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Problems and Prospects of Horticulture: A Case Study of Osmanabad District of Maharashtra (India)

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Abstract:-

In the Modern Era agriculture consists of horticulture, fish farming, pig farming and poultry. Horticulture is one of the most important type of agriculture. It is as an expensive art or science of cultivating fruits, vegetables, flowers, or ornamental plants. Over the years, horticulture has emerged as one of the potential agricultural enterprises in accelerating the growth of economy. Its role in the country's nutritional security, poverty alleviation and employment generation programs are becoming increasingly important. It generates both rural and urban employment. Therefore, attempt is made here to assess the problems and prospects of horticulture in Osmanabad district. The present study is entirely based on primary data source. Twenty-four sample villages of study region are selected for field survey. To examine the problems of horticulture stratified random sampling technique has been utilized. A questionnaire (schedule) is prepared for farmers to get the information regarding their problems in horticulture field. The study reveals that farmers of the region is facing the Problem of Draught, Soil erosion, Lower Mechanization, Labour Problem, Lack of Irrigation facilities, Problem of Indebtedness of farmers, Increasing Prices of Chemical Fertilizer, Soil Erosion, Poor Economic Condition of Farmer, Problem of Load Shedding, Ignorance about Soil And Water Testing, Low And Uncertain Prices of horticultural Commodity, Problem of Capital and decline of water table.

Keywords: *Horticulture, Problems and Prospects.*

Introduction:

Agriculture is the backbone of the Indian economy and horticulture is one of the most important part of agriculture. In the last several decades, the geography of horticulture has emerged, creating its own niche as a sub-discipline within agricultural geography. Horticulture is the applied science. The term ‗Horticulture' is probably of recent origin and it first appeared in writings of 17th Century (Kumar N., 1986). The word Horticulture comes from Latin ‗Hortus' means Garden and ‗Cultura' means Cultivation, which means garden cultivation (George A., 2002). Horticulture is the branch of agriculture dealing with garden crops, generally fruits, vegetables and ornamental plants.Over the years, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of economy. Its role in the country's nutritional security, poverty alleviation and employment generation programs is becoming increasingly important. It offers not only a wide range of options to the farmers for crop diversification, but also provides ample scope for sustaining large number of agro industries which generate huge employment opportunities. It generates both rural and urban employment; it contributes to some extent to achieve balance of payment at national level. Horticulture can also provide large year-round employment as compared to various other traditional crops. It also offers potentials for small value-adding activities that could help in generating income for rural areas and create job opportunities (Ayman F, 2006).At present, the horticulture has become a key drivers for economic development in many of the states of India and it contributes 30.4 per cent to GDP of agriculture (ICAR, 2021). India is the second largest producer of fruits and vegetables in the world after China.Maharashtra is one of leading producer of horticultural crops in India. Due to the variation in soil and agro-climatic conditions in Maharashtra, variety of horticultural crops can be grown. In this context, the Osmanabad District of Maharashtra is analyzed to establish its suitability for horticulture.

Though the horticultural crops occupy insignificant land (2.74%) of the gross cropped area, it has influenced the regional economy to a considerable extent due to high per hectare monetary returns. Thus it has become advantage to the farmers of study region as horticulture can thrive and sustain in drought conditions. There is a lot of scope to change per hectare earnings of farmers through horticulture farming. Considering the above situation,attempt is made here to analyze the problems and prospects of horticulture in Osmanabad District.

Study Region:

The Osmanabad district is situated in Marathwada region of Maharashtra state. The absolute location of district is in between 17°39‘45‖ and 18°42‘30‖ North latitudes and 75°18‘30‖and 76°46‘15 East longitude. It is bounded to the South-West by Solapur district, to the North-West Ahmednagar and Beed districts, to the East by Latur district and to the South by Bidar and Gulbarga district of Karnataka State. The total geographical area of district is 7512.40 Square kilometers. As for as area is concerned the district ranks 24th in the state of Maharashtra out of which 248 sq km is urban area (3.21 % of total area) and 7321 sq km is rural area (96.79 % of total area). It is extended with 280 kms from East to West and 240 kms from North to South. It lies on the Deccan plateau at an average height of 600 meter above mean sea level. Large area of the district is covered by Balaghat Ranges and uneven with patches of low level plain (District Gazetteer of Osmanabad, 1972). For the administrative purpose the district is divided into 8 tehsils i.e., Paranda, Bhum, Washi, Kalam, Osmanabad, Tuljapur, Lohara, and Omerga and having 729 villages.

Objective of the Study:

The main objective of present study is to analyze the problems and prospects of horticulture in Osmanabad district of Maharashtra.

Materials and Methodology:-

The present study is mostly based on primary data as well as on secondary data. To fulfill the objective of the study, primary data regarding horticulture farming is collected through field survey during the year 2015-16.Twenty four villages were selected from eight tehsils of Osmanabad district by Stratified Random Sampling Technique. The strata‘s are made on the basis of physiography. From each village 10 farmers with horticultural practices are selected and assessed.For primary data, a questionnaire (schedule) is prepared for farmers to get the information regarding non-physical determinants such as irrigation, use of fertilizers, pesticides, agricultural implements, high yielding variety, livestock, general land use, agricultural land use, horticultural cropping pattern, horticultural productivity, production cost and returns of different horticultural crops; and related agricultural problems. The farmers are interviewed for the same. During the field survey, exhaustive field notes also prepared, which have been used for the subsequent micro-level analysis. In order to access the main objective i.e. problems and prospects of horticulture farming, a brief account of the horticultural structure of the respondents are presented here. Secondary data is also used for the purpose of study. The data regarding physiography and socio-economic determinants is collected from district census handbook, district gazetteers and statistical abstract.

Observation and Findings:-

During field survey farmers of the selected 24 villages in the study region told different problems to the researcher at the time of their interview. Selected villages of the Osmanabad district is facing the following problems regarding horticulture.

Problem of Drought or Extreme Rainfall

The region is not getting an assured rainfall in most of the villages, hence there is problem of water supply in these villages during summer season. There is no guarantee of monsoon rainfall in all villages. Erratic nature of monsoon rainfall effects on the cropping pattern and horticultural productivity was found. Major part of the district is identified as drought prone area. Sometime study region also faces the problem of heavy rainfall during November to January which adverselyaffects the flowering of plants. In such a humid condition, it leads to increase in several types of insects, pests and diseases which resulted into failure of the crop production.

Problem Regarding Mechanization/ Equipment

Most of the farmers of selected villages have been using old and inefficient methods and techniques of production. The village of Pachpimpla,

Nipani, Washi, Terkheda, Naigaon, Walwad, Dhanori, Dindori, Indapur, Antargaon, Loni, Andora, Warewadgaon, HasegaonKej, Jakekur, Andur and Chincholi have low number of tractor. The facts indicate that due to poorness the farmers of such villages are unable to use of modern techniques of farming, which leads to lower productivity.

Labour Problem

Horticulture farming is largely labour intensive activity. The availability of labour is the backbone of agricultural growth. Most of the farmers told that out migration of people from rural area creates labour problem in the study area. It is observed that there is no availability of laboures in time when performing different operations in the field. The wedges are also higher and less efficient one. Out of total sample farmers 88 percent have expressed the problem of no availability of laborers.

Lack of Surface Irrigation

Case study reveals that 62.5 per cent villages have less than 5 per cent surface irrigated area and 8.33 per cent villages are deprived from surface irrigation. These villages are totally depend on well irrigation and water table of well depend on erratic monsoon rainfall due to this there is no assure perennial irrigation, which very adversely affects on horticultural productivity. The total source-wise irrigated area of the study region is 24.51 per cent to net sown area. More than 67 per cent of farmers are facing the problems of shortage of water in summer season.

Poor Economic Condition of Farmer and Problem of Indebtedness

About 68 per cent farmers having poor economic status, they are unable to purchase and use modern equipment and High Yielding Variety, which adversely affects on horticultural productivity. The farmers of the selected villages borrow loan year after year but they are not in a position to clear off the loans, either because the loans are larger or their agricultural output is not large enough to pay off their debt. Therefore, the debt of the farmer goes on increasing this is known as rural indebtedness. Out of total farmers 30 per cent farmers told that they are taking loans from the private moneylenders because banks demand much more documents. The rate of private moneylender is about 5 to 10 per cent per month, hence, the poor farmer is born in debt, lives in debt and dies in debt. Sometimes small farmers mortgage their land property to the moneylenders and ultimately lose it latter on and they became landless labors.

Increasing Prices of Chemical Fertilizer and Pesticides

The farmers of the selected villages told that the prices of chemical fertilizer and pesticides are very high and they are increasing day by day. The quality of materials is not also satisfactorily. Over 66 per cent horticultural growers faced the difficulties of non-availability of finance for purchase of material in time. It is also observed that about 77 percent farmers are unknown about exact technical knowledge of fertilizing the crops and plant protection operations. Most of the farmers said that the horticultural crops suffer from air born bacteria and diseases by several ways. Such mismanagement of horticultural yard has created many problems in this practice. Any mistakes in this regard lead to adverse effect on plant growth, yield and quality of produce.

Problem of Load Shedding

Irregular electricity supply is another serious problem in the study region. Almost all interviewed farmers of the selected villages raised this problem. The farmers told that load shedding is up to 18 hours per day. During the rabbi and summer season there is irregular supply of electricity in the selected villages therefore, electric motors do not run properly to fetch water for agriculture, which resulted into low agricultural productivity. Irregular supply of it makes difficult to spray at requisite time, which affects again the yield and quality of fruits.

Ignorance about Soil and Water Testing

During field survey, 95 per cent farmers told negative answer about soil and water testing. It means that they are cultivating their crops blindly as well as using chemical fertilizer blindly, which result into low productivity.

Low and Uncertain Prices of Horticultural Commodities and high charges of Middle man and Traders

Most of the farmers of the selected villages told that they are getting very low prices of horticultural production and the prices of horticultural production decreased during harvesting season and they are uncertain, which resulted into

poor economic condition of farmers. Favorable weather conditions bring abundant production and when it is marketed, it causes sudden fall in market rates. Almost all farmers have expressed the problem of high charges of middle man and traders.

Problem of Capital

During field survey, most of the farmers told that they are unable to use innovate techniques due to lack of capital they said that loan is not easily sanctioned. Banks are neutral to advance the loan to farmer. Regarding the production cost of horticultural crops is very high and farmers faced the difficulties of non-availability of finance for purchase of material in time. Such fact adversely affects on horticultural productivity.

Decline of the Water Table

During the field survey, farmers mentioned that declining water table is a major problem in the study area. Majority of the villages are depended on the well and bore well irrigation system. So the ground water bail out through wells and bore wells at faster rate than ground water recharge which result into decline of water table. About 83 percent of the farmers told that the increasing demand of water to agriculture and scarcity of rainfall in the past five years causes declining water which affect on low horticultural productivity. Most of the farmers in the study area cut their orchards due to the insufficient groundwater availability.

Prospects of Horticulture in Osmanabad district:-

The Osmanabad district has hot and dry climate, which is favorable for fruit farming. The physiography and soils of 85 per cent of the selected villages are favorable for horticulture. In general, all physical factors are favorable for horticultural farming except rainfall. The district has high proportion of shallow soils and medium deep soil collectively. These soils offer good prospect for fruit farming, if perennial water supply is available. The deep to very deep soils have moisture retaining capacity which is favorable for horticultural crops such as Banana, floriculture, vegetables and spices. The potash content is high in each tahsil of Osmanabad district which states that the soil of the district offers good future for horticultural farming.The high balance of ground water in Washi, Kalam and Loharatahsils indicates that there is high scope for digging wells for better horticultural production. Surface irrigation and well irrigation play important role in the Horticulture farming. Study region benefited by two major irrigation projects i.e. the Manjara and Lower Terna which play a very important role in the development of horticulture. The high irrigation potential of Manjara Dam and Lower Terna dam indicates there is scope to increase horticultural productivity of Kalam, Lohara and OmergaTahsils.An awareness should be made among the farmers about use of micro irrigation such as drip, zirpi or sprinklers and mulching. The knowledge about drought resistance horticultural seeds and plants should be given to the farmers and promote them to use it in the study area. Lack of surface irrigation is main barrier in the horticultural development, so government should be taken an action toincreasetheminor irrigation projects, Kolhapur Types Wears as far as possible and to complete uncompleted irrigation projects. Furthermore awareness should me made among the farmers regarding use of drip irrigation which is helpful to save water and to increase in irrigated area. Awareness among the farmers to do allied activities like dairy, poultry and goat raring furthermore and for that to organize workshop for farmers to produce quality production which have export potential. Government should promote horticulture based industry such as Vinery, Juice and Jam. For indebtedness of farmers, government should restrict the rate of interest of private money lender and compel banks to sanction loans to the farmers. The poor economic status of farmers is main reason for less mechanization. The farmers should purchase mechanical equipment on the co-operative basis at Grampanchayat level For labour problem in the study area it is suggested that farmers should be shifted towards farm mechanization.To overcome the problem of load shedding, it is suggested that government should provide electric pumps to the farmers those run on solar and wind energy and sanction subsidy to the farmers to purchase them.Most of the farmers ignore soil and water testing in their farm. Therefore it is suggested to make awareness among the farmers about soil and water testing. The government scheme like Soil Health Card (SHC) should be implemented properly. The agricultural clinic and labs should be established

in rural areas.To overcome the problem of increasing prices of chemical fertilizers and pesticides, it is suggested that government should restrict prices and make awareness about organic farming. Organic farming reduces the unnecessary usage of chemical fertilizers and pesticides. It helps to retain fertility of land for a long time and reduces costs in the long run.Almost all farmers told the problem of decrease of prices of agricultural commodities during harvesting season. Therefore, it is suggested that government should declare minimum fixed prices of horticultural commodity.Problem of soil erosion is found all over the study region which restricts horticultural productivity. For this it is suggested that the _Jalyukt Shivar Abhiyan' should be implemented strictly and make afforestation which is helpful for better productivity.Research efforts should be continued for the production of cost with higher yield potential and better resistance to pest. Technological advancement in horticulture should be passed down to the smaller farmers.

Conclusion:-

Forgoing analysis reveals that the study region is facing the Problem of Draught, Soil erosion, Lower Mechanization, Labour Problem, Lack of Irrigation facilities, Problem of Indebtedness of farmers, Increasing Prices of Chemical Fertilizer, Soil Erosion, Poor Economic Condition of Farmer, Problem of Load Shedding, Ignorance about Soil And Water Testing, Low And Uncertain Prices of horticultural Commodity, Problem of Capitaland decline of water table.The case study reveals that the physiography and soils offer good prospectus for agriculture development in the selected villages of Osmanabad district. But uncertain and erratic nature of rainfall is the main constraint in horticultural produce of selected villages in the study region especially in villages' lies in western and northern part of the study region.

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