

CHAPTER I

INTRODUCTION

Bangladesh is an agricultural based developing country. About 25 percent people are directly engaged in livestock sector and 50 percent people are partly associated in livestock production (DLS, 2008). Livestock is the most viable sub-sector of the four sub-sectors of agriculture (Crop, livestock, fisheries and forestry) which plays a vital role in national economy. Livestock sub-sector contributed to total livestock GDP with growth rate 3.10% in the year of 2014-2015 where as 3.21% are estimated for the year of 2015-2016 (DLS, 2017). It was estimated that there were about 237.85 lakh cattle, 14.71 lakh buffaloes, 257.66 lakh goats, 33.35 lakh sheep, 2683.93 lakh chickens and 522.40 lakh ducks in Bangladesh in the year 2015-2016 (DLS, 2017).

Animals may be considered as “Credit card” for the rural farmer that is instantly available for sale or barter. Animals are performing a variety of roles, either supplying products for household or providing dung for crop production. In Bangladesh about 80% to 85% of the household keeps livestock in the rural area and most of the landless, marginal and small farmers keep indigenous livestock (Hossain *et al.*, 2004). Local chickens of Bangladesh lay on an average 3 clutches in a year with an average annual egg production of about 46 in scavenging management in rural conditions (Sarker, 2007). The livestock production in Bangladesh is not adequate which is manifested in the low supply and high price of livestock and its products in the market. Before taking any comprehensive program for socio-economic upliftment of rural farmers through the livestock production and utilization, consumption pattern, marketing and utilization pattern of sale proceeds of livestock and its products should be analyzed and studied very carefully.

Family poultry production contributes an important role for the landless and small poor, 80 percent of the total population who occupy average landholding size 0.05-2.49 acres. This majority portion of farmers in their home stead raise 77.29 percent chicken and 84.41 percent duck respectively of the total chicken and duck population in the country. Crossbreed chicken and ducks under semi-scavenging condition, commercial broiler and layer are raised by landless and small farmers with the support of Govt. livestock department, Non Govt. organizations (NGOs) and private farms for training, credit, input supply and marketing support (Md. Nuru Miah, 2009).

Govt. poultry farms deliver about 0.2 million day-old chicks/ duckling to the semi-scavenging chicken / duck rearers whereas 130 hatcheries owned by NGOs and private companies deliver about 5 million broiler and layer chicks weekly to the broiler/layer producers. This integrated and self-sustained poultry operation growing fast with a growth rate of 20 percent yearly over the past 10 years. The average net income per household varies US\$ 52, US\$ 125 and US\$ 115 for semi scavenging chicken and duck, broiler and laying hen enterprises respectively (Md. Nuru Miah, 2009). The weekly household consumption of eggs and meat increased by 6 percent to 10 percent and 4 percent to 7 percent respectively for the poultry entrepreneurs. Adaptive research on low cost feed formulation and appropriate breed need to be done. Policy intervention on Govt. subsidy, tax-vat exemption and supply of loan from govt. bank at low interest rate is required. This poultry production system has innovated a number of technologies for increasing productivity and contributed substantially to generate income and reduce poverty, gender empowerment and nutritional enhancement for building a poverty free and healthy society. Now-a-days, the farmers show interest in rearing poultry and livestock for commercial purpose. There are many scopes for exploring livestock resources for its development. No significant work has been done on the livestock production system in this region of Bangladesh despite the fact that livestock plays a vital role for farming system in the coastal belt of Bangladesh.

Objectives

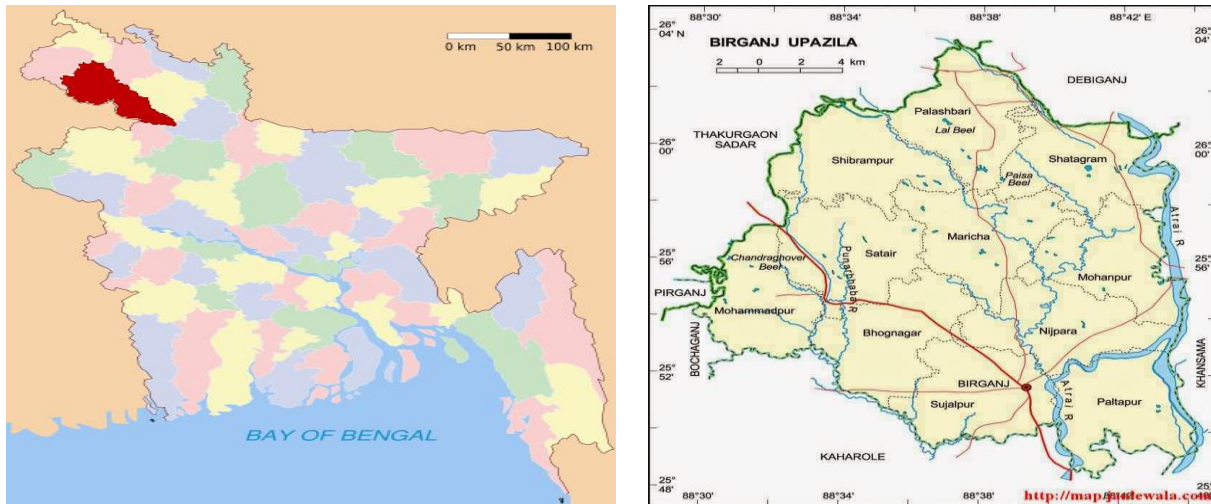
1. To assess the income generated through livestock and poultry rearing by rural farmers.
2. To identify consumption and marketing pattern of livestock products and
3. To determine the socio economic characteristics of the rural farmers.

CHAPTER II

MATERIALS AND METHODS

A cross sectional study was carried out in Birganj upazilla of Dinajpur district for a period of 6 weeks from 20th June' 17 to 3rd August' 2017. In total 30 livestock farm households belonging to three farm categories; landless and marginal farmers (<0.2 hectares), small and medium farmers (0.2-3 hectares) and large (above 3 hectares) were studied through an interview schedule (DAE, 2016). The stratified proportionate random sampling technique was applied in selecting the farmers from three farm categories. Tabular methods were followed to explain the results. The interview schedule was carefully designed that contains both open and closed form of questions.

Statistical Analysis: The collected data were sorted out and entered into MS Excell-2007. A descriptive statistical analysis was performed to find out mean and percentage.



Location of study area

CHAPTER III

RESULTS AND DISCUSSION

In the study area the average family size was investigated as 5.05, 5.99, 6.33 members and average land size was found as <0.2, 0.2-3 and above 3 acres for landless and marginal, small and medium and large farmers respectively.

Livestock distribution pattern:

The average percent of different species of livestock and poultry by different types of household of all locations are shown in table i. The farm households usually keep cattle, goat, poultry or any combination of these. Farmers seen to desire keeping assorted livestock rather than a herd or flock of single species. The most common grouping was cattle and poultry, followed by goat and poultry. The major livestock in the survey areas were cattle, goat, chicken and duck. On an average all farm categories reared 5.8%, 12.16%, 36.97%, 32.22%, 6.47%, in respect of cattle, Goat, chicken, Duck, and pigeon respectively.

Table i: Average ownership pattern of livestock:

Farm size	Distribution of livestock and poultry (%)					
	cattle	Buffalo	Goat	Chicken	Duck	Pigeon
Landless and Marginal	3.7	0	12.49	37.7	30.45	6.02
Small and Medium	5.8	0	17.15	36.37	31.78	1.82
Large	8	0	8.20	36.84	34.44	11.57

Table i. revealed that the average percent for landless and marginal, small and medium and large farm categories were 3.77, 5.88, 8 for cattle; 12.49, 17.15, and 8.20 for goat; 37.7, 36.37 and 36.84 for chicken; 30.45, 31.78, 34.44 for duck and 6.02, 1.82, 11.57 for pigeon respectively. Almost similar result also reported by Kamruddin (2002). Every household has kept about 6-12 chicken. Duck and chicken were maintained in all farm categories. Saleque (2001); Rahman (2003) Huque and Ukil (1994) reported that almost each rural family usually keeps 10-20 chicken, duck or pigeon that are traditionally maintained by the female members of the family and fed on household wastes and crop residues. Khan and Nasrin (2003) reported that natural water bodies might be a potential duck production area of the country.

Milk production, utilization pattern and marketing system:

The average number of milking cow per farm area was 1.43 and it was highest (1.76) in large families and lowest (1.21) in landless and marginal families (Table 7). About 68 percent families were rearing milch cow in the study area. The average lactation period was 200 days and average milk production per day per cow was 2.31 liter. Almost similar result was reported by *Rahman et al.*, (1993).

Table ii: Milk production by farm categories:

Farm category	Average no. of milch cow per family	Average milk production (liter/day)	Average lactation period (Days)	Families having milking cows (%)
Landless and Marginal	1.21	2.11	195	60.23
Small and Medium	1.31	2.31	200	68.75
Large	1.76	2.53	206	76.92

Consumption and marketing pattern of milk by all farm categories:

Among the total milk production about 27.76%, 30.07%, 35.33% was consumed, 72.24%, 63.10%, 60.66% was sold in case of landless and marginal, small and medium and large farms respectively. About 53.43%, 75.3%, 39.16% milk was sold at farmer's house area and 46.57%, 24.7%, 60.83% of the milk was sold at local market in case of landless and marginal, small and medium and large farmers respectively. Milk was sold on an average at taka 35 per liter. More than 95% of the egg and live poultry are sold by farmers either at their home gates or at the village market within their vicinity (Das *et al.*, 2007).

Table iii: Average yearly income through livestock by all farm categories, BDT/year:

Farm category	From livestock, BDT /year			From poultry, BDT /year			Total BDT/year
	Sale of animal	Milk	Others	Sale of bird	Eggs	Others	
Landless and Marginal	10500	10000	504	5500	2000	225	28729
Small and Medium	13393	10150	616	5981	2903	232	33275
Large	11807	15992	615	2819	2323	203	33759
Average	11900	12047	578.33	4766.66	2408.66	220	31921

Income generation and their utilization:

It was seen from table iv. that on average farmers earn from animal farming tk 31921 per year on total production basis where as higher in Large farmers (Tk 33759) and lower in Landless and Marginal farmers (Tk 28729). In case of large animals on average farmers receive Tk 11900, Tk 12047 and Tk 578.33 from sales of animal, milk and others (Cow dung, hiring etc.) respectively and in case of poultry Tk 4766.66, Tk 2408.66 and Tk 220 from sales of bird, eggs and others (litter, gunny beg etc.) respectively.

Fig 1. exposed the cash flow of income generated through selling of milk; poultry; livestock and manure by the farmers spent most of their income to meet the daily expenses. Beg *et al.*,(1996) also reported almost similar findings. On an average farmer spent 29 percent income to meet their family expenses.

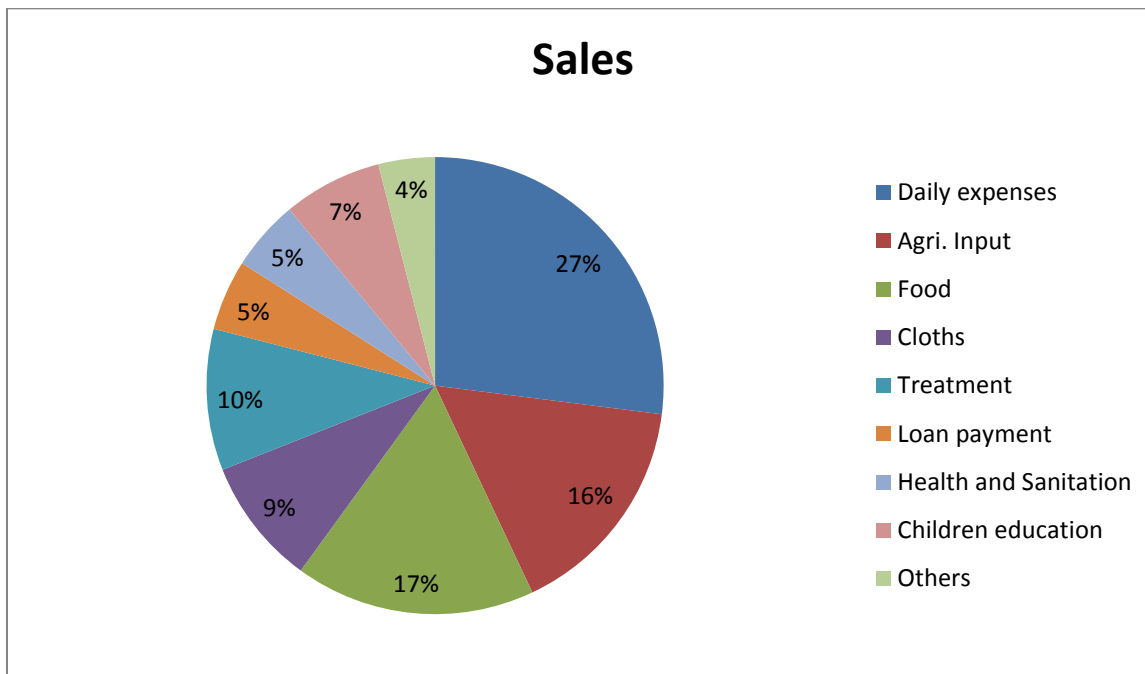


Fig 1: Utilization pattern from livestock income by all farm categories.

Usage of farmyard dung:

Cow dung is an important source of organic manure for the farmers. They also used it as fuel. Around 58.2% Landless and Marginal farmers used cow dung as manure and 32.3% percent as fuel (Table iv), whereas 64.4% small and medium farmers used as manure and 28.3% as fuel, 12.6% large farmer used cow dung as preparation of compost and plastering of threshing of floor and 72.5% for manure.

Fig 2. showed that on an average 65% farmers use cow dung as manure, 25.2% fuel and 9.8% others (plastering of threshing floor, compost). Almost similar result was also found by *Hossain et al.*,(2004).

Table v. Utility of cow dung by farms categories:

Farms categories	Percent of respondent		
	Manure	Fuel	Others
Landless and Marginal	58.2	32.3	9.50
Small and Medium	64.4	28.3	7.30
Large	72.5	14.9	12.6

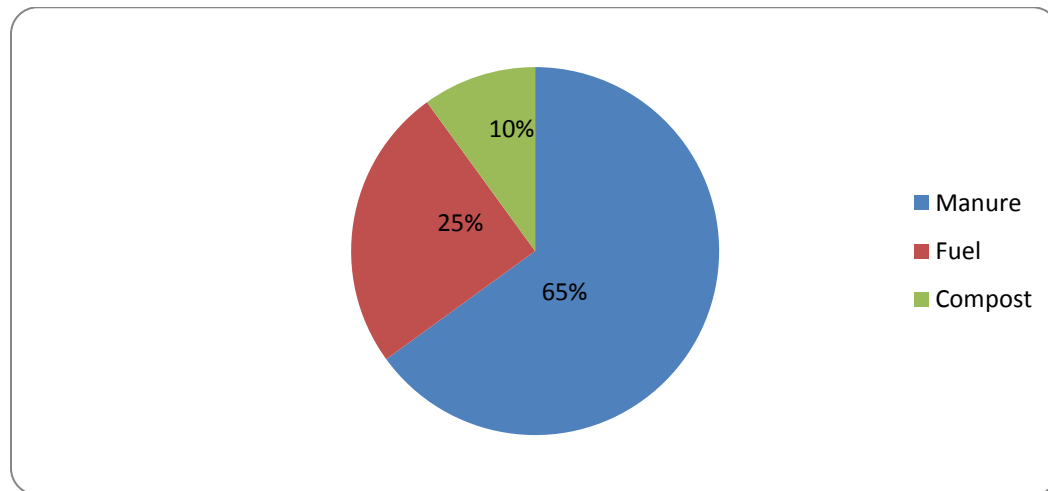


Fig 2. Utilization of Cow dung by all farm categories

CHAPTER IV

LIMITATION

The study period was limited and study area was restricted to a particular district, for this reason the finding may not reflect the whole country. There were limited recording systems as a result it was difficult to select valid data.

CHAPTER V

CONCLUSION

From above results and discussion it is revealed that on an average every household earned handsome money from livestock, milk, eggs and cow dung per year including their family consumption. Cow dung may use as organic fertilizer instead of fuel to maintain soil fertility and accelerate crop production. Family poultry can significantly contribute in the self-employment, poverty eradication, nutritional enhancement, gender equality and equity through the intervention of several areas: poultry health services and feed development, processing and marketing facilities infrastructure development, quality control and enabling policies.

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BIOGRAPHY

I am Md. Ashaduzzaman Shubho. I born in Dinajpur which is located in the north part of Bangladesh. Now I am an intern student of Chittagong Veterinary and Animal Sciences University, Chittagong. I belong to a small family. We are four members. My father name is Md. Aminur Rahaman and my mother name is Mst. Shahanaz Parvin and one younger brother name is Md. Oly Hasan. I have a plan to involve myself into innovative research project in future and want to admit myself into brainstorming and fruitful works regarding society's development.