

The Modern Form of Agricultural Development Village- Bhelakhurd District Gwalior (M.P) A Sampling Study



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Abstract

India is an Agricultural Country. 68.84 Percentage of its Population (2011) Lives in Villages. The Basis of Economic and Social Activities of our Villages Population is Agriculture. Hence Agriculture is Consided as the Pirof of Indian Economy. The food supply of Vast Population depends an agriculture. Agriculture has an important place in industry, Employment and supplementary occupation too. In fact, Directly and indirectly Indian population is dependent of agriculture for Its Livelihood. Development is a Possitive process which is estimated relatively on the basis of place, Time and Circu, stances that is to say Depeloment does not Comprise of only Constuction of Roads, Houses and The Production in agriculture sector. There are underlying factors of the process of development. As a matter of fact development in a longterm and Prevading concept. It includes Social, Cultural, political, Historical, Human and economic dimenssion.

After Independence the development has been possible by the Adoption of new technologies in the Field of agriculture. The latest model of agriculture has been shaped by the application of new techniques of agriculture. The mechanization, Chemical Fertilizers, high yeil varieties, Insecticides Irrigation facilities, crop insurance Schemes and crop production technologies are responsible for agricultural development the constant evalution of the changes brought about is an important process for the properly Planner Development of the region and for environmental Protection. It is also Significant for the geographical studies of the specific region. Another conclusion is that the traditional method of agriculture is being steadily replaced by improve agricultural technology farmers are enthusuastically tending towards scientific technology and with the result the glimpse of modern agriculture is clearly visible in the village.

Keywords: Modern Agriculture Farming, Agriculture, Gwalior Village- Bhelakhurd

Introduction

The latest model of agriculture has been shaped by the application of new techniques of agriculture. The mechanization, Chemical Fertilizers, high yeil varieties, Insecticides Irrigation facilities, crop insurance Schemes and crop production technologies are responsible for agricultural development the constant evalution of the changes brought about is an important process for the properly Planner Development of the region and for environmental Protection. It is also Significant for the geographical studies of the specific region. The Villages have been considered as the Micro Units such a purpose. The intensity and clarity of such villages can be evaluated by their micro level studies. The quality, Success, Assesment and verification is possible only through the studies of sampling villages.

In fact the present research papers is based on the primary and secondary data for the collection of primary data the agriculture families under studies have been surveyes and interviewed for this purpose. The adopted method and technologies, Quantities of chemical fertilizers and insecticides applied have been collected from there families. there have been statisfically analysed by using various methods. The secondary data have been obtained the various government and semigovernment agencies, through their compilation and publication. After the through studies and evaluation of various problems, The Conclusion have been derived. In order to make the studies understandable and easy the findings have been underlines as and when needed.

Aim of the Study

To analyse the modern agriculture of improve farmers economy and the traditional method of agriculture is being steadily replaced by improve agricultural technology farmers are enthusiastically tending towards scientific technology.

Review of Literature

Bhattacharya,j.p., (1948) studied about the mechanization of agriculture in india , Reardon, T., Barrett, C., Berdegue, J., (2009), Agrifood industry transformation and small farmers in developing countries World Development, Sisodhiya R.S.(2006) "Effect of agricultural development on environment district Bhind, Sharma, s.k. and jain,c.k. (1985) changes in agricultural productivity in Madhya Pradesh spatoon and tamporal dimersions, Chatterji,s.p. (1962) planning agricultural development in india, Matsuyama, K. (1992) Agricultural productivity comparative advantage and economic growth.

Analysis of Data

The village bhelakhurd is situated in the morar block of Gwalior district of Madhya Pradesh. This village is situated. It is 16km away from morar block behalves the northern side of the city. The Village fifth Revenue number is 130 and The gross geographical area is 112.534 hectare. It is at the average height of 204 meter from the sea level. From Population point of view this village is of low category. There are only 663 persons(men and women) belonging to 104 families, out of which 359 are male,304 are female and The sex ratio is 846 and 52% of the population of Bhelakhurd is literate, there are 90 families belong to other backward classes and 14 families are of schedule caste and Schedule tribes. Common families are not existing of the total working population of this village is 85% is farmers,9% are agril Daily wagers,4% is family occupation ,2% of the population is engagers in the other miscellaneous activities.

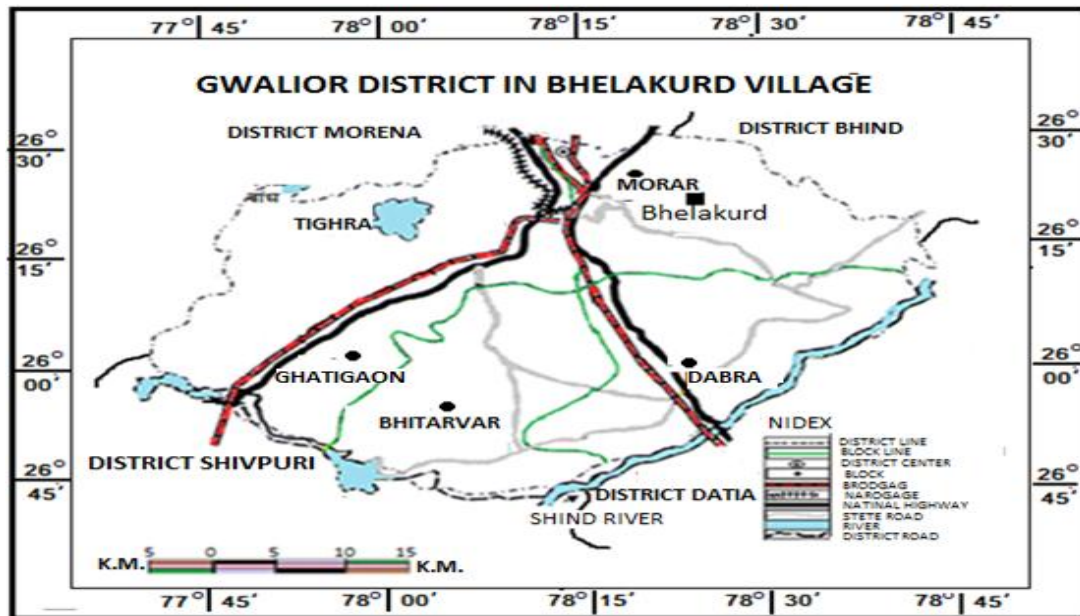


Table no.1
Land use Village Bhelakhurd, District Gwalior (year 2011)

S no.	Land use	Area (in Hectares)	% of total of Geographicals
1.	Forest area	2.011	1.78
2.	Irrigated	58.050	51.58
3.	unirrigated	16.126	14.32
4.	Arable uncultivated	14.653	17.46
5.	uncultivated	2.702	2.40
6.	unavailable for cultivation	13.992	12.46
7.	Double cropping	50.610	44.97
	Total geographical area	112.534	100.0

Source:- Revenue Assistant(patwari).Land record department district,Gwalior

From the table no. 1 it is clear that the total geographical area of village bhelakhurd is 112.534 hectare 1.74 percent of the total geographical area lives under forest.51.58 percent as irrigated area; 14.32 percent under unirrigated condition;17.46 percent amrks the arable but lying as barren,2.40 lying as uncultivated, 12.46 as agriculturally unavailable land; 44.97 under double cropping.

Soils of the village rangers from sandy loam to clayey. Which are highly productive from agriculture point of view.The main crops grown in the area wheat, Paddy and mustard. Besides gram, Pea, Lentil and Lucern etc are also raised in the area. Amongst the chief technologies of the crop production means of irrigation, Tools of agriculture high yielding seeds, Chemical fertilizers,use of insecticides and Banking facilities occupy the important place.

Table no.2
Means of irrigation Village Bhelakhurd-
District Gwalior (year2011)

S no.	Means of Irrigation	Total no.	Availability of Means of Irrigation / 100 Hectare Land
1.	Canal	00	----
2.	Tubewells	20	17.72
3.	Wells	02	1.77
4.	Resources	01	0.88

Sources:- Based on Personal Survey

It is clear from table No. 2 that there is an increasing trend in the advance means of irrigation and the declining in the traditional ones. The tube wells are being largely used for irrigation purpose in the village. The percent distribution of the availability of the means of irrigation are tubewells 17.72, wells 1.77 and reservoirs 0.88 hectares.

Table No.3
Agricultural Mechanization Village Bhelakhurd,
District Gwalior (Year2011)

S.No.	Equipments	Total No.	Availblity of agri-Equipments/100 Hectares land
1.	wooden Ploughs	00	-----
2.	Iron Ploughs	12	10.63
3.	Bulluck carts	00	-----
4.	Generators	05	4.44
5.	Electric Pump	21	18.61
6.	Tractor	13	11.32
7.	Seed drills and Cultivater	18	15.95
8.	Insecticide Spray machine	05	4.43
9.	Thrasher	05	4.43
10.	Compaine Harvester	01	0.88

Source:- Based on Personal Survey.

It is clear from the table No.3 that, there is a declining trend in the traditional agricultural equipment and increasing trend in the use of new agricultural equipments. In the form of agricultural equipments, the villagers possess 13 tractors, 10 trolleys, 5 threshers, 18 cultivators cum seed drills, 1 combine harvesters, 5 insecticide spray machines, 5 generators, 20 tubewells, 15 electric pumps and 8 flour mills. The availability of agricultural equipments per 100 hectare land is distributed as 11.32 tractors, 15.95 cultivator cum seed drill, 4.43 threshers, 4.43 insecticide spray machines, 0.88 combine harvester, 17.72 tubewells, 13.29 electric pumps, 4.44 generators, 7.09 flour mills. Electric pumps and tractors are being used as a source of new energy in the field of agriculture and tubewells are used as the means of irrigation. Agricultural equipments are being used largely for cultivation purpose and intercultural operations. High yield seed and varieties are being grown for increasing crop production.

Amongst the cereal hybrid seeds of wheat, paddy, maize, jowar, mustard and gram are being grown in the village. The hybrid seeds W.H-147, H.D-2236, H.D-1553, Lok1, and Narmada are being used

for wheat production. For paddy crop Kranti, I.R-36, Jawahar, Ratna, Aabha, and Pusa, are the main varieties being grown in the village. The varieties of gram such as K-850, J.G-315, are being raised in the village Bhelakhurd. In jowar C.H-5 and 6, Jawahar jowar 1041, Ratna, Aabha, Pusa are being used for higher production in the village. Wheat, paddy, maize, jowar and mustard, sesamum and gram are the major crops being grown in the village with improved current technology. The highest production recorded in the village is 78% in cereals, 71% in oilseeds, 67% in pulses and 54% in other crops.

Table No.4
Use of Chemical Fertilizers and Insecticides in
Village Bhelakhurd-District Gwalior (Year2011)

Use of Chemical Fertilizers and Insecticides			
Fertilizers	Per hectare average K.G	Use of insecticides	Per Hectare average quantity
Nitrogenous	114	Imidichloroprid	0.25 to 0.50 Kgms
Phosphatic	48	Monocrotophas	1 to 1.50 Ltr
Potassic	26	Phospomidan	1.50 to 2.00 Ltr

Source:- Based on personal survey

It is clear from table 4 that the average use of nitrogen phosphatic and potassic fertilizers is 114, Phosphorus 38 and potash 14 kg per hectare at the rate is given respectively. There is an increasing trend in the use of insecticides in the village. Their use in cereals, oilseeds, pulses and other crops is 48, 37, 45, and 42 respectively in the region.

In this village there are 13 tractor trolleys, 94 bicycles, 35 motorcycles and 2 jeeps as means of transportation. Villagers get the loans sometimes from Berja, Ratwai, Bijoli and Morar branches of banks. In the year 2011 farmers get a loan of amount Rs 3517350 from these banks.

Table No.5
Availability of Loan for Farmers in Village
Bhelakhurd-District Gwalior (Year2011)

S no.	Farmers Category	No. of Farmers	Amount of loans(Rs)	Loan per Farmer
1.	Marginal	46	2,23,100	4,850
2.	Small	20	3,09,000	15,450
3.	Semi medium	22	9,30,600	42,300
4.	Medium	11	10,52,150	95,650
5.	Large	05	10,02,500	2,00,500
Total/average	5	104	35,17,350	33,820

Sources:- Personal Survey of Bank's Branches

It is clear from table 5 that the amount of Rs. 33820 was availed for the farmers through different branches of banks mentioned above. This is a balanced amount for agricultural sector. From distribution point of view, there is a variation in different categories of the farmer families. The maximum per farmer loan was given to large scale farmers category which is Rs.200500 as the minimum was to the marginal farmer families. It was Rs. 4850. This difference indicates the vast difference between

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rich and poor farmers. It has been found that 68% part of the loan was spent on agricultural work and rest 32% part of loan was utilized for non agricultural work.

In the crop sample year 2011 the total Cultivated area 51% was covered by cereal crops such as wheat, Paddy and Jwar; 36% were under oil seed such as mustard,Til,8% was for oil seeds such as Gram, Pea and lantil Remaining 5% A part given for other crops, amongst newly Introduced crops Soyabeen and Til are main crops .Potato, Peas, Okra, Brinjal, Chillies and corriander are main Crops under vegetables. Lucern and berseem and churry are the main fodder crops of the region.

From the view point of sub structural facilities the village is in middle class. Hence the facilities for the soil testing are availed by the urban region of morar block.The facilities for the distribution of fertilizers are made available by the cooperative Societies situated in beraje and Bijoli villages 4-5 km away from the village. Hybrid seed, Isecticides and the facilities of Permanent marketing centre are available for the farmers in morar urban area,16km away from the place.The farmers of the village easily get there facilities Since the road is reachable only 1km away from the village.

From animal husbandry point of view total number of animals was found to be 462 in the year 2011.the number of birds in two poultry farms, Male and female was found to be 1290. The number of buffallos was 314, Cows, Bulls and Bullocks were 46. Total numbers of goats was 102. The percentage of these types of animals in the village was 68,10 and 22 respectively. Due to the lack of grazing facilities villagers do not keep other animals in the village.

The average per day production of milk was 382 liters. Out of total production of milk, 78% milk is being supplied in dairies being run by morar urban area and 28% part of the milk is consumed as Ghee, Curd, Milkcake and Tea by the villagers. 4 families of the are engaged in flour mill and 9 families are given for other agricultural work and Other occupation.

In the village Bhelakhurd there are 13.46 families of scheduled caste and 86.54 families other backward classes.Amongst these families 44.23 families are marginal farmers,19.23 are small farmers,21.15 semi middle class and remaining 4.80 are of bigger size. The categorywise distribution of income of the families is evident from the table no.6.

Chart Village - Bhelakhurd

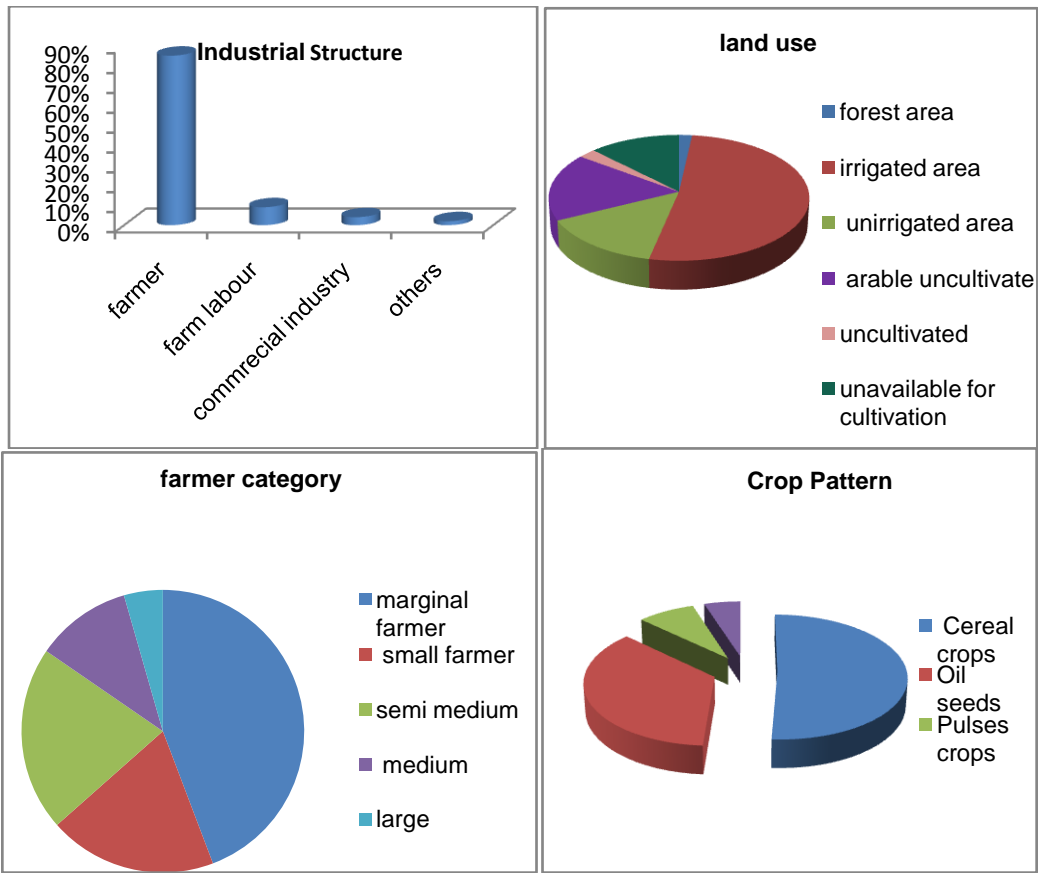


Table no.6
Total income of farmers village Bhelakhurd-District Gwalior (year2011)

S no.	Farmers Category	Total Income/Farmer's Family (Rs Per Thousand)		Total
		Schedule Caste	Obc	Total Farmer's Income/Farmer's Family Income
1.	Marginal	200.97/22.33	953.12/25.76	1154.09/24.04
2.	Small	193.95/38.79	633.45/42.23	827.4/40.51
3.	Semi middle	-----	1685.42/76.61	1685.42/76.61
4.	middle	-----	1192.84/108.44	1192.84/108.44
5.	Large	-----	991.5/198.3	991.5/198.3
Total	5	394.92	8456.33	5851.25

It is evident from the table no.6 that the average total income of 13.46 Scheduled caste families is found to be Rs. 394.94 where as that of the other backward classes is Rs. 5458.33. Here the total farmers family income of the total farm income is Rs. 5851.25 This clearly indicates that farming is chief source of livelihood.

Conclusion

Another conclusion is that the traditional method of agriculture is being steadily replaced by improved agricultural technology farmers are enthusiastically tending towards scientific technology and with the result the glimpse of modern agriculture is clearly visible in the village. It is a positive effort in the direction of agricultural development. Here the environmental problems caused due to the modern model of farming are being delicately addressed along with the suggestion of their solutions.

Problems

1. The fertility of soil is declining as a result of the excessive use of chemical fertilizers.
2. The soil water is being polluted as a result of toxic elements from fertilizers and insecticides through seepage water.
3. Since the number of tanks is going down speedily in the region under investigation. As such the soil water is being excessively exploited.
4. In the region there is constant increase of arable barren and uncultivated land in the region.

Precaution for the Future

1. Farmers are suggested to practise suitable crop rotations i.e., deep rooted crops should be followed by shallow rooted crops and legumes should be grown after cereal crops.
2. Farmers should practice balanced fertilization based on soil testing reports.
3. Organic agriculture should be supplemented with chemical agriculture.
4. Green manuring crops should be preferred.

5. Crops conducive to soil conservation should be grown.
6. Proper drainage system should be kept in view.
7. Drip irrigation should be planned for vegetable and fruit growing.
8. Crops with low water requirement should be preferred depending upon the availability of water in soil.
9. Transplantation of trees around the field and farm should be encouraged.

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