KASU ENVIRONMENTAL SCIENCE JOURNAL (KESJ)
KASU Environmental Science Journal (KESJ) ISSN: 2734-2751
Volume 6, Issue 1, 2026

ASSESSMENT OF THE SOCIO-ECONOMIC CHARACTERISTICS OF INFORMAL RESIDENTIAL SETTLEMENT OF BOSSO RESIDENTS IN MINNA NIGER STATE

Kafilat J. OLANIYI[1], Yetunde T. IBIFUNMILOLA[2], Sherifat O. ABDUWAHAB[3] and Nwabunwanne C, CHIEZE[4]
[1,2,3,4]Estate Management and Valuation: Federal Polytechnic Offa, Kwara State

Corresponding Author Email: olaniyikafilatjumoke@gmail.com

ABSTRACT

Purpose: *The study evaluated the socio-economic characteristics of inhabitants of informal settlement of Bosso in Minna Niger state. The study utilised a projected population of Bosso at 1500 households and the study arrived at 251 sample size after the application of Kothari, (2004) sample size model to arrive at reasonable sample for the study.*
Design/methodology/approach*: The study employed closed ended questionnaire, and systematic random sampling was employed to administer 251 questionnaires to every 10th house. A total of 247 questionnaire was returned with complete response were returned and analysed for the study. The study employed percentage, crosstabulation, chi-square test.*
Finding: *The result revealed that 76.9% majority of the households who fall in second to fourth categories of household size were living below half a dollar per day.*
Research limitation/implication: *The use of only socio-economic characteristics of residents of Bosso local government areas of Niger state.*
Originality*: The result revealed that level of education and household sizes were significantly related to level of income. The study concludes that the informal settlement area of Bosso was characterized by poverty as majority of the households were live below half a dollar per day.*

Keywords: Informal Settlement, socio-economic Characteristics, Urban Poverty.

[1] Email: kesj@kasu.edu.ng

1.0 INTRODUCTION

Urban poverty is a multidimensional phenomenon which requires multi-dimensional interventions to improve the well-being of individuals as many urban poor live with many deprivations (Hulme & Shepherd, 2003). According to the report of the Global Urban Observatory (2003), urban poverty in developing countries is typically concentrated in slums and other informal settlements. The bulk of the urban poor in Africa as exemplified by the Nigerian situation are living in extremely deprived conditions and indecent housing with insufficient physical amenities like water supply, sanitation, sewerage, drainage, community centres, health care, nutrition, preschool and non-formal education (Global Urban Observatory, 2003). Furthermore, the daily challenges of urban poor, according to Baharoglu and Kessides (2004), include limited access to employment opportunities and income, inadequate and insecure housing and services, violent and unhealthy environments, little or no social protection mechanisms, and limited access to adequate health and education opportunities. Urban poverty is not just a collection of characteristics; it is also a dynamic condition of vulnerability or susceptibility to risks. The concept of poverty can, therefore, be defined as referring to several different forms of deprivation, such as a lack of resources, including the lack of income, housing and health facilities, as well as a lack of knowledge and education (Barati *et al.,* 2017). Poverty is, further, characterised by living in neighbourhoods with poor institutions and weak social norms, which might exacerbate the resultant poor levels of nutrition and health. According to Srinivas (2003), urban informal settlement is characterized by poor residents who unauthorized use of vacant public or private land, illegal subdivision and/or rental of land, unauthorized construction of structures and buildings, reliance on low cost and locally available scrap construction materials, absence of restrictive standards and regulations, reliance on family labour and artisanal techniques for construction, non-availability of mortgage or any other subsidized finance. Uchenna et al., (2014) stated that informal land use is characterised by overcrowding, deterioration, insecurity, absence or insufficient basic facilities. These conditions endanger the health, prosperity, safety or moral of the inhabitants and the community at large is unpleasant for living. Therefore, urban informal settlement is synonymous to urban poor environment who lacked basic amenities. furthermore, in Nigeria majority of urban poor are located in city centre.

Nigeria with an estimated population of over 125 million and a land area of about 924 square kilometers has large deposits of oil, gas and solid minerals and a sizeable educated and skilled workforce. Despite these, the country has not been able to effectively harness her resources to develop the economy sufficiently to improve the poor condition of its people (Akpobasah, 2004). The UNDP Human Development Report 2004 ranks Nigeria as the 30th poorest country in the world. Currently about 70-85% of the population lives below the poverty line, half of which probably lives on less than half a dollar per day and precarious situation (UNDP, 2020). The issue of poverty in Nigeria especially in the urban areas as exemplified by the situation in Minna being the commercial nerve of Niger state of Nigeria has been aggravated by the present trend of rural urban migration coupled with the inability of the urban areas to create the jobs necessary for development. Currently Minna reflects the embodiment of the contemporary decay of urban life as evident in the poor standard of living, congested apartments, degraded environment, crime among others. it is against this background that the study evaluates the poverty characteristics of informal settlement dwellers in Minna by examining the socio-economic status of the residents in informal settlement with a view to determining the level of poverty in the demographic compositions of the dwellers.

2.0 LITERATURE REVIEW

Poverty according to Barati *et al.,* (2017), is usually characterized by deprivation, vulnerability (high risk and low capacity to cope), and powerlessness. These characteristics impair people's sense of well-being. Poverty can be chronic or transient. Poverty has been defined in different ways, but it is important to know that poverty is not only defined in terms of economic needs (such as income or food). Poverty also has a social dimension (poor quality of housing and the living environment, i.e. lack of access to basic services like clean water, health care, education etc.). However, even a definition in economic and social terms does not describe poverty well enough. many studies have investigated level of poverty across various aspect of human life and following are some the empirical studies related to poverty characteristics within the informal settlement were examined with a view to identifying the area of divergence and convergency.

D' Ambrosio et al. (2011) examined the extent of poverty within five European countries, Belgium, France, Germany, Italy, and Spain and the study found a U-shaped relationship between poverty and the size of the household as well as between poverty and the age of the individual. Unemployed individuals have a much higher probability of being poor while the probability of being poor seems to be lower among self-employed than among salaried workers. Moreover, married individuals, whatever their gender, have a lower probability of being poor than singles.

Dartanto and Nurkholis (2013) examined the determinants of poverty dynamics in Indonesia and they found that 28% of poor households are classified as chronically poor while 7% of non-poor households are vulnerable to being transient poor. Their estimations also confirmed that the determinants of poverty dynamics in Indonesia are educational attainment, the number of household members, physical assets, employment status, health shocks, the microcredit program, access to electricity, and changes in employment sector and employment status. They also found that households in Java–Bali are more vulnerable to negative shocks than those outside Java–Bali.
Khudri and Chowdhury (2013) identified the key determinants of poverty in Bangladesh. The study revealed that a set of demographic variables such as division, type of place of residence, own land usable for agriculture, highest education level and employment status were the key determinants of poverty. Their results also revealed that ownership of agricultural land and having higher education would result in reduce the likelihood of being poor. Moreover, they found that the area of residence was statistically significant and a rural household had high probability of being poor than their urban counterparts. Chen and Wang (2015) analyzed the determinants of poverty in Taiwan, including family-level and regional-level factors. They analyzed data of 13,640 households from 23 cities and counties (regions) by hierarchical generalized linear models. Their results indicated that among the family-level factors studied, education, socioeconomic status, age, family type, dependency ratio, marital status, and number of earners are connected to poverty status. There were observed also significant relationships between poverty and structural characteristics, such as economic inequality, economic growth, structural transition, and labor market characteristics.

Selim (2016) investigated the determinants of relative poverty in Turkey with a special emphasis on gender by using a panel Logit regression model. The findings suggested that factors like being man, being married, higher level of education, higher level of age, improvement in health status, being employer and self-employed, having social security will reduce the probability of poverty in Turkey. Rupasingha and Gotez (2017) contributed to basic knowledge of the structural determinants of poverty in the US by analyzing an expanded set of determinants of poverty, namely factors related to economic, social, and political influence using spatial data analysis techniques. Social capital, ethnic and income inequality, local political competition, federal grants, foreign-born population, and spatial effects were found to be important determinants of poverty in US counties along with other conventional factors. Soltani *et al.,* (2019) determine the causes of urban poverty in informal settlement regions in Shahid Ghorbani quarter OF Mashhad city. The finding revealed that Nearly 87% of households of the studied area were below absolute poverty line and 20% of them were below extreme poverty line.

Olajide (2020) examined the interplay between poverty and environmental conditions of informal settlement with Ajegunle, Lagos as case study. Social, economic and cultural characteristics as well as environmental issues associated with people living in this area are examined. For this purpose, a reconnaissance survey of the study area was carried out and it was observed that there is currently a total of 4,236 houses from which 10% were selected for sampling. Therefore, by approximation a total number of 424 houses were selected for questionnaire administration. Systematic random sampling technique was used hence; every 10th house was selected for questionnaire administration. The findings revealed that majority of the residents are poor and their daily life pattern is characterised by unpleasant, unhealthy and difficult situation as a result of low financial capacity, lack of adequate infrastructural facilities and decent housing as well as environmental degradation. Oldewage-Theron and Slabbert (2020) applied a poverty model for determining the depth of poverty in an informal settlement in the Vaal Region, as well as the impact of possible income-generating activities on the community. A questionnaire, which had been devised for measuring poverty indicators, was administered to 429 randomly selected households in the informal settlement, with the poverty model being applied to measure the degree of poverty. The results of the survey showed that 286 households lived in poverty at the time. The impact of extra income on the poverty levels of these 286 households was then determined. The results of the survey also showed that the unemployment level was 91% and that the mean monthly income was R612.50. The average poverty gap was R1017.21, with the poverty gap ratio being 56%. The poverty model showed that an increase of R500 in monthly household income resulted in a poverty gap ratio of 35%.
From foregoing studies, it is observed that most these studies were carried out Nigeria therefore, the study on evaluation of poverty characteristics in informal settlement dwellers is relatively scarce in Nigeria especially in Minna. Also, due to paucity of literature in the field there is need to boost empirical studies on study of poverty characteristics in informal settlements in Nigeria and to investigate the gap in the level of poverty with a view to provide way-forward.
there is relatively scarce.

3.0 DESCRIPTION OF STUDY AREA

Bosso is one of the local governments (LGs) areas of Niger State. It is situated between the latitudes of 90 33N and 90 45N, and the longitudes of 60 34E and 60 42E (See Figure 1). It lies on latitude $9^{0}38^{1}$ and east. Bosso comprises of both medium and high-density areas. this study focused on high density areas that comprises of Angwan Biri and Hyin Gwari areas. These high-density areas are characterised by informal settlement. The settlement comprises of different tribes across the country who came to settle in this unplanned area. The area is characterised by poor residents who unauthorized use of vacant public or private land, illegal subdivision, scrap construction materials, absence of restrictive standards and regulations, overcrowding, deterioration, insecurity and, absence or insufficient basic facilities.

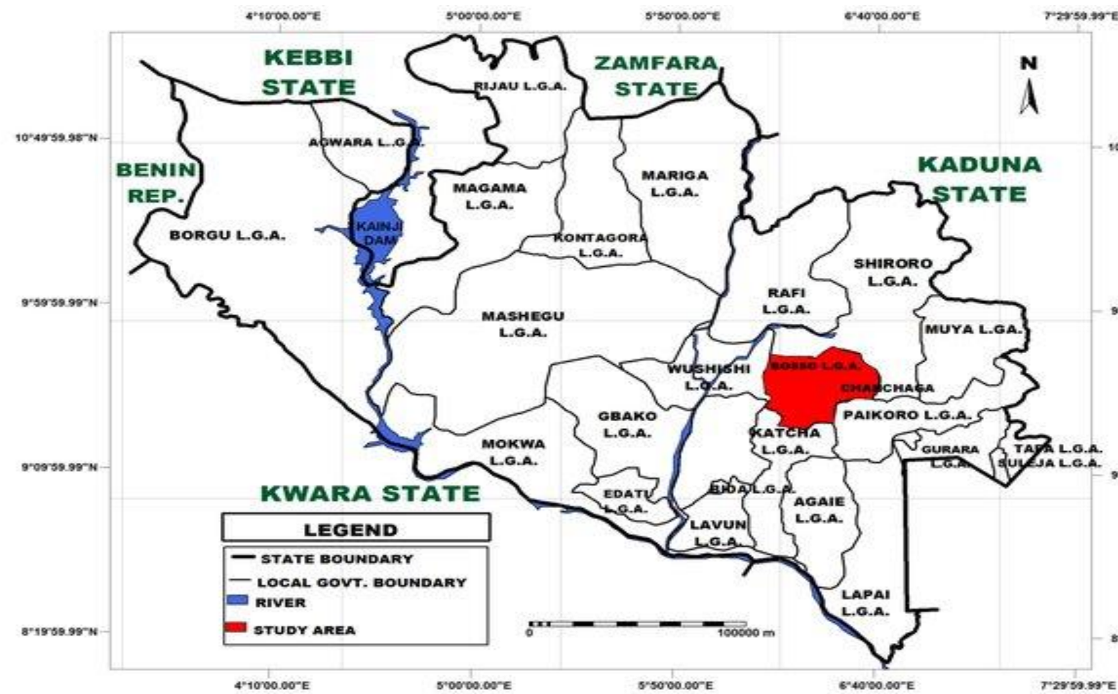

Figure 1: Map of Minna Showing Bosso Local Government area
Source: Niger State Ministry of land (2024)

4.0 METHODOLOGY

The study employed descriptive research design. Descriptive research design involves describing the real situation through the analysis of real time information collected using closed ended questionnaires. Based on the projected population of Bosso in Minna, there are 1,499 households (National Population Census, 2023). After the application of a sample size developed by Kothari (2019), a total sample of 251 was determined (see equation 1). The study employed systematic random sampling technique whereby every 10^{th} household was sampled. A total sampled size of 247 was returned for the analysis. The returned questionnaire is analysed using both descriptive and inferential statistics to analyse the data. Descriptive method comprises of percentages. mean and standard deviation. while inferential method comprises of chi-square test and t-test.

$$n = \frac{Z^2 * N * \sigma^2}{(N-1)\, e^2 + Z^2 \sigma^2} \qquad 1$$

Where n is the sample size,

Z is the standardized normal value and for this study it is taken as 1.96
for a 95% confidence interval,
e- error term at 0.05
σ is the standard of deviation which was put at 0.5 depicting a safe decision enhancing large enough samples,
N is the household population at 1500 and e- error term.

$$n = \frac{(1.96)^2 \ x \ 1500 \ x \ (0.5)^2}{(1500-1)\ (0.05)^2 + (0.5)^2}$$
n = 251. The sample size is 251 households

5.0 RESULTS

The result of gender composition and age bracket of the demographic information of respondents is presented in Table 1. 83.8% majority of the sampled respondents were male, and 16.2% female. 61.2% majority of the sampled respondents were within the age bracket of 31-40years and 36.8% fall within the age bracket of 36.8% fall within the age bracket of 41-50years, only 2% fall above 51 years. In term of the level of education of the respondents, the study shows that 61.5% of the sampled respondents had Bachelor's degree/Higher National Diploma, while 23.5% had National Diploma/National Certificate of Education. In terms of income, 51.4% of the sampled respondents had income within N30,000-50000, 20.6% and 15.4% of the respondents falls within the income range of N51000-100,000 and N100100-200000 respectively.

Table 1 Gender and Age Bracket of the Respondents

Demographic Information		**N**	**% Response**
Gender	Male	207	83.8
	Female	40	16.2
	Total	247	100
Age	18-30yrs	-	-
	31-40yrs	151	61.2
	41-50yrs	91	36.8
	51yr and above	5	2.0
	Total	247	
Education level	Primary school	-	-
	Secondary school	37	15.0
	NCE/ND	58	23.5
	Degree/HND	152	61.5
	Above Degree	-	-
	Total	247	100
Income level	30,000-50,000	127	51.4
	51000-100,000	51	20.6
	100100-200000	38	15.4
	200100-300000	21	8.5
	300100 and above	10	4.
	Total	247	100

Source: Field Survey, 2024

the employment status and dependency ratio is presented in Table 2. only 32% of the sampled respondents had a gainful employment. 40.1% majority of the respondents were qualified but unemployed while 27.9% of the respondents were dependants that comprise of children in school. the total number of unemployed is 168, this indicate that 68% estimated stands as dependency ratio. furthermore 68% depends on just 32% employed to survive. in other word, 32% of the sampled population are financially independent.

Table 4.3 Employment Status

Job status	N	% Response	Dependency ratio
Employed	79	32.0	
Qualified but unemployed	99	40.1	
Dependants	69	27.9	
Total	247		
Dependency ratio	Qualified but unemployed	99	
	Dependants	69	
	Total	169	
Dependency ratio		168/247	68%

The household size of the sampled respondents is presented in Table 4.3. 36.8% majority of the sampled respondents fall within the household size of 6-10. 24.3% had a household size between 11-15, 23.1% comprises household size between 1-5 and while 15.8% comprised of household size between 16-20. by implication majority of the households sampled for the study had household size between 6-10 then it can be said that the average household size for the majority of household in the Bosso area of Minna is 8.

Table 3 Household Size

Household Size	N	% Response
1-5	57	23.1
6-10	91	36.8
11-15	60	24.3
16-20	39	15.8
21 and above	-	-
Total	247	100

The result of average daily income and daily expenditure as compared with a Dollar is presented in table 4. the current exchange rate of Dollar to Naira at N1500/1USDollar is used to determine the level of poverty the study area. the average monthly income of household heads for the different categories of household sizes was used. The result revealed that majority of household whose average income is N200,000 with daily expenditure of N2000/day lived above half a Dollar per day which indicate that majority of household within the average income of N200,000 were above poverty line as daily expenditure is above half a dollar per day. however, household head whose monthly income fall below

N200,000 lived below half a Dollar per day as presented in Table 4. the result from table 3 therefore suggested that 76.9% households that comprised the household size 6-10, 11-15 and 16-20 (36.8+24.3+15.8 respectively) were living below half dollar per day as table 4 revealed. while the remaining 23.1% that comprised the household size between 1-5 were living above a dollar per day (see table 3) as it is also revealed in table 4. This indicates that there is high level of poverty as the majority of the households live below half a Dollar per day in Bosso area of Minna, this finding is in line with the submission UNDP (2004).

Table 4. Daily Household Expenditure

Household size	Average household size	Average Daily income (N)	Daily expenditure/Person (N)	1USD/N1500
1-5	3	200,000	2,000/D	Above half a Dollar
6-10	8	150,000	625/D	Below half a dollar
11-15	13	75,000	192/D	Below half a dollar
16-20	18	40,000	74/D	Below half a dollar
Average			722.8/Day	Below half a dollar

Source: Field Survey, 2024

The result of crosstabulation and chi-test is presented in table 5. the result of crosstabulation between income level and level of education revealed that 100% of respondents who had primary education fall within the N30,000-N50,000. 90% majority of the sampled respondent who had secondary education fall within the income group between N51000-N100,000. 100% majority of the respondents who had National Diploma fall within the income group of N100100-N200,000. 96.3% majority of respondents who had Degree/HND fall within the income group between N200100-N300,000. 82.8% of the sampled respondents who had educational qualification above degree fall within N300,100 and above. Furthermore, the result of chi-square test revealed that chi-square statistics (846.22) is statistically significant that the income level and level of education are significantly related at p-value 0.00 less than 0.05 level of significance, in other word, level of education is significantly related to income. by implication, level of education determines the level of income of the respondents in the study area.

Table 5 Crosstabulation and Chi-square Test between Income Level and Level of Education

Education level * Income Level Crosstabulation			Income Level					Total
			30,000-50,000	51000-100,000	100100-200000	200100-300000	300100 and above	
Education Level	Primary school	Count	18	0	0	0	0	18
		% within Education Level	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	Secondary school	Count	2	27	0	1	0	30
		% within Education Level	6.7%	90.0%	0.0%	3.3%	0.0%	100.0%
	NCE/ND	Count	0	0	36	0	0	36
		% within Education Level	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
	Degree/HND	Count	0	5	0	129	0	134
		% within Education Level	0.0%	3.7%	0.0%	96.3%	0.0%	100.0%
	Above Degree	Count	0	0	0	5	24	29
		% within Education Level	0.0%	0.0%	0.0%	17.2%	82.8%	100.0%
Total		Count	20	32	36	135	24	247
		% within Education Level	8.1%	13.0%	14.6%	54.7%	9.7%	100.0%

Chi-Square Tests	Chi-Square Tests	Value	Df	Asymp. Sig. (2-sided)
	Pearson Chi-Square	846.220[a]	16	.000
	Likelihood Ratio	552.336	16	.000
	Linear-by-Linear Association	221.192	1	.000
	N of Valid Cases	247		

The result of crosstabulation and chi-test is presented in table 6. the result of crosstabulation between income level and household size revealed that 45% of the households who within the 1-5 household size fall within the income group between N200100-N200,000. 76% majority of the of the households who within the 6-10 household size fall within the income group between N100,100-N200,000. 55.1% majority of the of the households who within the 11-15 household size fall within the income group between N30,00-N50,000. 89% majority of the of the households who within the 16-20 household size fall within the income group between N50,00-N100,000. 86.4% majority of the of the households who within the 21 and above household size fall within the income group between N30,000-50,000. Furthermore, the result of chi-square test revealed that chi-square statistics (412.010) is statistically significant that the income level and household size are significantly related at p-value 0.00 less than 0.05 level of significance, in other word, household size is significantly related to income. by implication, household size affected the income of the respondents in the study area such that the larger the household size the lower the disposable income.

Table 6 Crosstabulation and chi-square test between Household size and Income level

Household Size * Monthly Income level Crosstabulation			Income Level					Total
			30,000-50,000	51000-100,000	100100-200000	200100-300000	300100 and above	
Household Size	1-5	Count	15	2	5	17	1	40
		% within Household Size	37.5%	5.0%	12.5%	42.5%	2.5%	100.0%
	6-10	Count	0	3	19	3	0	25
		% within Household Size	0.0%	12.0%	76.0%	12.0%	0.0%	100.0%
	11-15	Count	27	5	2	15	0	49
		% within Household Size	55.1%	10.2%	4.1%	30.6%	0.0%	100.0%
	16-20	Count	2	97	0	6	4	109
		% within Household Size	1.8%	89.0%	0.0%	5.5%	3.7%	100.0%
	21 and above	Count	19	0	0	3	0	22
		% within Household Size	86.4%	0.0%	0.0%	13.6%	0.0%	100.0%
	11.00	Count	0	0	1	0	0	1
		% within Household Size	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Total		Count	19	32	36	135	24	246
		% within Household Size	7.7%	13.0%	14.6%	54.9%	9.8%	100.0%

		Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	Pearson Chi-Square	412.010[a]	20	.000
	Likelihood Ratio	284.703	20	.000
	Linear-by-Linear Association	73.580	1	.000
	N of Valid Cases	246		

Source: field survey, 2024

6.0 IMPLICATION OF FINDING AND CONCLUSION

The study of poverty characteristics in Bosso area of Minna Niger state has provided an empirical insight into the state of condition of the households in the area. the study understood that there is high level of dependency ratio among the households as less 32% were fully employed with reliable source of income and 68% were dependants (comprises of both children and qualified but unemployed members of households). the study further analysed the daily income expenditure in relation to 1USDollar per day, the study understood that 76.9% majority of the households who fall in household size of 6-10, 11-15 and 16-20 were in living below half a dollar, by implication, this implies that there is high level of poverty as the majority of the households live below half a Dollar per day in Bosso area of Minna, this finding is line submission of UNDP (2004) that living less than half a dollar per day is referred to as povery. furthermore, the study also understood that the income level and level of education are significantly related at p-value 0.00 less than 0.05 level of significance, by implication, the level of education determines the level of income of the respondents in the study area. Also while analysis the relationship between the respondent household size and disposable income level, the result revealed disposable income level and household size are significantly related at p-value 0.00 less than 0.05 level of significance, by implication, household size affected the income of the respondents in the study area such that the larger the household size the lower the disposable income. in conclusion, the informal settlement area of Bosso that comprises of Angwan Biri, Abattoir and Back of futmiina were all characterized by high level of poverty as majority of the households were live below half a dollar per day.

REFERENCES

Adama, U. J. (2011). Evaluating the Relationships among Housing Density, Neighbourhood Quality and Residential Property Value in Minna. *Unpublished M.Tech Thesis submitted to the Department of Geography, Federal University of Technology, Minna*

Akpobasah, M. (2004): The Development Strategy for Nigeria. *Paper presented at the 2004 overseas development/Nigerian economic summit group Meeting on Nigeria*, London.

Baharoglu, D.and C. Kessides. (2004): *Urban poverty chapter of the PRSP Sourcebook*. Chapter 16. World Bank, Washington, D.C.

Barati, J., Soltani, S., Foroogh-Zadeh, S., & Razaghian, F. (2017). The Role of Human Capital Factors on Poverty in Informal Settlement: Informal Settlement of Sheikh-Hasan, Mashhad City, Iran. *Journal of Sustainable Development, 10*(4), 21-30.

Chen, K. M., & Wang, T. M. (2015). Determinants of Poverty Status in Taiwan: A Multilevel Approach. *Social Indicators Research, 123*(2), 371–389.

D'Ambrosio, C., Deutsch, J., & Silber, J. (2011). Multidimensional Approaches to Poverty Measurement: an Empirical Analysis of Poverty in Belgium, France, Germany, Italy and Spain, Based on the European Panel. *Applied Economics, 43*(8), 951–961.

Dartanto, T., & Nurkholis. (2013).The Determinants of Poverty Dynamics in Indonesia: Evidence from Panel Data. *Bulletin of Indonesian Economic Studies, 49*(1), 61-84.

Global Urban Observatory (2003): Slums of the World: The face of urban poverty in the new Guidance Sheets. London: DFID. Retrieved December 10, 2009, from http://www.livelihoods.org http://www.unhabitat.org/

Khudri, M. M., & Chowdhury, F. (2013). Evaluation of Socio-economic Status of Households and Identifying Key Determinants of Poverty in Bangladesh. *European Journal of Social Sciences*, *37*(3), 377-387.

Kothari, C.R. (2004) Research Methodology: Methods and Techniques. 4th Edition, New Age International Publishers, New Delhi

Olajide O (2020) Urban Poverty and Environmental Conditions in Informal Settlements of Ajegunle, Lagos Nigeria. REAL CORP 2020 Proceedings/Tagungsband, Vienna, 18-20 May 2020.

Oldewage-Theron, W. & Slabbert, T.J.C., (2020). 'Depth of poverty in an informal settlement in the Vaal region, South Africa', *Health SA Gesondheid* 15(1), Art. #456, 6 pages. DOI: 10.4102/hsag.v15i1.456

Popoola N.I, Jinadu M.A, Liman H.S and Abd'Razack N.T.A (2015). Effect of Environmental Quality on Property Rental Values in Peri-urban Neighbourhoods of Minna, Nigeria. TBU *Journal of Environmental Technology 8, 2, Dec., 2015*

Rupasingha, A., & Goetz, S. J. (2007). Social and Political Forces as Determinants of Poverty: A Spatial Analysis. *The Journal of Socio-Economics, 36*(4), 650–671.

Sahar Soltani, S., Baraty, J., Razaghian, F & Foroughzadeh, S. (2018) The Determinants of Poverty in Informal Settlement Areas of Mashhad (Case Study: Shahid Ghorbani Quarter). *Iran. Econ. Rev. Vol. 23, No. 1, 2019. pp. 29-45*

Selim, S. (2016). Socio-Economic Determinants of Poverty in Turkey: Panel Logit Approach. *International Journal of Statistics & Economics™, 17*(3), 71-84.

Sen, A. K. (1999): Development as Freedom (New York: Knopf) basis for policy and project directions, 1999 (draft).

Uchenna, B. M., Ciera, J. M., Elungata, P., & Ezeh, A. C. (2014), Patterns and Determinants of Poverty Transitions among Poor Urban Households in Nairobi, Kenya. *African Development Review, 26*(1), 172–185.

United Nation (2020): UN Millennium Project's Report to the UN Secretary-General. Investing in Development: A Practical Plan to Achieve the Millennium Development Goals Washington D.C.