



*MODERN CONCEPTS OF FLORA
DEVELOPMENT AN ITS APPLICATION IN
HORTICULTURE INDUSTRY*

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COLLEGE ROLL- 100

UNIVERSITY ROLL NO- 170611610031

REG NO-201701010545 OF 2017-18

BSC GENERAL BOTANY (DISSERTATION REPORT
PRESENTATION) (DSE2)

ACKNOWLEDGEMENT:

I have immense pleasure in presenting this Report presentation On Modern concepts of flora development an its application in horticulture industry.

Thank you Pritam Chakraborty sir for give this dissertation topic

.

The subject is an interesting one .It gave me an opportunity to have detailed study on the subject and showed how to thing work in the practical world .

I came to understand and analyze the importance and the role of horticulture industry.

I had a great time working on the report presentation. I have provided information to the fullest of internet ,knowledge and finding own self.

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SUMMARY

Despite its significant in agricultural growth, commercial activities and poverty alleviation, the horticulture sector has not received the attention it deserves..

It is a science of cultivation of garden plants..

It is a crucial component of climate affecting growth and production of crop..

INTRODUCTION :

Horticulture is a branch of agriculture that involved in research and development, marketing of fruits and vegetables, oenology- winemaking, post harvest physiology, viticulture, floriculture- flower produce, turf- grass for grazing, sports etc. Presently India is 2nd largest producer of fruits and vegetables in the world.



Government of India has established National Horticulture Board to improve integrated development of Horticulture industry and to help in coordinating, sustaining the production and processing of fruits and vegetables. Various schemes implemented by National Horticulture Board such as Commercial Horticulture Scheme, Cold storage scheme, Technology Development Transfer Scheme, Market Information Service Scheme, Horticulture Promotion Service. National Horticulture Board publishes data of daily, weekly, monthly horticulture produce price in farmers market on official website. Area production statistics are also available on website. It also publishes informational data regarding horticulture produce.

ICAR- Indian Council of Agriculture Research- Horticulture Division aims at overall accelerated development of horticulture in national perspective for improving nutritional, ecological and livelihood security. Success of Horticulture Division can be stated in this fact that total of 1,596 high yielding varieties and hybrids of horticultural crops (fruits - 134, vegetables - 485, ornamental plants - 115, plantation and spices - 467, medicinal and aromatic plants - 50 and mushrooms - 5) were developed. As a result, the productivity of horticultural crops viz. banana, grapes, potato, onion, cassava, cardamom, ginger, turmeric etc. has increased significantly. Horticulture division is also succeed in developing improved techniques for production of disease free quality planting material for citrus, banana, guava, potato, cassava and sweet potato. Micro propagation techniques have been standardized for various fruits, spices and other vegetatively propagated plants. The plant standards were also developed in

various fruit crops. Patents were obtained for production of alcohol from cassava, cassava starch based biodegradable plastics, fermented cassava flour and hand operated cassava chipping machine.

A National Horticulture Mission was launched in 2005-06 as a Centrally Sponsored Scheme to promote holistic growth of the horticulture sector through an area based regionally differentiated strategies. The scheme has been subsumed as a part of Mission for Integration Development of Horticulture (MIDH) during 2014-20.



Horticulture market is seasonal which renders scope for further processing/ agri-business in order to provide products round the year. For example, mango is one of seasonal fruits but it is available round the year on shelf in the form of fruit juice, canned pulp and other mango products.

Farmers can get benefit by export of horticulture produce which requires compliance international standards. Government of

India established consultancy for farmers/ horticulturists called Indian Horticulture and food processing (IHFP). It was started to cater the need of progressive farmer who involved in Hi-Tech horticulture and food processing activities. It has more than 200 progressive farmer and happy clients and the number is increasing every day. The wide variant of the farmers ranges from controlled cultivation like Hi-tech Green House, shade house cultivation for Horticulture and floriculture, Hi-tech open cultivation (mango, coconut, papaya, amla, Tamarind, Sapota, Citrus, TC Banana, Pomegranate, Guava, Grapes) cultivation, Tissue culture Laboratory and Hi-tech multi chamber cold storages. It provides facility of laboratory services, project report services, marketing and project monitoring.

DISCUSSIONS :

HISTORY OF HORTICULTURE :

The origins of horticulture lie in the transition of human communities from nomadic hunter-gatherers to sedentary or semi - sedentary horticulture communities, cultivating a variety of crops on a small scale around their dwellings or in specialised plots visited occasionally during migrations from one area to the next. In forest areas such horticulture is often carried out in swiddens. A characteristic of horticulture communities is that useful trees are often to be found planted around communities or specially retained from the natural ecosystem. Horticulture

sometimes differs from agricultural in (1) a smaller scale of cultivation, using small plots of mixed crops rather than large field of single crops (2) the cultivation of a wider variety of crops, often including fruits trees. In pre-contact North America the semi - sedentary horticulture communities of the Eastern Woodlands (growing maize, squash land sunflower) contrasted markedly with the mobile hunter-gatherer communities of the Plains people. In central America, Maya horticulture involved augmentation of the forest with useful trees such as papaya, avocado, cacao , ceiba and snpodilla. In the comfiddles, multiple crops were grown such as beans, squash, pumpkins and chilly papers.

CLASSIFICASON :

Pomology:

Planting, harvesting, storing, processing, and marketing of fruit and nut crops.

Olericulture:

Producing and marketing vegetables.

Arboriculture:

Study, selection and care of individual trees, shrubs or other perennial woody plants.

Ornamental Horticulture: It has two subparts 1.Floriculture:

Production, use and marketing of floral crops.

2. Landscape Horticulture:

Production and marketing of plants used to beautify the outdoor environment.

And Nursery Horticultural.

HORTICULTUR INDUSTRY :

Horticulture industry is the combination of scientific, technological, and production activities that ensure the satisfaction of the consumer. The horticulture industry can be divided

into three areas: pomology, olericulture, and ornamental horticulture. Each area is unique and includes many career opportunities.

POMOLOGY;

Pomology is the planting, harvesting, storing, processing, and marketing of fruit and nut crops. Fruit crops include both large and small fruits. Examples of large fruits are peaches, apples, and pears. Small fruits include strawberries, raspberries, and blueberries. Almonds, pecans, and walnuts are popular nut crops.



FIGURE 1. Pomology is the planting, harvesting, storing, processing, and marketing of fruit and nut crops. (Clockwise from top left: peaches, apples, strawberries, almonds.)

OLERICULTURE;

Olericulture is the production of plants for use of the edible parts. Vegetable crops can be classified into nine major categories:

Potherbs and greens – spinach and collards

Salad crops – lettuce, celery

Cole crops – cabbage and cauliflower

Root crops (tubers) – potatoes, beets, carrots, radishes

Bulb crops – onions, leeks

Legumes – beans, peas

Cucurbits – melons, squash, cucumber

Solanaceous crops – tomatoes, peppers potatoes Sweet

Corn.



Olericulture deals with the production, storage, processing and marketing of vegetables. It encompasses crop establishment, including cultivar selection, seedbed preparation and establishment of vegetable crops by seed and transplants.



It also includes maintenance and care of vegetable crops as well commercial and non-traditional vegetable crop production

including organic gardening and organic farming; sustainable agriculture and horticulture; hydroponics; and biotechnology.



ARBORICULTURE;

Arboriculture: Study, selection and care of individual trees, shrubs or other perennial woody plants. Floriculture: Production, use and marketing of floral crops. Landscape Horticulture: Production and marketing of plants used to beautify the outdoor environment.



ORNAMENTAL HORTICULTURE ;

The growth and use of plants for their beauty is the area of horticulture known as ornamental horticulture. Ornamental horticulture involves the production and use of woody and herbaceous plants. Because of the use of green plants, the ornamental horticulture industry is often referred to as the “green industry. Three Ornamental horticulture is divided into two categories. These are floriculture and landscape horticulture. Both involve the use of flowering and foliage plants.

Foliage plants are those used for their colorful greenery or leaves.

Floriculture is the area of ornamental horticulture associated with the production and use of flowers, potted plants, and annual bedding plants. It includes the use of floral products in the florist's trade. Poinsettias, carnations. Floriculture includes the use of floral products in the florist's traditions, philodendrons, and petunias are common plants associated with floriculture.



LANDSCAPE HORTICULTURE;

Landscape horticulturists, in consultation with clients, work with other trades to carry out landscaping operations and design in a variety of environments. This includes residential, commercial and public grounds, playgrounds, golf courses, garden centres, tree nurseries, greenhouses and interior landscapes.

Landscape horticulturists work with machinery and equipment ranging from simple hand tools such as pruning shears and sprayers to heavy-duty trucks, tractors, loaders and graders. They may be responsible for the routine maintenance of

equipment. Since landscape gardeners also work with pesticides and fertilizers, they must be aware of government regulations restricting their use and the toxic or hazardous effects the chemicals



ROLE OF NURSERIES IN THE HORTICULTURE DEVELOPMENT;

1. Production of Genetically Pure Nursery Stock

Genetically pure planting material is essential for healthy and vigorous plant growth. Both stock and scion should be genetically pure. The planting material should be satisfactory in quantity and quality and easily available for further multiplication.

2. Export of Nursery Stock



plantations play an essential part in afforestation and thereby help to reduce the global warming.



HORTICULTUR SECTORS :

Horticulture sector has become one of the major drivers of growth as it is more remunerative than the agricultural sector (food grains mainly). This sector provides employment possibilities across primary, secondary and tertiary sectors. Horticulture crops, fruits are more resilient to change in weather conditions and the vegetables augment the income of small and marginal farmers. Water utilisation is very low, minimising the risk of crop failure and it can be done on smaller farms. Multiple crops are planted simultaneously to get more yield and to use the maximum of the fertilisers. This sector enables the population to eat a diverse and balanced diet for a healthy lifestyle. It became a key driver for economic development in many of the states in the country where Division of Horticulture of Indian Council of Agricultural Research is playing a pivotal role.

JOB'S THAT MAY REQUIRE ADVANCED TRAINING :

- * landscape architect
- * teacher
- * plant breeder
- * sales Person
- * greenhouse manager
- * garden center manegar
- * pesticide specialist
- * consultant & researcher
- * office supervisor
- * plant disease specialist
- * nursery manager & pest control specialist
- * landscape contractor



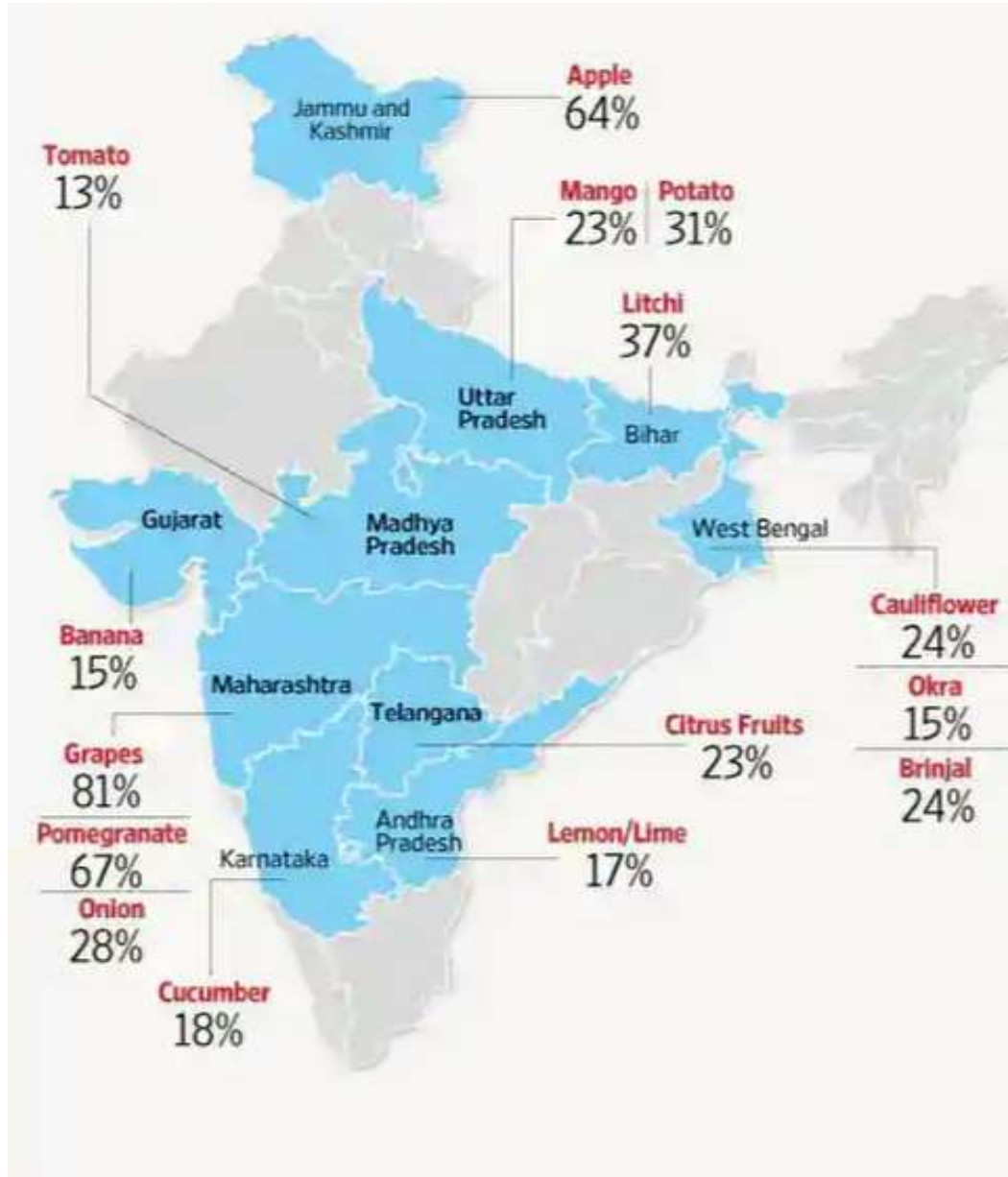
JOBS THAT REQUIRE WORK WITH HANDS OF TOOLS AND DONE OUTSIDE :

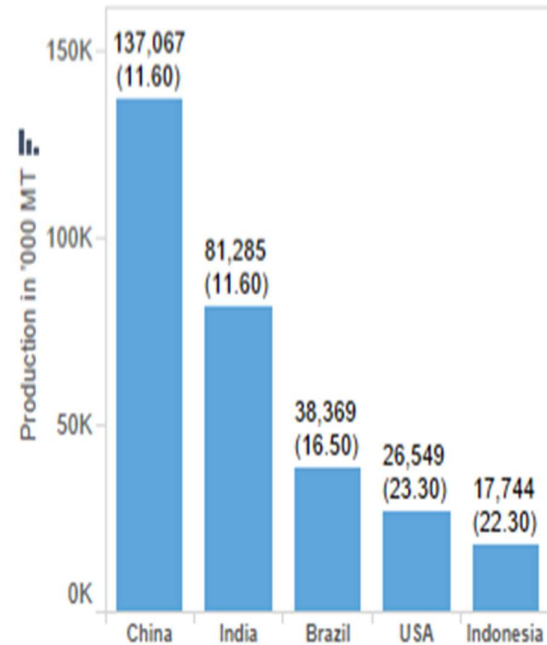
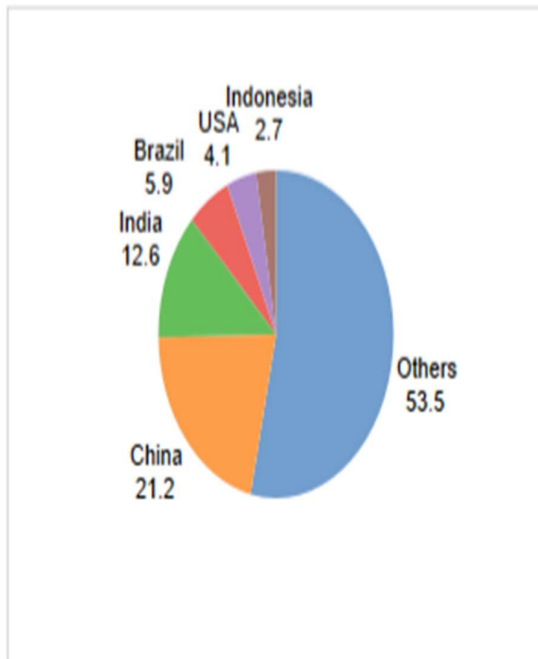
- * greenhouse worker * Nursery grower
- * propagator * bedder
- * tree surgeon * pruner
- * turf worker * grounds keeper
- * greens keeper * landscape gardener
- * orchardist * small fruit grower
- * vegetable crop grower * farm chemicals sales worker



DISTRIBUTION OF HORTICULTURE IN INDIA & Other countries:

While Maharashtra, Andhra Pradesh and Uttar Pradesh grew nearly a third of all fruits in India, Uttar Pradesh, West Bengal and Bihar contributed nearly 40% to vegetable production.

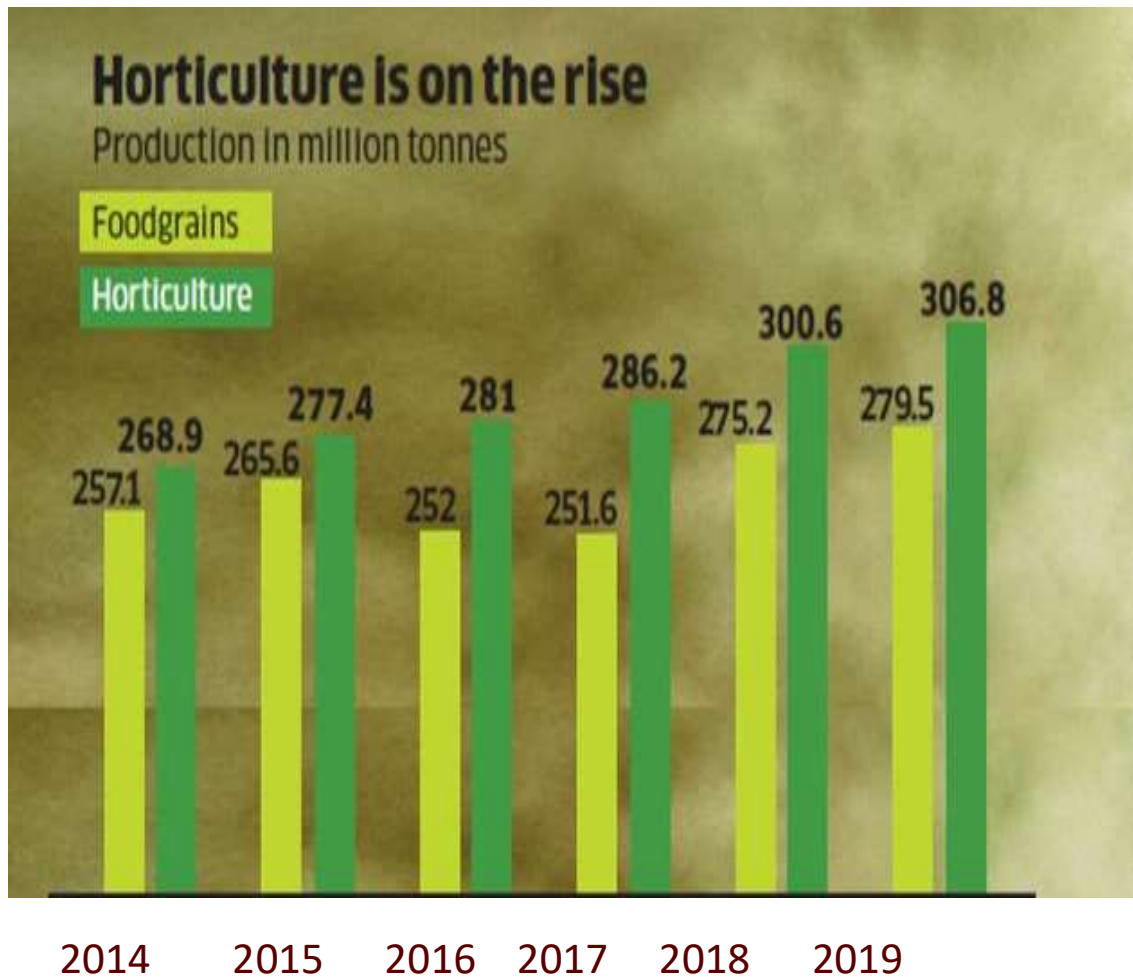




ECONOMIC ROLES :

. Analysis of farmers costs of production and returns shows that growers of fruits and vegetable regularly earn higher profits than that growers of agronomic crops. High investment in the various phases of production, handling processing and marketing of these crops involves a higher flow of capital. Thus cultivation of horticultural crops brings about higher flow of capital, and brings about accelerated economic activity in the agricultural sector. The expansion of the horticulture industry will create more infrastructure, more job opportunities and better returns to farmers. Export of horticultural produce will bring foreign exchange into the country. Fruit and ornamental trees planted today are an investment in the future. They will be a source of timber and firewood. Raw materials are provided for many industries like paper, perfumes, feeds, fertilizer, furniture and

various other articles of daily use. During 2003-2020, 754000 tones, of fruits worth 7912 million rupees were exported.

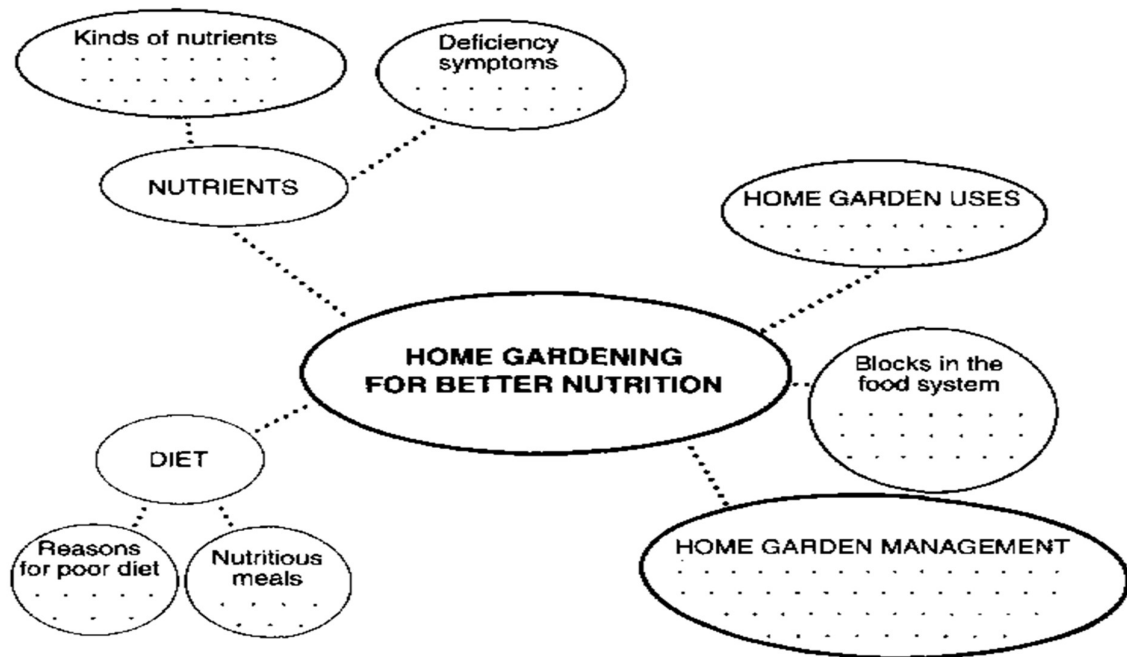


MEDICINAL ROLES:

Many plants with medicinal value are cultivated in the horticulture sector. Pharmacology, the science of drugs and medicines is dependent on these plants. The cultivation and maintenance of such plants has its own aesthetic and economic importance. Falsa, sweet lime, and jaman are known for their cooling effects. Grapefruit is recommended for dieting patients. Bitter gourd and jaman are also considered to help diabetics.

DIATARY ROLE :

A complete food must contain carbohydrates, proteins, fats, vitamins, minerals and roughages or fibers. Horticultural foods are an excellent source of all the essential components of the human diet. Approximately 30 percent of the food consumed in the world is produced in the horticulture sector. All fruits and vegetables have some quantity of digestible carbohydrates and other food components in varying proportions. Potatoes and sweet potatoes are especially high in starch containing 19 percent and 27 percent starch, respectively. These vegetables and fruits, like bananas, have the potential to supplement our future energy requirements. On a per-acre basis, potatoes and bananas produce more calories than wheat. Potatoes are the fourth ranking crop in the world and increased potato cultivation could reduce the pressure on grain production.



AESTHETIC VALUE:

The beauty of plants and the pleasure received are not tangible quantities that can be measured or weighed. These are value judgments which vary with persons, places, traditions, and culture. People of different heritage will have quite different opinions about what is beautiful and what is ugly. In horticulture, the elements of plant beauty are combined to their utility for human use whether horticultural plants are encountered as foods, as desserts or in a community park, their aesthetic value of horticulture always takes precedence over economics. The aesthetic value of horticulture has been used to promote mental health and a mode of relaxation. Horticultural therapy is now a well recognized field of medical science.

ACHIEVEMENTS:

Glimpses of Indian Horticulture .Globally, second largest producer of fruits and vegetables.largest producer of mango, banana, coconut, cashew, papaya, pomegranate etc.Largest producer and exporter of spices.Ranks first in productivity of grapes, banana, cassava, peas, papaya etc.Export growth of fresh fruits and vegetables in term of value is 14% and of processed fruits and vegetables is 16.28 %.

INDIAN INSTITUTE OF HORTICULTURE RESEARCH:

The Indian Institute of Horticultural Research (IIHR), which was set up in 1967, is India's first-ever horticultural research institute and it works as an organization that conducts research on many different varieties of horticulture like fruits, vegetables and so on. Based in Bengaluru, Karnataka, the IIHR is a subsidiary of the ICAR. The Institute is famous for developing strategies to increase the productivity of different types of horticulture crops as well as act as a facility for storing scientific information related to horticulture.



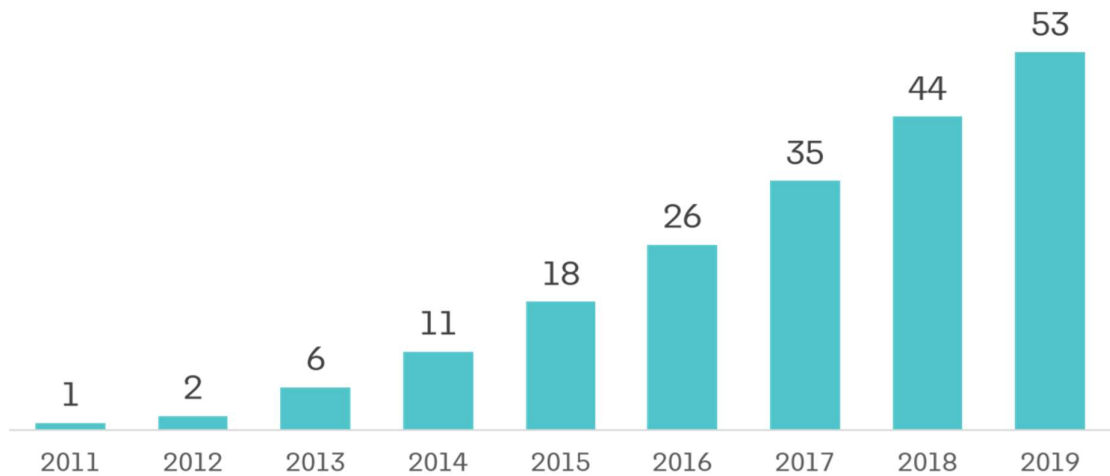
Following are the awards and achievements of IIHR, Bangalore:

IIHR is known for the development of 170 types and hybrids of different horticultural crops and also many related technologies.

The Institute won the Sardar Patel Outstanding ICAR Institution Award 2010 from the Indian Council of Agricultural Research (ICAR).

IIHR was recognized as a DBT-ICAR National Facility for the virus –diagnosis as well as quality control in tissue culture plants.

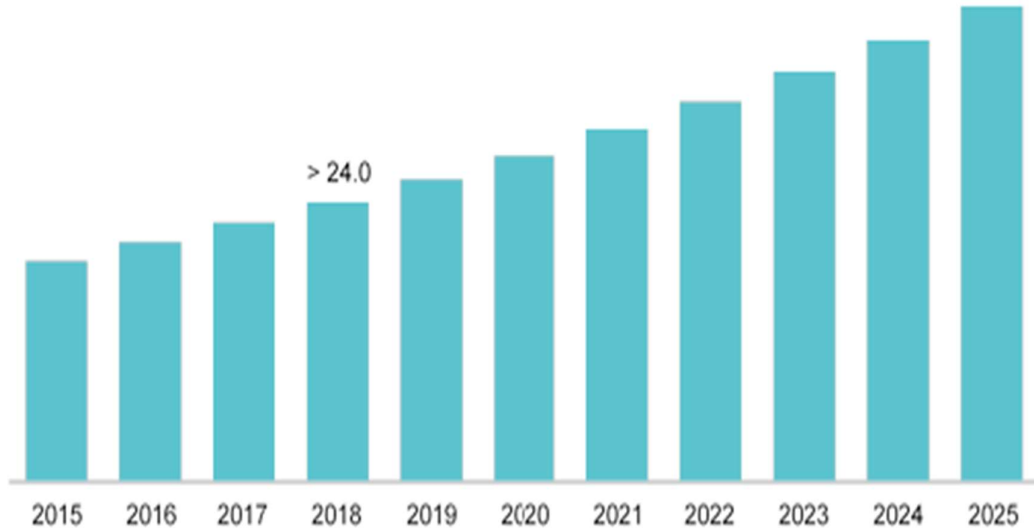
HORTICULTURE MARKET REPORT:



Report made in 2019

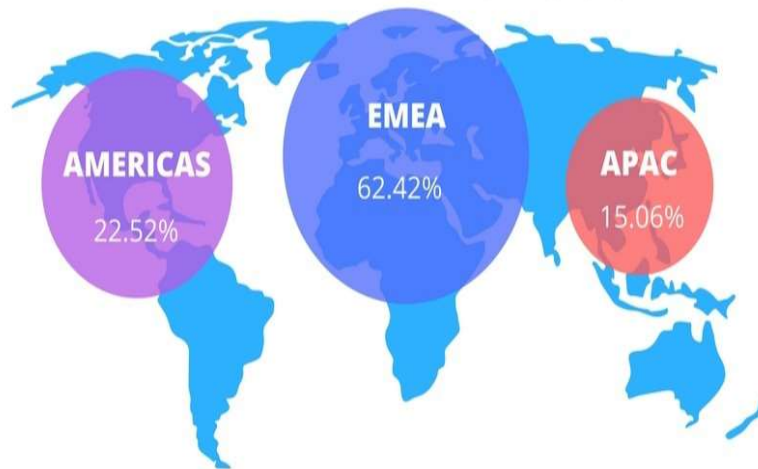
marketing plan is essential for every horticultural business and for efficient and effective marketing of any horticultural product or service. A marketing plan serves as a road map. It establishes objectives, recommended actions, and timing for achieving the objectives.

Global Greenhouse Horticulture Market Value, 2015-2025 (USD Billion)



GLOBAL GREENHOUSE HORTICULTURE MARKET GEOGRAPHICAL SEGMENTATION

Global Greenhouse Horticulture Market By Geography



In 2016, the greenhouse horticulture market in EMEA was valued at \$12.64 billion.

In 2016, market in the Americas is expected to reach \$7.42 billion by 2021.

The greenhouse horticulture market in APAC is expected to grow at a CAGR of 14.18%.

APAC is expected to witness an explosion in the market, with China leading the region.

HORTICULTURE MARKETING :

An organization engaged in fruit marketing must serve the fruit growers and consumers equally. The organization dealing with the perishable fruits, processing and marketing of the processed food products has an amazing task of coordinating all its activities and building suitable marketing infrastructural facilities. A fruit marketing agency may have the activities and its operations related to fruit procurement, packing, storage, transportation, processing and marketing of fresh fruits as well as the fruit products. Efficient marketing strategy especially for horticulture produce depends mainly on the decision on where, when, how much to market. In the process of marketing a product has to pass through a number of marketing agencies and make use of the services of several functionaries. The fruits and vegetables pass through different channels on their way to the ultimate consumers and the share of consumer's money received by the producer depends upon the channel followed. A modern marketing organization having diverse function may require sectoral division and separate management sub-units under an overall control of management.

CONCLUSION:

Horticultural research has a major role to play in the improvement of the horticultural industry in Kenya. For the farmers to produce good quality fruits and vegetables for the export market, research should focus on the identification of high-yielding varieties adapted to different agroecological zones; availability of good quality planting material of the selected varieties and development of production and post-harvest technologies. Emphasis should be placed on maturity indices, post-harvest physiology, pathology and sea shipment. There is a need to diversify exports, train producers and conduct market studies. This could be done by KARI, HCDA and the Ministry of Agriculture.

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