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Livestock Diseases and Health Care Facilities in Sundarbans Delta of India

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ABSTRACT

A number of diseases attack livestock in our countryside, many of which are highly seasonal in nature. Therefore, understanding the disease pattern and health care facilities of a locality has an implication in formulating an efficient and effective disease management strategy. Thus a study was conducted in four villages of Sundarbans delta of India to understand the prevalence of livestock diseases, their seasonality, and veterinary services available. Data were collected using semi-structured interview, listing, narrative and observation. Study reveals that foot and mouth disease, Ranikhet disease, chicken pox, hump sore, etc were highly seasonal. Whereas amphistomiasis, delayed expulsion of placenta, dystokia, etc were not. Quacks, veterinary officers, medicine pedlars, medicine shop keepers, midwives, and ethnoveterinarians were the veterinary service providers in the study area. Study concludes that a holistic research is needed on documentation and validation of major livestock diseases in order to suggest effective disease management practices within the context of prevailing health care practices and available veterinary facilities.

Health care of livestock constitutes a major part in the whole gamut of animal husbandry. There are a large number of diseases commonly attack livestock in our countryside. Rearing practices, quality and availability of feeds, agricultural practices and seasonality have a profound influence on livestock diseases in rural India. On the other hand, all these vary with the region/area where livestock are reared almost traditionally.

Moreover, many livestock diseases are locally referred differently in different regions of India, even in different districts or so within a state. For example, foot and mouth disease (FMD) is colloquially referred to as *enso*, *khurai*, etc in different parts of West Bengal state alone. There are also some diseases, ailments or health problems which have no local name, but people recognize them by their manifestations in disease signs or symptoms.

Therefore, understanding the diseases and major health problems of a locality, and their relations with the seasons may help to control them efficiently and effectively within the local socio-economic, agro-ecological and seasonal conditions. Thus may be a great contribution in improving the livestock sector to a considerable extent.

Keeping the above implication in view, a study was undertaken in Sundarbans region of India to document various livestock diseases, disease signs, ailments and health problems prevalent in the study area with their seasonality; and veterinary services and facilities available in and accessible to the locality.

METHODOLOGY

Famous for the abode of notorious man eating Royal Bengal Tiger Sundarbans region consists of a number of islands (102 islands of which 54 have human habitation) formed by the continuous deposition of silts where the river Ganga meets the Bay of Bengal. The region is dominated by a special forest ecosystem known as mangrove forest. Spreading over India (one third) and Bangladesh (two third) Sundarbans is the largest delta,

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largest mangrove forest area, and one of the few existing mangrove ecosystems in the world. Indian part of Sundarbans spreads over the districts of South (13 blocks) and North 24 Parganas (6 blocks) in West Bengal state.

Agriculture is the mainstay of people's livelihood as about 90 per cent of the population depends on agriculture (Chattopadhyaya, 1999).

For the purpose of capturing the diversity four villages were selected from four different locations of the region. Villages were selected purposively based on their location, livelihood and backwardness where animals are reared almost traditionally.They were Bagulakhali (Basanti block), Moukhali (Canning-II block) and Jemspur village (Gosaba block) in South 24 Parganas district, and Samsernagar village (Hingalganj block) in North 24 Parganas district.

Rural Sundarbans was a treasure trove of livestock species variety. Among livestock, *desi* cattle; swamp buffalo; *Garole* sheep; Black Bengal goat; *desi* pigs; *pati/peti/desi* and Muscuovy duck; *baral*, *Ranchi*, *desi* chicken; and goose with whitish and grayish featherings were reared in the study villages.

The primary purpose of cattle and buffalo rearing was to perform various agricultural operations. Other animals and birds served the purpose of savings, meeting small cash needs and family nutritional requirements in the main. A combination of cattle, goat, duck and chicken was a common herd composition in the study area across the class, caste and religion (Das, 2005).

A participatory case study method (Mukherjee, 1993) was used for the study. Semi-structured interview, listing, narrative and observation were used as participatory appraisal tools/methods for data collection. Data were collected from the villagers, midwives, ethnoveterinarians, medicine pedlars, quack veterinary practitioners and government veterinary officers (multiple sources of evidence) for crosschecking in order to get reliabile and valid data. Besides, data were collected staying at a villager's home in each of the study villages to have a first hand knowledge of the reality.

RESULTS AND DISCUSSION

Livestock diseases and seasonality Livestock diseases

Table 1 shows different types of diseases, disease signs, ailments and health problems commonly occurred in livestock across the study villages. Ailment like injury intentionally made out of inter-household conflict was found very common in rural Sundarbans. Insufficient milk production, loose faeces, weakness, delayed expulsion of placenta were very common ailments/health problems in the study area. However, these did not cause death of the animal. Chronic emaciation and weakness caused mainly due to malnutrition burdened with workload was observed very common across the villages leading to a situation wherein cattle occasionally showed inability to walk and stand up properly.

Seasonality of livestock diseases

Among the various diseases some were highly seasonal like foot and mouth disease (FMD), Ranikhet disease, pox, etc while some were not like delayed expulsion of placenta, dystokia, amphistomiasis, etc. Seasonal analysis on prevalence and occurrence of livestock diseases revealed the following (Table 1).

Table 1: Major livestock diseases and their seasonality

Diseases/disease signs/ailments	Livestock mostly affected	Seasons/months of occurrence
FMD*(Enso)*	Cattle, buffalo	*Jaistha-Asarh*
Ranikhet *(Chunpaikhana)*	Chicken	*Poush* to *Jaistha*
Duck cholera/duck plague	Duck	*Aghrayan-Poush*
Hump sore (*Kaua gha)*	Bullock	*Jaistha-Asarh*
Pox (*Basanta)*	Goat and sheep	*Falgun-Chaitra*
Pox (*Pachchab)*	Chicken	*Poush* to *Chaitra*
Amphistomiasis (*Paschimi/tuntiphola)*	Cattle, buffalo, sheep, goat	-
Ephemeral fever	Cattle	Summer
Delayed expulsion of placenta	Cattle	-
Dystokia	Cattle	-
Gid	Sheep	-

Foot-rot	Cattle, buffalo, sheep, goat	Rainy
Worm infestation	Cattle, buffalo, sheep, goat, duck, chicken	Rainy
Hog cholera	Pig	Rainy
Diarrhoea, dysentery, fever	Cattle, buffalo, sheep, goat	Baisa *Baisakh* to *Asarh* *Magh* to *Chaitra*
Malnutrition, weakness, emaciation, anaemia	Cattle, buffalo, sheep, goat	*Magh* to *Baisakh*

Note: '-' indicates 'no seasonality'.
Figures in the parentheses indicate local names; List of ailments presented here is not an exhaustive one.
Seasonality of the diseases was studied according to the local months. They are: *Baisakh* (mid-April to mid-May), *Jaistha* (mid-May to mid-June), *Asarh* (mid-June to mid-July), *Sravan* (mid-July to mid-August), *Bhadra* (mid-August to mid-September), *Aswin* (mid-September to mid-October), *Kartik* (mid-October to mid-November), *Aghrayan* (mid-November to mid-December), *Poush* (mid-December to mid-January), *Magh* (mid January to mid-February), *Falgun* (mid-February to mid-March), and *Chaitra* (mid-March to mid-April).

FMD occurs at the onset of monsoon (*Jaistha-Asarh*) though sometimes found to occur during *Kartik-Aghrayan* which is the time of *Bakar-Id* (a Muslim festival) when cattle from outside areas are transported through the locality. Probably some of them may be affected by FMD. When unaffected ones come in contact with them the disease spreads in the local herd. FMD does not occur during winter/dry season, generally.

An infestation occurs in bullock mainly during cultivation of *aman*/monsoon/wet paddy on the onset of monsoon (*Jaistha-Asarh*). As bullocks are continuously and excessively used for various agricultural operations like ploughing, tilling, leveling, etc during this time, continuous pressure of yoke of plough produces sore in neck region. Condition of sore is aggravated by the infestation of a fly alike house fly which is further complicated by continuous biting of crow. Infestation is transmitted to normal animal through the contact of yoke used by an affected bullock. This wound persists upto *Magh-Falgun*, and locally called as *kait gha/kaua gha/ kaur gha* (hump sore).

Sheep and goat are attacked by pox mainly during spring season (*Falgun-Chaitra*) but pox may appear throughout the year also. According to the local veterinary officers, some cases of goat pox were confirmed as PPR (peste des petits ruminants).

Chunpaikhana/chunahaga, expressed by the villagers as lime like loose faeces coupled with drowsiness, attacks the flocks of chicken to death. The disease occurs during *Poush* to *Jaistha*, but takes an epidemic form mostly during spring (*Falgun-Chaitra)* and summer *(Baisakh-Jaistha)* seasons. According to the local veterinary officers, it was probably Ranikhet disease.

Another disease, probably duck plague/duck cholera, described as greenish diarrhoea, head downwards and droopiness was occurred during *Aghrayan-Poush* with a heavy mortality in duck.

Diarrhoea, dysentery and fever though may occur at any time of the year, invariably occurs during *Baisakh* to *Asarh* and *Magh* to *Chaitra*. During *Magh-Chaitra* livestock graze freely in the harvested field. While grazing, they drink muddy and dirty water from water bodies almost dried out. This results into fever and diarrhoea. Whereas, causes of diarrhoea during *Baisakh-Asarh* was probably due to overfeeding when the agricultural fields became covered with lush green grasses on the onset of monsoon. Because after a long period of grazing in the harvested agricultural fields with virtually no greens at all, animals suddenly get chance to feed relatively more lush greens on the onset of monsoon.

Though weakness, emaciation, anaemia, etc were the common health problems across the villages more or less round the year, they were profound during *Magh* to *Baisakh* when harvested fields used for grazing contain nothing at all to feed the stock.

Ecto-parasites of livestock

A hard tick locally called in different villages as *entuli* or *andali* was found common in small and large ruminants across the villages. The use of mosquito net in shed was very common in Samsernagar, may be due to its closer proximity to the forest where mosquitoes, flies and ticks like *tangi*, *kantasi*, and *dans* (*Tabanus sp.*) were found more than that found in other three villages.

Kantasi and *dans* were flies, whereas *tangi* was a hard tick. Alike *andali tangi* sucks blood by attaching itself with the skin of livestock. *Dans* were larger in size than *kantasi*. Alike house fly, another type of fly was found in the study villages which infests *kait gha/kaua gha.*

Buffalo also harbours a mite on its coat. Chickens harbour a louse smaller than a pin head in size locally called as *chulchile-poka/ukun* which is found especially during summer as well as during other times in chickens incubating eggs. This louse also transfers to humans and its movement on the body is quite disgusting.

Veterinary services and facilities

The study revealed that quack veterinary practitioners, government veterinary officers, medicine pedlars, medicine shop keepers, midwives and ethnoveterinarians were the veterinary service providers in the study area. However, villagers invariably resorted to ethnoveterinary practices to get rid of the common ailments in the first place by themselves followed by fellow villagers having better knowledge in those practices (ethnoveterinarians).

Ethnoveterinary practices were followed in *paschimi/tuntiphola* (amphistomiasis); foot and mouth disease or other type of sore; delayed expulsion of placenta, abortion and dystokia; pox; loose faeces, diarrhoea and dysentery; sprain or strain; cataract in the eye of cattle; etc (Das, 2005).

Bagulakhali was the only village having accessibility of government animal health care facility. Because there was an Additional Block Animal Health Centre (ABAHC) located at the *Gram Panchayat* office adjacent to the village. For other villages government animal health centres were located far away mainly at the block headquarters. However, villagers of Bagulakhali depended mainly on midwives to get rid of dystokia or other parturition problems in their animals. The midwives were helpful, effective and easily available whose assistance was always sought at the time of parturition, normal or abnormal. In Moukhali village, villagers depended almost solely on medicine shop keepers in nearby Canning town. For the villagers of Jemspur quacks were the main help for their stock. Also villagers of Samsernagar depended on quacks.

CONCLUSION

In this way with the help of prior understanding of various livestock diseases, their occurrence and prevalence, seasonal variations, and knowledge of existing health care facilities and practices measures to control livestock diseases of a locality can be undertaken effectively and efficiently. Thus the study provides a base for conducting a holistic research on documentation and confirmation of major livestock diseases and ethnoveterinary practices followed in managing and treating them to suggest locally compatible effective disease management practices.

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