Bangladesh - Survey on the use of Remittance 2013

BANGLADESH BUREAU OF STATISTICS

Report generated on: October 6, 2020

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Overview

Identification

ID NUMBER
BGD-BBS-SUR-2013-v01

Version

VERSION DESCRIPTION

PRODUCTION DATE
2014-06-06

Overview

ABSTRACT
Almost 8.6 million Bangladeshi workers are currently working abroad. Almost two million additional young people are added to the labour force every year, and the country lacks the ability to create jobs to accommodate all of them. As a result, the outflow of Bangladeshi workers will continue in the foreseeable future. Remittance, as identified one of the two main drivers of growth by World Bank, will continue play the important role in Bangladesh's development process.

So far, both flow of remittances and their uses have not been guided by any notable policy framework. Hence to maximize the flow of remittance in the evolving world environment and the benefits of their uses at the domestic front, a concerted policy effort is imperative. Accurate and reliable statistics are the key to any kind of policy formulation, which is currently missing to a large extent in case of remittances. In order to help the policymakers by providing them with the most recent and nationally representative information on remittances, the Bangladesh Bureau of Statistics (BBS) has decided to undertake the survey on the use of remittance, following the decision of the 'Coordination Council' headed by Honourable Finance Minister.

Objectives of the Survey

The main objective of the survey is to identify the different uses of remittances. The other objectives are: to estimate the share of investment, savings, and consumption by various categories in total remittances, to identify the socio-economic conditions of the remittance receiving households, and to provide supplementary information for national income accounting.

KIND OF DATA
Sample survey data [ssd]

Scope

NOTES
Geographically, the survey covered the entire area of the country including urban and rural areas. A list of villages holding the dominance in terms of remittance receiving households (RRHH) across the country was prepared and used to cover the rural areas. On the other hand, the PSUs of IMPS was purposively used to cover especially urban areas as there had no other alternative.

Coverage

UNIVERSE
The entire country was taken as the universe and only Remittance Receiving Households (RRHHs) of the country as the study population of the survey.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

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

FUNDING

Name	Abbreviation	Role
Statistics and Informatics Division	SID	

Metadata Production

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
2019-09-01

DDI DOCUMENT ID
DDI-BGD-BBS-SUR-2013-v01

Sampling

Sampling Procedure

The quality of information collected by any survey depends on methodology applied, which includes preparation of schema, selection of sampling frame, use of sampling technique to draw the representative samples, design of questionnaire, methods used to collect data, methods used for consistency and accuracy check of data, and adjustment of the sampling error etc. As no sampling frame was readily available for this survey, the entire survey was conducted very cautiously following a scientific and logical framework.

Sample Design

Sampling is a statistical technique to select number and composition of respondents that would be representative of total population. Ideally, the entire study population from which sample will be drawn should be known before the sampling. But in case of this survey, number of entire study population could not be properly identified due to lack of adequate information. Hence, at first, the study population was identified following some specific principles keeping the objectives of the survey in view, and then the sample population was selected following the procedure described below.

Sampling Technique

Two-stage stratified random sampling technique was applied. Two lists were used as the sampling frame for this survey. One was the list of Primary Sampling Units (PSUs), the Enumeration Areas (EAs) of Population and Housing Census 2011, generated under Integrated Multipurpose Samples (IMPS) and the other was the list of 5 leading villages in each Upazila in terms of the adequacy of Remittance Receiving Households (RRHH) which were identified making a quick count of RRHHs in those villages. Seven Divisions were considered as seven separate stratums. At the first stage, the required number of RRHH-leading villages was selected for each of the divisions separately following Probability Proportional to Estimated Size (PPES), and the PSUs of IMPS applying Simple Random Sampling (SRS) technique. In the second stage, minimum 20 RRHHs were selected using SRS technique from each selected village and maximum 20 RRHHs from selected PSUs of IMPS were chosen by SRS.

Sampling Frame

Sampling frame is the set of all objects of target population. If the sampling frame is a poor fit to the population of interest, SRS cannot work properly. Hence, sampling technique has to be chosen and applied carefully. It is important to note that for this survey, no sampling frame was readily available. Therefore, considering the objectives of the survey, a sampling frame was created. As a result, the survey was conducted following slightly exceptional methodology. Both list frame (list of RRHH-dominant 5 Villages by Upazila) and area frame (1433 PSUs of IMPS) were taken into consideration as the sampling frame. A total of RRHH-dominant 2320 villages - 5 from each Upazila - was taken into account as the list frame, and 1433 PSUs of IMPS design were considered as the area frame. The list of RRHH-dominant 5 villages was done by field officials of BBS during 26 April to 10 May 2013 assuming that field officials are better informed about the village status in terms of any issue as they are deeply involved in statistical activities at those villages. During listing 588 staff members of BBS were engaged in collecting the information whether the household was remittance receiver or not. Names of household heads and addresses were recorded in the list.

Response Rate

Selection Procedure of 400 RRHH-dominant Villages

Out of RRHH-dominant 2320 villages, 400 were selected as the sample by PPES. Probability Proportional to Estimated Size (PPES) is a sampling technique in which the probability of selecting a sampling unit such as village is proportional to the size of its estimated population (RRHHs). It gives a representative sample. It becomes very useful when the sampling units vary considerably in size because it ensures equal probability for large and small units to be selected. A quick count was made in all the RRHH-dominant 2320 villages to identify the number of RRHHs. As the aim was to provide estimates at division level, the samples (400 RRHH-dominant villages) were reasonably allocated by division proportionally.

Here, Sampling Fraction= n/N= 0.17

N=2320 & n=400

At first, the total number of RRHHs was derived by a quick head count by division. Then, the Sampling Interval (SI) for each division was calculated by dividing the total number of RRHHs of each division by the respective sample size (number of villages). The procedure is also portrayed in Col-6 of table 2.1. Then, a Random Number (RN) between 1 and the SI for each division was generated by computer. After that, the following formula:

RS (Random Sample); RN + SI; RN + 2SI..... was independently applied to select the sample villages under each division. RS means the first sample village corresponding to first RN; RN+SI means the second sample village identified by adding the SI with RN; RN+2SI means the third sample village selected by adding RN with SI multiplying by 2 and this formula had been continued additively until the last sample village of the respective division was selected. This method was separately applied

for each division to select the sample villages of the respective division.
Selection Procedure of 400 PSUs of IMPS (Integrated Multi-purpose Sample)
At the beginning, the total PSUs of IMPS was arranged by division and then rearranged the PSUSs of each division separately by rural and urban areas. After that, the list of PSUs was modified by excluding the PSUs that were common in village list and PSU list. It is notable that the exclusion was made by matching the name of Union of selected RRHH-dominant villages with the PUSs of IMPS and this method was applied independently for each district. After excluding the matched Unions, the total number of PSUs became 1433. Out of 1433 PSUs, 400 were selected as sample following SRS. The 400 sample PSUs were allocated to division proportionally. The allocation of PSUs by rural and urban areas for each division was made following proportional allocation to the size of household (as per Population and Housing Census-2011) of the respective division. It is mention worthy that, in this case, the sample allocation was done by rural and urban area in order to ensure representation of urban areas as well as rural areas; but no estimate was provided by locality, rural & urban areas, as sample design did not allow such disaggregation.
Finally, at least 20 RRHHs from each selected village; and for IMPS, maximum 20 RRHHs from each sample PSU were selected randomly; in case of less than or equal to 20 RRHHs, all were considered.
Sample Size Determination
As the real size of population i.e. the total number of RRHH either at villages or at PSUs was unknown, the exact sample size could not be determined. The size of primary sampling units was estimated at 800 as the ultimate sampling units (RRHHs) to be drawn from this number is large enough for providing division level estimates. The size of ultimate sampling unit i.e. the number of RRHH was defined 20 from each primary sampling unit of both village and PSU of IMPS. Applying the method, it was estimated that the maximum number of sample size would be 400X2X20=16000 RRHHs; the sample size could be at least 400X20=8000 RRHHs if the no RRHH was found in PSUs of IMPS.
Selection Procedure of Ultimate Sampling Units (RRHHs)
For selecting the ultimate sampling units i.e. RRHH, SRS was applied for both cases, RRHHdominant villages and PSUs of IMPS. During the listing operation, a total of 257298 households were enlisted. From the list, it was found that 42298 were RRHHs and 215635 non-RRHHs. In the study, non-RRHHs were kept out of consideration. From the total number of 42298 RRHHs, it was estimated that the maximum number of sample would be 16000. Finally, it was found that the total number of sampled RRHHs was 9961. It is known theoretically that if the sample size is 3000, estimates at division level can be provided. So, it can be remarked that the sample size of the survey was large enough for providing reliable estimates at division level.

Weighting

Weight is the inverse of probability. As the samples were selected from two categories of population following different sampling techniques, weighting was done applying two different methods. It was found that out of 2320 RRHH-dominant villages, 400 villages and out of 1433 PSUs of IMPS, 316 PSUs were enumerated. Assuming ‘i’ was the any village of the RRHH-dominant villages or PSUs of IMPS, the probability of selecting the ith village or PSU was calculated for each division separately. Then, the probability of selecting the jth RRHH from the selected ith village or PSU was calculated. To derive the weight for ith village or PSU from each division, the following formulas were used:
Wi = (1/P (Yi))*(1/ P (Yij))*6 for village
Wi = (1/P (Yi))*(1/ P (Yij))*5 for IMPS PSUs
Where,
Wi = Weight for the ith village or PSU;
P (Yi) = Probability of selecting the ith village or PSU for a particular division;
P (Yij) = Probability of selecting jth household from ith village or PSU for a particular division.

Questionnaires

Overview

Questionnaire Design:
Along with sampling, the questions asked to a respondent are equally important to collect the desired information. The questionnaire was designed and finalized on the basis of experts' opinion collected through formal and informal consultation.
Process of Questionnaire Design
The in-house survey team first developed the draft questionnaire as a basis for in-house consultation guided by the Program Director. This draft was revised to accommodate the recommendations and views expressed in the in-house meeting. The revised draft was placed before the Working Committee and further revised on the basis of their recommendations. A workshop on the revised version of the questionnaire was arranged on 3 April 2013 to collect views of different stakeholders. A number of distinguished participants including economists, social workers, media personnel, members of the civil society, senior officials of the government and the non-government organizations took part in the workshop and shared their views and made some recommendations. Most of these recommendations were incorporated. Later, the questionnaire was pre-tested, and the observed problems were duly addressed. Finally, the questionnaire was placed before the Technical Committee, the highest technical body, for approval.
Pre-test of the Questionnaire
The questionnaire was pre-tested to examine its overall performance in terms of time required to complete the interview, testing the reliability i.e. whether it capture the desired information, and to assess the consistency, that is whether the collected information serve the purpose of the survey or not. The pre-test was also used to assess the logistics required for successfully conducting the survey. To ensure adequate time for any adjustment, if needed, the pre-test was conducted about a month before the actual survey conducted in three districts, namely Rangpur, Munshiganj and Tangail covering both urban and rural areas. Two Officers visited different areas of these districts and collected data using the final draft questionnaire. They randomly selected the households from the list of RRHHs as respondents.
Findings from the Pre-test
A lot was learnt from the pre-test about the suitability of the questionnaire pertaining to its matching between its content and the objective of the survey. Based on the findings of the pre-test, the structure and wording of the questionnaire were slightly modified. The semblance of the question, that is, the meaning and clarity which yields the intended information from the respondent, was taken care of. Furthermore, the enumerator's manual was also modified accordingly.
Finalization of the Questionnaire
After the revision made following the pre-test, the questionnaire was placed before the Technical Committee. The committee provided some final observations, which were subsequently addressed. Eventually, the questionnaire was approved by the Technical Committee.

Data Collection

Data Collection Dates

Start	End	Cycle
2013-01	2013-12	N/A

Data Collection Mode

Other [oth]

Data Collection Notes

Data collection is the significant part of any survey because it affects survey result seriously. Considering its importance, as a whole, the following measures were taken:
• To develop the questionnaire, brain-storming activity was carried out by the members of questionnaire development team;
• Questionnaire was pre-tested;
• Preparing a comprehensive manual of data collection with clearly defied concepts and definitions;
• Conducting rigorous training programme for the enumerators and supervisors;
• Deploying sufficient number of enumerators in order to ensure smooth data collection;
• Taking extra measure in data collection activity by engaging sufficient number of supervisors.

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Data Collectors

Name	Abbreviation	Affiliation
Statistics and Informatics Division	SID	Ministry of Planning

Supervision

Data collection carried out immediately after the training during 13-23 June 2013. A total of 216 employees of BBS from field offices as well as headquarters were employed in data collection. Besides, a total of 36 officers of BBS, most of which were Regional Statistical Officers, were employed to supervise the data collection and to immediately take care of any untoward problem arisen during data collection in the field. These supervising officers stayed at the field until the data collection was completed. The Director General, Deputy Director General and Director of National Accounting Wing closely monitored the data collection. Program Director coordinated all activities and arranged all supports required for successful completion of data collection.

Data Processing

Data Editing

Data editing refers the activity of checking and cleaning data that have already been collected from the field. After the completion of data collection, all questionnaires were brought to headquarter for further processing. A group of experienced staffs of BBS under the supervision of two officers of the survey team edited all data manually. An instruction manual with the editing and coding guidelines was also prepared and editors were provided training on these guidelines. Although the coding was done during data collection, but it was checked once again during data editing.
Data Processing
Data processing involves a number of steps which are follows:
• Data entry
• Appending and merging files
• Data validation (further checking, editing, and imputation)
• Final decision on errors
• Completion of data processing and generation of data files
• Final documentations
• Conversion of data files to another software.
• Storage of all files
i. Data Entry
After completion of editing, a group of experienced BBS staffs carried out the task of data entry following the steps mentioned below:
a) Designing Data Entry Application: Data entry template was developed by using CSPro software. A strong data dictionary based on the questionnaire was created during the preparation of template. The data dictionary contained unique ID and values of the items to be entered. To avoid errors of inconsistencies, a logical check was also maintained throughout the data entry. The template was reviewed for convenience and eventually finalized for use.
b) Data Capturing and Preliminary Validation: Data were captured in computer as soon as the data editing was completed. A variety of common errors were identified during data capturing. As a result, observing the error messages, data were cross checked with questionnaire. In addition to that, following procedures were followed for data cleaning and primary validation:
• Wrong data and out of range codes: As the code was given during the preparation of questionnaire, naturally, it restricted the enumerator to a set of codes within the acceptable range for most of the questions. Moreover, the values were set during the preparation of data entry screen for avoiding wild codes for most of the questions.
• Inconsistency checking: To avoid errors, omissions and inconsistencies, this mechanism was also developed during the data entry program designing.
• Treatment of Missing values: The data entry program was designed not to allow blanks that ensure not having missing values in the data.
• Incomplete records and dropped cases. The data entry program was designed to accept the complete data case; otherwise, it would not be saved. This was set to avoid incomplete records and dropped cases.
• Duplication of entries. The data entry program was designed in view of rejecting duplication of entries based on the identifiers.
ii. Appending and Merging Files
As data was captured by a number of BBS officials, a number of files were generated. After the completion of data entry, these files were appended and merged to generate a single file.
iii. Data Validation
Validation was accomplished after appending and merging files by checking the number of variables, the cases, wild codes, missing values and consistencies. It was also checked whether the number of variables generated was matched with the number of variables in the data set.
iv. Final Decision on Errors
If an error was discovered during data validation, the related questionnaire was checked and in some cases it was sent back to the survey team for review and decision. In some cases, members of the survey team revisited the field to collect the actual response of the relevant respondent.
v. Completion of Data Processing and Generation of Data File
After resolving all issues regarding an observed error, a final data file was generated that contains all information collected in this survey.
vi. Data Preservation
After completion of the entire process, data were stored in ASCII format. In order to have the print out, the data were also been converted to Microsoft Excel Format. Both original and new formats were preserved. Finally, a copy of the data set put forward to the survey authority for tabulation and analysis. The questionnaires were also preserved in the safe storage of BBS under the guidance of survey team for future reference.

vii. Software Used
Four software named CSPro, STATA, SPSS and Excel were used for processing the survey data. CSPro was used for data entry and editing, STATA and SPSS for both tabulation and data analysis, and Excel for converting the STATA or SPSS files to table format.

Other Processing

Tabulation
A tabulation plan was designed by the survey team, which was shared with the working committee for their opinion. The working committee suggested some modifications which were subsequently incorporated. A total of 94 tables focusing on the major issues relating to the social, demography and economic aspects of the study population were generated. Drafting statistical tables along with data, these were presented before some important stakeholders in order to know whether these tables fulfilled their demand or they had more requirements. They provided some valuable suggestions those were incorporated afterward. Eventually, these tables were finalized and furnished in the report as the part of the analysis as well as statistical tables.
Data Analysis
Survey results were analyzed in tabular form using STATA and SPSS software. Major variables, in terms of percentage, were explained vertically (columns) and cross tabulation by another related variables horizontally. In the analysis, variations of the magnitude of major variables were described by category and by division.
Data Dissemination
The final report was disseminated both in electronic form such as CD and hard copy as book. Results are available in the website of BBS. Some data may also be published in other publications of BBS such as Statistical Year Book of Bangladesh, National Accounts Statistics and Monthly Statistical Bulletin etc.

Data Appraisal

Estimates of Sampling Error

For successful completion of the survey, all methodological aspects were applied very carefully. Even then, the survey has a few caveats as mentioned below:
• The sampling frame of the survey was created as no frame of this kind was available before the survey. Although the sampling frame was covered the entire country, but only five villages from each Upazila were included into the sampling frame.
• Sample size could not be determined properly as no survey of this type was conducted before. However, sufficiently large number of sample recognizing the estimates at division level was taken.
• In the analytical part of the report, food expenditure perfectly corresponds to the food consumptions, while non-food expenditure covers both non-food consumptions as well as transfer payments. However, users will find expenditures for each item independently in Detailed Statistical Tables (Table 15C), and they could be able to regroup the items according to their requirements.