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Index

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"Complications of Soybean Farming in Maharashtra State"

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Abstract

The state of Maharashtra is the second largest state in India in terms of area andpopulation. It houses the financial capital of India i.e. Mumbai and contributes 14.4 percentto the gross domestic product (GDP).The per capita gross state domestic product (GSDP) atfactor cost per annum of the state in 2011-12 was Rs.1,05,623 and was higher than the percapita GDP at factor cost of the country which was Rs. 69,497.The state has growingsecondary and tertiary sectors which contribute almost 87.1 percent to the state income.They have grown at the rate of 5.2 and 8.4 percent respectively during 2011-12. Maharashtrais a leading industrial state. The contribution of the state in total value of output was 16.8percent and in net value added (NVA) was 21.4 percent in 2009-10. The state has attracted around 20 percent of the foreign directinvestment (FDI) since 1991.

Keywords: Farmers, APMC, Seeds, Natural Calamitie

Introduction:

The major oilseed crop of Maharashtra was groundnut till mid-1980s.Since then,the farmers have started cultivating the non-conventional oilseed crop- specifically soybean.The area under this crop picked up at a fast rate primarily in the north east region of the statewhere the climatic conditions were suitable for soybean cultivation. Shorter duration of thecrop (i.e. 3 to 3.5 months- from July to August) allows the cultivators to take the second cropon the same piece of land and add to their income/profits, which is not possible for a kharifcrop like cotton. Being a purely commercial crop, it is not retained for home consumption.Similarly, it is not retained for the purpose of expulsion also as the processing requires alarge operation unit and sophisticated technology. One time harvest of the crop makes theharvesting operation comparatively easier. Easy cultivation of the crop and benefits in termsof improvement in fertility also prompted farmers to undertake soybean cultivation Soybeancrop has been found to be very profitable as compared to other kharif crops.

Soybean cultivation is concentrated in two regions of Maharashtra, viz: Vidarbha and Marathwada located in the eastern part of Maharashtra. Around 80 percent of thesoybean production of the state is contributed by these regions. The area under the crop ishighest in the former region specifically in Nagpur district. However, yield is seen to behigher for Kolhapur region located in western Maharashtra and which receives irrigation ona large scale.

Problems in Oilseed Production:

As mentioned above soybean is a very sturdy, short duration and profitable crop. Maharashtra is a major soybean producing state and the yield of this crop is higher than that of many other major soybean growing states including Madhya Pradesh. However, the major 10 problem faced by the cultivators is lack of irrigation facilities for the crop. In fact most of the crop is grown under rain fed conditions. In view of the growing demand for edible oils and growing dependence on imports for satisfying domestic demand, it is important to increase production of oilseeds. Though soybean is the major oilseed of the state, the

its production have to be sustained and increased. As there are limits to area expansion, the production has to increase through yield increase. Lack of irrigation to this crop seems to be one of the main constraints in increasing its production. Besides this factor, other economic, technological, agro-climatic and institutional factors are there, which can boost the production in the favourable policy environment.

Research Problem:

Nowadays most of the farmers are producing the soybean plant in major part of their agricultural lands. They are busy in maintaining the crop and in cultivating it. The natural aspects and other aspects which are affecting the production should be studied thoroughly so that the farmers might not get affected by the problems related with the production of soybean. The study will definitely focusing on the problems that might occur while producing the soybean in the land and how can they may be eliminated and vice versa.

Soybean Crop in Maharashtra:

Soybean came to be cultivated in Maharashtra on a commercial basis very late i.e. in late 1980s.It however started expanding in 1990s.As in case of total oilseeds at the national level, the area as well as production of this crop rapidly increased. Table 3.10 shows decade wise average area, production and yield of soybean in Maharashtra. The area increased by 203 percent and the production by nearly 195 percent during this period. It is the only crop which has registered a considerable area increase among all the principal crops during last two decades. It is observed however that the yield of soybean has been fluctuating and was particularly low during 2008-09 (601kg/ha) and 2009- 10(728 kg/ha). Hence, there is a marginal decline in the yield of soybean as compared to 1990s. However, it is higher than other major soybean growing states of Madhya Pradesh and Rajasthan.

Factors Underlying Changes in Cropping Pattern:

Cropping pattern in an agricultural economy changes mainly due to growing or declining demand for a particular crop domestically as well as internationally and the supply side factors such as production and market risks, technological factors etc. As the economy develops, per capita incomes and consumer preferences change towards high value crops and the share of area under food grains declines. The analysis in the previous sections clearly brings out the changing cropping pattern of the state. Whereas in TE 1973-74. share of area under food grains was 69 percent, it has declined to 54 percent in TE 2009-10. Thus, the area is shifting towards nonfood grain crops. This is similar to what has been happening at All India level. In case of Maharashtra, decline in the area under cereals is attributed mainly to decline in area under coarse cereals (jowar). The major gainers of this shift have been oilseeds particularly soybean.

Kolhapur is often called as 'Punjab' of Maharashtra agriculture. It contributes around 4 percent to the state population. The share of urban population in this district is around 30 percent. The density of population which is 504 persons per sq.km. is higher than the state average of 365 persons per sq.km. It contributes around 3.4 percent to net state domestic product (NSDP) and ranks 7th in the state as far as the per capita income is concerned. The cropping pattern of Kolhapur is dominated by cereals such as wheat and rice, oilseeds (mainly soybean and groundnut) and sugarcane. It is observed that 26 percent of the GCA is irrigated (as per 2001figures). The irrigation intensity is seen to be higher than the state irrigation intensity of around 18 percent. Around 4 percent of the total registered working factories in the state are located in the district. All the indicators of development show that Kolhapur is one of the developed districts of the state.

Perceived Constraints in the Cultivation of Soybean Crop:

The constraints in cultivation of soybean crop, the constraints are classified as technological, agro-climatic, economic, institutional and those relating to post-harvest, marketing and value-addition. The households were asked about the severity of the particular constraint and accordingly the constraint was ranked as severe/moderate/minor or as not important for each category and a composite index was constructed based on weights (severe=4, moderate=3, minor=2, not important=1) and number of households in each category. The pattern of responses relating to the perceived constraints is observed to be similar across the categories. Among the technological factors, lack of irrigation was found to be the important constraint. Incidence of pests and diseases are also seen to be important factors. The index values of most of the technological factors are found to be more than two. Among the agro-climatic factors, no factor appears to be severely constraining the cultivation as per the ranking reported by the farmers. Drought at critical stages of crop growth appears as comparatively the most important factor. As far as economic factors are concerned, high input costs, shortage of human labour, price related risks are observed to be important constraints for all types of farmers as for more than 50 percent of the farmers, these are severe and moderate constraints. Responses relating to the question on oilseeds show that soybean crop is relatively definitely profitable as the index value of the constraint constructed for this regard is only 1.75. Responses also show that this crop is relatively less risky. The index value for this particular economic factor is one of the lowest i.e. 1.61 for all farms. In case of institutional factors, around 30 to 40 percent of 77 the respondents are of the opinion that institutional factors moderately constrain the soybean cultivation. A similar response pattern is observed for post harvest and marketing related questions. Across the responses, economic factors turned out to be important constraints on soybean cultivation. It is observed that the index values of 'Economic' constraints are higher than those of other constraints indicating that the farmers are more concerned about price related factors that directly affect their profitability of cultivating soybean. Economic factors are followed by technological and institutional constraints in terms of their severity. Analysis of the data shows that agro-climatic factors that take value of 2.03(all farms) are the least important factors.

Overall idea:

Our demand for edible oils is mainly satisfied by palm oil, soybean oil and mustard oil. As mentioned earlier, with the technological breakthrough in wheat and rice, attention was focused on other crops and soybean was one such oilseed crop. New varieties of soybean were introduced for commercial usage in India in 1970s. There was a marked increase in the area as well as production of this crop. Today soybean or the 'miracle bean' has come to occupy an important position as a global crop. The world area under cultivation of this crop is growing continuously. The world soybean production has increased two and half times from 24.7 million tonnes in 1981-82 to 220.81 million tonnes in 2007-08 (http://www.sopa.org/st8.htm). Its importance as an oilseed crop is revealed from its share in the total world oilseed production which was as high as 56 percent in 2011.

The major players in the world production viz. the U.S.A., Argentina, Brazil and China produce around 85 percent of the world soybean production. India occupies fifth position after China in this regard. Groundnut, rapeseed-mustard and soybean are the major oilseeds that together contribute 80 percent to the area and 90 percent to the total oilseeds production in the Indian context. The share of soybean in area and production of major oilseeds increased very rapidly after it was introduced in 1970s. In 2010-11 around 35 percent of the area and 39 percent of the production of major 9 oilseeds at

all India level was contributed by soybean. For the year 2011-12, the 4th advance estimate shows that the area under soybean was 10.18 million hectares and the production was 12.28 million tones. It is observed that area under this crop has been increasing continuously since 2001-02. Share of area under and production of groundnut is declining continuously whereas that of rapeseed and mustard is fluctuating and was around 25 percent in 2010-11. Madhya Pradesh and Maharashtra are the two major soybean producing states and currently contribute more than 80 percent to the total area and production of soybean in India. In the year 2010-11, Madhya Pradesh, the highest producing state contributed more than 50 percent to the total area under and production of soybean. It is followed by 84 Maharashtra which occupies around one third area under soybean and contributes 33 percent to the total soybean production. It can be noted that the per hectare yield in case of Maharashtra is higher than that in Madhya Pradesh. Maharashtra being one of the major soybean producing states with higher productivity, this study attempts to analyse the status of soybean cultivation in Maharashtra and studies the problems and prospects of soybean cultivation in the state. The state of Maharashtra is the second largest state in India in terms of area and population. It houses the financial capital of India i.e. Mumbai and contributes 14.4 percent to the the per capita GSDP at factor cost per annum in 2011-12 was Rs 1,05,623 and was higher than the per capita GDP at factor cost which was Rs. 69,497.The state has growing secondary and tertiary sectors which contribute almost 87.1 percent to the state income. Only around 12.9 percent of the state income is contributed by the agricultural sector. Inspite of its progress in the industrial sector, the state still can be called as an agrarian state as almost 57 percent of the state population is still dependent on this sector for its livelihood. It can be noted that the share of agricultural and allied activities in the GSDP has been declining continuously.

However, there has been commensurate decline in the labour force in agriculture as per Census as well as NSSO estimates. The major constraining factor for this sector is the scanty rainfall in several parts of the state and the extent of irrigation which covers only 18 percent of the land under cultivation as against 44.5 percent at all India level. During 2009-10, average per hectare yield of food grains in the state was 1074 kg., which was far below the national average of 1798 kg per hectare. This explains the lower productivity of several crops grown in the state. Around 54 percent of the area under cultivation is occupied by food grains as of now and gradually the cropping pattern is shifting towards commercial crops .The area under food crops has declined to 54 percent from 69 percent in TE 1973-74. This is mainly due to a decline in area under the staple cereals- jowar and bajra. Area under pulses (except gram) has almost remained stagnant. The crops that have recorded increase in area and production are the oilseed crops. These mainly include soybean along with sunflower. Area under crops like sugarcane, cotton, has also increased. Area under fruits and vegetables has recorded an impressive growth, though in absolute terms, area under these crops is less. The cropping pattern is thus gradually shifting towards non food crops. This indicates preference of the 85 consumers for high value crops with gradually increasing incomes. The gross cropped area in the state has increased only marginally indicating limits to area expansion.

Major Findings:

The analysis of the field level information collected from the sample households has revealed relative profitability of the soybean cultivation. The net income per hectare as well as per quintal is positive for all the land size categories. It is observed that the per hectare costs are higher for the large category farmer; similarly the yield is also very

high- almost double that of the small and medium category farmers. As a result, the total value of output of the large farmer far exceeds the other category farmers. The net income per hectare for this category is around Rs.14, 000 and is more than double that of the other category farmers. The net returns from soybean cultivation were also found to be higher than those of the competing crops indicating relative profitability of the crop. The minimum support price for soybean in the year 2011-12 was Rs 1690 per Quintal which is lower than the average price received by the sample farmers. The available secondary data also indicates profitability in soybean cultivation. 16. It is also observed that most of the farmers have been using HYV seeds and area under these seeds is more than 90 percent in each category. However, 50 percent or more of them are not aware whether they are using recommended doses of fertilizers thus highlighting need for a strong extension machinery. It is also noted from the table that the awareness about MSP for soybean is very poor. This may be because of higher (than MSP) prices of soybean prevailing in the market. Therefore it was observed that majority of the farmers were unaware of the price realization in comparison with the MSP. When asked about marketing problems, more than 60 percent in each category reported that they faced marketing problems. 17. Most of the farmers have bought the seed from KrishiSeva Kendra and /or the universities indicating that the seeds may be of good quality. Another major input is extension service provided by different agencies. More than 50 percent of the respondents in various categories have reported state agency as the main source of extension. However, 93 in view of the responses relating to MSP and recommended doses of fertilizer, it is felt that the outreach of the extension services needs to be strengthened. For around one fourth of the respondents, major source of extension is the input dealer. As for the market information, the fellow farmers and commission agents are seen to be important sources of information. 18. It is observed that the yield gap I(experimental yield-actual yield) is not very high and if ideal conditions are provided, it can equalize the experimental yield. It is seen that yield gap II(potential yield- actual yield) is very low for the large farmer and comparatively higher for the marginal farmers. More than 75 percent of the land under soybean on sample farms is unirrigated. It is likely that provision of irrigation to these farms would increase the yield leading to reduction in yield gap.

Conclusion:

Soybean is on its road to become the most important crop in the cropping pattern of Maharashtra. Hence sustaining its growth would be beneficial not only for the farmers but also for the consumers and the agricultural sector as a whole.

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In the present scenario education is the main instrument for the desirable social change. It is pass on to the next generation to be gradual changes as to update by timely and a sound social pr is need to be careful observation. The higher education is nee be developing as individual by imparting it as well as it can be re the service to the society in many aspects by alteration the scie and technology also in social life.

Higher education is mostly intend to innovation, intervention sometimes it is destroy the basic nature of the society as it know the primitive culture. but so far opinion is that there is need to be more concentrate to conserve the basic roots of the society and in equity mode to access all provisions to all of the them in the society by [illegible] sustainable [illegible] because [illegible] give the same [illegible]

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