

IAS PARLIAMENT

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Horticulture : Towards a Silent Revolution



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1. Horticulture : Towards a Silent Revolution

Within the agriculture sector, the horticulture sector is widely recognised as the most rapidly growing sector. It has been rightly called as the silent revolution because of its varied achievements.

Milestones in the horticulture sector:

- The fifth consecutive year horticultural production outstrip the food grains production is an evidence of structural changes in the agricultural sector.
- The overall share of the horticulture in the agriculture sector's gross domestic product has grown to over 30 percent even though it accounts for nearly 17 percent of the farmland.
- As per the consumption data from the national sample survey organisation (NSSO) consumption of vegetables per person increased from 2.7 kg in 1993-94 to 4.3 kg in 2011-12 and this growth is because of the increased production in spite of the surge in the population.
- The impact of irrigation better agronomic practices and improved varieties has been reflected very well in the robust growth of horticultural output which is estimated around a 7 percent a year in the past decade.
- The acreage under horticulture has also grown by around 2 percent a year and dipped only marginally in bad monsoon years and the drought years.

Different schemes for the promotion of horticulture sector:

- National horticultural mission under mission for integrated development of horticulture (MIDH)

- Horticulture mission for north east and Himalayan states under mission for integrated development of horticulture (MIDH)
- Market intervention scheme (MIS)
- Pradhan mantri fasal bima yojana
- Micro irrigation scheme

Challenges in the Horticulture Sector:

- The lack of good planting material like seeds and technologies hinders the production of this sector. For example in India the average mango production is 3-4 tonnes per acre as against 8-10 tonnes per acre in developed countries.
- As most of the horticultural products are perishable the lack of suitable post harvest technologies and value addition facilities at the grass root level deicentivize the farming community to take horticulture as primary profession.
- Lack of regulated markets and multiplicity of intermediaries in marketing makes the price higher in the consumer end lower in the production end.
- Improper knowledge about the climate and irrigation facilities makes the production to fluctuate.

Overcoming challenges in Horticulture:

- Provision of quality planting material to the growers will help in raising the yields. More produce will come with more income for farmers and farmers will be motivated to grow more of these crops ultimately reducing the pressure from the cereal crops.
- Expansion of fruits and vegetables processing industry with backward linkages with farmers can help in value addition and waste reduction.

- The financial interventions of the government like price stabilisation fund will eliminate the unexpected shocks in the market.
- The national agricultural market which provides the farmers better prices for the crops must be strengthened and the perishables must be denotified to get high and remunerative prices.
- Drought prone and climate resilient plants must be developed and supplied to the farmers so that it will help to overcome the climate change and give good yields.
- The private sectors must be encouraged to set up more cold chain storages and post harvest facilities on modern scientific lines to eliminate distress sales.
- Rejuvenation of old orchards is going on and it should be continued on the larger scale.
- Insurance against weather risks like hail storms and other natural calamities which result in fruit drop must be compensated with suitable subsidy and MSP should be extended to the horticultural crops.

2. Doubling farmers income through Horticulture

- in present times india is at the highest rate of urbanisation and there has been a continuous and sizeable shift from the primary sector to the industrial and services sector. as a result the share of agriculture sector to india's GDP has been falling continuously.
- Over the years, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of the economy. Its role in the country's nutritional security, poverty alleviation and employment generation programmes is becoming increasingly important.
- On account of significant production increases in horticultural crops across the country, a Golden

revolution is in the offing and india has emerged as a leading player in the global scenario.

- Therefore there is a great scope for the horticulture industry to grow and flourish. Some of the major horticultural interventions are listed below which can help in the goal of doubling farmers income by 2022.
 - Revisiting zones for different crops keeping into account the changing climate particularly in the hills.
 - Ensuring availability of quality seed including hybrid of vegetables, flowers and planting material of fruit trees for better quality and produce.
 - Diversification of Horticultural crops along with other activities like bee keeping mushroom cultivation, backyard poultry, seri culture, fish culture etc.,
 - Post harvest management of horticultural crops through grading, packaging, and on farm primary processing for value addition and product development.
 - Introduction of potential new varieties, and replacing the old and low productive varieties. Rejuvenation of old and unproductive orchards.
 - Tree architecture management through training and pruning for enhanced quality and production of crops.
 - Promotion of organic farming practices in vegetables and fruits production and suitable marketing must be done for the organic produce.
 - Popularisation of local / indigenous or underutilised horticultural crops and promoting cultivation of flowers and medicinal plants.
 - Promoting intercropping with vegetables, flowers, medicinal and aromatic plants and short duration fruit crops.

- Adopting drip irrigation cum fertigation system of irrigation for more crop per drop. Weather forecasting advisory body to be popularised for strategic planning of cultural practices for minimising losses.
- Promotion of contract farming and buy back arrangement for encouraging farmers to adopt horti based farming.
- Promotion of horti tourism in states like J&K, HP, Uttarakhand, and North eastern states.

3. Floriculture : Potential source of farmers income

- Floriculture or flower farming is the branch of horticulture that deals with the cultivation of flowering and ornamental plants for sales and for use as raw materials in cosmetic, perfume industry and in the pharmaceutical sector.
- Ancient literature such as Harsha charita, Ramayana describes that India has a long history of use of flowering plants from eras on large scale in religious purposes, social ceremonies, for making surrounding peaceful and a place ideal for meditation.

Present Scenario:

- Though, India dominates in terms of area under cultivation compares with some leading countries which are relatively prosperous in floriculture like the Netherlands, Colombia, yet India's per hectare yield is very low.
- Nearly 77% of the area under floricultural crops is concentrated in seven states comprising Tamilnadu, Karnataka, Andhra Pradesh, West Bengal, Maharashtra, Haryana, UP and Delhi. Among these Tamilnadu ranks first in flower cultivation followed by Karnataka.
- India is enriched with diverse agro climatic conditions such as fertile lands, suitable climate, abundant water supply, low labour cost, availability of skilled man power, and the recent

investment climate by corporates etc., are the strengths of Indian floriculture Industry.

- As per the National horticultural database published by the National horticulture board, during the last two decades the production of both the loose and cut flowers has been growing at a Compound Annual Growing Rate (CAGR) of 9.92 percent and 26.66 percent respectively.
- The Indian floriculture industry is facing number of challenges mainly associated to trade environment, infrastructure and marketing issues such as high import tariff, low availability of perishable carriers, higher freight rates and inadequate refrigerated and transport facilities.
- At the production level the industry faces challenges mostly related to availability of basic inputs including good quality seeds and planting materials, efficient irrigation system and skilled man power.

Enhancing farmer's income through Floriculture:

- Floriculture is an age old farming activity in India and has emerged as an important agribusiness with immense potential for generating employment and entrepreneurship among small and marginal farmers in both urban and rural areas.
- In present times the increasing demand for cut flowers, protected cultivation in green houses is the best alternative for using land and other resources efficiently because it provides favourable conditions for growth which provides quality products.
- Floriculture activity has also evolved as a viable and profitable alternative for income generation and empowerment, helping in sustainable livelihood of farmers in changing climate by using every inch of land for raising the flower and foliage crops.

- Government initiated many schemes for the promotion of the horticulture sector and NABARD provides the credit facilities also to promote the methods of protected cultivation and precision farming.
- Various training related programmes are introduced by the government for farmers and entrepreneurs and also offers a range of concession on seeds, planting materials, various types of equipment and air freight for export.

4. Initiatives for Horticulture promotion in India

- The Horticulture sector has been an engine of growth for the rural economy while providing food and nutritional security to the people. Implementation of the centrally sponsored and Central sector schemes has provided necessary stimulus to the horticulture sector, which has enabled the achievement of a healthy growth rate in the sector.

Mission for Integrated Development of Horticulture (MIDH):

- Mission for Integrated Development of Horticulture (MIDH) has been launched for the holistic development of horticulture in the country since 2014 - 15. It subsumed six ongoing schemes of the Department of Agriculture and cooperation on horticulture development. Out of these six schemes three are centrally sponsored schemes
 - National Horticultural Mission
 - Horticulture Mission for North east and Himalayas
 - National Bamboo Mission and the three Central sector schemes are
 - National Horticulture Board
 - Coconut Development Board
 - Central Institute of Horticulture, Nagaland

- MIDH lays emphasis on enhancing horticulture production, augmenting farmers income and strengthening nutritional security. It plans to improve productivity by way of quality germ plasm, planting material and water use efficiency through micro irrigation.

National Horticulture Mission (NHM):

- National Horticulture Mission (NHM) is one of the sub schemes of Mission for Integrated Development of Horticulture (MIDH) which is being implemented by State Horticulture Missions (SHM) in selected districts of 18 States and four Union Territories.
- National Horticulture Mission (NHM) was launched in 2005 - 06 as Centrally sponsored scheme to enhance the horticulture production and improve nutritional security and income support to farm households and others. It adopts area based regionally differentiated strategies.

Horticulture Mission for North east and Himalayas (HMNEH):

- Horticulture Mission for North East and Himalayan States (HMNEH) is one of the sub schemes of Mission for Integrated Development of Horticulture (MIDH) which is being implemented by State Horticulture Missions (SHM) in the North Eastern States and Himalayan States.
- The mission covers all North eastern states including Sikkim and three himalayan states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand. These states have rich bio diversity and hold immense potential for horticulture. So in a view to improve livelihood of these people this scheme is launched in 2001 - 02.
- The NER is known for minimum usage of chemical fertilizers and pesticides. This is proposed to be converted into a strength through appropriate technology based development and adoption of organic management of horticultural development activities supported by this mission.

National Bamboo Mission (NBM):

- National Bamboo Mission (NBM) is one of the sub schemes of Mission for Integrated Development of Horticulture (MIDH) which is being implemented by State Bamboo Development Agencies (BDA)/ Forest Development Agency (FDA) in all the States and UTs.
- The Mission envisages promoting holistic growth of bamboo sector by adopting area-based, regionally differentiated strategy and to increase the area under bamboo cultivation and marketing.
- Under the Mission, steps have been taken to increase the availability of quality planting material by supporting the setting up of new nurseries and strengthening of existing ones. To address forward integration, the Mission is taking steps to strengthen marketing of bamboo products, especially those of handicraft items.

National Horticulture Board (NHB):

- National Horticulture Board (NHB) was set up by Government of India in April 1984 on the basis of recommendations of the "Group on Perishable Agricultural Commodities", headed by Dr M. S. Swaminathan, the then Member (Agriculture), Planning Commission, Government of India. The NHB is registered as a Society under the Societies Registration Act 1860, with its headquarters at Gurgaon.
- The main objectives of the NHB is to improve integrated development of Horticulture industry and to help in coordinating, sustaining the production and processing of fruits and vegetables.

Coconut Development Board (CDB):

- Coconut Development Board (CDB) is a statutory body established in 1981 under the Ministry of Agriculture, Government of India for the integrated development of coconut cultivation and industry in the country with focus on productivity increase and product diversification.

- It has headquarters at Kochi in Kerala and Regional Offices at Bangalore in Karnataka, Chennai in Tamil Nadu and Guwahati in Assam. There are six State Centres situated at Bhubaneswar in Orissa, Calcutta in West Bengal, Patna in Bihar, Thane in Maharashtra, Hyderabad in Andhra Pradesh and Port Blair in the Union Territory of Andaman & Nicobar Islands. The Board has 9 Demonstration cum Seed Production (DSP) Farms in different locations of the country and now 7 farms are maintained.

Central Institute for Horticulture (CIH):

- Central Institute for Horticulture (CIH) was established at Medzipheima, Nagaland in 2006-07 with an ambitious objective of providing technical back stopping through capacity building and training of farmers and Field functionaries in the North Eastern Region.
- CIH now one of the sub schemes of MIDH. However, CIH is not implementing any schemes directly.

Mushroom : Growth and future in India

- Today, India is food secure due to our self sufficiency in food grains but we failed to achieve the goal of nutritional security. To meet this challenge diversification of food portfolio in India is required.
- Mushrooms, cultivated species which occupies an important place in Indian diet have many nutritional and medical values which can be a part of ensuring nutritional security.

Health Benefits:

- Mushrooms are 90 percent water and virtually calorie free. They are a low calorie food which makes them an ideal food for people who want to reduce their weight.
- Button Mushrooms are a rich source of powerful anti - oxidants which help to ward off illness and boost the body's immune system by acting as free

radical scavengers and help to mop up cell damage caused by free radicals in the body.

- Mushrooms help in reducing the risk of cancer from high estrogens and play a positive chemo preventive role against prostate cancer.
- They help to maintain the stress levels in the body as well as maintaining water balance and strengthens the reflexes in the muscles.
- Mushrooms are also helpful in maintaining a healthy skin and make digestive and nervous system function properly.
- Mushrooms are rich in Vitamin D, potassium, selenium, protein, and cancer preventing anti oxidants.

Advantages:

- In India large quantity of agro by products and agro wastes are generated which is important for the raw material of the industry.
- The demographic dividend can be properly utilised and encouraged to take mushroom cultivation as profession by creating awareness about this healthy food.

- There are good opportunities in India and abroad market for button mushrooms and oyster mushrooms.
- Seasonal production is possible in a big way in the areas where temperature remains below 20 degree during winter season. In this situation cost of production is also lower.
- Awareness about food and medicinal values is increasing in the country thus creating better domestic market.
- There is a demand for post harvest products like pickle and soup powder. Further advancement in transport and grading facilities makes this sector to propel in a faster manner.

Challenges:

- High cost of energy for all the year round production.
- Unorganised production and sale particularly by seasonal farmers.
- Lack of penetration of post harvest management system and food processing techniques hamper the growth of this industry.
- Lack of facilities to produce quality compost, casing material, spawn and processed products.

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