



Socio Economic and Demographic Analysis of Bhitaha Village of Gorakhpur District, India

**Manoj Kumar^{a+++*}, S. K. Tomer^{b#}, R. R. Singh^{c++,†},
S. P. Singh^{d++}, S. K. Singh^{e++},
Shailendra Singh^{f++} and S. P. Singh^{g++}**

^a Department of Agriculture Extension, KVK, Belipur, Gorakhpur, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^b KVK, Belipur, Gorakhpur, Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^c Department of Extension Education, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^d Department of Horticulture, KVK, Belipur, Gorakhpur, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^e Department of Animal Science, KVK, Belipur, Gorakhpur, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^f Department of Plant Protection, KVK, Belipur, Gorakhpur, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

^g Department of Plant Breeding, KVK, Belipur, Gorakhpur, Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, U.P., India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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⁺⁺S.M.S;

[#] Senior Scientist and Head;

[†] Additional Director;

^{*} Corresponding author: E-mail: singhmanojlodhi@gmail.com, lodhiconfwork@gmail.com;

ABSTRACT

The present study was conducted in Village Bhitaha, Block Khajani, Tehsil Bansgaon, District Gorakhpur. The Data Collection based on Participatory Rural Appraisal (PRA) exercise, a meeting of the villagers along with the Sarpanch, Niab Sarpanch and Lamardar was conducted in the village for rapport building. In this research paper an attempt has been made to find out the actual socioeconomic status of rural population in different groups. Study shows that literacy rate in this area is 82.68 per cent, majority of the population belong to the schedule caste (218) and families (95 per cent) are marginal farmers, Paddy is the main kharif crop, while wheat is the main rabi crop and it shows the availability of various ICT tools in Bhitaha, including TVs, mobiles, computers/laptops, internet access and where productivity of meat and milk is very well, the number of different transportation vehicles available such as cars, motorcycles, cycles, and other forms of transport, shows different Farm machinery available such as Sprayer 286, Tractor 09, Cultivator 09, Disc Harrow 07, Thresher 07 and Seedcum Fertdrill 01, it shows that irrigation facilities are available in the village. The findings of this study have significant implications for policy interventions and rural development initiatives in the region.

Keywords: Participatory rural appraisal; socio economic; farmers; productivity.

1. INTRODUCTION

Krishi Vigyan Kendra, Belipar Gorakhpur established for technology dissemination through various agricultural extension activities. Participatory Rural Appraisal survey is an important mean to identify the problem constraints and need of the farmers through their own involvement. Though this Krishi Vigyan Kendra comes under scarcity zone of Kanpur village Bhitaha. Hence Krishi Vigyan Kendra has to focus on technologies. Village Bhitaha, Block-Khajani, Tehsil- Bansgaon, District- Gorakhpur situated at distance of 16 Km from District head quarter and 28 Km from KVK Belipar. It comes under agriculture sub division Khajani. The Village Bhitaha popularly grown of Vegetables and Paddy along with cereals like Maize, Sorghum, Wheat etc [1,2]. Pulses and oilseeds are grown to some extent. There is opportunity for enhancing crop production. Participatory Rural Appraisal (PRA) is the process of involving local people in the analysis and interpretation of their own situation of a given rural area [3-5]. The local people i.e. the participants take a leadership role in collecting, analyzing, interpreting and presenting information and in this process impart knowledge and development insight to the specialists and extension agents. PRA approach embodies a whole range of techniques which when used reveal valuable information/data on the resources and skills existing in the village, wealth structure and dynamics of caste and class [6-8].

For management of natural resources, participatory Rural Appraisal is conducted to establish rapport with the village community as well as to identify and define problems for prioritization in the village itself. It is a way of learning from and with community members to investigate their need assessment, analyze and evaluate constraints and opportunities and find out priorities in the area of agriculture, small scale rural enterprises and any other social and economic development programs addressed to village development [9-12]. Based on the principle of listening and learning, PRA is the technique of immediate analysis and survey of village resources for participatory micro-planning and development [13-15]. Participatory Rural Appraisal is a way of enabling rural people to analyze their living conditions, share the outcomes and plan their activities.

2. METHODOLOGY

The present study was conducted in Village Bhitaha, Block- Khajani, Tehsil- Bansgaon, District- Gorakhpur situated at distance of 16 Km from District head quarter and 28 Km from KVK Belipar. The Data Collection based on Participatory Rural Appraisal (PRA) exercise, a meeting of the villagers along with the Sarpanch, Niab Sarpanch and Lamardar was conducted in the village for rapport building. While conducting the meeting, they were made aware of the exercise to be conducted for the development of a plan for the village, farmers' contribution in

the exercise and the objectives to be achieved. The key informants were identified who helped to inform villagers to facilitate participation.

3. RESULT AND DISCUSSION

The Table 1 shows the demographic information and literacy rate of the village. The total population is 2160, with 1098 males and 1062 females. The literacy rate is 82.68%.

Table 2 This table shows the Scheduled Caste and Scheduled Tribe population in the village. The total SC population is 218, with 106 males and 112 females. There is no ST population in the village.

The Table 3 shows the distribution of farming families in the village based on the size of their land holdings. The majority of families (95%) are marginal farmers, with less than 1 hectare of

land. There are no large (over 4 hectares) farms in the village.

The Table 4 shows the area under different agricultural crops in the village, as well as their productivity. Paddy is the main kharif crop, while wheat is the main rabi crop. There is also a small area of zaid crops, such as barseem and cucurbits. Paddy is the most cultivated crop in the village, followed by wheat and fodder crops.

The productivity of cucurbits is high compared to other crops.

The Zaid season has a limited variety of crops compared to Kharif and Rabi.

Table 5 shows the area under different horticultural crops in the village. Mango is the only crop listed, with an area of 0.2 hectares.

Table 1. Demographic information and literacy rate of Village

Total Population			No. of Households	No. of Literates			Literacy Rate	Sex Ratio
Male	Female	Total		Male	Female	Total		
1098	1062	2160	360	910	876	1786	82.68	967

Table 2. Scheduled caste and scheduled tribe population in village

SC Population			ST Population		
Male	Female	Total	Male	Female	Total
106	112	218	0	0	0

Table 3. Distribution of the farming families on the basis of size of land holding in village

S.No	Land Holding (Ha)	No. of families	Percent
1	>4(Large)	0	0
2	2-4(Medium)	0	0
3	1-2(Small)	4	1.20
4	0-1(Marginal)	342	95.00
5	Landless	14	3.80
6	Total	360	100.00

Chart 1. Total distributed area

Total Geographical area	Total Area	Cultivated Area	Total Irrigated Area	Total Area	Orchard	Others
187	182	182	1.2		3.8	

The Table 6 shows the livestock population in the village. There are a total of 98 buffaloes, 178 goat, and no poultry birds. The Table 7 also shows the productivity of the livestock in terms of milk and meat.

This Table 8 shows the availability of various ICT tools in Bhitaha, including TVs, mobiles, computers/laptops, and internet access.

There are 295 TVs and 1385 mobiles in the village. Internet access is also available.

This Table 9 shows the number of different transportation vehicles available in Bhitaha, such as cars, motorcycles, cycles, and other forms of transport, there are 186 motorcycles and 240 cycles in the village.

This Table 10 shows the number of different Farm machinery available available in Bhitaha, such as Sprayer 286, Tractor 09, Cultivator, 09 Power, Disc Harrow, 07 Thresher, 07Tiller 03, and SeedcumFert.Drill 01 in the village

This Table 11 shows the number of different Farm machinery available available in Bhitaha, such as Private Tube well 52, Well 06 and Govt. Tube well in the village.

This Table 12 provides information about the natural resources found in Bhitaha, categorized by vegetation, grasses, soil, crops, livestock, land use, and water resources. Some examples include mango and mahua trees in the vegetation category, loam and sandy loam soil types, and crops like cereals, pulses, and oilseeds.

Table 4. Area under different agricultural crops in village

Season	Crops	Area (ha)	Productivity (q/ha)
Kharif	Paddy	124	36
	Arhar	17	7
	Til	6	4
	Cucurbits	26	252
	Fodder (Chari)	9	850
Rabi	Wheat	142	38
	Mustard	13	18
	Chick pea	5	14
	Field Pea	1.5	16
	Tomato	4.5	255
	Cauliflower	6	110
	Veg. Pea	4	80
	Barseem	6	830
	Zaid	Cucurbits	28

Table 5. Area under different horticultural crops in Village (Hectares)

Plants	Area (ha)	Productivity (q/ha)
Mango	1	80
Guava	0.2	175

Table 6. Livestock population in village (Numbers)

Village-Bhitaha	Indigenous Cows	Crossbred cow	Buffaloes	Goat	Sheep	Poultry Birds	Fish pond
No. of animals/pond	7	34	98	178	0	0	5
Productivity (Milk /animal/lactation (meat in kg)	985	1075	1120	14.5	0	0	0.85

Table 7. Basic village amenities in Village- Bhitaha (Nos.)

Panchayat Ghar	School	Anganwaricentre	Health Centre	Ration Depot
-	1	-	-	1

Table 8. Shows the information and the basic village amenities in Bhitaha. There is one school and no panchayat ghar, anganwaricentre, health centre and one ration depot

TV	Mobile	computer/laptop	Internet	Other
295	1385	3	yes	

Table 9. Sources of transportation available in the village

Transportation			
Car	Motorcycle	Cycle	Other
4	186	240	11

Table 10. Farm machinery available in the village

Farm machinery								
Tractor	Power Tiller	Cono weed er	Cultivator	Disc plough	Disc Harrow	SeedcumFer t.Drill	Thresher	Sprayer
9	3	1	9	-	7	1	7	286

Table 11. Irrigation facility in village – Bhitaha

Govt. well	Tube Tube well	Cannal	Well	Drip irrigation	Sprinkler
1	52	0	6	0	0

Table 12. Transect walk depicting following natural resources of village

SI No.	Particulars	Natural Resources
1	Vegetation/Plantation	Sagon, Mahua, Euckelioptus, Bomboo, Arjun etc.
2	Grasses	Doob, Motha, Parthenium,
3	Soil	Loam and sandi loam
4	Crops	Cereals, Pulses, oilseed, horticultural crops etc.
5	Live stock	Cattle, Buffalo, Goat etc.
6	Land use	Habitation, crop land, orchard, etc
7	Water resources	Tube well, Ponds, Wells etc

List 1. Action plan for agriculture development for Village Bhitaha, Block- Khajni

A. Agriculture

Crops	Problem identified	Suggested solution	Strategies
Paddy	Low yield High Seed Rate Un-Protective Nursery raising	Improved recommended varieties. Use recommended seed rate Raising protective nursery	Rectifying technical gaps through demonstration, training and Awareness Programme in paddy cultivation.
	No seed treatment	Application of seed treatment	Awareness programme, demonstrations and trainings

Crops	Problem identified	Suggested solution	Strategies
	Weed Problem	Application of recommended technology and herbicides	Demonstration, training and Awareness Programme.
	Transplanting more seedling per hill	Transplanting proper number of seedlings per hill	-do-
	Imbalanced use of fertilizers	Use Recommended dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
	High cost of cultivation	Recommended technologies like DSR etc.	Demonstration and training
Pigeon Pea	Low Yield	Improved recommended varieties	Demonstration and training
	Pigeon Pea damaged in water logging condition	Sown on raised bed	Demonstration and training
	High seed rate	Line sowing with recommended seed rate	Demonstration and training
	Imbalance use of fertilizer	Recommended balance dose of fertilizer	Demonstration, training and Awareness Programme.
	No use of Bio fertilizer	Use of rhizobium and bio fertilizer	Demonstration and training
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	Demonstration and training
Sesame	Use of local seed	Improved recommended varieties.	Awareness programme, demonstrations and trainings
	Higher Seed rate	Line sowing with recommended Seed rate	-do-
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
Mustard	Use of local seed	Improved recommended varieties.	Awareness programme, demonstrations and trainings
	Higher Seed rate	Line sowing with recommended Seed rate	-do-
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
Chick pea	Low yield	Improved recommended varieties.	Awareness programme, demonstrations and trainings

Crops	Problem identified	Suggested solution	Strategies
	Higher Seed rate	Line sowing with recommended Seed rate	-do-
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
Field Pea	Low yield	Improved recommended varieties.	Awareness programme, demonstrations and trainings
	Higher Seed rate	Line sowing with recommended Seed rate	-do-
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
Wheat	Low yield	Improved recommended varieties.	Awareness programme, demonstrations and trainings
	Higher Seed rate	Line sowing through super-seeder etc. with recommended Seed rate	-do-
	Weed Problem	Application of recommended technology and herbicides	Demonstration, training and Awareness Programme.
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-
	No control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
Green Fodder	Use of local seed	Improved recommended varieties	Awareness programme, demonstrations and trainings
	Higher Seed rate	Recommended Seed rate	-do-
	Imbalanced fertilizer use	Use of balanced fertilizers	-do-
	Non-adoption of plant protection measures	Use of plant protection measures	-do-

B. Horticulture

Crop	Problem identified	Suggested solution	Strategies
Vegetables	No seed treatment	Adoption of recommended seed treatment	Awareness, Demonstration and training
	Low Yield	Improved recommended varieties	Awareness, Demonstration and training
	Imbalanced fertilizer use	Recommended balance dose of fertilizer	-do-

Crop	Problem identified	Suggested solution	Strategies
	No proper control measures applied for insect and disease management	Use IPM and IDM modules with recommended dose of insecticides and pesticides	-do-
	Low price of vegetable	Link with national and international marketing through E-marketing channel.	Awareness and training
Mango	Unfruitfulness	Management of unfruitfulness	Awareness, Demonstration and training
	Mango malformation	Recommended INM	Awareness and training
	Low Yield	Improved recommended varieties and balanced use of fertilizer	Awareness, Demonstration and training
	Pests and Diseases	Management of pests and diseases	Awareness, Demonstration and training
Guava	Low Yield	Improved recommended varieties and balanced use of fertilizer	Awareness, Demonstration and training
	Unfruitfulness	Management of unfruitfulness	Awareness, Demonstration and training
	Pests and Diseases	Management of pests and diseases	Awareness, Demonstration and training

C. Animal Husbandry

Animal	Problem identified	Suggested solution	Strategies
Cow	Low milk yields due to imbalanced feeding	Balanced feeding with supplementation of mineral mixture.	Awareness, Demonstration and training
	Low milk yields due to local breed	Recommended Breed of Cow (Shahiwal, Gir, Tharparkar, and graded cross-bred).	Providing awareness about AI and sex shorted semen with training, animal camp day
	Infestation of parasites and diseases	Use of acaricide, dewormer and vaccination prescribed by veterinary doctor.	Awareness, Demonstration and training
	Lack of Green fodder	Provide green fodder around the year by use of perennial green fodder ie. Napier	Awareness, Demonstration and training
	Poor Marketing Facilities of Milk and milk product.	Groups and FPOs Formation and Link with national international marketing channel	Awareness and training

Animal	Problem identified	Suggested solution	Strategies
Buffalo	Low milk yields due to imbalanced feeding	Balanced feeding with supplementation of mineral mixture.	Awareness, Demonstration and training
	Low milk yields due to local breed	Recommended Breed of Buffalo (Murrah etc.).	Providing awareness about A I with training, animal camp day
	Infestation of parasites and diseases	Use of acaricide, dewormer and vaccination prescribed by veterinary doctor.	Awareness, Demonstration and training
	Lack of Green fodder	Provide green fodder around the year by use of perennial green fodder ie. Napier	Awareness, Demonstration and training
	Poor Marketing Facilities of Milk and milk product.	Groups and FPOs Formation and Link with national international marketing channel	Awareness and training
Goat	Poor body growth due to imbalance feeding	Balanced feeding with supplementation of mineral mixture.	Awareness, Demonstration and training
	Poor body growth due to local breed	Recommended Breed of Goat (Barbari, Black Bengal, Sirohi etc.).	Providing awareness about Breed with A.I. training, animal camp day
	Infestation of parasites and diseases	Use of acaricide, dewormer and vaccination prescribed by veterinary doctor.	Awareness, Demonstration and training
	Lack of Green fodder and posture	Provide green fodder around the year by use of perennial green fodder ie. Napier, drumstick, Subabul, Jangal jalebi etc.	Awareness, Demonstration and training
	Poor Marketing Facilities of Milk and meat	Groups and FPOs Formation and Link with national international marketing channel	Awareness and training
	Supply of sufficient fodder	Raising quality fodder Silage making for quality enhancement	Awareness, Demonstration and training
	Fisheries	Lack of infra structure facilities	Provide adequate amount of water and proper management of ponds
Lack of technical knowledge and support		Provide technical scientific knowledge	Awareness and training programme
Lack of artificial feeding		Provide balanced feeding	Awareness, Demonstration and training
No existence of cooperative societies		Formation of groups and societies	Awareness and training programme
Poor quality fish seed		Provide the good quality fish seed	Awareness and training programme

Animal	Problem identified	Suggested solution	Strategies
Poultry	Lack of quality chicks	Provide Improved recommended breed and quality chicks	Awareness, Demonstration and training
	Unavailability of quality feed	Provide balanced feed	Awareness, Demonstration and training
	High motility and diseases outbreak	Cleaning sanitation, vaccination and proper scientific management.	Awareness, Demonstration and training
	Lack of technical knowledge	Provide technical scientific knowledge	Awareness and training programme
	Lack of storage facilities	Provide knowledge about storage of egg at Village level	Awareness and training programme
	Poor Marketing Facilities of egg and meat	Groups and FPOs Formation and Link with national international marketing channel	Awareness and training
Pig	Poor body growth due to imbalance feeding	Balanced feeding with supplementation of mineral mixture.	Awareness, Demonstration and training
	Poor body growth due to local breed	Recommended Breed of Goat (LW Yorkshire MW Yorkshire SW Yorkshire, landress, bearkshire etc.).	Providing awareness about Breed, training, animal camp day
	Infestation of parasites and diseases	Use of acaricide, dewormer and vaccination prescribed by veterinary doctor.	Awareness, Demonstration and training
	Poor Marketing Facilities of meat	Groups and FPOs Formation and Link with national international marketing channel	Awareness and training

4. CONCLUSION

In conclusion, has explored the socioeconomic status of Bhitaha Village in Gorakhpur, using data collected through a PRA Under KVK Belipar Gorakhpur. The study has provided valuable insights into the village's demographic profile, land use patterns, sources of irrigation, and occupational distribution. The study found that the majority of the population had a High level of education, with literacy rate is 82.68%. Marginal and small farmers dominated the agricultural landscape, with a prevalence of small-scale agriculture. The study also highlighted the importance of non-farming occupations such as skilled laborers and rural artisans. The findings of this study have significant implications for policy interventions and rural development initiatives in the region. The dominance of small-scale agriculture highlights the need for interventions

that promote sustainable farming practices and provide access to modern agricultural technologies and techniques. Moreover, the presence of rural artisans in the village suggests the potential for developing cultural tourism in the region, which could serve as a source of income diversification for the local population.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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