

Agricultural Profile and Its Impact on Rural Livelihoods: A Case Study

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ABSTRACT

Agricultural Geography is concerned with the spatial variations, distribution and location of agricultural activities on the earth's surface and the factors responsible for them. It is dominated by the interrelationship and effects of both physical and socio-economic factors on special farm enterprises and farm operations. Agricultural geography addresses bio-physical determinants of agricultural patterns and productivity; socio-cultural and economic determinants of agricultural patterns and productivity; agricultural activities and spatial organization; agricultural decision making analysis; agricultural technological changes; agriculture and economic development; and global emerging issues in agriculture from spatial and temporal perspectives. The main objectives of agricultural geography are to examine the spatial distribution of crop and livestock combinations very in space and time, to ascertain the special concentration of agricultural phenomena. In some developed countries and in some pockets of developing countries, agriculture has achieved the status of 'agribusinesses. Agricultural geography named as a sub-discipline of Human Geography. The geography of human activities is called 'economic geography' which examines the primary, secondary, tertiary and quaternary activities of man.

Keywords : Agricultural Activities, Concentration, Agribusinesses. Agricultural phenomena

Introduction

Agricultural production systems undergo rapid changes in response to shifts in production expenses, consumer demands, and increasing concerns for food safety, security, and environmental impact (Hanson et al., 2008, Hendrickson et al., 2008). An overriding concern is the need to develop sustainable production systems that address societal concerns for environmental impacts and nutritional value, while maintaining an economically feasible production system for farmers. Sustainable agricultural production per Sassenrath et al. (2009) is: "an approach to producing food and fibre which is profitable, uses on-farm resources efficiently to minimize adverse effects on environment and

people, preserves the natural productivity and quality of the land and water, and sustains vibrant rural communities" (p.266). In aligning with this definition, the five general goals that must be addressed by sustainable production systems are therefore: supplying human needs, enhancing the environment and natural resource base, increasing efficiency of resource use, improving economic viability of farming, and enhancing quality of life for producers and society.

Data Sample Design

Sample design has been chosen randomly from Surangapur Mouza. Sample design has been taken with regard to the household of the study area. There are 1599 households in this Mouza

and 100 households have been taken as sample design. It is 6.25% of the total households of the C.D. Block (District Census Handbook: Murshidabad District; 2011).

3. Results and discussion

Physical Environment, Topography and Drainage

Surangapur Mouza is located in the alluvial plain of the river Jalangi. It lies entirely on the eastern side of the Ganga, the Bhagirathi and the Jalangi river. Because of low area it is exposed to annual inundation resulting in fresh silt deposits hence it is very fertile. Various crops are grown here as Climate, Temperature, Rainfall, Relative Humidity, Soil and Natural Vegetation.

Land Use Pattern of Surangapur Mouza

Here the land use map of Surangapur Mouza, Nowda C.D Block, Murshidabad District, West Bengal represent the total area of the Mouza which is 257.92 hectares. In these Mouza different types of land use pattern such as agricultural land, plantation, orchard, settlements, roads and others are found as shown in table and fig.

Table No.1

Different Land use / Land cover Area Surangapur Mouza, Nowda Block, Murshidabad District:

Land use/ Land cover	Area in Hectares	Area in Percentage
Agricultural land	170.14	65.96
Plantation	13.28	5.15
Orchard	6.26	2.43
Settlement	57.14	22.21
Road	5.66	2.19
Others	5.44	2.11

Source: Field Survey (17/03/2016), Sample Size: 100 Households

Cropping Pattern

Jute and onion is the main crop in this Mouza. Jute occupies 13.44 hectares (20.348%) and onion occupies 11.3 hectares (17.110%) of total gross cropped area of this Mouza. Other principal crops are Aus, Aman, Boro paddy (11.032%, 7.889%, 9.312%), Wheat (13.052%), Mustard (8.01%), Pulses (5.163%), Coriander (5.163%), Vegetable (2.877%).

Table No. 2

Overall yield Index of Surangapur mouza, Nowda Block, Murshidabad district

Name of the Principal crops	Area in hectares		Production in tonnes	
	Surangapur Mouza	Nowda	Surangapur Mouza	Nowda
Aus paddy	7.29	6500	30.618	27300
Aman paddy	5.21	3000	20.84	12000
Boro paddy	6.15	4800	23.37	18240
Jute	13.44	10400	37.632	29120
Onion	11.3	10500	305.1	283500
Wheat	8.62	3000	30.17	10500
Mustard	5.35	1200	4.54	1020
Pulses	3.41	500	4.09	750

Source: i) Additional Director of Agricultural Office ii) Field Survey (17/03/2016), Sample Size: 100 Households

Crop Combination Analysis

Here, Crop Combination Analysis (Weaver, 1954) has been applied to show the way of practicing different types of crops in a particular area. Surangapur Mouza has 10 crop combinations which show good combination of crops. Favourable agro-climatic conditions, alluvial soil, irrigation system helps in this regard.

Table No.3:

Crop combination of Surangapur mouza, Nowda Block, Murshidabad district

Name of the Principal crops	Area in hectares of Surangapur Mouza	Percentage of area under different crops	Rank	Crop combination
Aus paddy	7.29	11.032	4	105.435
Aman paddy	5.21	7.889	7	22.978
Boro paddy	6.15	9.312	5	50.281
Jute	13.44	20.348	1	6344.4411
Onion	11.3	17.110	2	980.496
Wheat	8.62	13.052	3	280.939
Mustard	5.35	8.101	6	30.957
Pulses	3.41	5.163	8	23.738
Coriander	3.41	5.163	9	24.278
Vegetable	1.9	2.877	10	27.407

Source: Field Survey (17/03/2016), Sample Size: 100 Households

Economic Conditions of Rural Livelihoods

Demographic Profile

Total population and population composition

According to the Census of India (2011), total population of Shambhupur Mouza has been recorded as 6343, out of which 3251 persons are male and 3092 persons are female. Total number of households of the study area is 1599 (Census of India, 2011), 100 households i.e., 6.25% of the total households have been taken as sample for household's survey. Total sample population of the study area is 470, among them male and female population are equal. Male and female population are respectively 235 persons and 235 persons.

Caste structure:

According to census of India (2011) 231 persons (3.64%) belonged to Scheduled Caste, 21 persons (0.33%) were Scheduled Tribe and 6092 persons (96.02%) were other than S.C. and S.T. population. The sample population composed of 424 persons (90.21%) from General Caste, and 46 persons (9.78%) from other backward class.

Sex-ratio, child sex-ratio and caste wise sex ratio

In this Mouza, Sex-Ratio and Child Sex-Ratio of sample population have been observed as 1000 and 1033.33 respectively. In 2011, the Sex-Ratio and Child Sex-Ratio (Census Report, 2011) were 951.09 and 833.84 respectively. From sample population caste wise Ratio of General

Caste and O.B.C.-A have been reported as 1019.04 and 840 respectively .

Age - Sex Structure:

The Age-Sex Pyramid of the sample population reveals that the population growth rate is high. The number of Male is high between 0-9, 10-19, 20-29, 30-39 and 40-49 years, whereas the no. of female is high between 20-29, 0-9, 30-39 .Between 90-99 years male population growth rate was very low and the female growth rate was nil.

Source: i. Census of India (2011), ii. Field Survey (17/03/2016), Sample Size: 100 Households

Occupational Structure and Households Income

Male and female work participation rate

According to the census report, 2011 Work Participation Rate has been recorded as 34.904 %. Male Work Participation Rate and Female Work Participation Rate was 59.70 % and 8.82% respectively. During field survey, from the sample population, Work Participation Rate has been found as 41.06 %. Male Work Participation Rate and Female Work Participation Rate of Sample population have also been calculated as 71.91 % and 10.21 % respectively.

In 2011, Main and Marginal Workers to total workers were 83.01 % and 16.98 % respectively (census of India, 2011), where the main male and female workers are 1724 and 114 respectively and marginal male and female workers are 217 and 159 respectively. From the field survey, Main and Marginal workers to total workers of sample population have been found as 74.24 % and 25.75 % respectively where the main male and female workers are 142 and 5 respectively and marginal male and female workers are 27 and 24 respectively.

Out of the total workers of sample: population of this Mouza, 37.42 % people are

cultivators, 18.71 % people are engaged in the occupation of agricultural labourers, 9.35 % people have the occupation of mistri, 7.60 % people are in service sector, 12.28 % people are businessman and 14.61 % people are engaged in other activities.

Health Status and Family Planning Policy :

Major Diseases

In Surangapur Mouza most of the inhabitants including children suffer from fever .During the year 2015-2016, 43.69% children and 70.37% adult have suffered from fever. Next to fever, inhabitants are prone to gastroenteritis. During the year 2015-2016, 37.60% adult have suffered from gastroenteritis .during the year 2014-2016, 10.08% children and 9.40% adult have suffered from diarrhea and 20.79% adult from suffered from digestive problems and 20.51% adult from suffered from Eye diseases. Other prevalent diseases are asthma, diabetes, heart diseases, lung diseases and arthritis in this Mouza.

Types of treatment:

The Field survey revealed that 79.14% of the inhabitants prefer allopathic treatment, 16.59% of the inhabitants prefer homeopathic treatment and 3.19% of the people prefer ayurvedic treatment in this study area.

Adaption of family planning policy:

In this Mouza 62% families adopt family planning policy and 35% families do not adopt family planning policy and 3% gave no response in this regard. . It stated that most of the people are aware of this policy and hoped that they will also apply this policy in their real life. So, special measures should be implemented to spread more awareness about family planning policy in this study area.

Use of Households Amenities

Drinking water facilities

Drinking water facilities in this Mouza is adequate. All of the surveyed households have their safe drinking water facilities. Tap and tube well are the main sources of drinking water in this Mouza. From the sample households, it has been found that 77% families' uses tube well as the sources of drinking water and 23% families' uses tap as the sources of drinking water.

Toilet facilities

From the sample households it has found that toilet facilities in this Mouza are sufficient. 92% of the surveyed households have their toilet facilities. In 1995 toilet coverage was 17% and 31% in 2005.

Electric facilities

Electric facility in this surveyed Mouza is very high. All surveyed households have their electric facilities. It was also observed that the no of electric facilities families were 6% in 1995 and 40% in 2005.

Family status

Out of 100 sample household families 84% families belong to above poverty level (APL), 16% families belong below poverty level (BPL).

Use of household amenities in Surangapur Mouza:

Drinking water :

In this Mouza the facility of drinking water is average. 72% of total surveyed household have their safe drinking facilities. Otherwise they have to use deep tube well and tap as their source of drinking water.

Toilet facilities:

From the sample household, it has been found that 100% families have toilet facilities the sanitary condition of this Mouza is very good.

Fuels used in household:

Out of 100 sample households 33% household have LPG connection. The other fuels

used in the kitchen are cow dung, bushes, and woods.

Mass media contact and other luxury goods:

Use of television, radio or fm, land phone or mobile, motorcycle, fridge are 74 %, 12%, 100%, 24%, and 21% respectively among the surveyed household. The intensity of using land phone or mobile and television is higher than that of the other things in this area. So it can be said that the use of modern amenities like television, mobile, motorcycle & fridge etc. are increasing day by day in Surangapur Mouza.

Suggestions and recommendation for future prospects

Major Problems

- The farmer in this mouza so lacked behind so they don't have any potential to adopted the new farming technology.
- Because of decline the prises of onion farmers suffer more.
- People of this Mouza have not got any agricultural initiative from the local Panchayat Office or Block Development Office.
- Unhygienic condition of hospital remains in this mouza.
- Most of the villagers are devoid of employment opportunities.
- The concentration of metal rode is very low.
- Improper sanitation problem results several health issues.
- Problem of mass media and communication facility.

Suggestive Measures

- Government initiatives should be given to the farmers of this Mouza.
- Government should take the proper initiatives to increase the metal road length.

- Measure should be taken to improved the condition of hospital.
- Agricultural market should be widened.
- Construction of road is required for its better development.

Communication facility should be well developed so that people should get the employment opportunities.

- New scheme should be introduce by the government to improve the socio economic condition of the farmers.

Conclusion:

Surangapur Mouza is a generally based on agriculture which provide economic assistance to the inhabitants of this area in Murshidabad district. The field survey reveals that the primary economy i.e. agriculture which is considered to be the base of the economic activities of the people of this Mouza. But there are some limitations of under development condition and improper planning with modernization of inventories in the agricultural field. In spite of those hurdles the study area is an agricultural rich zone and holds or bears a rural ethnicity in its soul as well as the knowledge of modern socialization is present among the major poor and minor rich and middle class families in this Mouza. Further attentions are required to maximize, expand and improve the medical, transport, commercial and other needs of livelihood as per the demand of the inhabitants in Surangapur

Mouza. Proper policy suggestion as well as the goodwill and assists of the natives and the dominant government are required.

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