

Case study on crop diversification

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Harda district in central M.P. has acquired the tag of “Mini Punjab” due to bumper wheat production in the last few years coupled with “Soybean” as cash crop during monsoon season. The economy of the area has grown rapidly, but there is a dark side to this new prosperity. “Mono-cropping” is slowly but surely making the farmer of this area overly dependent on these two crops.

The progress of human civilization mainly depends on agriculture in Harda district for sustainable income and employment people seems to be very much dependent on traditional cropping pattern like Soybean-Wheat. To achieve agricultural sustainability there must be crop diversification in harda most of the farmers are engaged in traditional cropping pattern like Soybean-wheat.

Here is shown a study of Shri Basant Raikhede is a alert and educated Farmers from Barkala village of Harda district realized this and is opting for alternative cropping patterns. Farmer is cultivating different crops for last five year and his experience has been very satisfactory. He started planting tissue culture banana plants since year 2005 using drip system for irrigation and also planted ginger, turmaeric, tomato and chilli .The result have been fantastic as you can see by the attached photographs.

Site characterization including latitude, longitude, soil type and climatic condition : Barkala village is situated in Harda district which is 302 meter higher from sea level. Its geographic position is between 21°53' and 22°36' Longitude and between 76°47' and 77°20' Latitude. It is located in the south western part of M.P. Soil is loamy to medium black soil. The climate of Harda district is normal. All the seasons come in District. The district feels maximum temperature upto 47° C and minimum upto 12° C. The district has an average rainfall of 916 mm.

Methodology for technology: Methodology for technology disseminated by KVK Harda. Scientist of KVK conducted several trainings, provided guidance and inspected fields of farmer in time to time. Traditional cropping pattern of Soybean-Wheat used by farmer and the cost of cultivation was Rs. 30000/- Annual whereas

operation cost of Technology was Rs. 150000/-.

Field performance (Result) : The presence study is primerily based on Economic Analysis. For analysis of the present study, traditional cropping pattern as Soybean-Wheat taken by farmer in Barkala village of Harda district. *Kharif* crop include Soybean and *Rabi* crop include Wheat. Whereas in diversified cropping pattern crops include tissue culture banana, ginger, turmeric, tomato and chilli. Hence it has been found that the the Gross income of Soybean-Wheat cropping pattern was 0.835 lakh per annum and Net profit was 0.535 lakh per annum. Whereas gross income of diversified cropping pattern was 2.467 lakh per annum and Net profit was 0.967 lakh per annum. It is revealed that the Net profit of diversified cropping pattern was more then Traditional. Therefore Additional Net profit was found 43200 Rs. Per annum. BC ratio of traditional cropping pattern of Soybean-Wheat was 1:2.78 Whereas BC ratio of Diversified cropping pattern of Tissue culture banana + Ginger + Turmeric + Tomato + Chilli was 1:1.64. The BC ratio of Diversified cropping is less than the traditional cropping pattern even though the farmer using Diversified cropping pattern is in profit of Net Rs.0.432 lakh per annum.The BC ratio under diversified cropping is less due to extra expenditure on drip irrigation system+other cultivation charges (Crops seed +Labour).

Outcome : Diversification broadly is a shift of resources from low value Agriculture to high value Agriculture. It was an important strategy to mitigate risk and enhanced income of farmer and improved livelihood. Crop diversification balanced food demand and also increased community food security. It also conserved natural resources like soil, water, moisture etc. Diversification increased no. of employments.

Impact of crop diversification : Crop diversification of a region is very important for its agricultural growth in general and livelihood of farmer as served employment to many labours as well as improved standard of farmers. The change in cropping pattern over time influenced many factors such as physical, institutional, social, economic and environmental factors as fruit and vegetables plantations made porus and fluffy.It improved



Fig. 1: View of diversified crops in the field



Fig. 3 : Tissue culture banana



Fig. 2 : Tomato crop

water soaking quality.

Future prospects /Area of up-scaling : With the advent of modern agricultural technology, especially during green revolution in the early seventies there is a continuous surge for diversified agriculture in term of crops, primarily on economic considerations. It is revealed that crop diversification and farmer income are closely related to each other. It can be emerge as important alternative to attain the objectives of output growth, employment generation and natural resources sustainability in whole district level.

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