



ROLE OF AGRICULTURE AND ALLIED SECTORS IN INDIAN ECONOMY- SOME CHALLENGES

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Agriculture which fulfils the food and nutritional requirement of entire population is an essential component of Indian economy. The country becomes politically, socially and economically stable with the stability of agriculture sector. Being backbone of Indian economy, it contributes 19.9 percent to the Gross Domestic Product (GDP) of the country in the year 2020-21. Fishery, horticulture, animal husbandry, dairy farming, poultry and milk production etc. are the agriculture allied sectors which are integrated to aid proper planning and effective execution of the developmental policies. Apart from their significant contribution to the country's GDP, these sectors provide raw material to the industrial sector, employment opportunities, significant share in the national income, market for industrial products and earn foreign currency through export of goods. We all know that agriculture is the largest source of livelihood and about 70 percent of rural households still depend primarily on agriculture for their livelihood. India is the largest producer (25% of global production), consumer (27% of world consumption) and also importer (14% of pulses in the world). India having the world's second largest cattle population is the largest producer of milk (209.96 million tonne annual milk production in 2020-21). Agriculture plays a pivotal role in economic growth of our country through five types of inter-sectoral linkages viz; Providing food for domestic consumption, Releasing labour for industrial employment, Enlarging the market for domestic industrial output, Increasing the supply of domestic savings and Earning foreign exchange. According to the census 2011, approximately 54.6 percent of the population is engaged in agriculture and allied activities. The contribution of agri-allied sectors namely livestock (dairy, sheep, goat, poultry and piggery), fisheries (marine, in land and aquafarming), horticulture (fruits, vegetables, flowers, spices, aromatic and medicinal plants) and sericulture has been significant and continuously growing through years. The contribution of each sector is being discussed as under:-

❖ **Agriculture:** It is the most contributing and economic sector of Indian economy. Any change in agriculture sector has a large effect on the country's economy. The biggest industries like textiles, food processing, milk, jute and sugar all depend on agriculture to obtain their raw materials. The continuous technological innovation in the Indian agriculture sector plays a critical role in the growth and development of Indian agriculture system. Besides ensuring agriculture production, it facilitates in generating employment and reducing poverty to promote equitable and sustainable growth. The future of agriculture seems to

involve recent developed technology like robotics, temperature and moisture sensors, aerial images, Global Positioning (GPS) technology etc. due to which the farmers will be able to be more productive, efficient and environmentally sustainable. Several factors such as data analysis metrics and technological advancement in the existing agricultural machinery contribute to the production of foodgrains for consumption and commercial needs. The production of commercial foodgrains further support the economy and improves the GDP. Despite certain constraints like diminishing and degraded land and water resources, drought, flooding, global warming etc. which create hurdle in the sustainability and profitability of agriculture, the future growth of Indian agriculture backed by technological advancement and government initiatives seems to be promising.

- ❖ **Livestock sector:** It is an important sub-sector of agriculture which provides nutrient-rich food products, draught power, organic manure, domestic fuel, hides and skin and is a regular source of cash income for farming communities. The livestock sector in India contributes 16 percent of income to small farm households with an average of 14 percent for all rural households. The sector provides a living for 2/3rd of rural communities, employs about 8.8 percent of Indian population, contributes 4.3 percent of GDP and 29.3 percent of total agriculture GDP. Presently, the cooperative and private dairies have access to only 20 percent of the milk produced in the country but in future the private cooperate dairies may likely to overtake cooperatives in handling of milk volumes which is projected to reach 28.3million tonnes (National Action Plan for Dairy Development-Vision 2022). The total meat production in the year 2020-21 was observed 87.98 million tonnes with major contribution for poultry (47%) followed by buffalo (19.80%) and goat (14.25%) (Anonymous 2022). Besides, the sector is complementary and supplementary to agriculture in the form of critical inputs, contributing to the health and nutritional of households, supplement income, offering employment opportunities and financially being dependable "Banks on Hooves" in times of need.
- ❖ **Fishery and aquaculture sector:** The fish and fish products have emerged as the largest group in agricultural exports from India with 10.5 lakh tonnes in terms of quantity and 33, 442 crores in value. More than 50 different types of fish and shellfish products are exported



to about 75 countries around the world which accounts for about 10 percent of total exports of the country and nearly 20 percent of the agricultural exports. Thus, Indian fishery and aquaculture constitute an important sector of Indian agriculture which provide nutritional food to the millions of people. The fishing industry has been designated as Sunrise Sector with an outstanding double digit average annual growth rate of 10.87 percent since the year 2014-15. The sector produces a record 16.24 million tonnes of fish in fiscal year 2021-22 and has an enormous growth potential (Anonymous 2022). It has been identified as a powerful income and employment generator because it stimulates growth a number of subsidiary industries and provides a source of cheap nutritious food besides a source of income for a large portion of the country's economically disadvantaged population. India is the world's 3rd largest producer of fish and 2nd largest aquaculture nation after China. The blue revolution in the country demonstrated the importance of fisheries and aquaculture sector and is expected to play a significant role in the Indian economy in the near future.

- ❖ **Horticulture sector:** The horticulture sector comprises of a wide variety of crops from vegetables like potato, tomato etc., fruits like mango, banana, apple etc. to flowers, nuts, spices, medicinal plants and plantation crops. It provides various opportunities for generating income for horticultural farms/orchards. India has risen as world leader in the production of a variety of fruits such as mango, banana, guava, papaya, sapota, pomegranate, lime and aonla. The country is the second largest producer of fruits and vegetables in the world and retained its dominance in the production of spices, coconut and cashew nuts. Among the new crops successfully introduced for commercial cultivation in the country are Kiwi, Kinnow, Date palm, Gherkins and Oil palm. The horticultural crops certainly account for approximately 10 percent of the country's gross cropped area yielding about 107 million tonnes fruit production (Anonymous, 2022). Being more profitable than agriculture, the sector has emerged as a major driver of growth and provides employment opportunities in the primary, secondary and tertiary sectors. The launch of National Horticulture Mission has further increased horticultural production and productivity in the country. It has become a key driver of economic development in the many states of the country where the division of horticulture of the ICAR plays an important role.
- ❖ **Sericulture sector:** Sericulture is a technique of rearing silkworms on mulberry or non-mulberry plants for the production of silk fibres. It is mainly used for textile industries but a large amount of sericulture by-products (from silkworm cultivation to post-cocoon technology) can also add the value to the Seri-economy. According to Savithri *et al.* (2013), India ranks 2nd in the world in silk production and produces four varieties of silk viz; Mulberry (79.23%), Eri (13.32%), Tasar (6.8%) and Muga (0.54%). Because of its short gestation period and quick recycling of resources, sericulture has emerged as an important economic activity which is becoming popular in several parts of the country. Sericulture is done not only

for producing silk fabrics but also has tremendous use for the benefit of mankind. It represents a significant role in human health by providing functional food supplements and plays an important role in biopharmaceuticals, bioactive materials and drug delivery systems. Its bio-adhesive property can be explored in the area of tissue engineering and enzyme immobilization. In the year 2016-17, a total of 3795 metric tonnes of raw silk worth Rs. 1092.26 crore was imported mainly from China to supplement the domestic production for meeting the increasing demand, however, India holds its monopoly in Muga silk.

MAJOR CHALLENGES AND ISSUES

The Indian Agri-Allied Sector are presently facing many problems which have restricted full utilisation of their potential. Some of the main challenges and issues have been discussed as under:-

CHALLENGES RELATED TO LIVESTOCK

- ❖ **Increasing animal diseases:** There has been an increase in communicable diseases among animals. Most recently has been outbreak of Lumpy Skin Disease (LSD) in cattle across various states of India. For e.g. in the state of Rajasthan alone, more than one million cattle were diagnosed with LSD and down south, African Swine Fever was reported in Kerala.
- ❖ **Shortage of feed and fodder:** Due to rapid urbanization and shrinking land sizes because of breaking of joint family system i.e. partition of land generation after generation. The livestock sector is facing severe feed and fodder shortage. India has only 5 percent of its cultivable land under fodder production and area under permanent pasture and grazing land comprises merely 3.3 percent of total area, and that also has been steadily declining. According to a report of ICAR-Indian Grassland and Fodder Research Institute (IGFRI), there is a deficit of 23.40 and 11.24 percent in the availability of dry and green fodder respectively (Phand *et al.*, 2021).
- ❖ **Inadequate financial attention/concern:** The livestock sector does not receive the policy and financial attention it deserves. The sector receives only about 12 percent of the total public expenditure on agriculture and allied sectors which is disproportionately less than its contribution to agricultural GDP. Moreover, Indian livestock product markets are mostly uncertain, under-developed, lack transparency and generally dominated by informal market intermediaries. Lack of access to market acts as a deterrent to farmers to adopt improved technologies and quality inputs.
- ❖ **Issues related to cross breeding:** Though cross breed dairy cattle exhibit strength of the breed from which they descend, and it does multiply their capacity of production, but it also adds vulnerability to several diseases, nutritional deficiencies and environmental adaptation.
- ❖ **Impact of climate change:** Warm and humid conditions cause heat stress which affect behaviour and metabolic variations in livestock or even mortality. The changing monsoon season disrupts their mating season and in times of calamities like floods, the animal suffers the same



horrendous effects as people face like injury, starvation, thrust, displacement, illness, stress etc. Since they are voiceless, they have to stand behind in the rescue line.

- ❖ **Lack of adequate extension/guidance services:** While the role of extension services like vaccination, livestock awareness, deworming, prevention and control of diseases etc. in enhancing crop production and productivity is widely recognised, but the livestock extension never got the attention it deserved. This has been one of the reasons low productivity of India's livestock sector. Moreover, the shortages of veterinary doctors/surgeons who are the middle level livestock extension professionals and inadequate competencies among these extension professionals lead to further deterioration of livestock extension delivery (Sasidhar and Suvedi, 2016).

CHALLENGES RELATED TO FISHERY AND AQUACULTURE SECTOR

It has been observed that inland fishery has not been treated at par with agriculture in terms of taxes, electricity tariffs etc. and hence, fishery sector remained largely unorganized and traditional in most parts of the country with little technological improvement. Absence of inland fishery policy at the national level, non-coverage of fish farming under insurance, lack of reliable database pertaining to aquatic and fishery resources, non-availability of suitable fish yield models for multi-species fisheries for open inland waters and marine resources, weak multidisciplinary approach in fishery and aquaculture, inadequate attention to environmental, economic, social and gender issues in fisheries and aquaculture, inadequate human resource development and specialised manpower in different disciplines are some of the main challenges/problems related to the fishery and aquaculture sector.

CHALLENGES RELATED TO EXTENSION SERVICES

It has been observed from various studies that the extension services provided by the government agencies are inadequate. The most limiting factor with department of fishery was inadequate staff support coupled with inappropriate extension infrastructure, unequal distribution of fiscal and financial resources during the budget allocation and lack of technical content due to weak linkages between state department of fishery and research institutions. Hence, the focus of aquaculture extension needs to shift from the mere technology dissemination to the areas like value addition, quality control, market demand and consumer demand.

CHALLENGES RELATED TO HORTICULTURE SECTOR

Main challenges pertaining to horticulture development in India includes lack of quality inputs, market support, market intelligence, lack of mechanization due to small and fragmented land holding and lack of knowledge related to post-harvest handling. Similarly due to increasing cost of production, most growers do not get reasonable prices for their produce and sometimes they have to go for distress sale of their produce. Price fluctuation, inadequate infrastructure like transportation, cold storage, warehouses etc, wastage and spoilage loss and

paucity of post-harvest management, packing and storage, specialised transport and storage etc. are some of the other main challenges related to horticulture sector in the country.

CHALLENGES RELATED TO SERICULTURE SECTOR

Indian silk yarn is of poor quality which not only affects our competitiveness in the international market but also has resulted in preference of imported yarn in the domestic market. This problem arises due to lack of sufficient thrust on the adoption of improved technologies, strict disease control measures, quality leaves owing to insufficient inputs to mulberry garden, grading system for cocoons and quality-based pricing system. The area under silk food plants is declining which could be addressed by initiating area-specific research to improve soil fertility, increasing mulberry plants etc. It has been observed Bivoltine yarn is sturdier and is used by the power loom industry but only 5 percent of the silk produce in the India bivoltine because its production requires more attention and resources. Moreover, it yields just two crops in year compared to the yield of 4-6 crops by multivoltine silk, even the farmers don't have any incentives to switch over to bivoltine silk yarn production because the difference between the selling price of bivoltine and multivoltine is not much. Similarly, fragmented and ad hoc approach, inadequate adoption of technological package developed through research and development, no involvement of private sector in a big way in seed production, no penetration of the government schemes, improper forward and backward linkage and dumping of cheap Chinese raw silk and fabric in Indian market are other challenges related to sericulture in our country.

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