

## Farmers' perception of veterinary services in Bangladesh

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### Abstract

Farmers' perception of veterinary services at the Upazila (Sub-district) Veterinary Hospital (UVH), and constraints of livestock farming in Bangladesh were studied. Data from 135 livestock farmers which were obtained, using a pretested questionnaire. Most of the farmers (99.3%) had small families. Most were illiterate (60.0%), 22.2% had Secondary School Certificate and 17% had Higher Secondary Certificate or above. Mostly, stall feeding system was practised (76.9%), concentrated feed (71.9%) and water (68.9%) were supplied twice daily and animals were dewormed at regular intervals (51.1%). Irregular vaccinations were followed by 15.6% farmers. Only 55.2% of farmers called on veterinary surgeons when their animals were sick. About 77.6% farmers were satisfied with the existing public veterinary services. About 32.1% farmers got veterinary services at their door step by the veterinary surgeons whereas 29.9, 28.4 and 8.2% farmers received drugs, services, and free vaccination, respectively. Poor knowledge of farming (71.3%), feeds and fodder scarcity (55.6%) and unavailability of safe water (64.4%) were the main constraints identified. It is suggested that more training and veterinary extension programmes for farmers are required. (*Bangl. vet.* 2022. Vol. 39, No. 1 - 2, 26 – 33)

### Introduction

During recent decades animal farming has changed considerably: farmers have become more conscious of animal health, management, and treatment. Veterinary surgeons have been identified as important sources of information for farmers making vaccination and disease control decisions, as well as being farmers' preferred vaccine suppliers. (Richens *et al.*, 2015). The importance of vets as an information source and the importance of the relationship between farmers and vets for disease control suggest further investigation would be prudent (Gunn *et al.*, 2008, Cresswell and others, 2014). Effective communication between farmers and vets could play an important role in optimizing vaccination and treatment strategies. A veterinarian can make farmers aware that a disease is endemic. As disease experts, vets can guide the farmers to practise good management and hygiene and follow prophylactic measures (Sarma, 2022). Veterinarians can train farmers on improving production, biosecurity, and timely reporting of disease to the concerned authority. A veterinarian can provide the farmers a platform to speak about their challenges and support they want to improve their farming system. Veterinarians' important role is acknowledged by

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farmers who have regular veterinary contact, but also by farmers with only emergency contact (Richens, 2015). Hossain *et al.* (2020) reported on dairy farming in north-east Bangladesh, where the major constraints were the high price of concentrate, poor knowledge of feeding, scarcity of forage, weak recording system, cost of high-yielding well-adapted cows, prolonged postpartum anoestrus, repeat breeding, incorrect timing of AI, mastitis, low pregnancy rate, lack of milk co-operative, weak milk marketing and high veterinary cost. However, there is no published data about the farmers' perception of veterinary services and constraints in the coastal region of Bangladesh. The aim of this study was to analyze the farmers' perception of veterinary services considering their socioeconomic status as well as their interaction with the public Upazila Veterinary Hospital (UVH).

## Materials and Methods

### *Study period and area*

The study was conducted at Sadar Upazila (Sub-district) of Jhalokathi district of Bangladesh from August to October 2022. This Upazila is between 20° - 20' to 22.47' North latitude and 90° - 01' to 90-23' East longitude. It has 36,504 households and an area of 204.48 km<sup>2</sup> (BBS, 2011).

### *Collection of data*

Data were collected from 135 farms, using a pre-tested interview directly from the farmers. Farmers were grouped by family size as small (2-4 members), medium (5-10 members) and large (>10 members), education (Illiterate, up to SSC, HSC and above), income source (Crop cultivation, Livestock, Business, Service, and Others), Yearly income (Taka <100,000; 100,000 - 200,000, and >200,000), feeding system (Stall feeding, Semi-intensive, Extensive), concentrated feed supply (Once/day, Twice/day, Thrice/day), water supply (Once/day, Twice/day, Thrice/day), vitamin-Mineral supplement (Supplied in Regular diet, Supplied irregularly, Not supplied), deworming (None, Irregular, Regular), vaccination (None, Irregular, Regular), showering of animals (None, Irregular, Regular) and calf feeding (sucking directly from the mother, bottle feeding).

### *Statistical analysis*

Collected data were inserted into a spreadsheet using Microsoft Excel 2010 (Microsoft Corporation, Redmond, USA). Basic descriptive statistics were calculated to outline the constraints affecting the farmers. Results were stated in frequency and percentage tables and the identified constraints were ranked by Garrett's ranking technique using the following formula: Per cent position =  $\{100 \times (R_{ij} - 0.5)\} / N_j$ . Where,  $R_{ij}$  = rank given to  $i$ th trait by the  $j$ th individual,  $N_j$  = number of traits positioned by the  $j$ th individual. The per cent position of each rank was converted into scores by the method of Garrett and Woodworth (1969). For each factor, the scores of individual respondents were added, and divided by the number of respondents. These mean scores for all the factors were prepared in descending order to rank the constraints.

## Results and Discussion

### *Socioeconomic status of farmers*

The socioeconomic status of farmers is shown in Table 1. About 99.3% of farmers had a small family, and 60.0% were illiterate: 77.0% depended on livestock for their livelihood, and 65.2% of farmers' yearly income was between Tk. 100,000 - 200,000. The socioeconomic status of farmers was low to medium. In Andhra Pradesh of India the majority of the livestock farmers had low to medium socioeconomic characteristics: the majority had a medium positive perception towards public veterinary services (Kumar *et al.*, 2009).

Table 1: Socioeconomic status of the farmer

| Parameters         | Variables             | Frequency (n) | Percentage (%) |
|--------------------|-----------------------|---------------|----------------|
| Family size        | Small (2-4 members)   | 134           | 99.3           |
|                    | Medium (5-10 members) | 1             | 00.7           |
|                    | Large (>10 members)   | 0             | 0              |
| Education          | Illiterate            | 81            | 60.0           |
|                    | Up to SSC             | 30            | 22.2           |
|                    | HSC and above         | 23            | 17.0           |
| Income source      | Agriculture           | 17            | 12.6           |
|                    | Livestock             | 104           | 77.0           |
|                    | Business              | 6             | 4.4            |
|                    | Service               | 7             | 5.2            |
|                    | Others                | 0             | 0              |
| Yearly income (Tk) | <100,000              | 7             | 5.2            |
|                    | 100,000-200,000       | 88            | 65.2           |
|                    | >200,000              | 39            | 28.9           |

### *Animal management system*

Animal management systems practised by the farmers are shown in Table 2. Only 8.1% farmers followed an extensive feeding system. About 5.2% of farmers supplied concentrated grain thrice a day and 5.9% provided water thrice a day. About 3.7% of farmers supplied vitamin-mineral premix. No deworming was provided by 15.6% of farmers. About 15.6% farmers practised irregular vaccination programmes and 3.7% farmers never showered their animals for cleaning. Richens *et al.* (2015) stated that farmers perceive vets to have an important role in decisions about vaccination, but in this study only 18.5% of farmers regularly vaccinated their animals. The availability of good quality veterinary services can play a key role in increasing the productivity of livestock (Umali *et al.*, 1994). However, the prevalence of easily controlled diseases and the consequent poor performance of the livestock sector suggests a failure to provide the necessary advice to livestock producers. It was found that 32.1%, 29.9%, 28.4% and 8.2% farmers expect veterinary surgeons to provide advice, medicines,

veterinary services and vaccines, respectively. Anthelmintic drugs still form the corner stone in most parasite control programmes (Peter *et al.*, 2022). In our study, 51.5% farmers practised regular deworming, whereas 15.7% farmers never practiced deworming.

Table 2: Animal management system

| Parameters               | Variables                | Frequency (n) | Percentage (%) |
|--------------------------|--------------------------|---------------|----------------|
| Feeding system           | Stall feeding            | 103           | 76.9           |
|                          | Semi-intensive           | 20            | 14.8           |
|                          | Extensive                | 11            | 8.1            |
| Concentrated feed supply | Once/day                 | 30            | 22.2           |
|                          | Twice/day                | 97            | 71.9           |
|                          | Thrice/day               | 7             | 5.2            |
| Water supply             | Once/day                 | 33            | 24.4           |
|                          | Twice/day                | 93            | 68.9           |
|                          | Thrice/day               | 8             | 5.9            |
| Vitamin-mineral supply   | Supply in regular diet   | 5             | 3.7            |
|                          | Supply in irregularly    | 5             | 3.7            |
|                          | Not supply               | 129           | 95.5           |
| De-worming               | None                     | 21            | 15.6           |
|                          | Irregular                | 44            | 32.6           |
|                          | Regular                  | 69            | 51.1           |
| Vaccination              | None                     | 88            | 65.1           |
|                          | Irregular                | 21            | 15.6           |
|                          | Regular                  | 25            | 18.5           |
| Showering of animals     | None                     | 5             | 3.7            |
|                          | Irregular                | 56            | 41.5           |
|                          | Regular                  | 73            | 54.1           |
| Calf feeding             | Directly from the mother | 118           | 87.4           |
|                          | Bottle feeding           | 16            | 11.9           |

#### ***Farmer's interaction with Upazila Veterinary Hospital (UVH)***

Farmer's collaborations with the Upazila Veterinary Hospital are shown in Table 3. There were 0.8% of farmers who never visited UVH. About 44.8% farmers never called a vet when they faced a problem. About 22.4% of farmers were not happy with the veterinary services, and 13.0% never had the opportunity to attend extension programmes organized by the UVH. Only 55.2% of farmers consulted veterinary

surgeons when they faced problems with sick animals, the rest consulted quack who were not registered by the Bangladesh Veterinary Council as a qualified veterinary surgeon. About 78% of farmers were satisfied with the veterinary services rendered by the government. In Bangladesh both public and private veterinary services are being rendered by the government, though few private veterinary practices particularly in companion animals are existed in the urban areas. Public veterinary services are subsidised and/or free of charge where infectious disease (foot and mouth disease, anthrax, blacklegs, haemorrhagic septicaemia) control programmes have been launched along with private veterinary services like diagnosis, treatments and clinical management of livestock and companion animals diseases etc. Farmers living in remote areas are reluctant to get services from the Upazila Livestock offices and veterinary hospitals and there are some people who are not well aware of such veterinary services. The results were similar to those found by Ande *et al.* (2021). Improving herd health and welfare increasingly relies on veterinary surgeons to train and advise farmers (Bard *et al.*, 2019).

Table 3: Farmer's interaction with Upazila Veterinary Hospital

| Questions  | Categorization     | Percentage (%) |
|--|--------------------|----------------|
| How many times did you call the doctor or visit the veterinary hospital/doctor last month? | Never              | 0.8            |
|  | 1-3 times          | 81.3           |
|  | >3 times           | 18.0           |
| Do you call/meet a quack or Veterinary Surgeon when you face an animal problem?            | Veterinary Surgeon | 55.2           |
|  | Quack              | 44.8           |
| Are you satisfied with the veterinary services?  | Yes                | 77.6           |
|  | No                 | 22.4           |
| What do you expect service from Upazila Veterinary Hospital?                               | Available doctor   | 32.1           |
|  | Available medicine | 29.9           |
|  | Available service  | 28.4           |
|  | Available vaccine  | 8.2            |
| Do you attend any programs at UVH?   | Yes                | 12.0           |
|  | No                 | 88.1           |
|  | Paul <i>et al.</i> | 31             |

#### **Major constraints faced by livestock farmers**

The major constraints of livestock farming are depicted in Table 4. Inadequate knowledge of scientific farming (71.3%), feed and fodder scarcity (55.6%) and inadequate sources of safe water (64.4%) were the major constraints. In the coastal region, it is very expensive to dig tube wells due to the water being too deep. The present findings are similar to Hossain *et al.* (2020) who reported in the north-east of Bangladesh that 64.8% of farmers reported high prices of concentrate feed, inadequate

knowledge of scientific feeding (55.8%), scarcity of green grasses (47%), lack of pasture (46.8%) and lack of quality food (35.0%) as major constraints.

Kumar *et al.* (2017) reported that in Rajasthan, India, the majority of the respondents (86.1%) lacked knowledge about improved cattle dairy farming. About 80.4% of them reported low milk production of indigenous cattle and 74.4% expressed non-availability of marketing facilities for indigenous milk and its products as the major constraints in indigenous cattle farming.

Paul *et al.* (2020) reported that the lack of high-breed animals, the lack of knowledge of maintaining the high-breed varieties, and animal diseases were among the most important constraints to livestock development in Bangladesh. The production constraints were feed shortages, livestock diseases, the low genetic potential of indigenous cattle, livestock diseases, lack of marketing infrastructure and water shortages (Raussi, 2003).

Livestock production in communal areas in sub-Saharan Africa is constrained by a variety of factors: feed shortages during the dry season constituted the greatest challenge in (Masikati, 2010). According to Kassam *et al.* (2009), the main constraint to increasing livestock productivity and output is the lack of adequate supplies of good quality livestock feed in the dry season. Together with high incidences of diseases and mortality rates, feed shortages lead to low livestock productivity (Masikati, 2010).

The unavailability of water is another common constraint. In some areas, water may be available but is of insufficient quality. Masikati (2010) reported that water constraints were prevalent during the dry season, where animals had to walk up to 14 km per day to access water. Water points are sometimes limited and large numbers of animals use the same points, spreading diseases and degradating land. Peeling and Holden (2004) pointed out to the failure of government services to provide veterinary services: other factors included poor housing, low soil fertility for forage production, and weak market chains for livestock and livestock products.

Table 4: Major constraints faced by the respondents in livestock farming

| Constraints                                | Rank | Frequency (n) | Garret's score (%) |
|--|------|---------------|--------------------|
| Inadequate knowledge of scientific farming | 1    | 95            | 70.3               |
| Inadequate veterinary services             | 2    | 81            | 60.0               |
| Degradation of common grazing resources    | 3    | 40            | 29.6               |
| Feed and fodder scarcity                   | 4    | 75            | 55.6               |
| Inadequate area for farmhouse              | 5    | 40            | 29.6               |
| Credit for inputs                          | 6    | 45            | 33.3               |
| Inadequate sources of safe water           | 7    | 87            | 64.4               |

## Conclusions

The livestock farmers of the coastal region of Bangladesh are struggling to improve their farming, owing to constraints related to health and production. Farmers were not aware of good livestock management systems. Therefore, public veterinary services with private services should be adopted to introduce better livestock-rearing systems.

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## Conflict of interest

The authors have declared no conflict of interest.

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