Re-modeling Urban Poverty: A Multidimensional Approach

Jamalludin Sulaiman¹, Azlinda Azman², Zahoor Khan³,*

¹Professor, School of Social Sciences, Universiti Sains Malaysia, 11800 Penang, Malaysia
²Associate Professor, School of Social Sciences, Universiti Sains Malaysia, 11800 Penang, Malaysia
³PhD candidate, School of Social Sciences, Universiti Sains Malaysia, 11800 Penang, Malaysia
*Corresponding Author: zahoor_660@hotmail.com

Abstract Growth and development without giving due attention to income and spatial distribution can be imposing and provide new challenges to poverty issues. The rural-urban exodus of the poor for better economic opportunities, landed in an environment even more devastating to many of the migrants. Although some having access to a decent standard of life, many ended up in pathetic living conditions. This discourse aims to investigate urban poverty in urban dimensions of poverty rather to measure it by income line approach which often does not represent an appropriate yardstick of poverty measurement. This proposal introduces a set of various urban poverty based dimensions index to be referred as the Multidimensional Urban Poverty Index (MUPI) to re-evaluate the urban poverty on a wider socioeconomic scale. The proposed index consists of economic, socioeconomic, financial accessibility, living conditions and social fragmentation dimensions. The dimensions are aggregated, by assigning different weights based on previous theoretical and empirical studies. Conceptualization and measurement of urban poverty within the urban dimensions have valuable policy implications and targets the marginalized communities in the urban areas. The study will contribute to the existing field of knowledge on one hand and will contribute to better outreach efforts by the state to help the nation’s development agenda. The national poverty line index is not appropriate to identify the urban poor given its many limitations. This study integrates selected weighted socioeconomic indicators to reveal a more comprehensive picture of the deprivations and human rights violations based on accepted urban dimensions.

Keywords Urban Poverty, New Approach, Multidimensional Assessment

Introduction

The issue of poverty and the socioeconomic conditions of the general population has remained a big challenge since human civilization. Poverty is still a persistent issue in Asia and is on the rise in some countries which in turn is further worsening the access of the poor to the economic opportunities through which they could build up their assets and enhance income in order to come out of the poverty cycle (Naseem, 2003). Unlike the slow growing developing countries, the rapid growing countries like Malaysia, Singapore and Taiwan have made remarkable progress in the field of economics and have magically resolved the issue of inequality, gender disparity and financial exclusion on a wider scale. The incidence of poverty and hard core poor have alleviated at large but rapid growth, rural urban migration and urban expansion has posed new challenges of urban poverty on rapid growing economies (Baker & Schuler, 2004).

The rural-urban exodus of the poor for better economic opportunities, landed in an environment even more devastating to many of the migrants. Although some having access to a decent standard of life, many ended up in pathetic living conditions. Living in the urban areas imposes extra expenses upon the poor in different ways. A same basket of basic goods and services are relatively more expensive in urban areas. The rural poor enjoy some basic facilities such as access to drinking water, fuel for cooking, housing, social security (from family members and relatives). The urban poor spent a substantial amount of their scarce earnings to have access to these facilities. Moreover, the urban poor are more vulnerable to natural disasters and human diseases due to living in unsafe places, high pollution and environmental hazards.

The dimensions of poverty in the urban areas are different than the dimensions in the rural areas. Some important dimensions of urban poverty are given by Baker and Schuler (2004) as;

- Comoditization (reliance on the cash economy)
- Overcrowded living conditions (slums and unsafe houses)
- Environmental hazard (stemming from the density and hazardous location of settlements, and exposure to multiple pollutants

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Social fragmentation (lack of community and inter-household mechanisms for social security, relative to those in rural areas)

Crime and violence

In order to identify urban poor, there is a need to assess the changing determinants of urban poverty in urban dimensions rather to use a single measure of poverty for both urban and rural poor.

Conceptualization of Poverty

Poverty is often considered as lacking or deficiency of economic resources. For many years this situation is explained through the perspective of material shortcomings, especially from the income perspective. However, poverty is no longer objectively defined, but exists in a multidimensional nature (Narayan, 2000). The selection of poverty assessment method identifies the targeted group of the poor. The application of correct measurement is essential in identifying certain target groups which will enable the researchers to suggest appropriate policies in addressing the issue of poverty. Each definition would describe the poor differently and would result in different estimation and extent of poverty (Rasool, Harun, Salleh, & Idris, 2011). In order to comprehend urban poverty, we have to go through the established definitions and concepts of poverty.

Monetary Approach

The most commonly used approach by the economists to explain poverty is the monetary approach. Mitlin (2004) analyzed 23 poverty reduction strategies papers. He found that income/expenditure approach is the most commonly used techniques to identify the poor. This approach concentrates poverty as monetary phenomenon. Under the monetary approach, poverty may either be defined in terms of international monetary line approach or national poverty line approach. The names of the countries that prefer this approach are given table-1.

Basic Needs Approach

The basic needs approach has long history and it became widely discussed and practiced in late 1970s. The philosophy behind the basic needs approach is that everyone should be able to pursue well-being. The central notion of the basic needs approach is essentially materialistic. It works by identifying a bundle of basic consumption and assess whether the population has adequate access to it or otherwise. It has been generally accepted that the package should contain commodities that are universally needed, such as shelter, sanitation, clean water, food etc., however, there has been no universal agreement on what the bundle should precisely contain. Proponents argue that such package would essentially guarantee a person’s subsistence. If any individual has inadequate access to these commodities, then he/she may be considered as poor, and vice versa.

Capability Approach

Capability approach was originally developed by Sen (1985). This approach includes non-income components such as life expectancy, literacy and infant mortality to measure poverty. Sen (1985) concentrated on the quality of life and emphasized on the removing of obstacles so that people could have more freedom to function. He explained basic capability as the freedom to do basic activities necessary to avoid poverty. The capability approach explains how individuals function to achieve their different needs. Robeyns (2005) emphasized that capability approach put emphasis on on what people are effectively able to do.

Social Exclusion Approach

Social exclusion is defined as ‘a process when individuals or groups are excluded whether fully or partially from the participation with the society they live in’ (Townsend, 1987). Townsend (1987) explained that a community or group of people will be considered as deprived who are excluded by ordinary living pattern, customs and activities. Taylor (1999) further supported the idea of social exclusion approach in explaining poverty using the economic, political and cultural dimensions.

Poverty Participation Approach (PPA)

This method provides an inside view about poverty that how the poor by themselves perceive poverty? The earlier methods explained poverty from the perspective of policy makers and researchers but this approach provides an insight into poverty from the victims of the poverty perspectives. Chambers (1997) originated this approach. He pointed out that the participation of the poor themselves in decisions and policies is vital in understanding the meaning and extent of poverty. This approach surprisingly revealed that the poor focused on physical, human, social and environmental issues instead of income as the phenomena of poverty.

Multidimensional Poverty Approach

Income poverty provides useful information but poor people themselves define poverty more broadly to include lack of education, health, housing, empowerment, employment, personal security and more. No one indicator, such as income, is exclusively able to capture the multiple aspects that contribute to poverty. The Multidimensional Poverty Index (MPI) is an index designed to measure acute poverty (Alkire & Santos, 2011). Acute poverty refers to two main characteristics. First, it includes people living under conditions where they do not reach the minimum
internationally agreed standards in indicators of basic functioning’s, such as being well nourished, being educated or drinking clean water. Second, it refers to people living under conditions where they do not reach the minimum standards in several aspects at the same time (Alkire & Santos, 2011). Table-1: Poverty identification; evidence from poverty reduction strategies papers is given in Appendix-1. In a nutshell, there is no consensus among the researchers and policy holders regarding the definition of poverty. Although money metric approach is commonly used to measure poverty in terms of income or expenditure however, this approach has its own shortcomings. Recently, Malaysia revised its definition of poverty and thus differentiated poverty income line for rural and urban, and statistics according to the respective needs and macroeconomic situation of the areas (Rasool et al., 2011). The major drawback of this approach is that it concentrates on monetary aspect while undermine the non-monetary aspects (Chambers, 1997). Understanding urban poverty presents a set of issues distinct from general poverty analysis and thus may require additional tools and techniques. This paper proposes to index urban poverty in terms of ‘multidimensional urban deprivations’. The existing measurements of urban poverty have been given in appendix-1. Taking into consideration the existing literature about rural and urban poverty and major poverty assessment methods the following can be concluded:

1. Poverty cannot be measured using uni-dimensional (income or expenditure) context.
2. There is a difference between urban and rural poverty and their corresponding determinants.
3. The process of rapid growth and economic expansion impose greater challenges of urban poverty.

Relative to rural poverty, urban poverty received less attention and thus resulting in the urban poor being marginalized and invisible in the radar screens of government poverty alleviation programs.

Steps towards the Development of MUDI

Multidimensional Deprivation Index Construction Requires Several Steps. We Explain These Steps One By One

Economics Dimension

Economic dimension represents the economic aspects of the households. Economic dimension comprises of three aspects; income, saving, and ownership of residential house. Information about income, saving and ownership of residential house represent finical health of the household, their vulnerability to economic deprivation and their suitability for credit. A household will be considered deprived on economic dimension if none of the household member has a regular source of income equal or above the international poverty line (US$2 per day) for at least 6 months. Similarly, if a household cannot save a minimum amount (equal to one school going child tuition fee) on a regular bases for at least 6 months then the household will be considered as deprived on economic dimension. If a household member does not live in a safe house then the members of the household are deprived on economic dimension.
Environmental Hazards

Environmental hazard is another dimension of MUDI. This dimension is represented by the status of the home (condition of the house) in which the members of the households are living. If the household members are living in slums they are vulnerable to multidimensional poor and vice versa.

Financial Accessibility

Financial accessibility is another dimension of MUDI. This dimension represents the access of households to formal financial institutions for fulfilling their basic needs such as credit, saving and insurance. An inability on these aspects represents a deprivation on financial aspects. If a household member does not have an access to conventional financial institutions for credit or insurance then the household is deprived on financial accessibility dimension.

Living Conditions

Living conditions such as access to clean drinking water, electricity and adequate sanitation represent a direct measure of standard of life. An assessment on these aspects represents a direct picture that whether the intervention of MFIs has brought any changes to living standard of the clients or vice versa. The household is considered as deprived if the household does have access to clean drinking water or clean water is more than 30 minutes’ walk from home (roundtrip time). Similarly, the household is deprived, on living conditions dimensions, if the household members share toilet. Finally, the household is deprived on living conditions, if the household has no electricity.

Women Empowerment

Women empowerment is the last dimension of MPI. Women empowerment is represented by two indicators; share of women in household income and women participations in Government election. This is a critical aspect which represents the participation of women in Eco-political activities. This aspect particularly represents the role of IMFIs towards the achievement of their social goals. Any positive change in these aspects resulting from the intervention of IMFIs will represent the achievement of their social goals and vice versa. Eventually, microfinance performance index has been developed to represent aggregate socioeconomic impact as a single index.

Social Fragmentation

Social fragmentation is one of the leading problems of the urban poverty. Social fragmentation has been represented by financial and social support of the community for affected household. If a household members do not receive financial and social support at the time of any misshape or emergency the household is considered deprived and socially fragmented. The indicators cut offs has been given in Appex-1, Table-3.

Indicators’ Weights

The indicators of MUDI are assigned double equal weight. All dimensions are weighted equally and then all indicators within each dimension are weighted equally. The details about weight and indicators are given in the following table-1.

Table-1 shows detail about dimensions, indicators and weight assigned to each dimension and indicator. The weight is assigned to each dimension and indicator by double equal weight process – first equal weight is assigned to each dimension and then equal weight is assigned to each indicator within each dimension. The dimensions and indicators represent the socioeconomic and institutional deprivations.

| Dimensions                  | Indicators                                                                 | Indicators weight |
|-----------------------------|-----------------------------------------------------------------------------|-------------------|
| Economic                    | No regular source of income                                                 | 10%               |
| Environmental hazards       | Deprived if the household members live in slums or unsafe house              | 20%               |
| Financial accessibility     | No access to formal Financial institution for credit                         | 10%               |
| Living conditions           | No access to clean drinking water                                            | 6.66%             |
| Social Fragmentation        | Deprived if the household members do not receive any financial support        | 10%               |

Source: Developed by the authors
The Aggregate Deprivation Cut-Off

The deprivation score of each household is calculated with the help of a weighted sum of the number of deprivations, so that the deprivation score for each person lies between 0 and 100. The score increases as the number of deprivations of the person increases and reaches its maximum of 100 when the client is deprived in all component indicators. A person, who is not deprived in any indicator, receives a score equal to 0. Thus;

0 → no deprivation at all on the selected indicators.
100 → multidimensional deprivations based on the selected indicators.

Intensity of multidimensional deprivation is negligible if household score is less than 20. Moderate multidimensional deprived if household score is b/w 20 and 50. High multidimensional deprived if household score is >50 but less than 75. Very high multidimensional deprived if the household score is > 75.

Technical Box-2: The Definition of MUDI

| The MUDI is an index designed to measure households’ deprivations in diverse dimensions. The poor are not deprived in a single aspect (income or health or social aspects etc.) rather they are deprived in multiple aspects therefore; a proper investigation will reveal their multidimensional deprivations based on selected indicators at one hand while the intensity of deprivations for each dimension on the other hand. The MUDI helps to identify incidence of urban deprivation and intensity of urban deprivation. The combination of both; the incidence of urban poverty and intensity of urban deprivation provides insight into pattern of urban deprivation such as what is the contribution of each indicator and dimension in total deprivations? Source: Alkire and Santos (2010) |

Multidimensional Urban Deprivation Index

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The combination of both: incidence of urban deprivation and intensity of urban deprivations will finally yield Multidimensional Urban Deprivation Index (MUDI). MUDI = (Intensity of urban deprivation) *(Incidence of deprivation). The following Table-1 shows artificial data to construct MUDI.

Interpretation of Results

Keeping into consideration the result of table-2, 73.08 percent of the people are multidimensional poor. It has also shown that on average the poor households are deprived by 66.04 percent on the weighted indicators. The MUPI represents the share of the population that is multidimensional poor adjusted by the intensity of the deprivation suffered. Thus the MUDI value is:

\[ MUDI = (\text{Intensity of deprivation}) \times (\text{Incidence of deprivation}) = 0.6604 \times 73.08 \approx 48.26 \]

So 48.26 percent households are multidimensional deprived. Furthermore, MUDI is capable to report deprivation; dimension by dimension and indicator by indicator. The above example shows that the community is particularly suffering from financial accessibility deprivation and social deprivation based on the selected indicators. Similarly, the dimensions based deprivations show that improvement financial and social support is more important than the other indicators but the community is particularly suffering from these deprivations more than the rest of dimensions of deprivation.

Poverty and Human Rights

There is no doubt that freedom from severe poverty is among the most important basic human rights. We are physical being who need access to safe food and water, clothing, shelter, and basic medical care in order to live well or to live at all. People living in severe property lack secure access to sufficient quantities of these basic necessities. Two out of five children in the developing world are stunted, one in three is underweight, and one in ten is wasted. Some 250 Million children between five and 14 do wage work outside their household and often under harsh or cruel conditions.

There is a strong relationship between poverty and human rights. The relationship is direct in the case of basic social and economic human rights, such as the right to a standard of living adequate for the health and well-being of oneself and one’s family, including food, clothing, and housing. The connection is more indirect in the case of civil and political human rights associated with democratic government and the rule of law.

The investigation of deprivations on socioeconomic conditions definitely represents identification of socioeconomic violation of human rights. Thus, this study also shed light on the violation of human rights in terms of selected dimensions in urban areas. For example Table-2 shows that the urban poor are particularly suffering from social rights violation in the form of social fragmentation and economic rights violation in the form living conditions dimensions.
Table 2. An artificial example to develop a Multidimensional Urban Deprivation Index (MUMUDIDI)

| Indicators                                         | 1   | 2   | 3   | 4   | 5   | weights | IBD (%) | DD (%) |
|----------------------------------------------------|-----|-----|-----|-----|-----|---------|---------|--------|
| Household size                                     | 5   | 7   | 6   | 4   | 4   |         |         |        |
| Economic                                           |     |     |     |     |     |         |         |        |
| No regular source of income                        | 1   | 0   | 1   | 1   | 0   | 0.10    | 60      |        |
| No regular saving                                  | 1   | 1   | 0   | 0   | 1   | 0.10    | 60      | 53     |
| Environmental hazards                              |     |     |     |     |     |         |         |        |
| No safe residential house                          | 0   | 0   | 1   | 1   | 0   | 0.20    | 40      | 40     |
| Financial accessibility                            |     |     |     |     |     |         |         |        |
| No access to formal Financial institution for credit| 1   | 0   | 1   | 1   | 1   | 0.10    | 80      | 50     |
| No access to formal Financial institution for insurance| 0   | 0   | 1   | 0   | 0   | 0.10    | 20      |        |
| Living conditions                                  |     |     |     |     |     |         |         |        |
| No access to clean drinking water                  | 1   | 0   | 0   | 1   | 1   | 0.066   | 60      |        |
| No access to adequate sanitation                   | 1   | 1   | 1   | 0   | 1   | 0.066   | 80      | 60     |
| No electricity                                     | 1   | 0   | 0   | 0   | 1   | 0.066   | 40      |        |
| Social fragmentation                               |     |     |     |     |     |         |         |        |
| No financial support in case of emergency          | 1   | 0   | 1   | 0   | 1   | 0.10    | 60      | 60     |
| No social support in case of emergency             | 1   | 0   | 0   | 1   | 1   | 0.10    | 60      | 60     |
| Socioeconomic outcome (Household deprivation on socioeconomic conditions) | 79.16 | 16.66 | 62.5 | 50 | 71 |
| Households Socioeconomics deprivation status       | deprived | deprived | deprived | deprived | deprived |
| Intensity of deprivation                           | high | negligible | high | moderate | high |
| Multidimensional deprived households                | 0.730769 | 73.08 |
| Intensity of deprivation                           | 66.04211 |
| Multidimensional deprivation for an intervention area| 0.660421 | 48.26 |
Conclusion and Policy Implications

This paper briefly evaluates the existing poverty assessment approaches. None of the approach can be used as a single poverty assessment method due to its many flaws. The policy implications of the study are three folds; firstly, it will open up a new dimension of literature in the field of urban poverty by instigating an important area among the academicians and researchers. Secondly, it will provide a better alternative to the stakeholders to investigate urban poverty in terms of urban dimensions on a wider socioeconomic scale rather than a few economic indicators. Last but not the least; the study integrates diverse socioeconomic indicators, after assigning weights and adjustment for inequalities, to depict an overall picture of deprivations and human rights violations using the selected urban dimension.

Appendix-1

| Poverty Measurement Approach          | Dimensions                      | Indicators                                                                 | Advantages                                                                 | Disadvantages                                                                 |
|---------------------------------------|---------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Poverty Line Income (PLI) approach    | Income or expenditure           | A particular level of income necessary to purchase a basket of basic items to sustain life. | Easy to calculate, Quantitative in nature, Can be used for the detection rural and urban poverty, Can be adjusted for heterogeneity | One-dimensional, Ignore important aspects of poverty                           |
| Multi-dimensional Poverty Index (MPI) | Education, Health, Standard of living | Years of schooling, Child enrollment, Child mortality, Nutrition, Electricity, Drinking water, Sanitation, Flooring, Cooking fuel assets | Comprehensive, Quantitative in nature, Applicable across the different regions, Provides more reliable information about poverty | General in nature, Does not differentiate between rural and urban poverty, Does not provide an insight into urban income in detail, Does not take into account urban poverty features like commoditization of the poor economy, social security, access to finance etc. Having technical flows like combine stock and variable concepts. |
| Human Poverty Index (HPI)             | Life expectancy, knowledge, Economic deprivation | The percentage of persons who cannot live more than 40 years of age, Adult literacy, The percentage of people who do not have access to basic facilities | Multidimensional approach, Quantitative in nature, Easily applicable, Can be used across the different regions | General in nature, Does not differentiate between rural and urban poverty, Does not provide an insight into urban income and expenditure in detail, Does not take into account urban poverty features like commoditization of the poor economy, social security, access to finance etc. |
| Participatory Poverty Assessment (PPA) | Understating poverty in local, social and institutional context | Social indicators of poverty, Local concept of poverty, Political indicators of poverty, Institutional indicators of poverty | A comprehensive approach, Covers the social, political and institutional aspects of poverty, Participatory approach, Capable to incorporate urban dimensions of poverty | Qualitative in nature approach which cannot be generalized, Less rigorous scientifically, Difficult in analysis |
Table 2. Major poverty Assessment Measure

| Major means of identification | Minor means of identification |
|-------------------------------|-------------------------------|
| Benin, Burkina Faso, Ethiopia, Gambia, Ghana, Malawi, Mauritania, Mozambique, Niger, Rwanda, Senegal, Tanzania, Uganda, Zambia, Bolivia, Guyana, Honduras, Nicaragua, Cambodia, Sri Lanka, Vietnam, Yemen | Benin, Mauritania, Mozambique, Rwanda, Zambia, Nicaragua |
| Mali, Tanzania, Bolivia, Guyana, Honduras | Burkina Faso (PPA), Ghana (health), Mali (potential poverty-lack of assets), Mozambique (PPA), Niger (PPA), Rwanda (dependency, PPA), Zambia (capabilities, health indicators such as children’s stunting), Bolivia (malnutrition indicators, national dialogue) |

Technical Box-3. Thresholds of MUDI

1. Economic indicators
   - No regular income
     Deprived if none of the household member has regular income equal or above the international poverty line (US$ 2 per day) for at least 6 months
   - No regular saving
     Deprived if none of the household member saves on regular basis.

2. Environmental hazards
   - No safe residential house
     Deprived if the household members live in slums or unsafe house

3. Financial accessibility
   - No access to formal financial institution for credit
     Deprived if household members don’t have access to financial institutions for credit
   - No access to formal financial institution for insurance
     Deprived if household members don’t have access to financial institutions for insurance

4. Living conditions
   - No access to clean drinking water
     Deprived if a household does have access to clean drinking water or clean water is more than 30 minutes’ walk from home (roundtrip time).
   - No access to adequate sanitation
     Deprived if the household members share toilet
   - No electricity
     Deprived if the household has no electricity

5. Social fragmentation
   - No financial support in case of emergency
     Deprived if the household members do not get any financial support from their community.
   - No social support in case of emergency
     Deprived if the household members are not being visited 1/3rd of the community members after any emergency situation.

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