2014

Methodological Note

Social Impact Assessment of Garment Industry – A baseline Survey

Asian Center for Development

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Social Impact Study of Garment Industries in Bangladesh

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Introduction

The RMG is the most important sector of Bangladesh economy in terms of export proceeds, domestic value addition, and employment generation. Accounting for more than 80% of Bangladesh's exports—the export level being 20% of GDP. In terms of total value addition from RMG it is close to the crop sector in Bangladesh. The sector employs nearly 3.5-4 million workers and it is a major formal employment sector in Bangladesh surpassing the number of employment in the public sector of Bangladesh.

While it is understood that the sector is the life-line of the Bangladesh economy, specially for the export industries it is still hard to define the social impact of the sector in terms of its contribution to reducing poverty, enhancing equity, or empowering women. This is because there is no systematic information on their workers. On the other hand, the sector suffers from an image problem due to accidents which at times engulf all the positive contributions of the industry.

This study is an attempt to develop an understanding on the social impact of the sector. In particular the study will attempt to identify impact of the garment industry in terms of

a) impact on poverty and standard of living

b) impact on health and education of the workers and their family members

c) impact on women empowerment in the society

The study will also link-up contribution of the RMG sector in reducing poverty in Bangladesh and in terms of country's achievement toward fulfilling the targets of MDGs.

Data Collection

There is no systematic dataset on the workers of the garment industry in Bangladesh. As a result, impact study often suffers of inadequate data. Similarly, due to non-existence of exclusive data on the workers of the Garment industry, the industry often suffers from

'hearsay' analysis using purposively collected information from selected areas. In order to avoid this, it is also important **that an independent and a systematic randomized dataset is made public** by the industry in order to help researchers to monitor the changes over time. Taking this into consideration, it is also proposed that data on the workers of the industry be collected every 3 years to remove 'hearsay'-based analysis and to establish a credible data-source for all researchers interested in this sector. Accordingly, the first data set will be published in 2014. However, since this is beginning of such data collection exercise so the second dataset will be collected in 2016 (in two years) with provision to collect and publish such data in every 3 years thereafter.

This survey is designed to provide an analysis of impact of the formal garment industry (excludes non-BGMEA Members). Therefore, it does not include the unorganized and informal garment manufacturing units.

Sampling and survey instrument

The samples for this study and for subsequent endeavors shall be determined in such a way that the data represents the sector adequately. For this appropriate quality assurance shall be ensured and that an appropriate survey instrument be prepared by an independent institution.

Sampling of BGMEA Members

Step 1: Sample-size Determination

The appropriate sample size for a population-based RMG workers survey is determined largely by three factors: (i) the estimated prevalence of the variable of interest e.g. RMG workers have received training on using fire drill machine; (ii) the expected level of confidence and (iii) the acceptable margin of error. For a survey design based on a simple random sample, the sample size required can be calculated according to the following formula-

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

Where,

n = required sample size

t = confidence level at 95% (standard value of 1.96)

p = estimated prevalence of RMG workers have received training on using fire drill machine i.e. 25% used from pre-test of the questionnaire survey

m = margin of error at 5% (standard value of 0.05)

Using the above formula the required sample size has been identified as 288. However, since the survey is designed as a cluster sample (a representative selection of RMG factories from the amongst the two clusters of BGMEA members: Dhaka and Chittagong), not a simple random

sample that is why, to correct for the differences in design the preliminary estimated sample size (n) has been multiplied by the design effect (DE). The formula is –

Sample size (N) =n x **DE**

To determine the DE for this study we have used the value of DE estimated for the labor force survey by Hans and Silva[1] (2005) and that was 4.2 as overall average DE at national level. However, Hans estimated average design effects for the urban and rural sub-domains are 4.1 and 4.0, respectively. Since this proposed, survey has targeted only on RMG workers based in urban area and also **limited within BGMEA membership** that is why, we have considered the design effect of 4.1 for determining final sample.

Considering this value of DE estimated sample size has been calculated to 1182 considering cluster-sampling methodology. To account for contingencies such as to avoid the non-response or recording error estimated sample is further increased to 1200 to match well with the number of clusters (200 RMG) to be surveyed.

Stage 2: Distribution of sample across randomized RMGs

Table 1: Region Wise Classification of BGMEA Members

Region	No. of members
Dhaka	4470
Chittagong	791
Total	5261

Source: BGMEA Membership List

Total number of factory under BGMEA is 5261 (N=Garments Factory Population size). It has divided into two regions Dhaka (4470) and Chittagong (791). Within each region four types of industries are available. These are Knit (K), Sweater (S), Woven (W) and rest is defined as others (O).

Table 2: Industry type wise classification of BGMEA Members

Industry Type	Dhaka	Chittagong	Total	Percentage
K	1089	110	1199	23%
S	786	76	862	16%
W	2003	412	2415	46%
Others	592	193	785	15%
Total	4470	791	5261	100%

Source: BGMEA Membership List

K=Knit, S=Sweater, W=Woven and O=other Industry type

[1] http://unstats.un.org/unsd/hhsurveys/pdf/Chapter_7.pdf

Before constructing sampling, we have drawn region wise percentage distribution for each type of garments industry. At first stage of sampling we have selected 200 garments factories (restricted garments factory using cluster sampling method) or around 30 percent of total RMG situated in Dhaka and Chittagong.

Step 1: Sampling of BGMEA member factories

Based on the list of members supplied by BGMEA, a proportional sample from 4 different groups of factories was selected for sampling. Table 3 shows the number of factories to be selected from each group in two clusters. Note that Dhaka cluster include Gazipur, Dhaka, Savar and also Narayangonj.

Table 3: No of Factories for the survey from two clusters

Industry Type	# of factories	
	Chittagong	Dhaka
K	7	39
S	5	28
W	14	78
O	4	25
Total	30	170

Source: BGMEA Membership List

Step 2: Randomized selection of factories in each cluster

From the list of BGMEA members, we have used random numbers to select 574 and 112 factories from Dhaka and Chittagong respectively. Higher numbers were selected because this allows us to do replacement of samples for each category in case the first one is not available. The process was simulated to ensure that we have sufficient number of factories in each type of factories in each cluster.

Based on this number the first 170 and 30 factories by type of factories were listed for sampling. At the same time, field enumerators will be provided with replacement samples in case a sample is not available for the survey.

Step 3: Selection of no of respondents

Once the field enumerators reach a selected factory, they must select the respondents from among the 7 categories of workers from each factory. From each garments factory six workers will be selected. Table 4 shows the distribution of garment workers by BGMEA members. Clearly Grade 3, 4, 5, and 7 are nearly 20% each for all factories while grades 1 and 2 are only 3% and Grade 6 is nearly 15%.

Table 4: Distribution of RMG workers (Grade wise)

Industry Type	Grade-1	Grade-2	Grade1-2	Grade-3	Grade-4	Grade-5	Grade-6	Grade-7
W	1.27%	3.06%	4.33%	19.77%	23.40%	15.75%	11.54%	25.21%
K	1.20%	2.44%	3.63%	21.93%	23.44%	16.34%	7.77%	26.88%
S	0.64%	1.21%	1.85%	17.45%	16.00%	28.19%	25.19%	11.33%
Average	**1.04%**	**2.23%**	**3.27%**	**19.72%**	**20.95%**	**20.09%**	**14.84%**	**21.14%**

Source :BGMEA

Based on the distribution of workers presented in Table 4, the following sampling plan has been selected to ensure that respondents are drawn in proportion. Table 5 shows how the number of respondents from each factory will be selected.

Table 5: Respondents by grades

GRADE>>>>>>>>>	1-2	3	4	5	6	7
Sampling order						
1st to 5th factory	0	1	1	1	1	1
6th factory	1	1	1	1	0	1
Total	1	6	6	6	5	6
Percent	4%	20%	20%	20%	16%	20%

Step 4: Selection of Respondents

Final selection of respondents from each factory will be done using a systematic random sampling method. We have 6 respondents from each factory and so they will be based on number of floors. For example, if a factory has 3 floors in operation then 2 workers from each floor will be selected at random from each floor. Based on our pre-test results we have also determined the sex-ratio among the workers. It will be around 60:40 for female and male. This means, enumerators will select 4 female and 2 male respondents from each factory for the first 5 factories and then 3 female and 3 male from the 6th factory. This is shown in Table 6.

Table 6: Respondents by Gender

Sampling order	Female	Male
1st to 5th factory	4x5=20	2x5=10
6th factory	3	3
Total	23	13
Percent	63%	37%

Survey Instrument

A survey questionnaire has been designed for this survey keeping in view three important aspects of the study: a) impact on poverty, b) impact on health and c) impact on women empowerment. It is possible that in a later stage this sample can be compared with HIES data and also with labor force survey and so we have kept a similar socio economic profile questions based on HIES survey questionnaire. The survey instrument has 5 modules. Modules are

Module A: Information on Work and Workplace

Module B: Information on Women empowerment

Module C: Information on Respondent and Household

Module D: Information on Health

Module E: Information on Wealth

A total of 112 questions will be asked to each respondent.

Survey Supervision

The Asian Center for Development is an organization based in Bangladesh and is managed by Dr. A.K. Enamul Haque, Professor of Economics, United International University. He has been involved in surveys for many years.

Dr. Haque was the Survey Designer for the Gender Analysis of Government Budget in Bangladesh conducted by North South University. He was a member of the technical committee on Survey by Transparency International and a Member of the Executive Committee of Bangladesh Bureau of Statistics. Besides this, Dr. Haque teaches research methods including data collection and data analysis at universities in Bangladesh and also at the South Asian Network for Development and Environmental Economics (SANDEE). He was part of team of BIDS which conducted that national survey to analyze the impact of solar home systems in Bangladesh.

Given this background, BGMEA can consider using Dr. A.K. Enamul Haque and his Center to be an independent agency for collection of data for 2014. In addition, he will produce a report on the Social Impact of the Garment industry in Bangladesh which shall be disseminated by the Asian Center for Development.

Quality Monitoring

The survey will seek advice from BBS.

Timeline

The timeline for data collection is 7 months from the date of signing the contract.

Ownership and Dissemination

The dataset will be the property of BGMEA while the report will be published independently by ACD. Copies of the report shall be made public through ACD webpage.