

## Study on Socio-Economic and Socio-Psychological Characteristics along with Demographic and Farming Profiles of Bird Flu Affected Poultry Owners in Murshidabad District of West Bengal, India

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### Abstract

Avian Influenza or Bird flu produces a huge impact during pandemic not only on poultry industry but also in rural social life. In this backdrop of fact, a study was promulgated to reveal the features of Socio-Economic and Socio-Psychological characteristics along with important demographic and farming profiles of Bird flu affected Poultry Owners in selected 08 nos of GPs under two blocks i.e. Khargram and Burwan in Murshidabad District, where the disease causes severe economic losses to the rural backyard poultry farmers in the state West Bengal, India. Total 160 respondents formed the samples in which, 20 numbers of randomly selected respondents from each of those purposively selected eight (8) GPs of Murshidabad District. The data were collected with the help of pre-tested structured interview schedule and analysis was done by using SPSS software through Percentages Analysis for conclusion. The findings of the study explored that, majority of the respondents belongs to middle age group, male, Muslim by religion, illiterate, OBC category and predominant occupation is cultivation in the adopted area. The maximum respondent comes from nuclear family with up to one hectare land possession without any draught animal as farm power and vital decisions are taken by husbands in their family with patriarchal dominancy, which is indicative in the study. Considering farming profile, the analysis showed that, of the maximum affected owners were backyard poultry farmer and they were not oriented with scientific disease prevention, feeding, training and other vital prerequisites, which causes severe economic losses in poultry farming as their primary livelihood support in the functional area of the state WB, India.

**Keywords:** Bird-flu, Socio-economic, Socio-psychological, farming, demographic profiles, backyard poultry.

### Introduction:

Backyard poultry in rural West Bengal provides supplementary income to rural people, as about 80% of state egg production comes from backyard poultry. India has 489 million poultry population, both commercial and backyards in which 40% belong to backyard system (West Bengal Population Census, 2011). About 13.13% of county's poultry population both commercial and backyard systems exist in the state of West Bengal. Avian Influenza or Bird Flu produces a huge impact during pandemic not only on poultry industry but also in rural social life. Rural people had to bear a huge economic loss due to culling operation, poultry birds are one of the prime assets to the rural people

in our country (Kumar et al., 2008). During the period of bird flu the prices of egg and meat product directly reduced, which also produce an economic loss to the poultry farmer. During and after bird flu the export were ban, this also produces huge impact on poultry industry, which increases unemployment rate, decrease in gross domestic product. During and after the pandemic outbreak, the Bird flu disease was spread throughout the state of West Bengal. Among various parts of the state, this viral disease causes severe mortality in the Murshidabad district of the State. Considering this, 08 nos of GPs under two blocks i.e. Khargram and Burwan in Murshidabad District of the state were studied randomly, where the disease causes severe

economic losses to the rural backyard poultry farmers. In this backdrop of fact, a study was promulgated to reveal the features of Socio-Economic, Socio-Psychological characteristics along with few important demographic and farming profiles of Bird flu affected Backyard Poultry Owners in selected Murshidabad district of the state West Bengal, India.

### Materials and Methods:

The study was carried out in purposively selected two blocks namely-Khargram and Burwan in Murshidabad District of the state of West Bengal, India. From the two blocks of Murshidabad district, eight (8) Gram Panchayet was selected randomly, as Murshidabad district witnessed and severely affected by bird flu for several times in various Poultry farms in the functional area of the West Bengal. Total 160 respondents formed the samples in which, 20 numbers of respondents were randomly selected from each of those purposively selected eight (8) Gram Panchayet of Murshidabad District. The data were collected with the help of pre-tested structured interview schedule by the researcher himself. The total 22 nos. of independent variables along with three (03) dependent variables *i.e.* Awareness regarding bird flu, Knowledge about bird flu and Attitude towards culling were selected for the studies. The collected data were tabulated and analysis was done by using SPSS version (16.0) through Percentages Analysis for conclusion in the study.

### Results and Discussion:

The Present study projected that, majority of the respondents (40%) belonged to 36 to 50 age group followed by up to 35 years age group (33.8%) and rest (26.2%) belonged to age group of 51 and above. Majority of respondents were males (51.9%) followed by females (48.1%). Majority of the respondents were Muslims (76.3%), followed by Hindu (23.1%). Goswami (2007) studied about the adoption behaviour of Kuroiler poultry farmers in Murshidabad

district and observed that most of the farmers belonged to the age group of 31 years to 40 years and also found most of the respondents involved with farming were Muslims.

The Table 1 depicted that, the major occupation of the respondents were cultivation (71.9%) followed by labours (12.5%), business (6.9%), whereas 3.8% earned their bread-butter from independent profession then caste occupation (2.5%) and service (2.5%). Goswami (2000) studied about the impact of extension on socio-psychological and administrative behaviour of the livestock owners of Sundarban and found that cultivation was the main occupation of the farmers.

Majority of the respondents belonged to other backyard caste *i.e.* OBC (84.4%), followed by scheduled caste (8.8%), general caste (6.3%). Only 0.6% of the respondents found from scheduled tribe (ST) category. Majority of the respondents were illiterate (48%) where as 25.6% of the respondents were educated up to primary school, 23.1% of them were educated up to middle school, only 9.4% were educated up to higher secondary and 1.9% was graduate. Education plays an important role in overall progress of human kind. It broadens the horizon of people and is responsible for change of behaviour *i.e.* the overt action of human beings. The present research finding amply shows the role of education since, the respondents with education opted for the intensive system in order to increase their profile and overall income.

Most of the backyard poultry farmers of the study area belonged to nuclear family (67.5%) and only 32.5% of the respondents belonged to joint family. The percentage of respondents had up to five family members (51.88%) was more than respondents had more than five members (48.1%). The size and type of the family generally indicates the numbers of helping hands, however, it is seen that majority of the respondents had a medium family size and belonged to nuclear families. This shows a changing trend from the old joint family system to nuclear families.

**Table1: Distribution of some socio-economic and socio-psychological profiles of the respondents**

ITEMS	CATEGORY	FREQUENCY	PERCENTAGE
Age	Upto 35 years:	54	33.8
	36 to 50 years:	64	40.0
	51 and above:	42	26.2
Sex	Male:	83	51.9
	Female:	77	48.1
Religion	Hindu:	38	23.7
	Muslim:	122	76.3
Occupation	Labour:	20	12.5
	Caste occupation:	4	2.5
	Business:	11	6.9
	Independent profession:	6	3.8
	cultivation:	115	71.9
	service:	4	2.5
Caste	Scheduled Caste:	14	8.8
	Scheduled Tribe:	1	0.6
	Other Backward Classes:	135	84.4
	General Caste:	10	6.3
Education	Illiterate:	48	30.0
	Can read and write:	16	10.0
	Primary:	41	25.6
	Secondary/Middle:	37	23.1
	Higher secondary:	15	9.4
	Graduate:	3	1.9
Family type	Nuclear:	108	67.5
	Joint:	52	32.5
Family size	Upto 5 members:	83	51.9
	More than 5 member	77	48.1
Land holding	Noland:	51	31.9
	Upto one hectare:	90	56.3
	Upto two hectare:	16	10.0
	Above two hectare:	3	1.9
House type	Hut:	01	0.6
	Kutch house:	77	48.1
	Mixed house:	51	31.9
	Pucca house:	31	19.4
Farm power	No draught animal:	120	75.0
	1-2 draught animal:	38	23.8
	3-4 dt animal/1or>P. animal:	2	1.2
Monthly income	Upto Rs. 6,000:	118	73.7
	Rs.6,001-10,000:	30	18.8
	Rs.10,001and above:	12	7.5
Decision Making	Oldest Person:	39	24.4
	Husband:	82	50.6
	Wife:	20	12.5
	Collective Decision:	20	12.5

The study in eight GPs of Khargram and Burwan block of Murshidabad explored that, 31.9 % of the poultry owners were landless, followed by 56.3% people having up to 1 hectare land, 10% people having up to 2 hector land and only 1.9 % people having above 2 hectare land. Most of the

backyard poultry owners lived in Kutcha house (48.1%) followed by mixed house (31.9%), Pucca house (19.4%) and Hut (0.63%). Saha (2003) and Saha et al. (2005) studied about the status of rural poultry production in 24 Parganas and found most of the respondents were marginal and also

got same result that most of livestock owner used to live in either kutchra or mixed house. The type of house that exists in most of rural India is either Kutchra or Mixed with small number of people generally having pucca houses. The result of the present study is also in accordance with the common observation.

The Table 1 indicating that, most of the poultry owners had no draught animal (75%) followed by people having 1-2 draught animals (23.7%) and 1.3% backyard poultry farmer has 3-4 draught animals /1 or more prestige animals, whereas no respondents were found who has 5-6 Draught animal /Tractor. The table also showed that 73.7% of the respondents of the study area of Murshidabad district belonged to Low income group, followed by Medium income group (18.8%), remaining 7.5% respondents were from High income status. It is seen from table, that backyard poultry related and other decisions of the family were mostly made by husband (50.6%) followed by oldest person (24.4%) of the family, whereas only 12.5% decisions were taken by the wife and 12.5% decision were taken collectively.

#### **Poultry feeding, Housing profiles:**

The study projected that, the majority of the respondents (81.25%) did not buy chicks, from the remaining respondents 8.13% bought more than 10 chicks at a time, 6.23% of them bought 5 to 10 chicks at a time, whereas only 4.38% people bought only up to 5 chicks. Table 2 showed that 43.75% respondents used scavenging and kitchen wastes for feeding purpose, followed by 29.38% used scavenging and waste grains and remaining 26.88% used only scavenging for feeding purpose. It is observed that, 82.5% of the people reared poultry through backyard system and remaining 17.5% used semi-intensive procedure for poultry rearing, not even single respondent were found to be using intensive process for poultry rearing. Goswami (2007) studied about the adoption behaviour of Kuroiler poultry farmer in Murshidabad district and found the type of rearing

poultry the respondents follow were mainly free range type. The study projected that 100% of the respondents used to rear male birds as a meat and female as laying birds, no one respondent was rearing meat birds as a whole. Saha (2005) found that the preference for rearing of birds were mainly for meat purpose.

#### **Poultry marketing profiles:**

Table 2 showed that 37.5% of the respondents were not rearing poultry for commercial purpose, for this reason they did not sell eggs of poultry birds. 33.75% of the respondents sold eggs of poultry birds to the middle man. 12.5% of the respondents sold eggs of their birds directly to the market and middle man. 8.13% of the respondents sold eggs of birds directly to the market and neighbours, whereas 4.38% and 3.75% sold the eggs of poultry birds to the neighbours and directly to the market respectively. Goswami (2007) found that 26.3% respondents used to sell eggs poultry birds to the neighbours followed by 5.8% to the market. It is evident that 60.63% of the respondents sold up to 3 number of birds monthly, 1.88% of the respondents sold 4 to 6 no. of birds monthly, no one farmer sold birds more than 6 number of birds, although 37.5% of the respondents were not rearing poultry for commercial purpose, for this reason they did not sell poultry birds. Goswami (2007) found that 51% respondents used to sell birds to the neighbours followed by 10.3% to the middleman and 6% to the market.

#### **Mortality and Disease prevention profile:**

From Table 2, it is seen that in case of 80.63% respondents 3 to 4 number of birds died out of 10 birds, in case of 13.13% respondents the mortality is 1 to 2 in number out of 10 birds, whereas 1.88% respondents replied the mortality as 5 and more in number out of 10 birds. 43.75% respondents told that mortality was due to some diseases, according to 27.50% respondents' birds died by predation, whereas 23.13% told birds died for some disease and predators.

Though 53.63% of the respondent replied the bird died due to some unknown cause.

**Table 2: Farming and Economic profiles of the bird flu affected poultry owners in the study area**

ITEMS	CATAGORY	FREQUENCY	PERCENTAGE
Number of birds purchased by farmer	a) Upto5:	7	4.38
	b) 5to10:	10	6.25
	c) Morethan10:	13	8.13
	d) Do not buy:	130	81.25
Feeding regimes of poultry birds	Only scavenging:	43	26.88
	Scavenging and waste grains:	47	29.38
	Scavenging and kitchen wastes:	70	43.75
Housing system of poultry birds	Backyard:	132	82.5
	Semi intensive:	28	17.5
	Intensive:	0	0
Purpose of bird rearing	Meat birds as a whole:	0	0
	Male as meat and female as laying birds:	160	100
Whether farmer Sell eggs:	a) Yes:	100	62.5
	b) No:	60	37.5
Whom does the farmer sell eggs:	Directly to the market:	6	3.75
	To the neighbors:	7	4.38
	To the middleman:	54	33.75
	Directly to market and neighbor	13	8.13
	Directly to market and middleman	20	12.5
	Do not sell:	60	37.5
Number of birds does the farmer sell monthly:	a) Upto 3:	97	60.63
	b) 4 to 6:	3	1.88
	c) More than 6:	0	0
	d) Do not sell:	60	37.5
Normal mortality of the Birds out of 10:	a) 1 to 2:	21	13.13
	b) 3 to 4:	129	80.63
	c) 5 and more:	10	6.25
Suspected Cause of Mortality:	a) Due to some diseases:	70	43.75
	b) Predators:	44	27.5
	c) Disease and Predators:	37	23.13
	d) Miss management:	0	0
	e) Unknown:	9	5.63
Treatment of ailing Birds done by:	a) Self:	3	1.88
	b) Quack:	6	3.75
	c) Veterinarian:	26	16.25
	d) No treatment:	125	78.13
From whom the farmer buy chicks:	a) Dealer:	0	0
	b) Jhuriwala:	19	11.88
	c) Relatives/neighbors:	11	6.88
	d) Do not buy:	130	81.25
Vaccination of poultry birds?	a) Yes:	25	15.63
	b) No:	135	84.38
De-worming of poultry birds?	a) Yes:	15	9.38
	b) No:	145	90.63

**Table 3: Farming and Economic profiles of the bird flu affected poultry owners in the study**

ITEM	CATAGORY	FREQUENCY	PERCENTAGE
Trained for Poultry Farming?	a) Yes:	0	0
	b) No:	160	100
Does farmer Need Training for Poultry rearing?	a) Yes:	53	33.13
	b) No:	107	66.88
According to farmer does the Training essential?	a) Yes:	128	80
	b) No:	32	20
Does the farmer Brood chicks?	a) Yes:	130	81.25
	b) No:	11	6.88
	c) Sometime:	19	11.88
Persons who look after poultry birds:	a) Husband	0	0
	b) Wife:	131	81.88
	c) Husband and Wife:	19	11.88
	d) Husband Wife and Children:	10	6.25
Bird flu Awareness during that period.	a) Yes:	131	81.88
	b) No:	29	18.13
Human health awareness during the bird flu period.	a) Yes:	57	35.63
	b) No:	103	64.38
Time taken to regain consumption rate as before as bird flu.	a) Less than 6 months:	8	5
	b) 6 to 8month:	152	95
	c) 8 to 10month:	0	0
Selling of sick birds During bird flu?	a) Yes:	8	5
	b) No:	152	95
Selling of the eggs of sick birds during bird flu?	a) Yes:	22	13.75
	b) No:	138	86.25
Did the farmer consume the eggs or meat of their own birds during bird flu?	a) Yes:	70	43.75
	b) No:	90	56.25
Does the farmer know the news of bird flu in other part of the world?	a) Yes:	46	28.75
	b) No:	114	71.25
Does the farmer know the news of bird flu in Human in other part of the world?	a) Yes:	19	11.88
	b) No:	141	88.12
Govt. grant/subsidy before restarting poultry rearing after bird flu?	a) Yes:	0	0
	b) No:	160	100
Any kind of help (money utensils, chicks) from NGOs?	a) Yes:	0	0
	b) No:	160	100

This also showed that 78.13% of the respondents did not bring their ailing birds for any kind of treatment, whereas 16.25% respondents bought birds to the veterinarian for treatment, 3.75% of the respondents consulted with quack for treatment but 1.88% of them went for self-treatment. Medicine was always used for the treatment of the ailing birds. It is seen that 81.25% of the respondents did not buy chicks from any sources they used to brood chicks themselves at home, 11.88% of the respondents bought chicks from 'jhuriwala' whereas 6.88% of the respondents

bought from neighbours or relatives though no one go to the dealer to buy chicks. The Table 2 showed that 84.38% respondents did not vaccinate their poultry birds whereas only 15.63% of them vaccinated their birds. Table showed that 90.63% respondents did not deworm their poultry birds whereas only 9.38% of them dewormed their birds. Goswami (2007) pointed in his study that birds were having mortality generally due to disease.

**Training and Awareness and other profiles:**

Table 3 showed that no one poultry farmer was trained for poultry rearing. Goswami (2000) found that only 1.7% of the respondents were trained in poultry farming. 66.88% of the respondents did not need any kind of training for poultry rearing, whereas 33.13% need training for poultry rearing. Goswami (2007) studied about the adoption behaviour of Kuroiler poultry farmer in Murshidabad district and found 50.8% respondents felt the need for training. The analysis projected that 80% of the respondents thought that training is essential for poultry rearing where as 20% of the respondents thought that training was not essential for poultry rearing. Table 3 showed that 88.88% used to look after of the poultry birds by housewives, in 11.88% case husbands helped their wives in taking care of poultry birds, in 6.25% case husband, wife and children together take care of the birds. The study indicated that 81.88% of the respondents replied positively, that means awareness programme on bird flu were held on behalf of government, whereas 18.13% replied that no awareness programme were conducted on bird flu.

From Table 3 it is seen that 35.63% of the respondents replied positively, that means human health awareness programme were done on behalf of the government, whereas 64.38% replied that no human health awareness programme were conducted on bird flu. 95% respondents 6 to 8 months were taken to regain consumption rate as before bird flu, whereas 5% of the respondents replied that it took less than 6 months. It is evident that, 5% of the respondents confessed that “YES” they sold birds during the time of bird flu whereas 95% of them denied. 13.75% of the respondents confessed that they sold eggs during the time of bird flu whereas 86.25% of them denied. It is projected that 43.75% of the respondents consumed eggs or meat of birds/sick birds at their home during the period of bird flu, whereas 56.35% of the respondents did not consume eggs or meat of birds/sick birds during bird flu. It is evidenced that, 71.25% of the respondents were unknown about the news of bird flu in other parts of the world and 88.12% of the respondents

were unknown about the news of ‘human infection in bird flu’ in other parts of the world. No one of the respondents (100%) got any kind of grant or subsidy on behalf of govt. or assistance from any NGO to restart poultry rearing after bird flu at the study area.

The Table 3 projected that, no one of the respondents (100%) got any kind of Training programmes before restarting poultry rearing again after bird flu (from govt. or from any NGO) at the study area. It is indicated that in spite of the economic losses again and again in bird flu 83% of the respondents were interested in poultry rearing. It is evidenced that, 40.63% of the respondents (women) spent the additional income earned from poultry rearing for purchasing house materials, 37.5% of the respondents (women) used additional income earned from poultry rearing for children’s education, 16.25% of the respondents (women) spent the additional income earned from poultry rearing for purchasing house materials and for children’s education, 5.63 % of the respondents (women) handed over the income to their husbands though 37.5% of the respondents did not sell their poultry birds. It is also seen from table 3 that none of the respondents could make any kind of savings from the additional income earned from poultry rearing. Finally, the table 3 projected that 70% of the respondents replied that ‘Yes’ they are satisfied in poultry rearing, from the remaining 30%, 23.75% replied negatively (no they were not interested) whereas 6.25% of the respondents remained silent in the study.

**Conclusion:**

Backyard Poultry farming is the boon for small scale livelihood generation in rural area of the West Bengal, India. The study revealed that, majority of the Poultry owners belongs to middle age group, male, Muslim by religion, illiterate, OBC category and predominant occupation is cultivation in the adopted area. Maximum respondent hails from nuclear family with up to one hectare land possession along with no draught animal as farm power and vital decisions are taken by husbands in their family with patriarchal dominancy, which is indicative in the study.

Considering farming profile, the analysis showed that, of the maximum affected owners were backyard poultry farmer and they were not oriented with scientific disease prevention, feeding, training and other vital prerequisites, which causes severe economic losses in poultry farming as their primary livelihood support in the functional area of the state WB, India. So, the study signifies that, addressing this aspect of socio-economic, demographic and farming profiles are inevitable for effective and sustainable livelihood of backyard poultry owners for preparedness of any pandemic in the adoptive area.

#### **Conflict of Interest:**

Authors declare no conflict of interest for this study.

#### **Data Availability:**

All raw data and backup photography are preserved at the Department of Veterinary and A.H. Extension Education, WBUAFS

#### **Ethical Statement:**

Authors maintained all ethical concern during data collection and does not require IAEC certificate as animals not experimental.

#### **Author's Contribution:**

**SS:**Pursued the research study **AG:** Guided the scholar **SB:** Statistical analysis and manuscript preparation.

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