CHAPTER-2
THEORETICAL PREMISES: AGRICULTURAL MARKETING

2.1 INTRODUCTION

Marketing as a processor a function, originated and developed along with human civilization. But its emergence as a ‘management science’ is relatively of recent origin. Within a short span of time, it has gained so much importance and stature that today, it is regarded by the most management thinkers and practitioners throughout the world as the most important of all management functions in any business. Before discussing the various aspects of modern marketing, it would be necessary to study the conceptual backdrop of marketing involving the evolution of marketing as a business discipline.

There was no trade or commerce or marketing in ancient times when man was self-sufficient and was wandering from one place to another in search of food and shelter. This was the situation during the hunting and fishing stage. Later on, he started moving with his fellow beings and living in tribes. He led a nomadic life and trade and commerce did not exist.

A change in his life occurred due to the discovery of fire and domestication of animals. This is the pastoral stage when man started maintaining domesticated animals like dogs, sheep, cattle, goats, etc., as they provided him not only food but also materials for clothing and means of transport. Still man did not settle down in any particular place as he had to move in a tribe from place to place in search of grassy lands and water.
Due to the improvement in civilization, man learnt the art of ploughing and sowing as he found plant-seeds could multiply themselves like animals. Now he had a settled life. The tribe was split into families and for the first time, the concept of private property came into existence. With settled agriculture, settled communities or villages began to appear. Division of labour in its simple form was introduced. This was the agricultural stage. Every village community in the beginning was self-sufficient.

As man’s wants went on increasing with the improvements in civilization, he could not meet all his needs by his own efforts or the efforts of his own family members. So he had to depend on others for meeting most of his needs and thus interdependence between individuals and families went on increasing. Different individuals followed different occupations, produced more than their requirements and exchanged their surplus with the surpluses of others. Thus, a body of professional craftsmen and artisans like carpenters, blacksmiths, weavers, barbers, priests, etc., came into existence and the exchange of goods against goods or services came to be known as barter, which became the basis of trade. Division of labour gradually became more complex as population increased and wants multiplied.

With the progress of civilization, increase in population and multiplication of wants, money was introduced as a medium of exchange to overcome the various defects and inconveniences of the barter system. In the beginning, however, no fundamental or far-reaching change took place with the exception that pricing became the chief mechanism of trade or exchange.
The most important stage in the evolution of trade or exchange was the stage of industrial revolution, which occurred during the 18th and 19th centuries. It brought about far-reaching changes in business. It introduced new products, new system of manufacture, large scale production, specialization and complex division of labour, rise of factory system, new forms of business organizations, growth of industrial towns, new modes and means of transportation and new methods of communication and thereby increased the value and volume of internal and international trade, and widened the size of the markets by converting local markets into regional markets and eventually, into national and international markets.

The industrial revolution also led to revolution in the sphere of transportation and communication as well as in the sphere of commerce. Vast changes and radical improvements took place in trade and commerce which ultimately led to increasing interdependence between the countries of the world. A revolution also took place in the commercial staples and commercial organizations. World market was treated for a large number of goods.

Vast changes and improvements also took place in the methods of selling or marketing. The sphere of finance and credit gave rise to a number of new financial institutional like banks, insurance companies, trusts, etc., and also in the sphere of entrepreneurship giving rise to a large number of middlemen and mercantile agents like wholesalers, retailers, commission agents, brokers, etc.
Mass production and mass distribution brought about by the industrial, commercial and transport revolutions, led to the rise of severe competition among the business people. Every manufacturer-producer had to face severe competition from his rivals and had to ensure that his products were accepted in preference to those of his rivals.

After the Second World War, the size and character of markets changed considerably. Astounding developments took place in business, e.g. substantial increase in population, large increase in the income levels of the people and in the demand for goods and services, rise of new industrial concerns, introduction of a great variety of new products and services, and rapid development of consumer markets. At the same time, selling of products and services became very difficult because of the severe competition in the market, abundant choice available to the consumers, and awareness among the consumers about their rights and their importance and strong determination to get the best return from every rupee they spent. The business people realized that it was not enough if they somehow made a one-time sale of their products to the consumers, but found it necessary to ensure the persons to whom they have sold their products once, come back again and again to purchase their products. For this purpose, they had to ensure that their products are available at a place convenient to them, at a price which they can afford and at a time when they need. Further, they had also to ensure that the complaints received from consumers were attended promptly, the products were replaced if needed and to provide after-sales-service if required. All this meant the rise of marketing.
2.2 DEFINITIONS OF MARKETING

2.2.1 Product-oriented Definition

Marketing may be narrowly defined as a process by which goods and services are exchanged and the values determined in terms of money prices. The American Marketing Association has defined marketing as the performance of business activities that direct the flow of goods and services from producers to consumers or users. It means that marketing includes all those activities carried on to transfer the goods from the manufacturers or producers to the consumers. It involves the exchange of goods and services for money or selling whatever has been produced or manufactured by a business concern without caring for the requirements or demands of the customers. There are several weaknesses in this definition which are as follows:

(i) Exclusion of Non-economic Activities: The definition limits marketing to business activities and thus non-business activities like social marketing are not covered.

(ii) Lack of Customer Orientation: It is assumed that customers will buy whatever is offered to them. Their requirements need not be looked into before actually manufacturing the product. Thus, the orientation of the definition “we sell what we make” must change to “we make what we sell”.

(iii) Lack of Emphasis on After-Sales Service.

(iv) The importance of after-sales-service is not highlighted. Every firm needs patronage from customers to continue in the business. For this, after-sales-service is an essential part of marketing.
(v) Focus on Place Aspect: In the above definition, only one function ‘Place’ has been highlighted. Thus, the other Ps like promotion, pricing, product, packaging, etc., have been completely ignored.

The above definition suited the earlier days of sellers’ market when there was shortage of goods. Product-oriented definition of marketing is inappropriate in the present-day business environment where there are a large number of substitutes and keen competition in the market. It presumes that the process of marketing begins after goods have been produced and ends with their sale. But in the present-day business, marketing begins long before the goods are produced. The needs of the customers must be studied before product development and actual production takes place. Marketing decisions must be also made regarding the market, pricing and promotion of the product. Marketing does not end with the final sale. The customer must be satisfied if business enterprise expects his repeated orders. Because of these reasons, the concept of marketing has undergone a sea change. Progressive firms follow ‘consumer-orientation’ in marketing because they recognize that consumers are often responsible for changes in business policies. Consumers are the force which gives direction to the business activities. Consumers’ satisfaction and delight should be the main aim of the business activities.

2.2.2 Customer-oriented Definition

According to Cundiff and Still, “Marketing is the business process by which products are matched with the markets and through which transfer of ownership are effected. Matching
products with the market means determining the requirements, potential customers and supplying the products which meet their requirements. If a business organization produces the products gives rise to a new philosophy in business known as the ‘marketing concept’. The marketing concept emphasizes the determination of the requirements of potential customers and supplying products to satisfy their requirements. Modern marketing has, thus, become an integrated process of identification, assessments and satisfaction of human wants. To quote American Marketing Association, “Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchange that satisfy individual and organizational goals”.

2.2.3 System Oriented Definition

William J. Stanton has given a system-oriented definition of marketing. “Marketing is a total system of interacting business activities designed to plan, price, promote and distribute wants satisfying products to target markets to achieve organizational objectives”.

This definition has several implications. Firstly, the entire system of business activities should be market or customer-oriented. Customer’s wants must be recognized and satisfied effectively. Secondly, marketing is a dynamic business process. It is an integrated process rather than a fragmented assortment of institutions and functions. It is not just one activity; it is a result of the interaction of many activities. Thirdly, marketing activities start with the generation of a product idea and end only after the customer’s wants are completely satisfied. Finally, it is
also implied that marketing must maximize profitable sales over the long-run in order to be successful in business.

2.2.4 Philip Kotler’s Definition

Philip Kotler has defined marketing as a social and managerial process by which individuals and groups obtain what they need and want through creating, offering and exchanging products of value with others. This definition has several concepts which need further explanation for enhancing the understanding of the term marketing.

2.3 SCOPE OF MARKETING

Marketing is typically the task of creating, promoting, and delivering goods and services to consumers and business. Marketers are skilled in stimulating demand for a company’s products; but this is too limited a view of the tasks that marketers perform. Just as production and logistics professionals are responsible for supply management, marketers are responsible for demand management. Marketing managers seek to influence the level, timing and composition of demand to meet the organization’s objectives.

Marketing people are involved in marketing ten types of entities: goods, services, experience, events, persons, places, properties, organizations, information and ideas.

- Goods, physical goods constitute the bulk of the most countries production and marketing effort.
- Services as economic advance, a growing proportion of their activities are focused on the production of services.
• Experiences by orchestrating several services and goods, a firm can create, stage, market experiences.

• Events: Marketers promote time-based events. That is a profession of meeting planners who work out the details of an event and make it come off perfectly.

• Persons: Celebrity marketing is a major business.

• Places - cities, States, regions, and whole nations - compete actively to attract mists, factories, company headquarters, and new residents.

• Properties are intangible rights of ownership of either real property (real estate) or financial property (stocks and bonds). Properties are bought and sold, and this requires marketing.

• Organizations actively work to build a strong, favourable image in the minds of their target publics.

• Information can be produced and marketed as a product.

• Idea is benefit for promoting market.

2.4 SIGNIFICANCE OF MARKETING

The benefits or significance of marketing can be studied under three heads:

- Benefits to the society in general,
- Benefits to firms in particular and
- Benefits to underdeveloped countries.
2.4.1 Benefits to the society in general

2.4.1.1 Marketing stimulates specialization and division of labour.

Since marketing is a process through which goods and services are transferred from producers to final consumers or users, several middlemen are engaged in the marketing activities, moving goods from producers to consumers. These middlemen specialize in different marketing functions and enable the producers to concentrate on their production to produce goods efficiently and economically and the consumers to satisfy their needs easily. In the absence of such specialized middlemen, it would be very difficult for the producers to approach the consumers directly every time when exchange is to take place between them. This is so because producers are few in number, and are situated at a few places whereas consumers are large in number and are spread over the entire region. In other words, production takes place at few places while consumption takes place at all places. Marketing solves the problems of producers and consumers by moving goods from the former to the latter. Thus, marketing with its specialized functions performed by specialists makes the goods available to the consumers at the places they purchase, in the quantities they desire, at the time they require and at the prices they can afford to pay.

2.4.1.2 Marketing helps in raising the living standards of people in the community.

It arouses people’s desires for more goods and services and induces them to work hard and earn more with a view to consume more. It also helps in bringing goods and services
economically to the consumers. On the other hand, marketing helps the producers and various middlemen to decide the quality and quantity of goods to be produced and the time and place of production. Marketing thus acts as a source and channel of new ideas. Marketing is thus the means through which production and purchasing power are converted into consumption. Therefore, Paul Mazur states, “Marketing is the delivery of standard of living”. Mazur’s statement is modified by Professor Malcolm McNair of Harvard in this way, “Marketing is the creation and delivery of standard of living to the society”.

2.4.1.3 Marketing helps in providing gainful employment opportunities and achieving full employment in the economy.

Marketing is a complex mechanism involving a number of functions. These functions call for different specialized persons for employment. Each function is performed by a large army of people. Full employment is possible if the functions of marketing are performed continuously and constantly. In other words, continuous marketing is quite essential to ensure full employment.

2.4.1.4 Marketing helps in maintaining high level of economic activity and finally achieving economic stability.

A high level of economic activity can be maintained by the full and complete flow of goods and services continuously and constantly from producers to consumers. Economic stability can be achieved, cyclical fluctuations of inflation and deflation can be avoided and more orderly and healthy economic growth may be induced, if a proper and close balance between production and consumption is secured. Such a balance can be maintained only
by efficient and successful marketing. Marketing is the strong bridge between the two wheels of the economic machinery of a nation. The essence of the problem of maintaining economic stability, therefore, lies in securing a close balance between production and consumption.

2.4.2 Benefits to the individual business firms:

The significance of marketing to individual business firms can be ascertained from the following points:

2.4.2.1 Marketing enables every business every firm to earn as much profits as possible: Profit is the pivot around which all marketing activities rotate. To earn maximum profit is the aim of every business firm. Marketing provides many opportunities to the firm to earn maximum profit through the process of buying and selling, by creating time, place and possession utilities.

2.4.2.2 Marketing serves as a basis for taking decision: In these days, there is no direct link between the producer and the final consumer. But they are, however, indirectly linked by a number of middlemen who are engaged in various marketing activities. Through this mechanism of marketing, producers are able to collect information regarding the needs of the consumers and take proper decisions as to what to produce, how much to produce and where to produce.

2.4.2.3 Marketing serves as a source of market information: Conditions in the market never remain constant. They are always changing. Fashions, styles, habits, likes and dislikes, preferences, etc., go on continuously changing. Such changes affect the demand for goods in the market. The process of
marketing enables the producers to collect such information and adjust their production according to the changing conditions in the market.

2.4.3 Benefits to underdeveloped and developing countries, i.e. Role of Marketing in Underdeveloped and Developing Countries

1. P.F. Ducker has indicated the importance of marketing in the underdeveloped and developing countries when he said, “Marketing occupies a critical role in respect of development in the developing nations. It speeds up the economic development of under developed countries in the following ways.

a) Development of marketing leads to the integration of various economic sectors of the nation, such as agriculture and industry.

b) Full utilization of the available resources so as to produce maximum output is possible.

c) Mobilization of unknown and untapped resources is possible.

d) It encourages the development of a new class of entrepreneurs and business managers

2. Marketing has even a greater significance than this, Efficient marketing system results in lower cost of distribution and consequently lower prices to consumers. This also results in an increase in the national income.
3. It helps in bringing new varieties of goods and quality and beneficial goods to consumers.

4. It provides employment to a large number of people in the country and makes a greater contribution to the national income.

Thus, marketing has attained great importance not only in advanced countries but also in developing countries and not only in capitalist countries but also in socialist or communist countries. Marketing has now truly become an integral part of the economic system.

2.5 FUNCTIONS OF MARKETING

The importance of marketing can be understood in terms of functions that a marketing manager/director/department performs. In most of the business enterprises, marketing department is set up under the supervision of a Marketing Manager. The function of marketing may be classified into four categories as shown below:

2.5.1 Function of Research

2.5.1.1 Marketing Research

It means the intelligence service of the organization. Marketing research helps in the analysis of the buyer’s habits, relative popularity of a product, effectiveness of advertisement media, etc. Its major task is to provide the marketing manager with timely and accurate information so that better decisions can be made. The scope of marketing research is very wide. It may cover all the areas of business which have a bearing on the marketing function. In the words of W.J. Stanton, “Marketing
research is the systematic search for and analysis of facts related to a marketing problem. Its emphasis is shifting from fact-finding, information gathering activity to a problem-solving and action recommending function”.

2.5.1.2 Product Planning and Development

A product is something which is offered by a business firm to customers to satisfy their needs. It has great importance in all other areas of marketing management. For instance, marketing research is mainly directed towards knowing the needs of the customers and increasing the sale of the product, storage and transportation activities depend upon the nature of the product. Therefore, it is necessary to plan and develop products which meet the specifications of the customers. Products are the foundation of any marketing programme. The success of marketing departments depends upon the nature of the product offered to the customers. The product must be so designed and developed that it meets the requirements of the customers.

Product planning and development involves a number of decisions, namely, what to manufacture or buy? how to have its packaging? how to fix its price? and how to sell it?. The design, quality, colours, size and other features of the product can be determined by conducting marketing research. The product department will be guided by the requirement of the users.

2.5.2 Functions of Exchange

2.5.2.1 Buying and Assembling

It is the marketing department which will supply the information regarding the needs and tastes of the customers.
Coordination between purchasing officials and the marketing officials will help in purchasing right types of materials or goods at right time and in right quantities.

Purchasing is different from assembling. Purchasing involves determining requirements, finding the sources of supply, placing the order and receiving the goods. But assembling means collection of goods already purchased from different sources at a common point. It is also used in another sense. Raw materials are purchased and assembled in order to produce goods and services.

2.5.2.2 Selling

This is an important aspect of marketing under which ownership of goods is transferred from the seller to the buyer. Sale may take the form of: (i) a negotiated sale, and (ii) an auction sale. In case of a negotiated sale, the terms and conditions between the buyer and the seller are arrived at by bargaining or haggling. Negotiated sale may take the following forms, namely, (a) sale by inspection, (b) sale by sample, (c) sale by description, (d) sale by grade, and (e) sale by brand. But in case of an auction sale, there is no scope for negotiation between the seller and the buyer. The buyers assemble at the place of auction and bid against one another for the goods on sale. The goods are sold to the highest bidder.

2.5.3 Functions of Physical Treatment

2.5.3.1 Standardization, Grading and Branding

Standardization means setting up of specifications of a product. Grades of agricultural products are based on these
specifications and standards. Industrial goods are given brand names by their manufactures to convey to the customers that their goods conform to certain well-defined standards. These activities promote the sale of products.

2.5.3.2 Packaging

Packaging is traditionally done to protect the goods from damage in transit and to facilitate easy transfer of goods to customers. But now it is also used by the manufacturer to establish his branded products as distinct from those of his rivals.

Another activity connected with packaging is labelling. Labelling means putting identification marks on the package. The label is an important feature of a product. It is that part of a product which contains information about the producer and the product. A label may be a part of a package or may be a tag route from manufacturer to consumer. It even protects the goods during its life with the user. Packaged goods are generally more convenient to handle. Packaging also gives individuality to a product. It makes easier for the consumer to identify a product by looking at its package.

Packaging facilitates the sale of a product. It acts as a silent salesman of the manufacturer, particularly at a place where there is widespread use of self-services, automatic vending and other self-selection methods of retail selling. Sometimes, packages are duly sealed to ensure products of right quality to the consumers. In the absence sealing, duplicate products may be distributed to the consumers by unscrupulous dealers.
2.5.3.3 Storage

Goods are generally produced in anticipation of the demand. They have to be stored properly in warehouse to protect them from any damage which may be caused by ants, rats, moisture, sun, theft, etc.

Storage of goods in warehouses has become an indispensable service these days. Producers, manufacturers, traders, mercantile agents, importers and exporters engaged in business have to store their goods in warehouses. Goods are produced or procured well in advance of the demand. They are stored in warehouses till they are actually sold in the market. Thus, warehousing creates time utility. In addition, modern warehouses perform certain marketing services also such as grading, packaging, labeling, etc.

2.5.3.4 Transportation

Modern organizations produce on a large scale to cater to the requirements of customers scattered throughout the country. This calls for transportation of goods from the place of production to the place of consumption. Transportation provides the physical means which facilitates the movement of persons, goods and services from one place to another.

Transport plays a significant part in the economic, social and political development of a country. Rapid industrialization and exchange of goods and services cannot take place unless sufficient facilities for transportation are available. It is with the help of various means of transport that raw materials are transported from the place of their production to the industrial
centres where they are converted into finished products. It is again transportation that facilitates the movement of goods from the producers to the users. By doing so, transportation removes the distance problem and creates place utility.

Transportation creates time utility in goods and services because speedy transport minimizes the time of their transit. Transport leads to regional specialization. A region may specialize in the production of those goods and services for which it is most suited.

2.5.4 Functions Facilitating Exchange

2.5.4.1 Salesmanship

Personal selling is an important method of selling goods. It is widely used in retail marketing. Salesmanship or personal selling involves direct and personal contact of the seller or his representative with the purchaser. It is the oldest known form of selling and is the most important and recognized method of selling.

The art of salesmanship has undergone a big change. The attitude of salesman towards the customers and vice versa has also changed. This change has gone hand-in-hand with the changing concept of ethical standard in business. Earlier, caveat emptor (let the buyer beware) ruled a sales transaction, but now the satisfaction of customer is more important. A salesman finds out what his customer needs and does his best to meet it from the merchandise disposal. Selling has become a science of human relations and an art of getting along with people so effectively that sales resistance may be reduced to the minimum.
2.5.4.2 Advertising

Advertising has become an important function of marketing in the competitive world. It helps to spread the message about the product and thus promote its sale. It facilitates a certain non-personal link between the advertiser and the receivers of the message. The importance of advertising has increased in the modern era of large scale production and tough competition in the market. Business firms use several media of advertisement to sell their products. These include newspapers, magazines, radio, television, cinema halls, hoardings, window displays, etc.

2.5.4.3 Pricing

Determination of price of a product is an important function of a marketing manager. Price of a product is influenced by the cost of product and services offered, profit margin desired, prices fixed by the rival firms and the Government policy.

A sound pricing policy is an important factor for selling the products to the customers. The price policy of a firm should be such that it attracts all types of customers of different means. A good price policy helps in determining the varieties of a product to be made or procured so as to satisfy the demands of various kinds of customers.

2.5.4.4 Financing

Financing and marketing functions of a business are interlinked with each other. The marketing department has an important say on the policies of the finance department in regard
to cash and credit sales. Financing of customer-purchasing has become an integral part of modern marketing.

2.5.4.5 Insurance

A large number of risks are involved in exchange of goods and services. Insurance helps to cover these risks. It facilitates the smooth exchange of goods by covering risks in storage and transportation.

Loss or damage to goods or property may arise due to fire, theft, natural calamities like flood or earthquake and so on. People employed in business firms are also liable to the risks of injury or loss of life due to accidents in the workplace. Business firms are able to provide protection against these risks through the insurance companies. These risks are covered on payment of a nominal premium for the recovery of the loss, if any, arising out of the risk.

2.6 AGRICULTURAL MARKETING

2.6.1 Introduction

Marketing is as critical to better performance in agriculture as farming itself. Therefore, market reform and marketing system improvement ought to be an integral part of policy and strategy for agricultural development. Although a considerable progress has been achieved in technological improvements in agriculture by the use of high-yielding variety seeds and chemical fertilizers, and by the adoption of plant protection measures, the rate of growth in farming in developing countries has not attained the expected levels. This has been largely attributed to the fact that not enough attention has been devoted to the
facilities and services which must be available to farmers if agriculture is to develop.

Agricultural marketing was, till recently, not fully accepted as an essential element in agricultural development in the countries of Asia and the Far East. Although opinions differ as to the extent and precedence, there was a general agreement till 1970 that the question of markets for agricultural commodities had been neglected. Agricultural marketing occupies a fairly low place in the agricultural development policies of developing countries. The National Commission on Agriculture (1976) had emphasized that it is not enough to produce a crop or an animal product; it must be satisfactorily marketed.

2.6.2 Definition

Philip Kotler has defined marketing as a human activity directed at satisfying the needs and wants through exchange process. American Marketing Association defined marketing as the performance of business activities that direct the flow of goods and services from producers to users.

According to Thomsen, the study of agricultural marketing comprises all the operations, and the agencies conducting them, involved in the movement of farm-produced foods, raw materials and their derivatives, such as textiles, from the farms to the final consumers, and the effects of such operations on farmers, middlemen and consumers. This definition does not include the input side of agriculture.

Agricultural marketing system in developing countries including India can be understood to be composed of two major
subsystems, viz. product marketing and input (factor) marketing. The actors in the product marketing subsystem include farmers, village/primary traders, wholesalers, processors, importers, exporters, marketing cooperatives, regulated market committees and retailers. The input subsystem includes input manufacturers, distributors, related associations, importers, exporters and others who make available various farm production inputs to the farmers.

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 farms to the consumers. The agricultural marketing system is a link between the farm and the non-farm sectors. It includes the organization of agricultural raw materials supply to processing industries, the assessment of demand for farm inputs and raw materials, and the policy relating to the marketing of farm products and inputs.

According to the National Commission on Agriculture (1976), agricultural marketing is a process which starts with a decision to produce a saleable farm commodity and it involves all the aspects of market structure or system, both functional and institutional, based on technical and economic considerations, and includes pre- and post-harvest operations, assembling, grading, storage, transportation and distribution.

However, as Acharya has described, in a dynamic and growing agricultural sector, the agricultural marketing system ought to be understood and developed as a link between the farm and the non-farm sectors. A dynamic and growing agricultural
sector, requires fertilizers, pesticides, farm equipments, machinery, diesel, electricity, packing material and repair services which are produced and supplied by the industry and non-farm enterprises. The expansion in the size of farm output stimulates forward linkages by providing surpluses of food and natural fibers which require transportation, storage, milling or processing, packaging and retailing to the consumers. These functions are variously performed by non-farm enterprises. Further, if the increase in agricultural production is accompanied by a rise in real incomes of farm families, the demand of these families for non-farm consumer goods goes up as the proportion of income spent on non-food consumables and durables tends to rise with the increase in real per capita income. Several industries, thus find new markets for their products in the farm sector.

Agricultural marketing, therefore, can be defined as comprising of all activities involved in supply of farm inputs to the farmers and movement of agricultural products from the farms to the consumers. Agricultural marketing system includes the assessment of demand for farm-inputs and their supply, post-harvest handling of farm products, performance of various activities required in transferring farm products from farm gate to processing industries and/or ultimate consumers, assessment of demand for farm products and public policies and programmes relating to the pricing; handling, and purchase and sale of farm inputs and agricultural products.

2.6.3 Objectives of Agricultural Marketing

The objectives of an efficient marketing system are:
To enable the primary producers to get the best possible return,

To provide facilities for lifting all produce, the farmers are willing to sell at remunerative prices,

To reduce the price difference between the primary producer and the ultimate consumer,

To make available all products of farm origin to consumers at reasonable prices without impairing basic facilities.

2.6.4 Importance of Agricultural Marketing

A decision on an appropriate strategy, the evolution of a proper policy and a choice of policy instruments calls for a continual flow of advice, information and assessment of the existing system. Every system generates impulses as a result of environmental changes. These impulses have to be observed, recorded, analyzed and interpreted for the benefit of the policy-makers.

A study of the agricultural marketing system is necessary for an understanding of the complexities involved and the identification of bottlenecks with a view to providing efficient services in the transfer of farm products and inputs from producers to consumers. An efficient marketing system minimizes costs, and benefits all the sections of the society.

The expectations from the system vary from group to group; and, generally, the objectives are in conflict. The efficiency and success of the system, depends on how best these conflicting objectives are reconciled.
2.6.4.1 **Producers:** Producer-farmers want the marketing system to purchase their produce without loss of time and provide the maximum share in the consumer’s rupee. They want the maximum possible price for their surplus produce from the system. Similarly, they want the system to supply them the inputs at the lowest possible price.

2.6.4.2 **Consumers:** The consumers of agricultural products are interested in a marketing system that can provide food and other items in the quantity and of the quality required by them at the lowest possible price. However, this objective of marketing for consumers is contrary to the objective of marketing for the farmer-producers.

2.6.4.3 **Market Middlemen and Traders:** Market middlemen and traders are interested in a marketing system which provides them a steady and increasing income from the purchase and sale of agricultural commodities. This objective of market middlemen may be achieved by purchasing the agricultural products from the farmers at low prices and selling them to consumers at high prices.

2.6.4.4 **Government:** The objectives and expectations of all the three-groups of society - producers, consumers and market middlemen - conflict with one another. All the three groups are indispensable to the society. The Government has to act as a watchdog to safeguard the interests of all the groups associated in marketing. It tries to provide the maximum share to the producer in the consumer’s rupee, food and other farm products of the required quality to the consumers at the lowest possible price, and enough margins to market middlemen so that they may
remain in the trade and not think of going out of trade and jeopardizes the whole marketing mechanism. Thus, the Government wants that the marketing system should be such as may bring about the overall welfare to all the segments of society.

The overall objective of agricultural marketing system in a developing country like India should be to help the primary producers viz. the farmers in getting remunerative prices for their produce on the one hand and to provide right type of goods at the right place, in the right quantity and quality at a right time and at right prices to the processors and/or ultimate consumers on the other.

### 2.6.5 Scope of Agricultural Marketing

Agricultural marketing in a broader sense is concerned with the marketing of farm products produced by farmers and of farm inputs and services required by them in the production of these farm products. Thus, the subject of agricultural marketing includes product marketing as well as input marketing.

The subject of output marketing is as old as civilization itself. The importance of output marketing has become more conspicuous in the recent past with the increased marketable surplus of the crops and other agricultural commodities following the technological breakthroughs. The market orientation of farming has increased. Input marketing is a comparatively new subject. Farmers in the past used such farm sector inputs as local seeds and farmyard manure. These inputs were available with them, the purchase of inputs for production of crops from the market by the farmers was almost negligible.
The importance of farm inputs - improved seeds, fertilizers, insecticides and pesticides, farm machinery, implements and credit - in the production of farm products has increased in recent decades. The new agricultural technology is input-responsive. Thus, the scope of agricultural marketing must include both product-marketing and input-marketing.

Especially, the subject of agricultural marketing includes marketing functions, agencies, channels, efficiency and costs, price spread and market integration, producer’s surplus, government policy and research, training and statistics on agricultural marketing and imports/exports of agricultural commodities.

2.6.6 Role of Agricultural Marketing

Agricultural marketing scenario in the country has undergone a sea-change over the last five decades owing to the increase in the output of agricultural commodities and consequently in their marketed surpluses, increase in urbanization and income levels and thereby changes in the pattern of demand for farm products and their derivatives, slow and steady increase in the linkages with the overseas markets and changes in the form and degree of government intervention in agricultural markets. Therefore, the framework under which agricultural produce markets function and the factors which influence the prices received by the farmers now need to be understood in a different perspective compared to that in the past.
2.7 MARKETING OF SELECTED AGRICULTURAL PRODUCE IN COASTAL KARNATAKA

Agricultural marketing can best be defined as a series of services involved in moving a product from the point of production to the point of consumption. Thus, agricultural marketing is a series of inter-connected activities involving planning production, growing and harvesting, grading, packing, transport, storage, agro- and food processing, distribution and sale. In this connection, the farmers have realized the importance of adopting the cultivation of commercial crops and making efforts for more income and higher standard of living. As a consequence, the cropping pattern is no longer dictated by what he needs for his own personal consumption but what is responsive to the market in terms of price received by him. So in Coastal Karnataka, farmers have given importance to growing cash crops like Paddy, Coconut, Areca nut, Cashew nut and Groundnut.

2.7.1 Paddy

Source: www.google.com

Paddy or Rice (Oryza Saiva), one of the three most important food crops in the world, forms the staple diet of 2.7
billion people. It is grown in all the Continents, except Antarctica, occupying 150 million hectares (ha,), producing 573 million tonnes of paddy with an average productivity of 3.83 tonnes/ha. Its cultivation is of immense importance to food security of Asia, where more than 90% of the global rice is produced and consumed. India is the largest rice-growing country, while China is the largest producer of rice. Rice provides 32-59% of the dietary energy and 25-44% of the dietary protein in 39 countries. In India, it accounts for more than 40% of food grain production, providing direct employment to 70% people in rural areas. Being the staple food for more than 65% of the people, our national food security hinges on the growth and stability of its production. Annually rice is grown in 44.6 million hectares under 4 major ecosystems. Irrigated (21 million ha), rain-fed low land (14 million ha), rain-fed upland (6 million ha) and flood prone land (3 million ha). More than half of the rice areas (55%) is rain-fed and distribution-wise, 80% of the rainfed rice area is in eastern India, making its cultivation vulnerable to vagaries of monsoon. In the past four decades, our country has made a spectacular progress in rice production and productivity. The increase was four and a half times - from 20.6 million tonnes in 1950-51 to 93.0 million tonnes in 2001-02. The impressive growth is mainly owing to wide adoption of high yielding semi-dwarf varieties, increased use of chemical fertilizers and improved package of cultural practices.

2.7.1.1 Climate and Soil

Rice is grown successfully in different parts of the world from 39° S (Australia) to 50° N latitude (China). In India, it extends from 8° N to 34° N latitude under varying climatic
conditions. It is grown in areas ranging from below the sea level as in Kuttanad region of Kerala to altitudes above 2,000 metres as in parts of Jammu and Kashmir. Depending on the pattern of rainfall distribution, it is cultivated as a rain-fed upland crop in southern Bihar (now Jharkhand), eastern Madhya Pradesh (now Chhattisgarh) and western Orissa (Jeypore tract) and parts of West Bengal (Purulia and Bankura regions). On the contrary, it is also grown in shallow (up to 30 cm), semi-deep (30-100 cm) and deep water (1.6 m.) ecosystems in eastern Uttar Pradesh, Bihar, West Bengal, Assam and Orissa. Paddy is grown on a wide variety of soil types: the crop does best on sandy loam and loamy soils. Paddy is raised mostly as a rain-fed Kharif crop, being sown from May to July, depending upon the arrival of monsoon rains. On irrigated lands, Rabi is sown in some States during November to December.

2.7.1.2 Varieties

<table>
<thead>
<tr>
<th>Table 2.1</th>
<th>Varieties in Paddy</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Ecosystem</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>Rainfed upland</td>
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<td></td>
<td>Irrigated</td>
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<tr>
<td>Region</td>
<td>Type</td>
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<tr>
<td>Assam</td>
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<td>Deep water</td>
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<td>Post-flood situation</td>
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<tr>
<td>Birar</td>
<td>Rainupland</td>
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<td>Shallow lowland</td>
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<tr>
<td>Semi-drop water</td>
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<td>Deep water irrigated</td>
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<tr>
<td>Boro (irrigated)</td>
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<tr>
<td>Jharkhand</td>
<td>Ranifed upland</td>
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<tr>
<td>Rain fed lowland</td>
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<tr>
<td>Goa</td>
<td>Rain fed upland</td>
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<td>State</td>
<td>Type</td>
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<tr>
<td>Gujarat</td>
<td>Rain fed upland</td>
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<td>Irrigated</td>
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<td>Saline area</td>
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<td>Haryana</td>
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<td>Saline area</td>
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<td>Himachal Pradesh</td>
<td>Rainfed upland</td>
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<td>Jammu and Kashmir</td>
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<td>Karnataka</td>
<td>Rain fed upland</td>
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<td>Shallow lowland</td>
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<td>Irrigated</td>
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<td>Kerala</td>
<td>Rain fed upland</td>
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<td>Region</td>
<td>Type</td>
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<td>Kanchana, Swarnaprabha,</td>
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<td>Madhya Pradesh</td>
<td>Semi-deep water</td>
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<td>Rain fed upland</td>
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<td>Maharashtra</td>
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<td>Rain fed upland</td>
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<td>Manipur</td>
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<tr>
<td></td>
<td>Deep water</td>
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<tr>
<td></td>
<td>Hilly area</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>Rainfed upland</td>
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<tr>
<td>Orissa</td>
<td>Rainged upland</td>
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<td></td>
<td>Ghanteswari, Sneha, Badami, Patnai 23</td>
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<td>------------------</td>
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<tr>
<td>Irrigated semi-deep water</td>
<td>Utkalprabha, Rambha, Jogem, Sabitha, Amulay, Manika, Mahalaxmi, Kanchan, FR 13A, Panidhan</td>
</tr>
<tr>
<td>Shallow lowland</td>
<td>Rajeshwari, Seema, Parijat, CR 1014, Jajati, Urbashi, Samlele, Pratap, Saradhi, Gauri Daya, Mahalakshmi, Mahanandi Pooja</td>
</tr>
<tr>
<td>Punjab Irrigated</td>
<td>IR 8, Jaya, PR 103, PR 106, PR 109, PR 108, Basmati 370, Basmati 385, Pusa 44 33, Pusa Basmati 1, PR 111, PR 113, PR 114, PR 115, PR 116, Pusa Sugandha 2, Pusa Sugandha 3</td>
</tr>
</tbody>
</table>

Source: Handbook of Agriculture published by Directorate of information and publication of Agriculture
2.7.2 Coconut:

Coconuts (*cocos nucifera*) are a commercial crop in India. Kerala, Tamil Nadu, Andhra Pradesh and Karnataka are major coconut-producing states in India. Kerala accounts for 54.7% of the total area and 42.3% of the production, followed by Tamil Nadu and Karnataka. The productivity of coconut has also increased from 4,982 nuts/ha in 1950-51 to 7,779 nuts/ha (1995-96), the maximum productivity being 20,261 nuts/ha from Maharashtra.

2.7.2.1 Climate and Soil:

Coconut can be successfully cultivated up to 600m above mean sea-level, though it is cultivated even above 90m. Well-distributed rainfall of 800-2500mm/year is ideal. In regions, where prolonged dry spells occur, irrigation is essential. Coconut can also withstand water logging during the rainy season. To get highest yield, mean annual temperature of 27°C with a diurnal variation of 5°-7°C is optimum. Low temperature particularly below 15°C results in cold injuries to the palms, resulting in abnormal fruit development. Warm and humid conditions are
desirable for its cultivation in the coastal regions of south India. The humidity should be 80-90%. The relative humidity below 50% affects opening of the stomata. Since coconut palms love sunlight, its growth is affected in overcrowded plantations and mixed cropping systems. Sunshine of 2,000 hr/year or more is suitable for profuse growth and productivity.

Laterite, lateritic red, sandy, alluvial sandy, alluvial, coastal, and black soils are good for coconut cultivation. Laterite and lateritic soils in humid tropical zones in the western and eastern belts of India are the predominant soils wherein coconut is extensively cultivated. These are highly weathered, moderately deep to deep loamy to clay, well-drained and predominantly acidic with a pH of 4.5-6.8. Coastal Karnataka, south interior Karnataka, Kerala, Andhra Pradesh, Tamil Nadu, Orissa, West Bengal and Maharashtra are ideal for its cultivation. It is not a seasonal crop but the yield will be throughout the year.

2.7.2.2 Varieties:

There are two varieties of coconuts, namely, tall and dwarf. The tall palms are most commonly cultivated. They grow to a height of 25-30m, the pre-bearing age being 6-10 years. Tall palms are normally cross-pollinated as there is no overlapping of male and female phases. Medium to large sized nuts in tall palm mature in 12 months. West Coast Tall, Laccadive Ordinary, East Coast Tall and Andaman Ordinary are the tall types cultivated in India.

Dwarf palms are short-statured, their pre-bearing age is 3-4 years Dwarf palms yield heavily, though they have an irregular bearing habit. They are identified by colour of fruits - orange, yellow, and green. The important dwarf types are Chowg hospitality in your area. If you are interested in growing coconuts, please contact


Green Dwarf and Chowghat Orange Dwarf in Kerala; Gangabondam in Andhra Pradesh and Gudanjali Dwarf in Gujarat.

The coconut hybrid varieties like Anandaganga, Chandrakalpa, Chandralaksha Kerasankara, Keraganga, Lakshaganga, Philippines Ordinary, Pratap (BGR), VHC2. The pay back-period in hybrids is 8 years compared with 10 years in West Coast Tall. These hybrids also respond to recommended dose of fertilizer of 500g N, 320g P$_2$O$_5$ and 1,200g K$_2$O per year with increased efficiency, indicating that these hybrids are suitable for small holdings in Kerala, Karnataka and Tamil Nadu.

2.7.3 Areca nut

Source : www.google.com

Areca nut or betel nut or Supari (Areca catechu) is chewed both as a raw nut and after processing. While ripe areca nut is favoured in Assam, Kerala and Northern parts of West Bengal, Chali is more popular in Western and Northern parts of India. Processed green nut Kalipak is the choice in Karnataka and Tamil Nadu. Owing to the medicinal properties, it is used in treating leucoderma, cough, fits, worms, anaemia and obesity. Areca nut is of utmost importance in many religious ceremonies. Tannins in areca nut are used for dyeing clothes, ropes and for
tanning leather. Plastic, hard boards and craft paper of satisfactory strength can be made from its husk. The leaf sheath is a good material for making throw-away cups and plates, ply boards, decorative veneer panels and picture mounts. Its stem forms a useful building material in the villages. Areca nut is mostly grown in Kerala, Karnataka, Assam, West Bengal and Tamil Nadu.

2.7.3.1 Climate and Soil:

Though areca nut grows up to 1,000m above mean sea-level, its quality is affected adversely at higher altitudes. In most of the States, it is grown in the plains. The crop flourishes well at a temperature range of 14°C-36°C. Extremes of temperature and wide diurnal variations are not conducive for desirable performance. The largest area of areca nut is found in gravelly laterite soils or red clay. In coastal parts of Karnataka, areca nut is planted in fertile clay soils with an admixture of tank silt. Sticky clay, sandy, blackish and calcareous soils are not favourable for its cultivation. It is a Kharif crop in some States and also a Rabi crop in some States in India.

2.7.3.2 Varieties:

Mangala, Sumangala, Sreemangala, Mohitnagar, CAL-17 and SAS-1 are the released varieties for various areca nut growing regions of India.

Variety: Mangala

Recommended for: Coastal Kerala and Karnataka
Yield: 200q/ha ripenuts, 28q/ha chali
Characters: Semi-tall, partially dropping crown with well-spread leaves, with dark green characteristic crinkling at the tip, early-bearing and high rout set ripe nuts dark
yellow to orange colour, medium sized, round to oval in shape

❖ Variety : Sumangala

Recommended for: Coastal Kerala and Karnataka

Yield: 236q/ha ripe nuts, 45q/ha chali

Characters: Tall palms with partially drooping habit, flowers in 4-5 years, ripe nuts deep yellow to orange, oblong to round shaped and bold nut.

❖ Variety : Sree Mangala

Recommended for: Karnataka and Kerala

Yield: 214q/ha ripe nuts, 42q/ha chali

Characters: Tall palms with partially drooping habit, flowering in about 5 years, ripe nut deep yellow in colour, oblong to round shaped, and medium-sized nuts

❖ Variety : Mohitnagar

Recommended for: Northern parts of West Bengal, Coastal Karnataka and Kerala

Yield: 207/ha ripe nuts, 50q/ha

Characters: Tall palms with well-spaced bunches nuts, loosely arranged oval to round shaped, medium-sized, consistent high yielder.

❖ Variety : CAL7

Recommended for: Andaman and Nicobar Islands

Yield: 259/ha ripe nuts, 60q/ha chali

Characters: Tall palms with longer inter node consistent and high-yielding with well-placed bunches and round and bold nuts

❖ Variety : SAS 1
Recommended for: Hilly area of Karnataka

Yield: 239q/ha ripe nuts

Characters: Tall, regular bearing, strong stem, compact bunches with round even shaped, orange coloured nuts, suitable for tender nut processing.

2.7.4 Cashew nut

Source: www.google.com

Cashew (*Anacardium occidentale*) is an important crop providing employment to well over a 100 thousand persons in its processing and earning foreign exchange to the tune of Rs 1,000 million per annum. It is cultivated widely throughout the tropics for its kernels. In India, it is grown in the west coast, east coast and a few Maidani (plateau) parts in Karnataka and Madhya Pradesh. The highest productivity is noticed in Maharashtra with 1.5 tonnes/ha.

2.7.4.1 Climate and Soil

Cashew tolerates wide range of ecological factors. The distribution of cashew is restricted to altitude below 700m where the temperature does not fall below 20°C for prolonged periods. However, the best production is noticed up to the altitude of 400m with at least 9hr sunlight/day from December-May.
Cashew grows well at reasonably high temperatures and does not tolerate prolonged periods of cold and frost especially during the juvenile period. However, temperature above 36°C between the flowering and fruiting period could adversely affect the fruit setting and retention.

Cashew can adapt very well to dry conditions as it is hard and drought-resistant. However, its varieties perform very well where at least a minimum of 600mm rain is received in a year. Prolonged dry spells, frost, foggy weather and heavy rains during flowering and initial fruit setting adversely affect fruit set and production. Cashew is very sensitive to water logging and hence, heavy clay soils with poor drainage conditions are unsuitable for its cultivation. Excessive alkaline and saline soils also do not support its growth. Otherwise, cashew grows in almost all soil types and performs very well in red sandy loams, laterite soils and coastal sands. Cashew comes up well when the soil pH is in acidic range. More than 8 pH is not suitable for its commercial cultivation. Though cashew is considered to be very hardy and drought-resistant, it grows better where water table is high. Cashew also responds well to supplementary irrigation during the summer months (June-March).

2.7.4.2 Varieties

About 33 varieties of cashew have been released. Most of them have a mean yield of 8-10kg/tree or 1 tonne/ha.
Table 2.2

The cashew varieties recommended for different States are shown below.

<table>
<thead>
<tr>
<th>State</th>
<th>Variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>BPP 4, BPP 6, BPP 8 and VRI 2</td>
</tr>
<tr>
<td>Karnataka</td>
<td>Chintamani 1, Selection 1, Selection 2, Ullal 1, Ullal 2, Ullal 3, Ullal 4, UN 50 VRI 1, Vengurla 1 and Vengurla 4</td>
</tr>
<tr>
<td>Kerala</td>
<td>Dhana, K-22-1, Modakkathara 1, Madakkathara 2 and Priyanka</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>T No. 40 and Vengurla 4</td>
</tr>
<tr>
<td>Maharashtra and Goa</td>
<td>Vengurla 1, Vengurla 4</td>
</tr>
<tr>
<td>Orissa</td>
<td>Bhubaneswar 1 and VRI 2</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>VRI 1, VRI 2, VRI 3</td>
</tr>
<tr>
<td>West Bengal</td>
<td>Jhargram 1</td>
</tr>
</tbody>
</table>

Source: A book by K.P. Kannan, Cashew Development in India

Most of Coastal Karnataka places have varieties Ullal

2.7.5 Groundnut

Source: www.google.com

Groundnut (*Arachis hypogaea*) is believed to be a native of Brazil (South America), since many closely related species are found there. The crop has spread from Brazil to Peru, Argentina and
Ghana, from where it was introduced into Jamaica, Cuba and other West Indies islands. The plant was introduced by the Portuguese into Africa from where it was introduced into North America. It was then transported along the American West Coast to Mexico and then across the Pacific to the Philippines, from where it has spread to China, India, Malaysia and Indonesia. In India, groundnut had first reached on the east coast of the then Madras province. As per the available records it was first cultivated in Mysore state around 1800 AD.

In groundnut seed, oil content varies from 44 to 50%, depending upon the varieties and agronomic conditions. Its oil finds extensive use as a cooking medium, both as refined oil and “Vanaspati Ghee”. It is also used in soap-making and in manufacture of cosmetics, lubricants, olein stearin and their salts. Kernels are also eaten raw, roasted or are sweetened. They are rich in protein and vitamins A, B and some members of B₂ group. Their calorific value is 349 per 100g. The hand picked and selected (HPS type of groundnut kernels are exported to other countries. The residual oilcake contains 7 to 8% N, 1.5% P₂O₅ and 1.2% K₂O and can be used as manure. It is an important protein supplement in cattle and poultry rations. It is also consumed as a confectionery product. The cake can be used for manufacturing artificial fibre. The haulms (plant stalks) are fed (green, dried or silaged) to livestock. Groundnut shell is used as fuel, manufacturing coarse-boards and cork substitutes.
2.7.5.1 Climate and Soil

Groundnut is grown throughout the tropics and its cultivation also extends to subtropical countries, between 45° N and 35° S and up to an altitude of 1,000 metres. The crop can be grown successfully in receiving a minimum rainfall of 500 mm and a maximum of 1250 mm. The rainfall should be well distributed during flowering and pegging stages. The rainfall required for pre-sowing operations is 100mm and during sowing 150 mm. During flowering, pod development, an evenly distributed rainfall of 40-500mm is required.

Although groundnut is grown on a wide variety of soil types, the crop does best on sandy loam and loamy soils and also on black soils with good drainage. Heavy and stiff clays are unsuitable for groundnut cultivation as pod development is hampered in those soils. Groundnut is raised mostly as a rain fed kharif crop, being sown May to July depending upon monsoon rains. In rabi, groundnut is sown in southern states during November to December.

2.7.5.2 Varieties

Table 2.3

The groundnut varieties recommended for different States are shown below.

<table>
<thead>
<tr>
<th>State</th>
<th>Recommended variety</th>
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</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>ICGV 86590, K 134, Tirupathi3, ICGV 86325, DRG 12, Kadiri 4, JCC 88, Kadiri 5, Kadiri 6, ICGS 76, Apporva</td>
</tr>
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<td>Chattisgarh</td>
<td>JGN 3</td>
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<tr>
<td>Gujarat</td>
<td>Somanth, ICGS 37, CG 20, TG 26, GG 7, Dh 86, GG 4, GG 5, GG 13, GG 3, GAUG 11</td>
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<td>State</td>
<td>Cultivars/Genotypes</td>
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<tr>
<td>Jharkhand</td>
<td>BAU 13, BG 3, TG 22, Birsa Bold</td>
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<tr>
<td>Haryana</td>
<td>ICGS 1, MH4, Prakash HNG 10, Mukta, DRG 17</td>
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<td>Karnataka</td>
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<td>TG 3</td>
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<td>Orissa</td>
<td>RSHY 1, OG 52 1, ICGS 44, Dh 86, TG 3, Smruti</td>
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<td>Punjab</td>
<td>MS 22, Amber, HNG 10, Prakash, Mukta</td>
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<td>Rajasthan</td>
<td>CSMG 84 1, DRG 17, CSMG 884, HNG 10, GG 14, TG 37 A, Prakash, Mukta</td>
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<tr>
<td>Tamil Nadu</td>
<td>ICGV 86590, VRI 2, ICGV 86325, DRG 12, VRI 4, ALR 2, BSR 1, ALR 3, VRI 5, Co 4, BPBD 4, Apoorva, Vamana, Co 3, ICGS 76</td>
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<tr>
<td>Uttar Pradesh</td>
<td>ICGS 1, CSMG 84 1, ICGS 5, CSMG 884, HNG 10, GG 14, TG 37A, Kaushal, Mukta, DRG 1</td>
</tr>
</tbody>
</table>

Source: Handbook of Agriculture published by Directorate of information and publication of Agriculture
References:

8. Reports of APMCs.
9. Reports Statistical Departments of Udupi.
10. Handbook of Agriculture published by Directorate of information and publication of Agriculture