

FACTORS AFFECTING SEASONAL PERFORMANCE OF ANGLING IN MYMENSINGH REGION OF BANGLADESH

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ABSTRACT

Angling is an important part of Bengali culture and being a riverine country Bangladesh is paradise for angling. There are hundreds of angling locations around the country yet to be explored. This study was conducted to understand the present status of angling and to find out the factors affecting seasonal performance of angling in Mymensingh region. To achieve this goal, a questionnaire survey, focus group discussion and key informant interviews were performed in Mymensingh region for a period of six months from 1st July 2010 to 31st January 2011. Thirty two anglers were interviewed; among them fifteen were from open water and seventeen from closed water fisheries. The data analysis showed that the anglers used mixed ingredient for bait like earth worms, insects' larvae, pastes, ant eggs, bread, *satu*, cooked rice etc. The performance of angling varied greatly with the geographic distribution, types and size of fishes to be caught, weather condition, lunar effect, rain fall, habitat types and food availability in the water body. The closed water angling starts in April and lasts upto November, whereas, the open water angling starts in May and lasts upto December. The peak angling season in closed water was in August and open water in October. The majority of the closed water anglers' annual income was between 150,000 - 200,000 BDT which is higher than the national average. On the other hand, most of the open water anglers' annual income was in between 50,000 -100,000 BDT. In open water angling, 67% anglers took it as hobby and rest of 33% considered it as commercial.

KEY WORDS: Angling, Factors, Performance, Season.

INTRODUCTION

Angling is the art and science to catch fish typically with rods, lines and hooks and it is done mainly for recreational purposes (Ditton, *et al.*, 2002). Angling is not a recent fad but it has been started long before human civilization (William, 1926). In ancient time it was done by hooks, which were made from bone, horn and wood (Larson, 2007). With the time passes the metal hooks, lines and rods have been introduced. According to the fish habitat angling can be three main types (a) Open sea angling (b) Estuary angling and c) Inland angling. Moreover, angling can be done by two different ways: shore angling and boat angling. The most important and basic fishing accessories are rods, hooks, reel, bait etc. these are also called tackle. However, people sometimes stand in the water or built a platform above the water for angling. Earth worms, insects' larvae, pastes and various types of lure are used as baits to attract predatory fishes. Live fish, frog, lizard etc also used as bait as whole or in part and need to be selected carefully to match the mouth size, food habit and preferences of the target fish. Bait can be made also from the pest of different ingredients like bread, Satu, Ghee, Honey, Alcohol, Earth worm, Pickle, Insect eggs etc. The season of angling varies depending on the weather condition of a country, target species, temperature etc. Generally angling season in Bangladesh is April to November and optimum time is October to November. The fish catch is less through angling during the winter as fish do not except any food in this period. Angling has some rules made by local authority to regulate the anglers to keep balance between "catch and recruitment". Fishing often provides recreation to people as it is a popular leisure activity (Zwirn *et al.*, 2005). Fishing has also brought significant economic benefits.

Various types of angling method usually performed in fishing in the country. They are (a) Single rod (*Chip*)-a fishing method which consists of a split bamboo or bamboo branch of 1.5 to 2.5 meter in length; hook is tied with one end with nylon or any synthetic fiber; (b) Hanging single rod (*Pata barsi*) –it is usually placed near the bank of open water bodies or ponds at 45 degree angle where the hook with the life bait just touch the water surface. This type of angling is usually done at night; (c) Floating single hook (*Danti barsi*)- the hook with bait is tied at one end on a nylon or synthetic thread and other end is tied with a float and placed in shallow water. The length of thread is about 1-2 ft. The *Danti barsi* usually checked every few hours whether any fish has entangled or not; (d) Floating long line (*Basha barsi*) –this type of line usually contains 5-10 hooks tied with a 2-6ft long thread and set in small gap in rice field with some float; (e) Long line (*Dayon*)- this is a long line which contains 100-500 hooks tied with a long and thick rope with thin thread of 1-2 ft with bait and usually set in the river, sea or other open water bodies. This type of line usually operated by professional fishermen and some tribal called *Bede* who lives on boat and moves throughout the country; (f) Wheel- this type of *barsi* contains 100-500ft long thread twined in a wheel machine attached with a fishing rod.

Two to three hooks, a float and a sinker also attached with the thread. This type of *barsi* is common and worldwide used in angling. Inland water areas of Bangladesh covers 4.576 million hectares among them capture fisheries cover 4.047 million hectares and total inland water production is 1.952 million metric tons. Among them the capture fisheries is 1.006 million metric tons (DoF, 2007). Around 85% of the people living in the floodplain carry out some sorts of fishing either for their livelihood or for family consumption or recreational purposes (FAO, 1995). People living in or around the *beels* habitually involve in angling round the year. The performance of angling depends on various climatological and socio-economic factors. But unfortunately no studies have been found to date considered this issue in this region. So, the present investigation was undertaken to find out the factors affecting performance of angling in Mymensingh region of Bangladesh.

MATERIALS AND METHODS

The research was carried out collecting primary data using PRA tools such as questionnaire interview of individual anglers, focus group discussion (FGD), cross check interview and secondary data from the relevant stakeholders. The method of collecting data depends upon the nature, aim and objectives of the study. The word “Survey” refers to a method of study in which an overall picture is obtained by a systematic collection of available data on the subjects (Jefferson, 1953). The major advantages of the method are that it is less expensive and covers much wider areas. However, one of the major shortcomings of this method is that, the investigation has to depend solely upon the memory of the individual. This have to however, overcome by asking cross-questions, i.e., the individual could answer from their memory and making frequent visits. Figure 1 described the overall research procedure conducted in detailed.

Study Area: The study was carried out in Mymensingh region. Data were collected from the anglers when Bangladesh Agricultural University invites angling annually in its selected ponds. Interview also conducted with the anglers who used to angling in the river Brahmaputra and beels in Mymensingh and nearby areas. For the present study data were collected for a period of 6 months, from 1st July 2008 to 31st January 2009.

Target Group: In this study area, most of the closed water anglers angling for recreational purpose and are very much solvent. A few anglers took it as primary occupation. On the other hand, in case of open water angling, most of the anglers took it as supplement their family income. It reported that most of them are from marginal or poor section of the community.

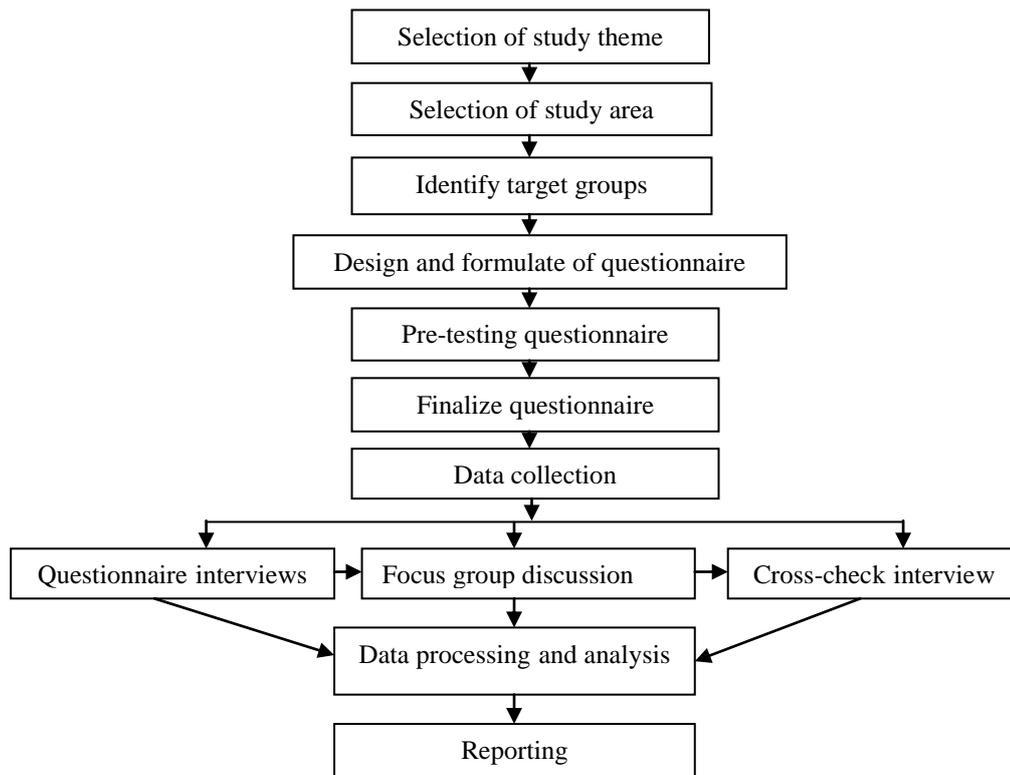


Figure 1. Schematic diagram of research design

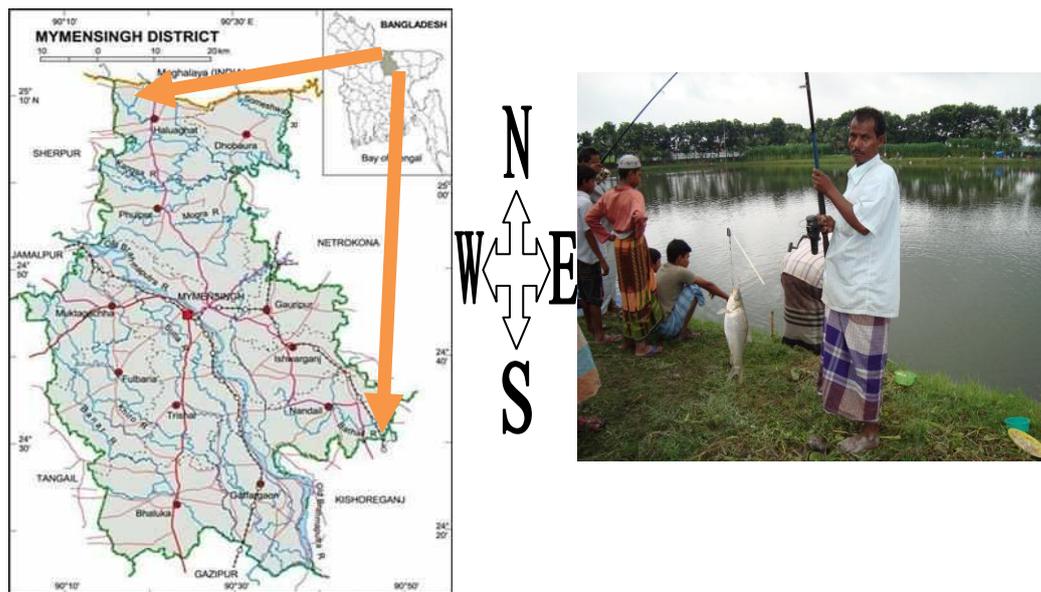


Figure 2. Map of the study area

Sample number and sampling procedure

It was not possible to include all the anglers in the study area because of limitation of time and resources. For the selection of sample for a study, two things need to be taken into considerations. The first one is the sample size should be as large as to allow for adequate degree of freedom in statistical analysis. The second one is the processing and analyzing of data need to be manageable with physical, human and financial resources. Considering the above aspects 32 anglers were selected for present study.

Questionnaire preparation and pre-testing

For data collection a draft questionnaire was prepared for collection the relevant data on angling. The draft questionnaire was pre-tested with 10 anglers in the study area and the questionnaire was final with the feed-back from the field. In the pre-testing questionnaire, much attention was given to if any new information was found which seems to be important and informative that was included in the final questionnaire. The interview was conducted in logical sequence so that anglers could answer the questions in systematically.

Questionnaire Interview

The questionnaire interview was conducted at the bank of the water bodies when they were angling. Before going to make an actual interview, a brief introduction about the objectives of the study was given to each of the angler and assured them that all information would be kept confidential. At the time of interview the physical conditions of the water body; introducing lure, angling activities like preparation of baits and throughing, keeping fish in hapas etc. were observed as a result there was a scope to understand the angling activities well. Time required for each interview was about 30 minutes to an hour. Fig. 3 described the steps of data collection.



Figure 3. Steps of data collection methods from anglers.

Focus group discussion

In this study, FGD was used to get an overview of particular issues such as existing angling systems, constraints of angling, angler's socio-economic condition etc. which was not possible to collect through questionnaire interview. A total of 4 FGD sessions (2 with commercial and 2 traditional anglers) were conducted, where each group size was 6 to 10 anglers. Two FGD sessions with the open water anglers was held at angling sites under a tree when they were resting and another two were conducted with the closed water anglers at their association office where spontaneous gathering of anglers.

Cross-check interview

After completion of data collection through questionnaire interviews and FGD, it was necessary to check the information for reliability of collected data. If there were such items, which were contradictory, then information was compared with the key information's. Cross-check interviews were conducted with the key informat such as Upazila Fisheries Officer (UFO), Assistant Fisheries Officer, relevant NGO workers etc.

RESULTS AND DISCUSSION

The anglers belong to the age group of 21 to 50. Rana (1996) found 70% fish farmers is in 18-45 years age groups in a similar study in Sirajgonj district which is more or less similar to the present study. 94% of closed water anglers are Muslims and 6% are Hindus. On the other hand, in open water angling, 87% are Muslim and 13% are Hindus. Rahman (2003) denoted in a study in Bogra region that 74% fish farmers were Muslim and 26% were Hindus. The average family size of the anglers is found 5.43, whereas; Islam (2006) and Saha (2004) reported in their study that the average family size was 6.36 which is higher than the present study as the anglers are more educated and conscious than the rural people.

The participation of women in angling is usually negligible. Insignificant numbers of women were engaged in angling both open as well as closed water in Mymensingh region. Alam (2006) reported similar numbers of women were involved in fishing and fish related activities in Lalpur district which agree with the present study. Most commonly used baits are ant eggs, wastes of sweet, ghee, mustard oil cake, satu, pickle, achangi, honey, alcohol, spray, bread, cooked rice, earth worm, snail meat, small prawn, life fish, frog, lizert etc. and cotton is used for holding the materials with the hook. Adam (2006) noted commonly used baits in the United States and England which were worms, the maggots of fly, small fish, bread and cheese which partially matched with the present findings. The data analysis also showed that the time and season of angling varies greatly with the geographic distribution, types and size of fishes to be caught, weather condition, lunar effect, rain fall, habitat types and food availability in the water body. The closed water angling starts in April and lasts upto November, whereas, the open water angling starts in May and lasts upto December. According to the anglers perception the peak angling season in closed water is in August and open water in October (Figure 3). Chris (2008) reported that angling is done all the year round but peak season is July to November.

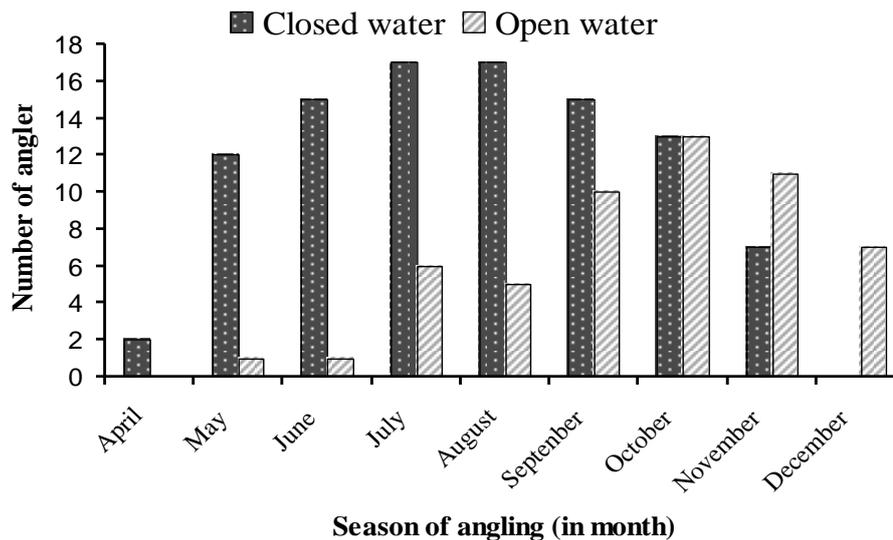


Figure 4. Angling season in Mynensingh region

The data interpretation showed that the angling is done as recreational purposes and the anglers do not bother about the amount of expenditure. The costs of angling varies with different factors like distance, types of transportation, types of hooks, lines, baits, lures and accommodation used. However, sometimes they get handsome amount of fish but the average catch is good enough, so angling is not economically profitable in the region. Most of the anglers used the catch for home consumption and sometimes provide as gift to the relatives. The attitude of the anglers' family of angling is not positive because generally angling occurs in holy days and they could not able to engage themselves with their family activities. However, if they got handsome amount of catch, 71% of the family became happy. In the study area, the majority of the closed water anglers 'annual income was between Tk. 150,000-200,000 which is higher than

the national average (BBS, 2004). On the other hand, most of the open water anglers' annual income was in between Tk. 50,000-100,000.

The angling is a recreational activity and a section of people got involved in angling in Mymensingh region. It is a very good sport to pass the leisure and the elderly and retired people can engage with angling to pass their time effectively. The limitation of this study was the time and resources. Also the anglers were reluctant to respond to the question the researcher asked as they were busy with angling. Also, the outcome of this study reflected only a cross section of local resident anglers, and may not accurately depict the whole anglers' opinion in the region.

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