itinerant trader and wholesalers in a primary market during the lean part of a year, secondary price, i.e., the price at which wholesalers transact among themselves, should be reported.

In the case of processed commodities such as rice (milled), cotton lint, oil etc., the price at which the transaction takes place between the miller and the wholesalers may be treated as secondary price. However, in those regions, where the general practice is for the cultivator to get the commodity processed through a mill or a gin and then to sell the processed commodity to the wholesaler, the price at which such transaction may take place between the producer or village merchant or itinerant trader and the wholesaler may be treated as a primary price.

14. INDICATION OF PRIMARY OR SECONDARY PRICES

The nature of price viz., primary or secondary (as explained in para 13) should invariably be indicated by symbol (p) for primary price and (s) for secondary price against the-quotation in column (5) of the prescribed proforma (Appendix I).

III. SPECIFICATION OF VARIETY

15. SELECTION OF VARIETY AND QUALI TY

The variety and quality of the commodity to which the price quotation relates should be specified for each commodity. As far as practicable, the price reported should relate to the same variety and quality throughout the year.

If only a single variety is commonly transacted and its arrivals are continuous throughout the year, this variety should be selected for the commodity. If this is not possible, two or three additional varieties which are most common and which are sufficiently close to the original variety should be fixed up in advance and one of them should be quoted if the original variety ceases to arrive in the market. However, as soon as the variety, originally fixed is again available, price reported should relate to that variety. Whenever, there is a change in the variety the prices

of both the old and the new varieties should be given in the returns for one or two weeks so as to enable comparison.

The price quoted should relate to the fair average quality of the selected variety. The prices for foodgrains and sugar may be collected in the light of specifications for FAQ laid down by the Food Corporation of India and circulated by the Directorate from time to time.

16. INDICATION OF VARIETY AND QUALITY IN PRICE RETURNS

The variety and quality should invariably be indicated against each commodity in column (2) of the prescribed proforma given in Annexure-I. In specifying the variety, its name should be indicated, e.g. in case of rice, it will not be enough to specify the variety as fine, medium and coarse or first sort or second sort. The actual name of the variety (i.e. Sela, Sali, Akkulu, Samba, Basmati, etc.) should be given and its classification into fine, medium, coarse or first sort or second sort should also be given along with the name of the variety. In case of rice it should be also mentioned whether it is milled (M) or hand pounded (H.P.) and whether it is boiled (B) or arwa (A). Generally, the fair average quality (FAQ) should be selected and this should also be mentioned in column (2) of the prescribed proforma.

17. REPORTING OF PRICE WHEN OLD AND NEW CROPS ARE MARKETED SIMULTANEOUSLY

When both old and new crops are being marketed concurrently, the prices of both the crops should be quoted simultaneously for 4 to 6 weeks.

IV. UNIT Of QUOTATION

18. REPORTING OF THE RICE QUOTATION IN STANDARD ALL-INDIA UNIT

The wholesale price should be quoted in terms of rupees and paise per quintal. In the case of baled Jute, however, the appropriate standard unit would be a bale of 18 kg. The wholesale price of coconuts and eggs may be quoted in terms of rupees per thousand (1000), of Bananas, Sheep skins and Goat skin per hundred (100), of Tea per kg., of Coffee per 50 kgs., of super-phosphate per metric ton and of cauliflower per dozen. In the markets where local weights and measures are in vogue, the primary reporters should collect the price in terms of local weights or measures and should convert it into all-India standard Unit. The All-India standard unit to which the price quoted relates should invariably be indicated against each commodity in the respective column of the prescribed proformas (Annexure-I & II).

V. SUPERVISION

19. MAINTENANCE OF A PRICE REGISTER

The price collected should be properly recorded and maintained in a bound register by the price reporter. In the price register a column may be provided where the reasons for increase or decrease in the prices may be noted by the price reporter.

20. PERIODICAL CHECKING OF THE PRICE REGISTER BY A SENIOR OFFICER

The price register should be put up to a senior officer for periodical checking and it should be signed by him in token of having checked the same.

21. CHECKING OF THE PRICE REGISTER BY INSPECTING OFFICERS

The price register should also be shown for checking to the Inspecting Officers, appointed by the Govt. of India under the scheme, for improvement of market intelligence whenever they visit the centre.

VI. MISCELLANEOUS

22. REPORTING 0F PRICE INCLUSIVE OF EXCISE DUTY

The price quotations of vegetable oils, tobacco, sugar, khandsari, tea and coffee reported in the price returns should be inclusive of excise duty. The rate of excise duty for the quotation reported should also be indicated in the return.

23. DISTINCTION BETWEEN RAPESEEDS AND MUSTARD SEEDS

For the purpose of reporting prices of Rapeseeds and Mustard seeds, Sarson (Hindustani), Sarosav (Gujarati), Shwet Rai (Bengali) may be treated as Rapeseeds and Rai (Hindustani and Gujarati) Rai Sarisha (Bengali) be treated as Mustard seeds.

INSTRUCTIONS FOR COLLECTION AND REPORTING OF WEEKLY RETAIL PRICES OF AGRICULTURAL COMMODITIES

1. DEFINITION OF RETAIL PRICE

The retail price is the price which the ultimate consumer pays when buying from a retailer.

2. AREAS FROM WHERE RETAIL PRICES SHOULD BE COLLECTED

The retail price for a town may be collected from areas where the lower middle class/labour class population is concentrated.

3. REPORTING OF THE RETAIL PRICE OF THE SAME VARIETY FOR WHICH WHOLE SALE PRICE OF A COMMODITY IS REPORTED

It is very important that the retail price is reported for the same variety of a commodity for which the wholesale price of that commodity is reported even though the reporting agencies for the two sets of quotations may not be the same.

4. FURNISHING OF RETAIL PRICE INCLUSIVE OF SALES OR PURCHASE TAX AND INDICATION OF THE AMOUNT OF TAX

The retail price should be inclusive of sales of purchase tax wherever the same is levied. The amount of tax included in the price quotation may also be indicated.

5. DAY OF COLLECTION AND REPORTING OF RETAIL PRICES

The retail price should relate to Friday and should be dispatched on the same day. If the day fixed for price reporting happens to be a holiday, the price quoted should relate to the previous working day. Where the holiday is known in advance the reporter should visit the market on previous day and collect the prices on that day, otherwise the market should be visited next day. This fact should be specifically mentioned in the return. In the case of markets selected for reporting daily retail prices, they may be collected and reported daily.

6. ADOPTION OF PRESCRIBED PROFORMA

The retail price may be reported as per proforma given in Annexure-IV.

7. FURNISHING OF RETAIL PRICE IN STANDARD ALL INDIA UNIT

The retail price should be quoted in rupees per quintal. In case of vegetables, fruits, fish and livestock products, however, the appropriate standard units would be a kilogram for peas, tomatoes, lady finger, onions, potatoes, dry fruits, fish, milk, mutton etc. and dozen for cauliflowers, oranges, bananas and eggs. The

all-India standard unit to which the price quoted relates should invariably be indicated against each commodity in column (3) of the prescribed proforma (Annexure- IV).

8. INDICATION OF REASONS FOR

The reasons for rise or fall i.e. say of more than Rs.1/- in the retail prices of food grains and 50 paise more in the retail prices of vegetables, fruits, fish and livestock products for the week under report over that for the previous week should invariably be given in column (6) of the prescribed proforma (Annexure-IV).

ANNEXURE–I

WHOLESALE PRICES OF AGRICULTURAL COMMODITIES

State----------

District ----------

Market----------

For the week ending Friday ----------

Peak marketing period of the
Day to which the prices refer ----------

Name of Commodity	Variety & Quality	Standard All India Unit	Price per Standard All India Unit of Weight (Rs.)	Nature of Price i.e., Primary (P) or Secondary (S)	Reasons for Variation in Prices for 10% or more over previous week's price
1	2	3	4	5	6

Signature of the Reporter
Address: Designation ----------

ANNEXURE–II

WEEKLY WHOLESALE PRICES OF COTTON

State----------

District ----------

Market----------

For the week ending Friday ----------

Peak marketing period of the
day to which the prices refer ----------

Commodity	Variety	Quality	Staple Length	Unit	Price	Reasons for Variation in Prices for 10% or more compared to previous week's price
1	2	3	4	5	6	7

Address:

Signature of the Reporter
Designation ----------

ANNEXURE–III

WEEKLY RETURN ON PRICES OF SUGARCANE

Name and address of the factory to which the information relates

Week end Friday, the

1. Name of the variety of cane.

2. Approximate per cent rate of recovery

3. Price actually paid by sugar factory at the factory rate (Rs. per quintal).*

4. Price paid by sugar and khandsari units in the factory area covered by the above factory.

* In case cane is not delivered at the factory rate, the prices to be quoted should relate to the price actually paid in the interior plus the transport cost.

Signature of Reporter

Designation. . . . . ..

Date. . . . . .

ANNEXUR–IV

RETAIL PRICES OF AGRICULTURAL COMMODITIES

State----------

District ----------

Market----------

For the week ending Friday ----------

Time to which quotations refer ----------

Name of Commodity	Variety & Quality	Standard All India Unit of Weight	Price per Standard All India Unit of Weight (Rs.)	Whether the quotation includes sales tax or purchase tax or excise duty	Reasons for rise or fall when the variation is 5% or more in the case of food grains compared to last week. For vegetables, fruits and livestock products, reasons may be given if variations are by 50 paise per kg. or 25%, whichever is less.
1	2	3	4	5	6

Signature of the Reporter
Designation ----------
Date ----------

ANNEXURE-V

NUMBER OF AGRICULTURAL PRODUCE MARKETS IN INDIA

Period	Number of Regulated Markets	Regulated Markets as per cent of Total Wholesale Assembling Markets
End of 1945	146*	2.00
End of 1950	286*	3.92
March, 1956	470*	6.44
March, 1961	715*	9.80
March, 1966	1,012*	13.88
March, 1974	1,777*	24.37
March, 1976	3,528	48.38
March, 1980	4,446	60.96
March, 1985	5,695	78.09
March, 1990	6;217	85.25
March, 1995	6,836	93.73
March, 2001	7,161	98.19

Note : * Represents only Principal Markets.

Source : Directorate of Marketing and Inspection (1997) and Government of India (2001b).

ANNEXURE-VI
NUMBER OF WHOLESALE ASSEMBLING, RURAL PERIODIC AND REGULATED MARKETS IN STATES OF INDIA
(AS ON MARCH 31, 2001)

S.No	State/Union Territories	Wholesale Assembling Markets	Rural Periodic Markets	Regulated Markets		
				Yards	Sub-yards	Total
1.	Andhra Pradesh	861	290	294	567	861
2.	Arunachal Pradesh	-	50	-	-	-
3.	Assam	172	650	16	19	35
4.	Bihar(including Jharkhand)	443	7,000	122	691	813
5.	Goa	11	8	1	7	8
6.	Gujarat	396	137	161	235	396
7.	Haryana	284	157	105	179	284
8.	Himachal Pradesh	35	30	8	27	35
9.	Jammu & Kashmir'	26	47	-	-	-
10.	Karnataka	473	941	140	333	473
11.	Kerala	351	2,000	-	-	-
12.	Madhya Pradesh (including Chhatisgarh)	633	3,000	300	316	616
13.	Maharashtra	857	3,500	266	591	857
14.	Manipur'	20	49	-	-	-
15.	Meghalaya'	101	82	-	-	-
16.	Mizoram'	8	35	-	-	-
17.	Nagaland'	16	80	-	-	-
18.	Orissa	163	1,150	57	87	144
19.	Punjab	675	-	143	532	675
20.	Rajasthan	412	558	125	287	412
21.	Sikkim'	10	30	-	-	-
22.	Tamil Nadu	300	677	270	-	270
23.	Tripura	84	554	21	-	21
24.	Uttar Pradesh (including Uttaranchal)	645	3,322	265	380	645
25.	West Bengal	279	2,925	46	541	587
26.	Chandigarh	2	-	1	1	2
27.	Delhi	30	7	9	12	21
28.	Pondicherry	6	9	4	2	6
29.	Andman & Nicobar Islands	-	-	-	-	-
30.	Dadar & Nagar Haveli	-	6	-	-	-
31.	Daman & Diu	-	-	-	-	-
32.	Lakhswadeep	-	-	-	-	-
	Total	7,293	27,294	2,354	4,807	7,161

Note : * APMR Act not yet enacted/Implemented.
Source : Government of India (2001b).

ANNEXURE-VII

STATE-WISE AREA SERVED BY REGULATED MARKETS

S.No.	State/ Union Territories	Geographical Area ('000 Sq. Km.)	Number of Regulated Markets	Area covered by each Market (Sq. Km.)
1.	Andhra Pradesh	275	861	319
2.	Arunachal Pradesh	84	-	-
3.	Assam	79	35	2,257
4.	Bihar (including Jharkhand)	174	813	214
5.	Goa	04	8	500
6.	Gujarat	196	396	495
7.	Haryana	44	284	155
8;	Himachal Pradesh	56	35	1,600
9.	Jammu & Kashmir	222	-	-
10.	Karnataka	192	473	406
11.	Kerala	39	-	-
12.	Madhya Pradesh (including Chhatisgarh)	443	616	719
13.	Maharashtra	308	857	359
14.	Manipur	22	-	
15.	Meghalaya	22	-	
16.	Mizoram	21	-	
17.	Nagaland	17	-	
18.	Orissa	156	144	1,083
19.	Punjab	50	675	74
20.	Rajasthan	342	412	830
21.	Sikkim	07	-	-
22.	Tamil Nadu	130	270	481
23.	Tripura	10	21	476
24.	Uttar Pradesh (including Uttaranchal)	294	645	456
25.	West Bengal	89	587	152
26.	Andman & Nicobar Islands	08	-	-
27.	Chandigarh	0.1	2	53
28.	Dadar & Nagar Haveli	0.5	-	-
29.	Daman & Diu	0.1	-	-
30.	Delhi	1.5	21	71
31.	Lakhswadeep	0.3	-	-
32.	Pondicherry	0.5	6	83
	All India	**3,287**	**7,161**	**459**

ANNEXURE-VIII

FACILITIES/AMENITIES IN REGULATED MARKETS

Amenities	Number of Markets with Facility (%)	Utilisation (%)
Common Auction Platform (Covered)	64	84
Common Auction Platform (Open)	67	82
Common Drying Yards	26	87
Traders Modules	63	89
Retailer's Shops	28	100
Storage Godowns	74	91
Cold Storages	9	100
Weighing Equipment	85	100
Processing Units	7	83
Grading Equipments	30	89
Pledge Financing	17	93
Bank	42	100
Post Office	28	100
Police Post	15	85
Security Post	42	97
Farmer's Rest House	61	89
Agricultural Input Shop	29	96
Bath Rooms	57	98
Toilets	88	98
Canteen	43	97
Drinking Water Taps	28	100
Loading, Unloading & Parking	100	100
Internal Roads	89	100
Boundary Wall	84	93
Electric Lights	89	100
Avenue & Shed Trees	57	98
Seating Benches	28	100
Price Display Boards	61	92
Public Address System	34	91
Public Telephone System	24	100
Garbage Disposal System	84	100
Drainage System	55	98

Source : Directorate of Marketing and Inspection (1999).

ANNEXURE-IX

MARKET FEES IN THE STATES AND UNION TERRITORIES OF INDIAN UNION

State/ Union Territory	Market Fees		Single/ Multi Point
	Rate of Market Fee (per cent Advalorem)	Charged from	
1. Andhra Pradesh	1.00 on Agricultural Produce & livestock	Purchaser	Single
2. Assam	1.00	Buyer	Multi
3. Chandigarh (UT)	1.00 Food grains 2.00 Fruits & Vegetables	Buyer	Single
4. Delhi	1.00 Agricultural Produce & 0.50 Fodder	Purchaser	
5. Goa	1.00	Buyer/Seller	Single
6. Gujarat	0.30-1.00 Agricultural Produce 2.00-4.00 Livestock	Purchaser	Single
7. Haryana	2.00	Non-specified	Single
8. Himachal Pradesh	1.00	Buyer	Single
9. Karnataka	1.00 Agricultural Produce Rs.5.00 Per head on Cattle Rs.1.00 Per head on Sheep & Goat.	Buyer	Single
10. Madhya Pradesh	0.50	Purchaser	Single
11. Maharashtra	0.75-1.00 on Agricultural Produce 0.55-0.70 on Cotton	Purchaser	Single
12. Orissa	1.00 on Agricultural Produce 3.00 on Livestock	Purchaser	Single
13. Pondicherry	0.70	Buyer	Single
14. Punjab	2.00	Buyer	Single
15. Rajasthan	1.60	Buyer/Purchaser	Single
16. Tamil Nadu	1.00	Buyer/Purchaser	Single
17. Uttar Pradesh	1.50	Seller	Multi
18. West Bengal	0.50 on Paddy, Rice, Wheat, Maize, Gur, Barley, Jowar, Bajra, Sugar. Pulses, Kodo, Marus, Cheena & Milk 1.00 on other Agricultural Produce	Buyer	Single

Note : APMR Act not enacted in Jammu & Kashmir, Mizoram, Kerala, Andman & Nicobar Islands, Lakshadeep, Dadar and Nagar Haveli Union Territory.

Source : State/UT Agricultural Marketing Board/Directorate/Department of Agriculture. Taken from Agricultural Marketing: Statistical Abstract 2000, NIAM, Jaipur.

ANNEXURE-X

WEIGHTS* OF VARIOUS CPI SERIES FOR ALL-INDIA AT GROUP AND SUB-GROUP LEVELS

No.	Group/Sub-Group	CPI (UNME) Base: 1984-85	CPI (IW) Base: 1982	CPI (AL) Base: 1986-87	CPI (RL) Base: 1986-87
I	**Food, Beverages and Tobacco**	47.13	60.15	72.94	70.47
	1. Cereals	10.97	20.47	40.94	38.15
	2. Pulses	2.51	3.59	3.39	3.40
	3. Milk	9.02	6.45	3.74	3.94
	4. Edible Oils	4.39	5.03	3.83	3.79
	5. Meat	2.99	4.29	3.10	3.31
	6. Vegetables	4.31	5.71	4.18	4.05
	7. Fruits	1.99		0.88	1.00
	8. Sugar	1.84	2.72	2.58	2.59
	9. Salt and spices	1.53	3.18	4.12	3.92
	10. Beverages	6.12	5.56	2.39	2.62
	11. Pan, Tobacco etc.	1.46	3.15	3.79	3.70
II	**Fuel & Light.**	5.48	6.28	8.35	7.90
III	**Housing**	16.41	8.67	-	-
IV	**Clothing & Footwear**	7.03	8.54	6.98	9.76
	1. Clothing	6.14	7.68	6.28	6.17
	2. Footwear	0.89	0.86	0.70	3.59
V	**Miscellaneous**	23.95	16.36	11.73	11.87
	1. Amusement	2.19	1.40	0.53	0.60
	2. Personal care	4.55	3.31	2.04	2.28
	3. Transport & Communication	5.18	2.65	1.67	1.80
	4. Education	4.58	1.74	0.41	0.39
	5. Medical	2.51	2.59	4.38	4.23
	6. Household Requisites	2.02	4.67	2.70	2.57
	7. Others	2.92			
	Total	**100.00**	**100.00**	**100.00**	**100.00**

* Based on estimates of consumer expenditure generated from the data collected through respective Family Living Surveys conducted during 1982-83 for CPI (UNME) and 1981-82 for CPI (IW), and household consumer expenditure enquiry conducted during 1983 for CPI (AL) and CPI (RL).

Notes:

1. The sub-groups 'Vegetables' and 'Fruits' are combined into one subgroup in CPI(IW).
2. Under group 'Miscellaneous' in CPI(IW), CPI(AL) and CPI(RL); the subgroup 'Others' has been included under sub-group 'Household Requisites'.
3. There is no 'Housing' group under CPI(AL) and CPI(RL) as the housing cost of the rural labour population was observed negligible in the base year.

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12. The agricultural price policy was again subjected to a rigorous review after a Programme of economic reforms was launched in 1991 and India became a signatory to the new world trade agreement, which for the first time included agriculture also (Acharya, 1997a and 1997d).
13. The impact of agricultural price policies can be summarized as follows (Acharya, 2001).

14. In contrast, the markets for coarse cereals like jowar did not demonstrate high degree of integration (Wilson, 2001).
15. The length of the marketing channels depends on the size of market, perishability of the commodity and the nature of demand at the consumer level (Raju and Von Oppen, 1980).
16. Though precise data on the proportion of benefits of regulated markets going to the small and marginal farmers are not available, there is evidence to show that expansion of such physical infrastructure in rural areas has helped small and marginal farmers more by increasing their excess to the markets (Ahmed, 1992) (ANNEXURE-V).
17. The results further reveal that the costs were higher when farmers adopted private channels in marketing of surplus produce compared to the institutional channels (Bhatia, 1996).
18. The gross marketing margins in marketing of agricultural products have also been worked out from National Accounts Statistics (Acharya, 1998).
19. It may be mentioned here that in developed countries like United Kingdom, farmer's cooperatives handle 80 per cent milk, 54 per cent oilseeds, 40 per cent peas, 36 to 80 per cent fruits and 27 per cent cereals (Bawcutt 1996).
20. Price is basic economic indicator. It plays a vital role in economic planning for development. The earliest series of wholesale prices data available in India relate to 1897, and were published in the 'Prices and Wages', a publication of the Department of Commercial Intelligence & Statistics, Govt. of India up to 1922.