PROPOSED INDICATORS FOR SELECTING NEEDY PARTICIPANTS FOR THE VULNERABLE WOMEN'S BENEFIT (VWB) PROGRAM IN URBAN BANGLADESH

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With assistance from
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Prepared by:
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Table of Contents

List of Figures

Acronyms

BBS	Bangladesh Bureau of Statistics
DWA	Department of Women Affairs
FYP	Five-Year Plan
HIES	Household Income and Expenditure Survey
ICVGD	Investment Component of VGD
IFPRI	International Food Policy Research Institute
IMLMA	Improved Maternity and Lactating Mother Allowance
MoWCA	Ministry of Women and Children Affairs
NSSS	National Social Security Strategy
PMT	Proxy means testing
PSU	Primary sampling unit
SDG	Sustainable Development Goals
VGD	Vulnerable Group Development
VWB	Vulnerable Women's Benefit
WFP	World Food Programme

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1. Introduction

Bangladesh has extensive experience with targeted social safety net programs. Most of these programs are widely credited with providing the poor access to food and improving their livelihoods. However, the need for assistance is overwhelming. According to the latest poverty estimates, 24.3 percent of the country's 163 million people were poor in 2016 (BBS 2019). Improving program targeting to reach the poorest of the poor effectively is needed to address the wide gap between the resources available for safety net programs and those in need of support.

Targeting effectiveness indicates the extent to which program benefits are received by the neediest versus the less needy or non-needy population. A well-targeted intervention improves the real income, food consumption, and nutrition of the neediest without providing those benefits to members of society who are better off. As such, targeting benefits to those most in need is a cost-effective way of implementing a program.

Upon request from the Ministry of Women and Children Affairs (MoWCA) and the World Food Programme (WFP) in Bangladesh, the International Food Policy Research Institute (IFPRI) undertook this study to develop indicators for targeting the urban poor through the Vulnerable Women's Benefit (VWB) program in Bangladesh.

Notably, MoWCA and WFP have previously commissioned IFPRI to undertake studies to identify evidence-based indicators to improve the targeting performance of the Vulnerable Group Development (VGD) program and the Improved Maternity and Lactating Mother Allowance (IMLMA) program (Ahmed 2018a, 2018b). MoWCA has adopted the targeting criteria that IFPRI proposed for both programs.

This study is organized into seven sections. Section 2 describes the proposed VWB program. Section 3 provides the methodology for developing the targeting criteria. Section 4 describes the data used for analysis. Section 5 identifies promising indicators that have significant potential for pro-poor targeting for the VWB program in urban areas. Section 6 tests the errors of exclusion and inclusion using IFPRI's proposed targeting indicators. Section 7 summarizes the findings and draws conclusions.

2. Vulnerable Women's Benefit (VWB) Program[1]

The United Nations adopted the Sustainable Development Goals (SDGs), which outlines the development targets for member nations based on the concept of 'Leaving No One Behind.' This is an approach to ensure that the most vulnerable groups of the population benefit from development.

Countries have enacted various policy frameworks to align with and achieve the SDGs. In Bangladesh, the National Social Security Strategy (NSSS) proposes programmatic reforms for existing safety net programs based on the lifecycle approach to address the risks faced by vulnerable individuals at different life stages. The NSSS proposed to formulate a new VWB program to support poor and vulnerable women during their working age. The Government of Bangladesh plans to consolidate all social safety net programs targeted to vulnerable women under VWB to serve as an umbrella program. MoWCA is responsible for designing the VWB program (GED 2015).

The COVID-19 pandemic has led to severe downsizing of economic activities globally. The economic impact for women is particularly severe because they generally earn less, save less, and hold insecure jobs or live close to poverty (UN 2020). The pandemic could upend the previous achievements and deepen the pre-existing inequalities and vulnerabilities.

Both the NSSS and the 8th Five Year Plan (FYP) indicate that there is insufficient coverage of social security programs for the urban poor in Bangladesh, particularly considering the recent trend of extensive migration of poor people from villages to urban areas. In 2010, 30.1 percent of rural households benefited from a social security program compared with only 9.4 percent of urban households (GED 2015). The NSSS specifically mentions that urban social security schemes should be expanded to provide equitable support for vulnerable women and other population groups in metropolitan areas.

2.1 Objective

The VWB program aims to support vulnerable women in urban areas by strengthening their skills to generate income and bring them to formal economic sector.

2.2 VWB Program Design

MoWCA and WFP/Bangladesh have been discussing the design of the VWB program in urban areas considering the gradual rise of urban poverty due to migration of poor people from villages to cities in search of better livelihoods.

[1] This section is based on information provided to IFPRI by the World Food Programme (WFP) Bangladesh.

The VWB program aims to ensure that women can meet their essential needs including food and nutrition for themselves and their households to build their resilience and livelihoods through digital cash transfers.

There are several differences between the rural and urban contexts that should be accounted for when designing social safety net programs. Unlike rural women, urban women are more engaged in different economic activities. Some poverty indicators used for beneficiary selection in rural areas may not be applicable in urban areas (such as ownership of cultivable land). MoWCA plans to pilot the urban VWB program in early 2022 in two urban locations—one city corporation and one municipality—on a limited number of households. During the pilot phase, the program will identify informal settlements in Dhaka that are most affected economically by COVID-19 and enroll vulnerable women living in those settlements in the program. The lessons from the pilot will be mainstreamed from 2023 when the VWB program is scaled up in more urban locations. The Department of Women Affairs (DWA) under MoWCA has developed a joint workplan with WFP to design the VWB urban program.

The VGD program uses a set of proxy indicators to assess the poverty situation and vulnerability of the applicants. This is also standard practice as suggested by the NSSS. The VWB program will use such proxy indicators to identify and select its beneficiaries, as well.

In general, social safety net programs in Bangladesh are affected by significant targeting errors of exclusion (i.e., when truly needy people miss out on the opportunity to benefit from a program) and errors of inclusion (i.e., when undeserving people are selected as beneficiaries). To minimize targeting errors, the beneficiary selection criteria should be meticulously developed, and the selection process needs to be monitored regularly.

A core mandate of the NSSS is to transition from food-based to cash-based support for social safety net beneficiaries, and it recommends the VWB program to provide cash transfers to its participants. Cash support is more in line with the socio-economic condition of urban areas where food distribution may not be a preferred option. The initial idea is to provide urban beneficiaries with cash support equivalent to the market value of 30.3 kilograms (kg) of fortified rice valued at around BDT 1,500 per month. However, a context analysis may be required with definite recommendations for designing the benefit package that can truly support urban poor women and their households.

A key component of VWB is its capacity building strategy, which is embedded in the VGD program. However, the same skill development modality may not be feasible for urban areas as most poor urban women are engaged in some sort of income-earning activities, such as being a house maid, construction laborer, restaurant worker, etc., and thus, they may not be available during the day to attend the capacity building training sessions regularly. MoWCA may need to undertake a context analysis and review international experiences to develop an effective capacity building strategy for the VWB program.

The content of training modules should be designed to serve the needs of urban women beneficiaries. According to WFP, the capacity building component of VGD and the Investment Component of VGD (ICVGD) are effective in rural areas. However, the urban context is different and rural income-generating activities may not be relevant for urban areas. Thus, appropriate training modules on income-generating activities should be developed for the urban VWB program.

3. Methodology for Developing Targeting Criteria

Proxy means testing (PMT) is used in many developing countries to identify the poor for targeted social safety net programs. PMT uses multivariate regression to predict income or consumption expenditure that correlate certain proxies, such as assets and household characteristics. Points are assigned to selected indicators, and eligibility for program benefits can be determined based on a total score, as a proxy for household income (Ahmed and Bouis 2002; Grosh and Glinskaya 1997). For instance, Sharif (2009) built a safety net targeting system for Bangladesh based on PMT.

Prediction by any model, however, is never exact; therefore, errors are expected. Indeed, results from a growing number of countries around the world show that exclusion errors generated by proxy means tests are very high. In Indonesia, Alatas et al. (2016) find that 93 percent of the poorest 5 percent of households in the Program Keluarga Harapan (PKH) conditional cash transfer scheme were excluded. In northern Kenya, a recent study by Oxford Policy Management showed that 62 percent of the target population of the poorest 26 percent of households were excluded (Silva-Leander and Merttens 2016). In Mexico, the exclusion error on the *Oportunidades* program was estimated to be around 70 percent, against an intended coverage of the poorest 20 percent of the population (Veras, Peres, and Guerreiro 2007). In Cambodia, around 56 percent of households living in poverty were excluded by the PMT targeting mechanism (World Bank 2011). An AusAID study assessed the accuracy of PMT regression in Bangladesh, Indonesia, Rwanda, and Sri Lanka, which found that PMT has high in-built errors. Exclusion and inclusion errors vary between 44 percent and 55 percent when 20 percent of the population is covered, and between 57 percent and 71 percent when 10 percent is covered (AusAID 2011). A study assessing the effectiveness of PMT targeting methodology brought together international evidence to show that it is both inaccurate and arbitrary. The authors contend that, by design, PMTs only weakly predict a household's level of poverty (Kidd, Gelders, and Bailey-Athias 2017).

Several reasons explain inaccuracies in the PMT targeting. Underlying them is that regressions rarely explain more than half of the variation in consumption expenditure between households (Coady, Grosh, and Hoddinott 2004).

Instead of relying on predicted income or consumption expenditure following a regression-based PMT approach, IFPRI researchers in this study assess household welfare status by analyzing actual household consumption expenditure data and its distribution for a select set of indicators for targeting the poor for the VWB program. For the analysis, IFPRI uses consumption expenditure data from the 2016 Household Income and Expenditure Survey (HIES) conducted by the Bangladesh Bureau of Statistics (BBS). The 2016 HIES is described in the following section.

The analysis uses the household consumption expenditure as a proxy for income for two reasons. First, expenditures are likely to reflect permanent income and, hence, are a better indicator of consumption behavior (Friedman 1957). Second, consumption expenditure data are more widely used for measuring poverty than income data because of the difficulty in accurately measuring income. According to Deaton (2008), expenditure data are less prone to error, easier to recall, and more stable over time than income data.

The measure of total consumption expenditure data from HIES is quite extensive. In brief, consumption is measured as the sum of total food consumption and total nonfood (nondurable and durable) expenses. Expenditures on individual consumption items were aggregated to construct total expenditures. Quantities of goods produced by the household for home consumption were valued at the average unit market prices of commodities.

Since expenditures are intended to serve as a proxy for income, the terms "expenditure" and "income" are used interchangeably in this report.

The analysis of data from the 2016 HIES disaggregates the survey sample households into per capita expenditure quintile groups. This approach ranks households along the distribution of total per capita expenditures into five intervals of wellbeing. Households in the first quintile represent the poorest 20 percent of all households in the income distribution, whereas those in the fifth quintile represent the richest 20 percent of all households. The report provides the results of an ex-ante evaluation of the levels of exclusion and inclusion errors in targeting VWB program benefits to the needy.

4. Data Source

The data for the analysis in this study are from the 2016 HIES, conducted by BBS, Ministry of Planning, Government of Bangladesh. HIES is a nationally representative household survey, which is conducted on a regular basis every five years, with the latest survey round in 2016.

HIES is one of the core activities of the BBS, which contains a wide range of socioeconomic information at the household-level. The BBS uses HIES data to estimate poverty and its correlates in Bangladesh. HIES also provides information that allows the Government of Bangladesh to formulate evidence-based policies and enables results-based monitoring of indicators for the FYP process and the SDGs. The World Bank provides technical assistance to HIES.

There were major changes that were introduced to the 2016 HIES methodology to improve the quality of data and to provide data that are representative at the district-level for all 64 districts nationwide. The survey covers the ever highest number of households, comprised of 46,080 households drawn from 2,304 primary sampling units (PSUs) from 20 strata: eight rural, eight urban, and four metropolitan areas, namely Dhaka, Chattogram, Khulna, and Rajshahi. The survey was administered from April 2016-March 2017 (BBS 2019).

5. Promising Indicators for Effectively Targeting the Poor

Using the 2016 HIES data, IFPRI has identified seven indicators that are highly correlated with poverty, are observable, and verifiable. Among the set of indicators analyzed using the data, these are the most promising for the four metropolitan areas and the eight other urban areas in the HIES urban sample of households. These indicators have strong potential for effectively selecting vulnerable women from poor households for the VWB program.

An earlier version of this study included 'households with no mobile phone' as one of the indicators. On 26 December 2021, IFPRI presented the study results to DWA and WFP officials. It was recommended to drop the 'no mobile phone' indicator because VWB participating households must own a mobile phone to receive mobile phone cash transfers. Therefore, IFPRI replaced this indicator with 'households with a 19 to 59 years of age member who is a maid servant,' which is highly correlated with poverty.

The NSSS recommends that the VWB program targets women 19-59 years of age (GED 2015). IFPRI proposes that women 19-59 years of age living in urban households are eligible to participate in the VWB program if they satisfy at least two out of the seven targeting criteria listed below:

- **Occupation**
    1. Household head is a rickshaw/tricycle van puller (6.9 percent of all metropolitan and 5.0 percent of all other urban households)
    2. Household head is a non-agricultural day laborer (2.5 percent of all metropolitan and 3.9 percent of all other urban households)
    3. Households with a member 19-59-years of age who is a maid servant (6.8 percent of all metropolitan and 1.4 percent of all other urban households)

- **Assets**
    4. Households with no electric fan (1.6 percent of all metropolitan and 12.3 percent of all other urban households)
    5. Households with no television (21.7 percent of all metropolitan and 37.7 percent of all other urban households)

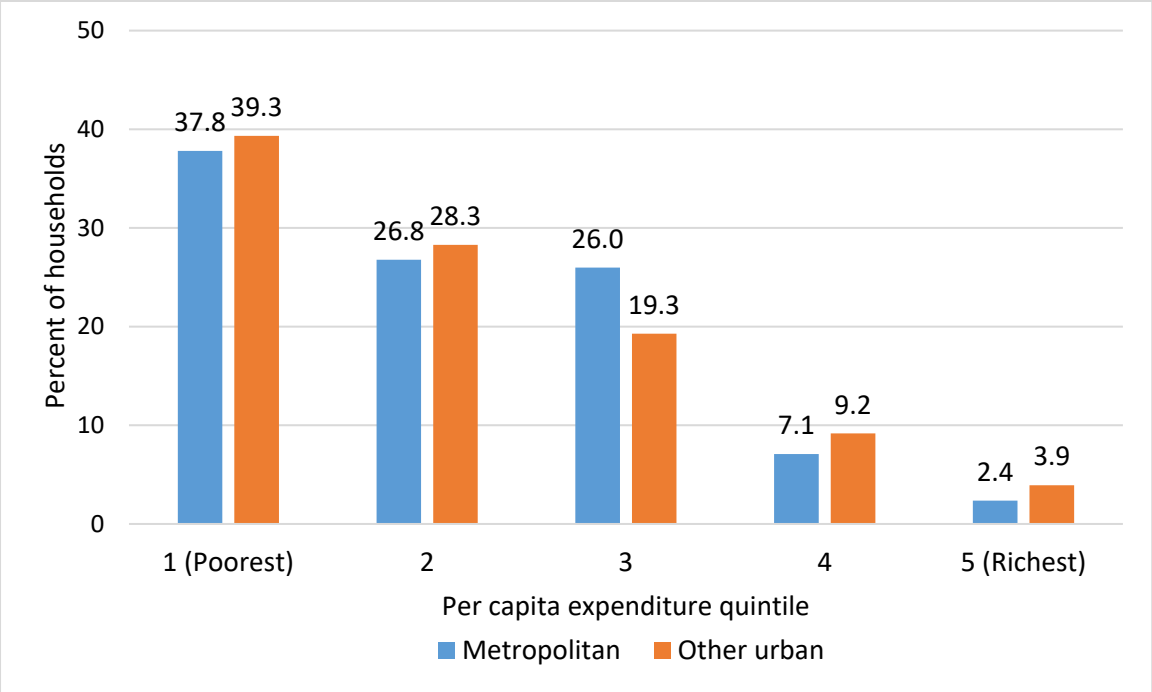
- **Dwelling Characteristics**
    6. Households with walls made of hemp/hay/bamboo, etc. (7.8 percent of all metropolitan and 12.1 percent of all other urban households)

- **Location of Living**
    7. Households situated in slums or other low-income areas (15.0 percent of metropolitan and 4.5 percent of all other urban households)

5.1 Occupation

Household head is a rickshaw/tricycle van puller: Heads of 6.9 percent of all metropolitan and 5.0 percent of all other urban households are either rickshaw or tricycle van pullers. Among these households, 38 percent in metropolitan areas and 39 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.1).

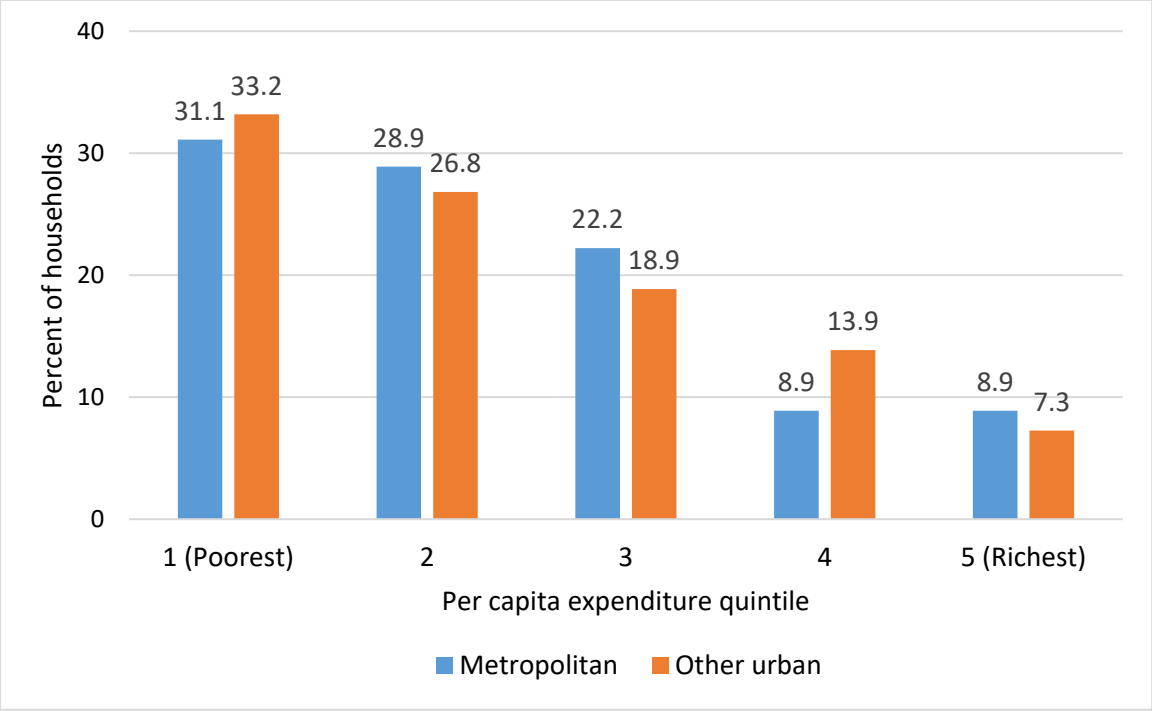
Figure 5.1 Percentage of household head is a rickshaw/van puller by income groups



Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

Household head is a non-agricultural day laborer: Heads of 2.5 percent of all metropolitan and 3.9 percent of all other urban households are non-agricultural day laborers. Among these households, 31 percent in metropolitan areas and 33 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.2).

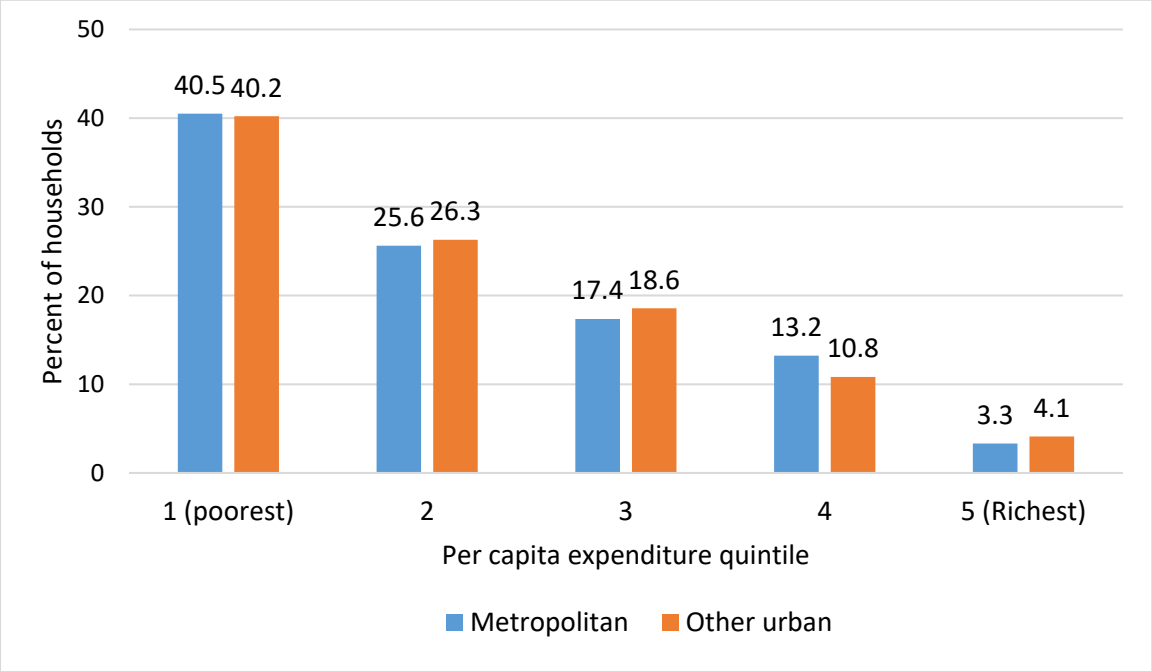
Figure 5.2 Percentage of household head is a non-agricultural day laborer by income groups



Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

Households with a member 19-59 years of age who is a maid servant: 6.8 percent of all metropolitan and 1.4 percent of all other urban households have someone residing in the household who is 19-59 years of age and a maid servant. Among these households, 41 percent in metropolitan areas and 40 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.3).

Figure 5.3 Percentage of households with a member 19-59 years of age who is a maid servant by income groups

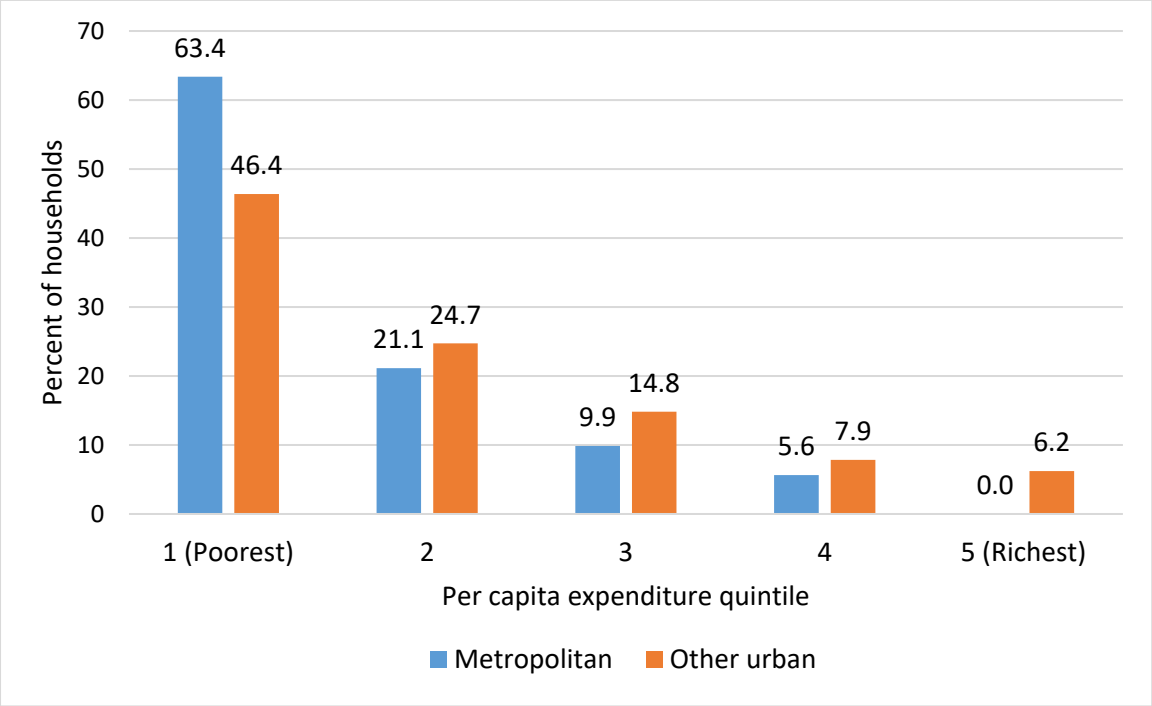


Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

5.2 Assets

Households with no electric fan: 1.6 percent of all metropolitan and 12.3 percent of all other urban households do not have an electric fan. Among these households, 63 percent in metropolitan areas and 46 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.4).

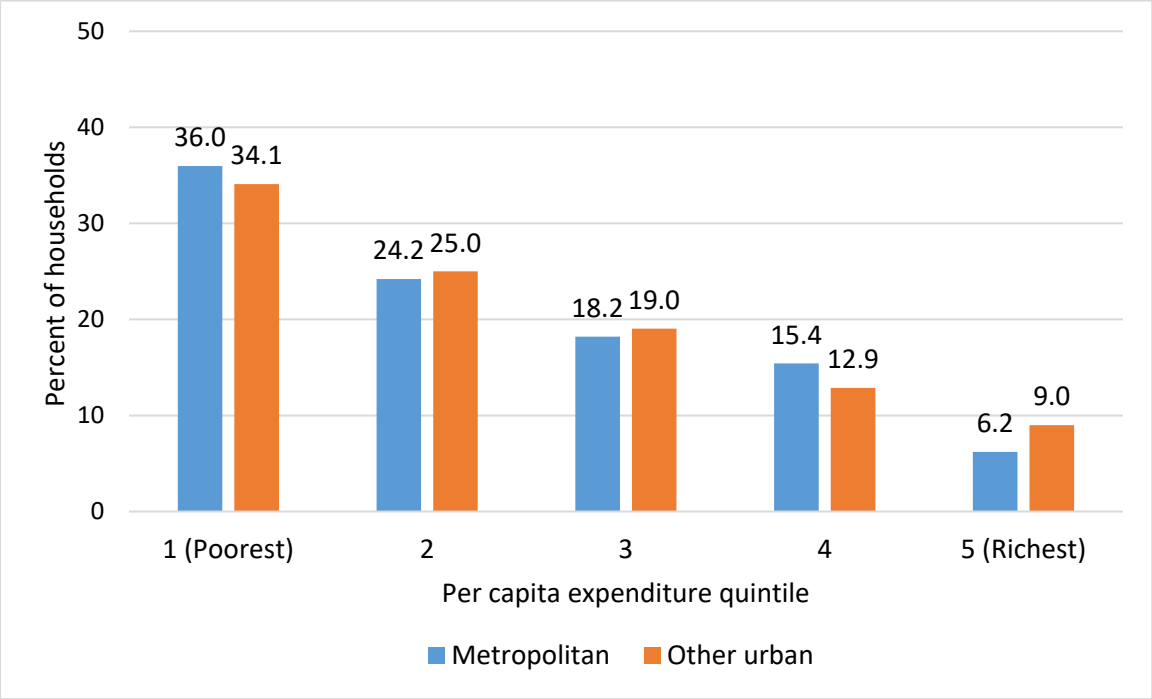
Figure 5.4 Percentage of households with no electric fan by income groups



Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

Households with no television: 21.7 percent of all metropolitan and 37.7 percent of all other urban households do not have a television. Among these households, 36 percent in metropolitan areas and 34 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.5).

Figure 5.5 Percentage of households with no television by income groups

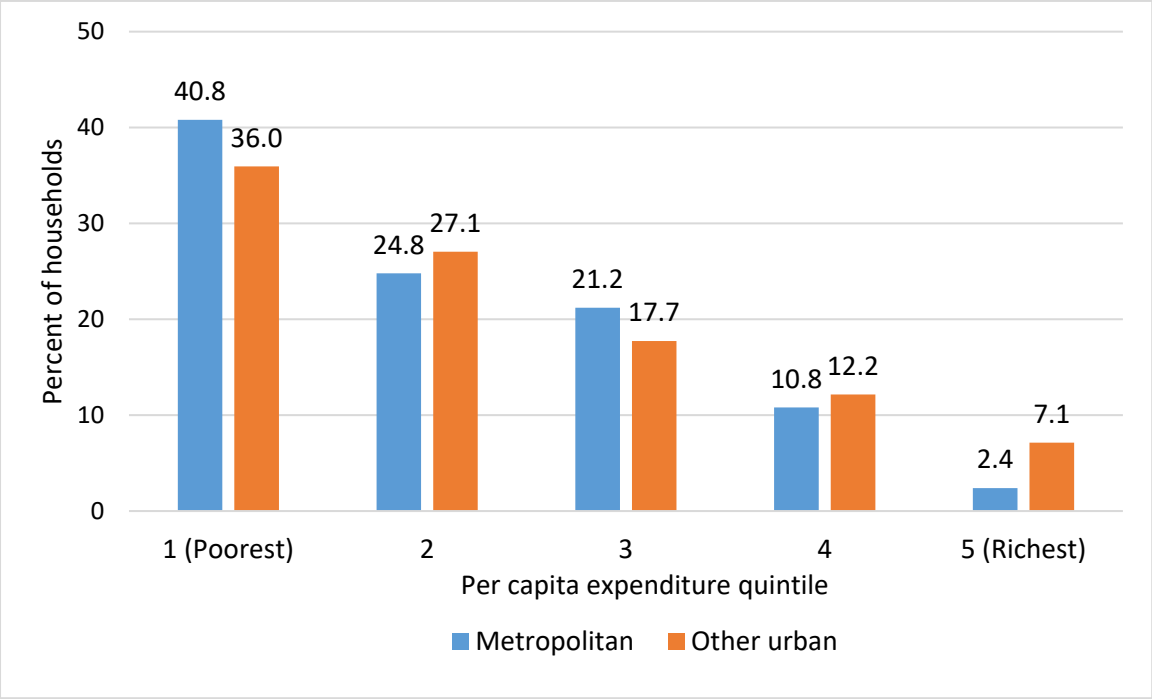


Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

5.3 Dwelling Characteristics

Households with walls made of hemp/hay/bamboo, etc.: 7.8 percent of metropolitan and 12.1 percent of other urban households live in houses with walls made of hemp/hay/bamboo, etc. Among these households, 41 percent in metropolitan areas and 36 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively. They are likely to be slum dwellers (Figure 5.6).

Figure 5.6 Percentage of households with walls made of hemp/hay/bamboo, mud, unburnt bricks etc. by income groups

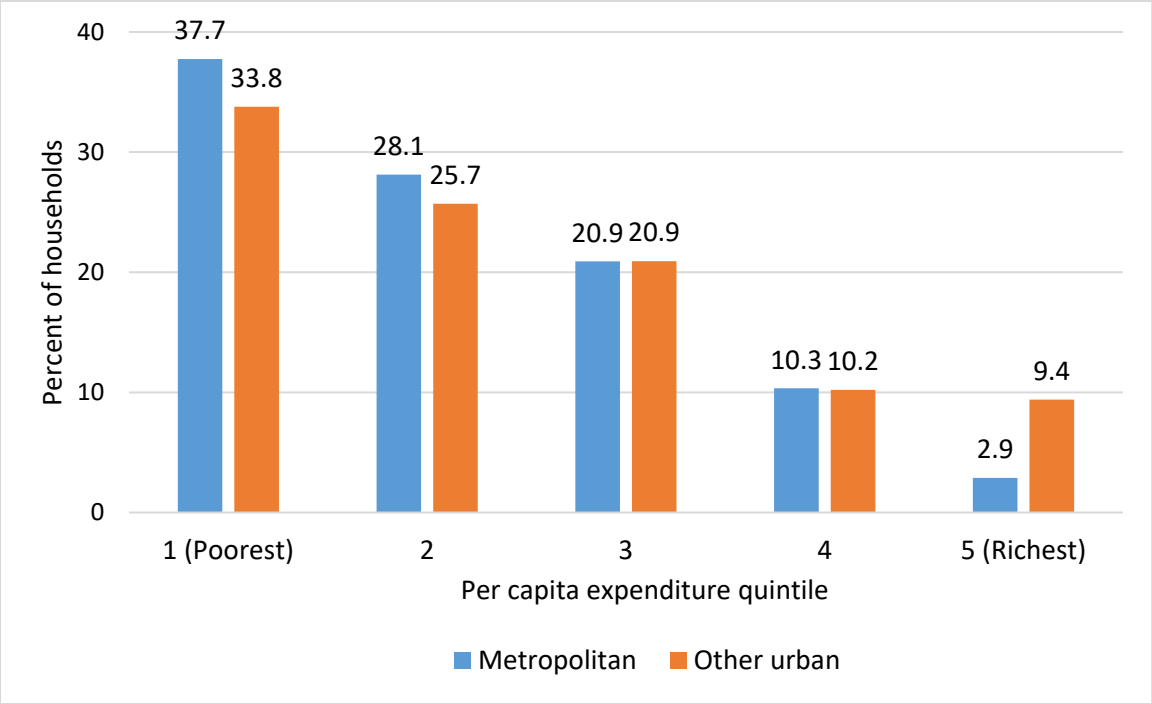


Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

5.4 Location of Living

Households live in slums or other low-income areas: 15.0 percent of metropolitan and 4.5 percent of other urban households live in slums or other low-income areas. Among these households, 38 percent in metropolitan areas and 34 percent in other urban areas belong to the poorest 20 percent in the income distribution of all metropolitan and all other urban samples of survey households, respectively (Figure 5.7).

Figure 5.7 Percentage of households live in slums and other low-cost areas by income groups



Source: 2016 Household Income and Expenditure Survey, Bangladesh Bureau of Statistics (BBS).

6. Errors of Exclusion and Inclusion

How well does the proposed set of seven indicators predict the poor for the VWB program? Since prediction by any model is never exact, it is expected that some poor will be incorrectly identified as nonpoor and some nonpoor will be incorrectly identified as poor. The first type of misidentification is termed as an 'error of exclusion,' and the second type, as an 'error of inclusion.' Any action to decrease the first type of error will normally increase the second type of error, and vice versa (Grosh 1994).

The population living below the poverty line is classified as poor. According to the latest poverty estimates, 24.3 percent of the people in Bangladesh were poor in 2016. Rural and urban headcount poverty rates were 26.4 percent and 18.9 percent, respectively (BBS 2019). Using the 18.9 percent poverty rate for urban areas as the cut-off points, IFPRI researchers used the following method for evaluating the performance of the proposed set of indicators to identify the poor for the VWB program.

First, IFPRI researchers ranked per capita expenditure of the total urban sample of households from the 2016 HIES from highest to lowest. Next, the bottom 18.9 percent of the sample urban households were selected to represent the actual poor. Under the proposed criteria, a household is considered poor if it meets at least two of the seven urban targeting criteria (indicators). Therefore, if any actual poor household meets two of the relevant targeting criteria, that household is correctly identified as poor by the proposed sets of indicators. However, if any actual poor household does not meet any of the targeting criteria, then that household is incorrectly predicted as nonpoor, and hence, an error of exclusion. If the actual nonpoor is inaccurately predicted as poor, then this represents the error of inclusion.

Results of an ex-ante evaluation of the levels of accuracy of identifying poor and nonpoor in this study show that 85.3 percent of the urban poor meet at least two of the seven criteria—that is, they were correctly identified as poor by the proposed sets of indicators. Conversely, this means that 14.7 percent of urban poor households are truly poor but are misidentified as nonpoor—that is, the error of exclusion is 14.7 percent for urban areas. The rate of this exclusion error appears to be small. Exclusion errors are much higher for indicator-based targeting using PMT in many countries. As shown in Section 3 of this report, PMT exclusion errors range from 56 percent in Cambodia to as high as 93 percent in a program in Indonesia.

An ex-ante assessment in this study shows that 51.6 percent of the actual nonpoor are inaccurately classified as poor, which represents the error of inclusion. Since the inclusion error is quite high, it can significantly increase the cost of implementing the VWB program if not monitored. It is important to minimize the inclusion error to improve the cost-effectiveness of the program. It is possible that a household is well-off yet meets at least

two of the seven targeting criteria. For example, a household may not have a television because it uses a laptop instead, or it may not have an electric fan because it has an air conditioner. These affluent households are likely to self-exclude themselves by not seeking the small benefit offered by the VWB program. Nevertheless, an innovative, community-based screening mechanism may be developed to minimize inclusion errors.

Although the rate of exclusion error for the proposed set of targeting indicators for the VWB program is quite small, concerted efforts should be made to ensure that the truly poor—who might be misidentified as nonpoor by the proposed targeting indicators—are not excluded from the VWB program. First, the VWB program and its eligibility criteria for participation should be announced well at the community-level. Next, a transparent grievance redress mechanism should be in place so women who believe that they deserve to be included in the program can appeal to the VWB program selection committee.

7. Summary and Conclusions

The 2015 National Social Security Strategy (NSSS) has proposed to formulate a new Vulnerable Women's Benefit (VWB) program to support the poor and vulnerable women during their working age. The program aims to ensure that women can meet their essential needs including food and nutrition for themselves and their households to build their resilience and livelihoods through digital cash transfers. A key component of VWB is its capacity building strategy. The content of training modules should be designed to serve the need of urban women beneficiaries. The responsibility of designing the VWB program has been assigned to the Ministry of Women and Children Affairs (MoWCA).

In Bangladesh, the determinants of poverty in rural and urban settings are quite different. Given this context, and based on analysis using 2016 HIES data, IFPRI proposes seven urban indicators that could strengthen the targeting performance of the VWB program. These observable and verifiable poverty indicators would serve the purpose of identifying poor and vulnerable women. Using these indicators as beneficiary selection criteria, a female applicant 19-59 years of age would be considered eligible if her household satisfies at least two of the following seven criteria:

1. Household head is a rickshaw/tricycle van puller
2. Household head is a non-agricultural day laborer
3. Household has a member 19-59 years of age who is a maid servant
4. Households with no electric fan
5. Households with no television
6. Households with walls made of hemp/hay/bamboo, etc.
7. Households situated in slums or other low-income areas

An ex-ante assessment of predicting power of the proposed sets of indicators to identify the poor suggests that the indicators correctly identify an overwhelming majority of the urban poor (85 percent). Conversely, the indicators misidentify 15 percent of the actual urban poor as nonpoor. Key steps for minimizing errors of exclusion include announcing the VWB program and its eligibility criteria at the community-level and establishing a well-designed grievance redress mechanism.

As the socioeconomic status of households and broader contextual factors gradually change over time, the proposed set of beneficiary selection criteria should be reviewed at regular intervals (e.g., every seven to eight years) to determine whether any revisions are required.

In sum, the proposed indicators represent a promising way to identify and select urban poor women who deserve to benefit from the VWB program.

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