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ARE WE UNDERCOUNTING POVERTY? TARGETING POOR FOR DEVELOPMENT INTERVENTION IN KHULNA CITY

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ABSTRACT

Urban Partnership for Poverty Reduction Project (UPPRP) is a mega-development project in Khulna city. This study questions the method applied to identify the poor for development intervention. In doing so, the paper measures the Poverty of Community Development Committee (CDC) members, identified as poor by the UPPRP, and non-CDC members using the Multi-dimensional Poverty Index (MPI). UPPRP considered 16 sub-indicators under three dimensions, namely infrastructure, livelihood and land tenure, and housing to identify the CDC member. Based on an extensive literature review, a total of six dimensions and 21 indicators were selected to calculate the MPI of CDC and non-CDC members of slum dwellers in Khulna city. The study was conducted in two wards, ward 13 and 14, where ward 13 is considered by the UPPR project as critically poor and ward 14 is a relatively high developed ward. In this paper, an alternative approach to poverty measurement has been proposed to address the issue of how such a UPPRP project is still unable to address poverty. A total of 54 households were surveyed in ward 13 (n= 26) and 14 (n= 28) by simple random sampling. Analytical Hierarchy Method is used to weigh the six dimensions and 21 indicators. The major findings of the study are: (i) slum dwellers of Khulna city are multi-dimensionally poorer than income poverty and (ii) CDC members are not necessarily the poorest of the poor. The study concludes that the UPPR project is unable to target the poor for development intervention and certainly there is a possibility of undercounting poverty. The findings of the study need to be validated by a large sample to confirm the findings but surely can be a template for a broader understanding of poverty in Khulna city and beyond.

KEYWORDS: SDGs, multidimensional poverty index, poverty undercounting, Khulna, Bangladesh.

1. INTRODUCTION

Poverty is considered as a multidimensional phenomenon and can be measured from different perspectives (Prathapage, 2006; Manap, Zakaria, & Hassan, 2017). Poverty is often measured from an income perspective, but poverty is a combination of other aspects of wellbeing (Manap, Zakaria, & Hassan, 2017). Generally, all poverty measures fall into two approaches, the direct and indirect or income approach (Alkire & Santos, 2014). The direct approach indicates a lack

of basic needs such as access food, shelter, clothing, transportation and services. This approach often represents a view of multidimensional deprivation (Short, 2016). On the other hand, the indirect or income approach indicates the poverty line as US$1.90 per day set by the World Bank (WB, 2018; Castaneda, et al., 2016) that can fulfil some fundamental basic needs (Short, 2016). Recently, the international development community has moved towards the multidimensional approaches i.e. the Human Development Index, the Millennium and Sustainable Development Goals and the Multidimensional Poverty Index (MPI) (Ngo, 2017).

In developing countries, alleviating poverty is a pressing issue as it is the first objective of the Sustainable Development Goals. Thus, it is very important to identify who live in poverty and to measure the intensity of individual poverty for policy intervention (Churchill & Smyth, 2017). In Latin America and the Caribbean, education, health, living standards, employment and social protection dimensions have been used for poverty measurements (Zavaleta, 2017). In India, poverty has been measured by income/expenditure dimension (Pal & Bharati, 2011). Studies explored that there are other dimensions that have impacts on poverty, which includes geographical characteristics - land ownership concentration, macroeconomic conditions, employment and wages, aid and public investment, and trade liberalization and institutions (Churchill & Smyth, 2017).

In Bangladesh, around 31.5 percent are still living below the national poverty line (US$1.90/day) (Rezvi, 2017). There are 3,007 slums and squatter clusters of a minimum of ten households, and about 1.6 million slum residences live in Dhaka city. Among them, 50.7% of people live in slums and 49.3% in squatters settlements (Seguftah, 2009). In Khulna, about 19.5 percent of 1.3 million people live in a 520-slum cluster (Roy, 2014). The clusters are small in size, but the density of population within the clusters is quite high (CUS, NIPORT and Measure Evaluation, 2006). Therefore, a significant part of the urban population is living in slums and squatters whose condition is often considered to be poor. Both Government agencies, NGOs and donor agencies are pouring logistic and financial supports directly through basic amenities such as water and sanitation facilities. However, these projects mainly target poor people by implementing self-selecting techniques, which are often acquainted with excluding 'the poorest of the poor' (Sen & Begum, 2008 , p. 4).

Bangladesh Government and the United Nations Development Program (UNDP) undertook the Urban Partnership for Poverty Reduction Project (UPPRP) in 23 towns and cities of Bangladesh including Khulna city. It was the single largest urban poverty reduction program in Bangladesh which started in March 2008 and completed in August 2015. The purpose of the project was to bring improvements in livelihoods and living conditions of the poor living in the selected cities and towns of Bangladesh. It mainly targeted the poor and extremely poor, especially women and girls (UNDP, 2016). The project mobilized and organized poor households living in slums to form a Community Development Committee (CDC) to provide support. Firstly, households were recruited into a Primary Group (PG) of 30 members and up to 10 PGs formed a CDC. The CDCs were the 'engine' of the project and led by PG Leaders and Secretaries. The CDCs basically represented an entire settlement of 200 to 300 families. Additionally, Community Facilitators (CFs) were selected from the respective community and paid a stipend. Every

administrative ward (31 wards in Khulna city) is run by a representative, and the CFs are working under the supervision of the representative. They are considered as a central point for communicating and supporting the CDCs to interact with the project. The CDCs were assembled to form clusters and they eventually represented respective political/administrative wards (UPPRP, 2015).

To measure ward wise poverty, sixteen sub-indicators under three indicators – infrastructure, livelihood, and land tenure and housing – were used to measure poverty by computing a respective aggregate score of the 31 wards of Khulna city. The project had a Settlement Improvement Fund (SIF) and Socio-Economic Fund (SEF). The SIF provided fund for cleaning water sources, access to sanitation, paved paths and improved drainage. The Socio-Economic Fund (SEF) gave grants for starting businesses, apprenticeships, training, and assistance for children to continue at school who has the chance to drop out. At the same time, the project had activities concerning health and nutrition program, and preventing domestic violence and minimizing early marriage (UNDP, 2016). The 31 wards were classified into four categories: critically developed, very low developed, low developed and comparatively highly developed ward. These categories were used to distribute SIF and SEF interventions – the lower the score, the higher the priority.

The UPPRP project serves around 816,000 households or CDC members in Khulna city (UPPRP, 2015). The CDC members were provided with services such as training facilities and apprenticeships, financial grant up to 7000 takas for establishing a small enterprise, other facilities like provision of tube well and latrine, and savings and credit programs (Table 1).

The goal of the UPPRP is to target the poorest of the poor. This research tries to answer the obvious question: is it targeting the poorest of the slum and squatter people. To measure poverty, this paper uses multi-dimensional poverty index (MPI) to measure poverty between the CDC and non-CDC members considering six dimensions (income and livelihood, infrastructure, political, land tenure and housing, spatial and financial accessibility) of poverty. The rest of the paper is organized as follows. The second section explains the MPI along with the justification for selecting the six dimensions. The third section is the materials and methods. The fourth section is Analysis which is followed by the conclusion in the fifth and final section of the paper.

2. CONCEPT OF MPI

The MPI is considered as an alternative and complementary to income-based poverty measure. The MPI pictures both the headcount of those in multidimensional poverty (multidimensional deprivation) and the average deprivation score experienced by poor people (intensity of poverty). In addition to income poverty, the MPI draws a comprehensive picture of people living in poverty and can be used for comparison across countries, regions and localities. And unlike the income adjusted poverty and inequality-adjusted Human development index, the MPI considers multiple deprivations as it uses microdata of health, education and standard of living at the household and individual level (UNDP). Since not dimensions and indicators of poverty are equal – for example, income definitely weights more than education – an Analytical Hierarchy Method (AHP) is used in this study to calculate the relative weights of indicators.

Numerous authors have used diverse dimensions and indicators for measuring MPI (Sydunnaher, Islam, & Morshed, 2018). For instance, Liang & Xiaolin (2013) developed an MPI using five dimensions, such as education, employment, health, housing, and the environment. Sulaiman, Azman, & Khan (2014) used five dimensions, namely, economics, living conditions, social fragmentation, environmental hazard and financial accessibility. In this study, the MPI is composed of six dimensions and 21 indicators. The six dimensions are income and livelihood, social and physical infrastructure, political, land tenure and housing, spatial and financial accessibility (Table 2). Sydunnaher, Islam, & Morshed (2018) used the first five dimensions. However, the financial accessibility is taken as an additional indicator because of the financial assistance provided by the UPPR project. A short description of all the dimensions and their justification are in the following.

Income and Livelihood: This dimension is consists of six indicators: years of schooling, school enrollment, employment, saving, loan, and asset. A household will be considered deprived of income and livelihood dimension if 1) no household member has completed 5 years of schooling; 2) any school-age child is not enrolled in school; 3) no members have regular source of earning for at least 6 months; 4) fails to save regularly the least amount of money (no true number); 5) depends on any formal institutions or money lenders for getting loan to fulfil their demand; and 6) does not possess any asset, such as television, radio, refrigerator, mobile, bicycle, motorcycle, car or truck (Sulaiman, Azman, & Khan, 2014).

Infrastructure: This dimension includes access to clean drinking water, adequate sanitation, cooking fuel, and electricity, representing the living standard of the household. A household is considered deprived if the household does not have access to clean drinking water, household members share toilet, has no electricity and uses wood, leaves or dung as a cooking fuel (Sydunnaher, Islam, & Morshed, 2018).

Political: Political dimension signifies the ability of poor people to raise their voices. For instance, squatter settlers living in government land have to retain informal relationships with local political leaders for securing their access to services (e.g., access to open space, water supply, or sanitation). To do so, they use their voting power as a collateral to get service and facility informally (Hackenbroch, 2013). According to Sowgat (2006) residents living in railway slums in Khulna City clinch to the current political leaders for allowing them to live in slum illegally and majority people depend on them to lessen intra-community conflicts instead of formal administration (police). A household is considered deprived in political dimension if the household members lack freedom of choice, e.g. voting right and lack of social rights, meaning, they depend on the political leaders for fulfilling their service and facility, and informal access to law and order (Sydunnaher, Islam, & Morshed, 2018).

Land Tenure and Housing: This dimension represents the tenure security and settlement types (formal or informal) of poor people. Low-income renters are not capable of paying the household rent and often starts to live in marginal land or on government land or in an informal settlement. As a result, they are being deprived of basic services and other amenities such as waste disposal, water supplies, toilets, etc. Due to lack of tenure security, eviction has become a

common issue for the urban poor. A household is considered poor in land tenure and housing dimension if they often face eviction problems because of living on government land, temporary housing, and lack of access to amenities due to lack of tenure security (The World Bank Group, 2001).

Spatial: Spatiality refers to the vicinity of service and facilities. Most of the slum dwellers live in informal settlements rather than formal settlement, which limits their accessibility to job place, market and government services. A household is considered deprived in spatial dimension if the distance to services and facilities, such as school (≥500 m), market (≥500 m), hospital (≥1200 m) and water source (≥100 m) is beyond the standard distance (Sydunnaher, Islam, & Morshed, 2018).

Financial Accessibility: Financial accessibility is an unabated part of interventions to improve the living standard of poor people. Financial empowerment enables low-income people to strengthen their economic condition by providing credit, savings, and debt (ABLE Financial Empowerment Network, 2017). A household is deprived of financial accessibility if none of the members has access to financial institutions for credit or not being provided with any training facilities.

The six dimensions and 21 indicators are summarized in table 1 below.

Table 1: Dimensions and Indicator of Measuring Poverty

Dimensions	Indicators	Source
Infrastructure	Drinking water source	Alkire & Santos (2014), Sydunnaher, Islam, & Morshed (2018)
	Sanitation	
	Cooking fuel	
	Electricity	
Financial accessibility	Assistance received by formal financial institutions	Sulaiman, Azman, & Khan (2014), Pareek & K.V (2012), ABLE Financial Empowerment Network (2017), Rewilak (2013), Ravallion (2017)
	Access to training by formal financial institutions	
Income and Livelihood	Years of schooling	Ehrenpreis (2006), National Statistics Bureau (2014), Manap, Zakaria, & Hassan (2017)
	School enrollment	
	Employment	
	Savings	
	Loan	
	Asset	
Spatial	Distance to education	Datt (2017), Sydunnaher, Islam, & Morshed (2018)
	Distance to hospital	
	Distance to market	
	Distance to a water source	
Political	Voting right	Gerlitz, Apablaza, Hoermann, Hunzai, & Bennett (2019), Hackenbroch (2013)
	Dependency on political leader	
Land tenure and housing	Housing condition Eviction Land ownership	Hossain (2006), UNPRP (2018)

Source: Authors, 2019

3. Materials and Methods

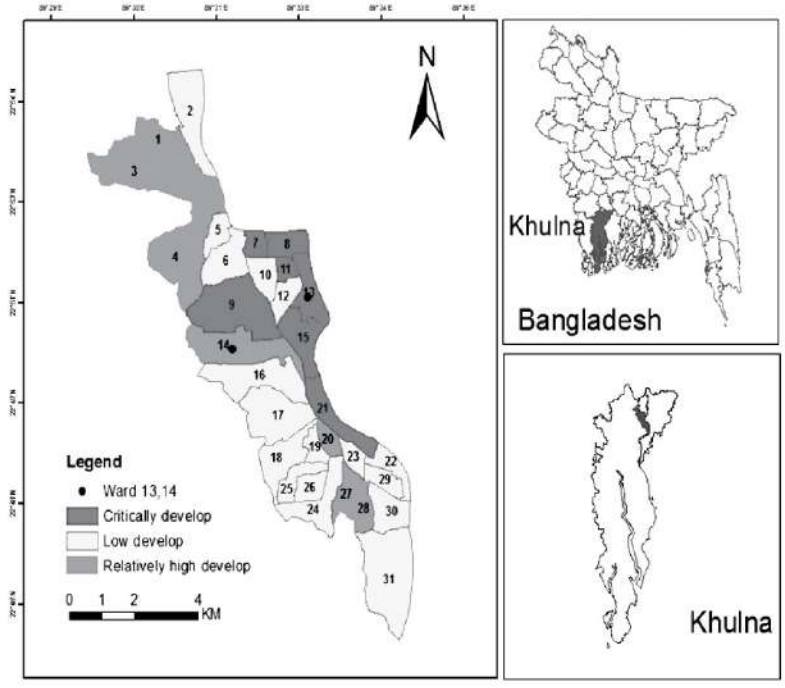
3.1 Study area

The study area is Khulna city, which is the third-largest metropolitan city of Bangladesh. About 19.5 percent residents of Khulna city lives in slum areas in about 520 slum clusters (CUS, NIPORT and Measure Evaluation, 2006). The UPPRP project was conducted in 31 wards of Khulna city. Among the wards, the survey was carried out in two wards, ward 13 and 14 (Figure 1). According to the aggregate scoring of UPPRP, ward 13 is critically developed (the lowest score 24.06) and ward 14 is relatively high developed ward (the highest score 43.55) (UPPPR, 2018). A list of services provided in ward 13 and 14 are in table 2.

Table 2: Service and Facilities Provided to the CDC

Services	Bangladesh	Khulna city	
		Ward 13	Ward 14
Apprenticeships (1-10, girls; 1-7, boys)	No record	300	190
Training	240,000	30	50
Agricultural input	No record	-	130
Hepatitis B vaccine	No record	-	43
Business startup money provision	No record	122	-
Latrine provision	187,000	100 (approximate)	20
Better water supplies	247,000 (households)	No record	No record

Source: UPPRP, 2015



Source: UPPRP, 2015

Figure 1: Urban Poor Settlement Mapping of Khulna City Corporation Area

3.2 Sampling and data collection

Key informant interviews were conducted among UPPRP staffs in KCC to locate CDC and non-CDCians. Primary data acquired from semi-structured interviews and Focus Group Discussions (FGDs) among the local CDC and non-CDCians with a structured questionnaire. The study was micro-survey based among the slum dwellers who were selected using random sampling technique. A total of 54 households were selected randomly from ward 13 (n=26) and 14 (n=28), respectively, based on availability. Secondary data had been collected from the UNDP office. Fifteen respondents (five slum residents, eight from representatives of each ward, and the Town Manager and one of his co-workers of the UPPRP project was interviewed as an expert to develop the AHP method for prioritizing the dimensions and indicators.

3.3 Analytic Hierarchy Process (AHP)

There are different methods for assigning weights in MPI: equal weighting (EW), principal components analysis (PCA)/factor analysis (FA), benefit of the doubt (BOD), budget allocation process (BAP), analytic hierarchy processes (AHP), unobserved components models (UCM), conjoint analysis (CA) and public opinion methods. The EW method is the most used method but considers all indicators equally important. PCA/FA methods are used for weighting only when there lies a correlation among indicators. A Maximum of 10-12 indicators is optimal for BAP. The benefit of the doubt (BOD) have an estimation problem and is country-specific. Public opinion measures 'concern' instead of importance and high number of indicators can yield inconsistencies. In conjoint analysis, weight estimation is complex and depends on question structure and respondents. UCM weights are country-specific and rely on acquirable adequate data.

The Analytic Hierarchy Process (AHP) is the most comprehensive multi-criteria decision-making tool, developed by Thomas L. Saaty in 1980 (Barzekar, Aziz, Mariapan, Ismail, & Hosseni, 2011). It solves complex decision problems by prioritizing and ranking the criteria and indicators (Barzekar, Aziz, Mariapan, Ismail, & Hosseni, 2011). The AHP changes individual preferences into a ratio scale (1 to 9) and provides inconsistency measures of individual preferences (Bhatta & Doppler, 2010; Nardo, et al., 2005). The AHO is widely used because of its simplicity, flexibility, ease of use and transparency (Barzekar, Aziz, Mariapan, Ismail, & Hosseni, 2011).

3.4 Steps of research

The research is done using the follows:

Identification of dimensions and indicators: Due to the multidimensional character of poverty, 21 indicators were grouped under six dimensions: income and livelihood, infrastructure, political, spatial, land tenure and housing and financial accessibility.

Stakeholder analysis for developing weights by AHP: The AHP is based on a pairwise comparison of criteria or dimensions and indicators. As there are six dimensions, the priority matrix is 6*6. The matrix is denoted as A= {aij} where aij is the element of ith row and jth column of the matrix. Pairwise comparison accomplishes by using the Saaty Scale, value 1 to 9, or the reciprocal of such value to every cell of the matrix. The reciprocal value of the upper diagonal denoted as aij= 1/aij (aij>0), used to finish the lower triangular matrix (Table 3). Each value in the column is divided by the column sum to get its normalized score, and the sum of each column is 1

Table 3: Pairwise Comparison Matrix

	Income and Livelihood	Financial Accessibility	Political	Spatial	Infrastructure	Land Tenure and Housing
Income and Livelihood	1	3	7	9	1	2
Financial Accessibility	0.33	1	5	3	1	0.33
Political	0.14	0.2	1	3	0.2	0.2
Spatial	0.11	0.33	0.33	1	0.14	0.5
Infrastructure	1	1	5	7	1	1
Land Tenure and Housing	0.5	3	5	2	1	1

Source: Author, 2019

By averaging the rows, the normalized Eigenvector can be obtained, which is called the priority vector and it shows the relative weight of the comparing elements (Table 4).
The maximum eigenvalue (λmax) was used to determine the consistency and the consistency index (CI) is calculated using $(CI) = \frac{(\lambda\ max\ "-\ n").}{"n - 1"}$

Table 4: Normalized Matrix

	Income and Livelihood	Financial Accessibility	Political	Spatial	Infrastructure	Land Tenure and Housing	Weight
Income And Livelihood	0.32	0.35	0.3	0.36	0.23	0.4	0.33
Financial Accessibility	0.11	0.12	0.21	0.12	0.23	0.07	0.14
Political	0.05	0.02	0.04	0.12	0.05	0.04	0.05
Spatial	0.04	0.04	0.01	0.04	0.03	0.10	0.04
Infrastructure	0.32	0.12	0.21	0.28	0.23	0.20	0.23
Land Tenure and Housing	0.16	0.35	0.21	0.08	0.23	0.20	0.21

Source: Author, 2019

Thereafter, a consistency ratio is calculated using the following formula.

$$\text{Consistency ratio (CR)} = \frac{"\text{Consistency index (CI)}"}{"\text{Random index (RI)}"}$$

If consistency ratio C. R< 0.10, then values are consistent. If the consistency ratio C.R ≥ 0.1, then recalculation is required and the process needs to be repeated (Figure 2).

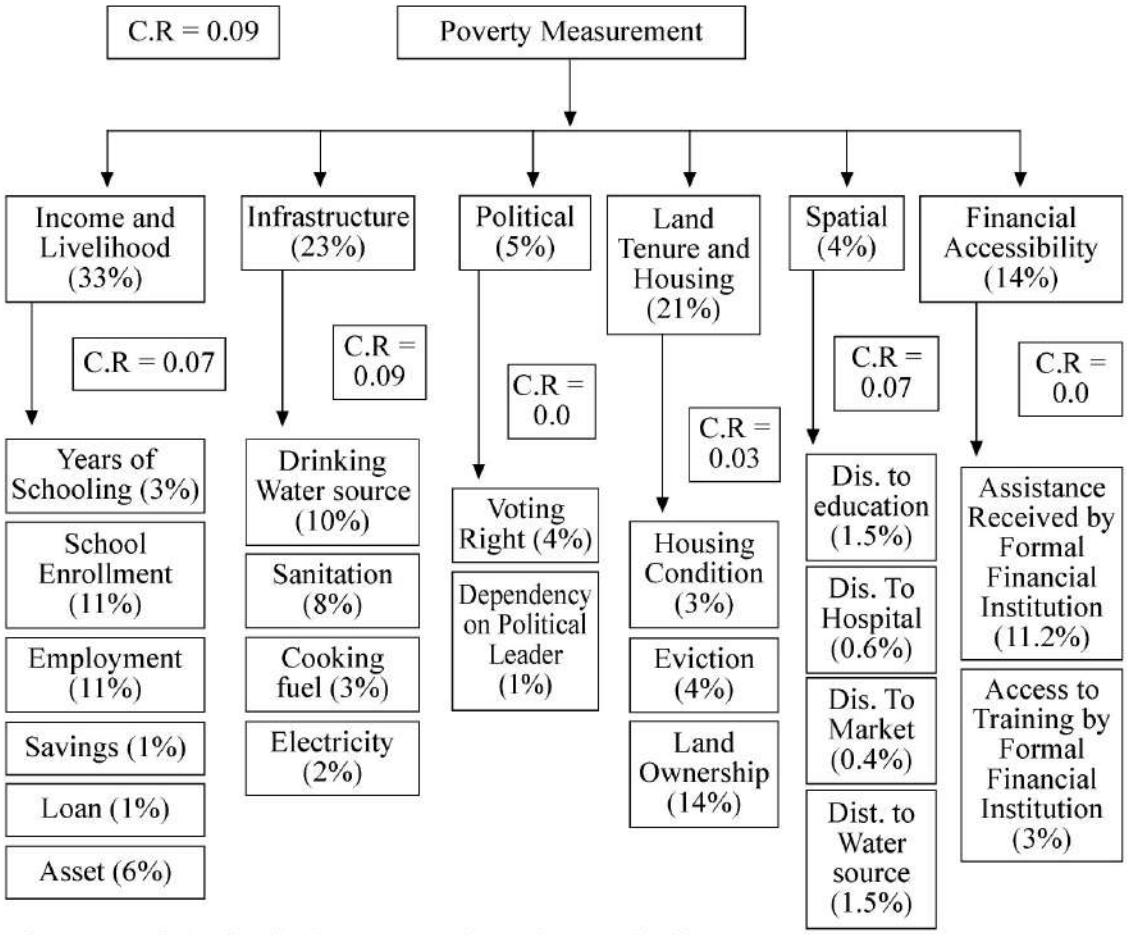


Figure 2: Weight distribution among dimensions and indicators
Source: Author, 2019

Table 5: Random Index (RI)

N	1	2	3	4	5	6	7	8	9
RI	00	00	.58	.90	1.12	1.24	1.32	1.41	1.43

Source: Saaty (1994)

Calculating the deprivation score of each household: A deprivation score was calculated by the weighted sum of the number of deprivations in the indicators. The deprivation score for each household lies between 0 and 1, where non-deprivation (no deprivation in any indicators) score is 0 and deprivations (in all selected indicators) score is 1.

$$C_i = w_1 I_1 + w_2 I_2 + \ldots + w_d I_d$$

Where Ii is the deprivation score and wi is the weight of indicators. A threshold was used to determine the multi-dimensionally poor, which called the poverty cut-off (k). According to it, the household is poor if ci $\geq$k (Table 6).

Table 6: Multidimensional Poverty Index (MPI)

Serial No	Households					Weights (%)
	1	2	3	4	5	
Household size	4	3	5	7	2	
Income and livelihood						
Years of schooling	0	1	0	0	0	3
School enrollment	1	0	0	0	0	11
Employment	0	0	0	0	0	11
Savings	0	1	1	0	0	1
Loan	1	1	1	0	0	1
Asset	0	0	0	0	0	6
Infrastructure						
Drinking water	0	1	0	0	1	10
Sanitation	1	1	1	1	0	8
Cooking fuel	1	1	0	1	1	3
Electricity	0	0	0	0	0	2
Political						
Drinking water	0	1	0	0	1	10
Sanitation	1	1	1	1	0	8
Cooking fuel	1	1	0	1	1	3
Electricity	0	0	0	0	0	2
Political						
Voting right	0	0	0	0	0	4
Dependency on political leader	0	1	0	0	0	1
Land tenure and housing						
Housing condition	0	0	0	0	0	3
Eviction	1	1	0	0	0	4
Land ownership	1	0	0	0	0	14
Spatial						
Dis. To education	1	0	1	0	0	1.5
Dis. To hospital	0	0	1	1	1	0.6
Dis.to market	1	0	1	1	0	0.4
Dis to water source	0	1	1	0	0	1.5
Financial accessibility						
Assistance received by formal financial institutions	1	0	0	1	0	11
Access to training by formal financial institutions	1	0	0	1	1	3
Deprivation score	56.9	32.5	14	26	16.6	
Is the household poor ($(c \geq 17)$? (cut off point =100/6 dimensions)	yes	yes	no	yes	No	

Source: Author, 2019

Computing the Multidimensional Poverty Index (MPI): MPI is acombination of headcount ratio (H) and intensity of poverty (A).

$$H = \frac{\text{Number of people are multidimensionally poor (q)}}{\text{Total population (n)}} = \frac{4+3+7}{4+3+5+7+2} = 0.67$$

$$A = \frac{\text{Censored deprivation score (c)}}{\text{Number of people are multidimensionally poor (q)}} = \frac{(56.9\times4)+(32.5\times3)+(26\times7)}{4+3+7} = 36.22\ \%$$

Therefore, MPI = H×A = 0.67 ×0.36 = 0.24

Comparison between CDC and Non-CDCians: Based on MPI calculation, the multidimensional poverty rate of both CDC and non-CDCians were compared.

4. RESULT

4.1 Multidimensional poverty

Table 7 shows the multidimensional poverty rate of both Ward 13 and Ward 14, which includes both the CDC and non-CDCians. MPI value of 0.18 and 0.52 for CDC and non-CDCians, respectively, for ward 13. Similarly, MPI value was 0.15 and 0.19, respectively, for CDC and non-CDCians. It was found that the majority of the ward 14's CDC members experience fewer deprivations than ward 13's CDC members. This is mostly due to the land ownership slums of ward 13 where slum dwellers live on railway land and are deprived of infrastructure services like tube well, latrine, etc. Besides, it was also found that non-CDC (0.52 and 0.19) members are more multi-dimensionally poor than CDC members (0.18 and 0.15), respectively, in ward 13 and 14. The reason of this deprivation is that non-CDC members are deprived of services and facilities, such as, apprenticeships, nutrition program, a grant for establishing a small enterprise, and other facilities like tube well, latrine, etc. to improve their living conditions.

Table 7: Multidimensional Poverty

Area		MPI	H	A
Ward 13	CDC	0.18	0.596	29.44
	Non - CDC	0.52	0.95	54.8
Ward 14	CDC	0.15	0.5	30.03
	Non - CDC	0.19	0.523	37.12

Source: Author, 2019

4.2 Multidimensional poverty and income poverty

Figure 3 shows the differences between MPI (cut of point = 100/6) and income poverty (cut off point = US$ 1.90 per day). It was seen that the majority of slum dwellers, including CDC and non-CDC members of both wards, are multi-dimensionally poor (63%) even though CDC members get facilities from the project. The UPPRP's interventions were based on three dimensions and this made CDCians poor in other dimensions. At the same time, most of the slum dwellers' incomes are above the poverty line of US$ 1.90 per day, and only 17% of the total faced income poverty. Therefore, the MPI dimensions and indicators used in the research is more comprehensive than simple income poverty; thus, income poverty is unable to envisage the real scenario of poverty.

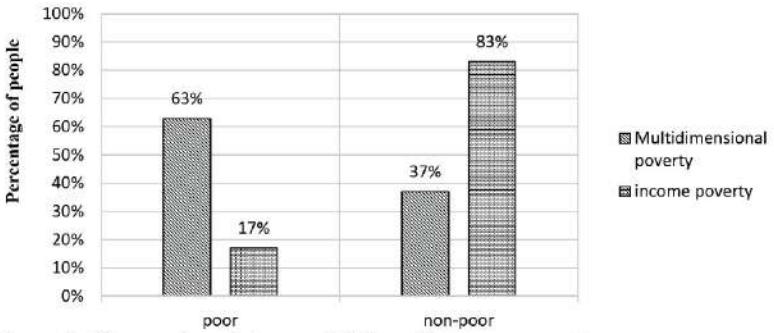


Figure 3: Comparison between MPI and income poverty
Source: Author, 2019

4.3 Contribution of each indicator to MPI

Table 8 shows the composition of MPI in the two wards. Slum people of ward 13 have settled in informal settlements on government land, thus having a lack of tenure security to provide basic infrastructure services. Therefore, infrastructure dimensions (sanitation and latrine 8% each) are the main contributor to the MPI in the ward.

In ward 14, people are more vulnerable to financial accessibility dimensions. To be specific, getting access to training (20%) as no training facilities are offered there, and it has a large impact on the MPI value. Moreover, the slum located far from physical service and facilities like market, hospital and water supply; deprivation in terms of these spatial dimensions contribute 6%, 8% and 7%, respectively, to the MPI value of the ward 14.

Table 8: Percentage Contribution of Indicators

Dimensions	Ward 13 (%)	Ward 14 (%)
Drinking water source	8	6
Access to training by formal Financial institution	4	20
Asset	6	2
Assistance received by formal Financial institution	5	4
Cooking fuel	9	7
Dependency on Political Leader	6	4
Dis. to education from home	4	2
Dis. To Hospital	3	8
Dis. To Market	3	6
Dist. to Water source	3	7
electricity	0	0
Employment	4	2
Eviction	5	3
housing condition	6	4
Land Ownership	6	2
Loan	7	5
Sanitation	8	3
Savings	4	7
School Enrollment	5	5
Years of Schooling	4	3

Source: Author, 2019

4.4 Is UPPRP underestimating urban poverty?

The UPPRP estimated 4,37,411 poor people in the 31 wards of Khulna city, and the project support is based on the three dimensions of poverty: infrastructure, livelihood and land tenure and housing. However, there is a significant discrepancy between the UPRRP's estimation of the poor and the MPI. Firstly, the MPI of non-CDCians show that a significant portion of them are poor. Our field survey of non-CDC households are poorer than CDC households. Therefore, we can conclude that UPPRP's identification of the poor is flawed. However, a large sample of CDC and non-CDCians can confirm the mentioned finding. Secondly, the project considers only three dimensions of poverty, namely, infrastructure, livelihood and land tenure and housing. Because poverty is a comprehensive issue, it cannot be measured by the three dimensions only. Our MPI calculation shows that factor like access to training facility (20% in ward 14) can significantly affect poverty. From the above two findings, we can hypothesize that the UPPRP undercounted the number of poor living in Khulna city and was unable to target the poorest of the poor when providing financial assistance, training and facilities. Large sample size can surely validate the above claims of this study.

Several reasons not targeting the poorest of the poor were found during the KII and field survey. First, receiving support from the UPPRP is subject to individual household's awareness to opportunities. Secondly, local ward councillors and community facilitators may have influenced the selection of poorest of the poor. During our field survey, we found several cases when non-CDCians are reluctant to involve with project offering financial support, loan and micro-credit scheme due to religious reasons.

5. CONCLUSION

The UPPRP is one of the biggest mega-investment projects undertaken by the United Nations Development Programme, Bangladesh. The project is an initiative to target the poorest of the poor urban population or slum dwellers and to uplift their livelihood status. It considers three key areas of poverty, namely, infrastructure, livelihood and land tenure and housing status to identify the poor. This research is an endeavour to evaluate the UPPRP's strategy to measure poverty, and thereafter, to propose an alternative approach to measure poverty. A total of six dimensions and 21 indicators were used to measure MPI using AHP.

The major findings of this paper are the following. Firstly, UPPRP's approach is limited to three dimensions of poverty and cannot target the poorest of the poor. Eventually, the non-poor or non-CDCians are not necessarily the poorest of the poor. Secondly, Secondly, multiple indicators are responsible for the intensity of poverty and limited dimensions and indicators, as used by the UPPRP, is sure to yield biased poverty measurement. Thirdly, social capital and awareness, the influence of the ward councillors and social issues like religious perspective affect the selection of target group. Finally, based on the above findings, we conclude that the UPPRP has undercounted poverty.

One of the major drawbacks of this study is the limited sample size. However, a large and representative sampling along with comparative studies can surely generate better identification of the target population, the slum dwellers in urban settings. Similarly, because poverty is a

multi-dimensional phenomenon, a more comprehensive approach is needed to select dimensions and indicators of poverty.

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