

# Bangladesh - The Survey of Ponds 1989

**BANGLADESH BUREAU OF STATISTICS**

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## Overview

### Identification

#### ID NUMBER

BGD-BBS-PS-1989-v01

### Version

#### VERSION DESCRIPTION

The Bangladesh Bureau of Statistics (BBS) conducted a survey of ponds in 1982 to establish a comprehensive statistics on inland fisheries resources. To obtain comparative data and for studying the changes overtime it was felt necessary to conduct another survey of the same nature. So a survey work plan was incorporated in the Second Phase Agricultural Census Project (1985-90) and the survey was, accordingly, carried out in 1989. The items covered in the survey were the number and area of ponds, depth of ponds, sources of water supply, seasonal water availability, type of operators, type of possession, annual

fish-catch by important varieties, quantity, value, sales proceeds and own fish consumption, yearly fish damage, expenditure on pisciculture, operational process and methods of fish catch, etc. The results obtained from this survey have been disaggregated into twenty regions due to a smaller size of sample. It is expected that the estimates based on collected information will be a reference document to the researchers, policy makers and administrators until detailed statistics in the field are made available by the next survey with an expanded sample size.

#### PRODUCTION DATE

1994-03

## Overview

#### ABSTRACT

Bangladesh has a large number of inland water resources, such as, rivers, rivulets, estuaries,heels, canals, haors, baors, lakes, ditches and ponds. Amongst these resources the ponds play a significant role in producing fish in the rural areas. Major portion (83%) of protein needs of the village people is met from the pond fish and other inland water bodies. The pisciculture in the fields is a part of an extensive agricultural and economic activities in Bangladesh. But the information about the number and area of ponds, their uses, type of operation and possession, quantity and value of yearly catch of fish, fish damage, etc. are not available for taking further intensive development programmes on fisheries resources. An up-to-date inventory of ponds and fishing resources available there is necessary for development of fishery resources to meet the deficiency of protein in the country. It is possible to substantially increase the fish production through proper utilization of ponds and other inland water bodies. For formulation of plan in respect of digging new ponds, re-excavation and reclamation of the old ponds, provision of rural credit for pisciculture, reliable statistics on inland water bodies and their condition are needed. The survey under report was undertaken in 1989 covering 552 mauzas scattered over the country to generate more dependable and comprehensive statistics on pond resources and revised, the changing situation over the period of 1982 when the first pond survey was undertaken. This report contents are divided into two parts. Part I contains, besides introduction, three more chapters. Chapter two explains survey methodology and chapter three explains the terminologies used in the survey. Analytical findings have been discussed in the chapter four mainly on national tables. The national tables are, therefore, not included in Part-II. Part II contains the regional tables. Schedules canvassed for data collection have been appended.

#### KIND OF DATA

Sample survey data [ssd]

## Producers and Sponsors

#### PRIMARY INVESTIGATOR(S)

Name	Affiliation
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BANGLADESH BUREAU OF STATISTICS	Statistics and Informatics Division, Ministry of Planning
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## FUNDING

Name	Abbreviation	Role
Statistics and Informatics Division	SID	

## Metadata Production

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## METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
BANGLADESH BUREAU OF STATISTICS	BBS	Statistics and Informatics Division, Ministry of Planning	Documentation of the study

## DATE OF METADATA PRODUCTION

2019-10-29

## DDI DOCUMENT ID

DDI-BGD-BBS-PS-1989-v01

## Sampling

### Deviations from Sample Design

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A stratified two-stage random sample design with mauza as primary sampling units (PSU) and non-derelict ponds in selected mauzas secondary sampling units (SSU) was adopted for the survey. All the rural areas of Bangladesh were divided into three strata on the basis of the observations of the previous surveys of ponds held in 1978-79 and 1982. The results of the surveys showed that the ponds situated in the northern part of the country had greater use and the ponds in the southern part of the country had greater density. The first stratum contained all, the 5 greater districts of the northern part of the country, namely, Dinajpur, Rangpur, Pajshahi, Pabna and Bogra on consideration of greater use of ponds. The second stratum contained 10 greater districts of the middle part of the country, namely, Comilla, Sylhet, Dhaka, Faridpur, Jamalpur, Mymensingh, Kishoreganj, Tangail, Jessore and Kushtia. The third stratum which had greater concentration of ponds, contained 5 greater districts of the southern part of the country, namely, Chittagong, Noaichai, Barisal, Patuakhali and Khulna. A uniform sampling fraction for all strata was followed.

### Weighting

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Average catch of fish per acre as observed from the data of the previous survey suggests that the selected ponds also need to be further classified according to size into three categories at least. Therefore, in the selected mauzas, the ponds were classified on the basis of physical area into three categories as follows:

1. 0.01 - 0.10 acre.
2. 0.11 - 0.30 acre.
3. 0.31 and above acres.

The sampling fraction for the second stage was kept uniform for all the three categories in order to have a simple self weighting estimate. In all 11161 ponds were selected for collection of detailed information.

# Questionnaires

## Overview

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Mauza was the first stage sampling unit in the strata and the non-derelict ponds from listed total. ponds of each selected mauza was the second stage sampling unit. The ponds which were derelict were excluded from selection, 50% of the listed non-derelict ponds of a mauza were selected according to the procedure of simple random sampling for canvassing the questionnaire. If the number of nonderelict ponds in a mauza were ten or less than ten, all of them were selected for detailed study. In all 552 mauzas were selected as primary sampling units and 11,161 ponds were selected as secondary sampling units for collection of detailed information.

## Data Collection

### Data Collection Dates

Start	End	Cycle
1989-07-05	1989-07-27	N/A

### Data Collection Mode

Other [oth]

### Data Collection Notes

The Junior Statistical Assistants (JSA) of selected thana and the staff of Agricultural Census Project deputed to Thana Statistical Offices worked as enumerators and the total number of enumerators were 552. Thana Statistical Officers acted as supervisors in the survey. In addition 41 District Co-ordinators, 8 Regional Co-ordinators and 4 Divisional Co-ordinators were entrusted with the responsibility of overall supervision. Mauza maps were supplied to the Enumerators for proper identification of the selected mauza. After delineation of the boundary of a mauza the Enumerators listed all the ponds within the mauza. After completion of total listing, 50% of total listed non-derelict ponds were selected randomly following a procedure of predetermined random start for each column and the selected ponds were canvassed. The operators of the ponds were mainly the respondents. After completion of enumeration, Supervisors collected and checked all the filled-in-schedules and submitted the same to the Regional Statistical Officers during the 1st week end of July 1989. The Regional Statistical Officers sent the schedules to the office of Agriculture Census at Dhaka by the last week end of July 1989. This report contents are divided into two parts. Part I contains, besides introduction, three more chapters. Chapter two explains survey methodology and chapter three explains the terminologies used in the survey. Analytical findings have been discussed in the chapter four mainly on national tables. The national tables are, therefore, not included in Part-II. Part II contains the regional tables. Schedules canvassed for data collection have been appended.

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### Data Collectors

Name	Abbreviation	Affiliation
Statistics and Informatics Division	SID	Ministry of Planning

## Data Processing

### Data Editing

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In all 3,998 schedules were used for taking information of 11,161 ponds. The collected schedules were manually edited with the help of an edit specification by the Statistical Investigators and Statistical Assistants under the supervision of senior officers of the Agricultural Census Project. The manually edited schedules were sent to the Computer and Data Processing Wing (CDP Wing) for insertion of data as the tables provided. Some of the tables were prepared following the table formats used in the survey of ponds 1982 with a view to comparing data over the period. The national & regional level data are presented in this report. Zila level data could not be presented because of a smaller sample size.

## Data Appraisal

### Estimates of Sampling Error

Sample size of the ponds survey 1989 was smaller than the sample size of 1982 survey. The quality of estimated data at national and regional levels based on the small sample size of only 552 mauzas may be affected more by sampling error rather than by non-sampling errors. Non-sampling errors were kept within limit by taking appropriate measures. Estimation at zila and thana levels was not possible due to the smaller sample size. Differences in definition, survey methodology and sample size might have influenced the variation of ponds raised between the results of 1982 and 1989 rather than the substantial change observed to have occurred during the period. Measurement of an area of pond was difficult without using scientific instruments. The area was estimated on the basis of the report of the operator of pond or on counting the walking foot-steps around the pond in case of operators' ignorance.

1. To estimate the number of ponds and their areas.
2. To determine the physical condition of the ponds, seasonality of water availability, nature and extent of their use.
3. To determine the number and type of operators, possession status and the nature of exploitation. . .
4. To estimate annual fish catch, different varieties of fish and extent of their sale.
5. To estimate annual fish damage/loss.
6. To estimate outlay on pisciculture in ponds.