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Measuring Child Deprivation and Poverty Incidence in Nigeria: A Multiple Overlapping Deprivation Approach

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Abstract:- Children are the most vulnerable to excessive deprivation of basic needs and such affect their growth, mental stability and social relation. In spite of the concerted effort of World bodies to reduce Child poverty, yet many more children experience deprivation of basic developmental needs. The study critically examined child deprivation and poverty incidence in Nigeria using a multiple deprivation analysis approach. Child deprivation was measured multidimensional and three dimensions were considered:survival, development and social protection. These dimensions were ably represented by 11 indicators which were sourced from the 2018Demographic and Health (DHS) Surveydataset. The study found that higher proportion of the children was multidimensionally poor. About 94 percent of the children were deprived in the entire three dimensions, depicting multiple overlapping deprivations. In conclusion, the study suggests the need to focus on child right action plans that will aid the developmental growth of children and enable them to fully participate as part of the society.

Keywords:- *Children, Deprivation, Household, Poverty, MODA.*

I. INTRODUCTION

Child poverty is a devastating phenomenon which affects almost all the countries in the World (Turshen, 2008). More children tend to live in poverty than adults and in every stage of their life, it make them more susceptible to its resultant effect(UNICEF and Global Coalition to End Child Poverty (2017). The effect could be physical, cognitive and in term of social development. Children deprivations occurin most aspect of living: health, education, protection, nutrition, water and shelter. It is more than lack or insufficient money as the monetary poverty measurement could consider but the standard of living of the households is vital to child development and is one of the predictor of child poverty. Children in households living in relative poverty are likely to be deprived of many social, economic opportunities which could invariably limit their life chances.

Long-term basic human needs deprivation give ways to abuse, rights violation, dehumanization, and exploitation, therefore, paving ways for increasing social vices in the society.A child in developing countries is deprived of even the minimum opportunities in life Nigeria is no exception. Noted thatthe increased economic growth in the country in recent years does not translate to increased per capita income, many children still struggle on the margins of survival in spite of the growth (Adeotiand Popoola(2012).Regrettably, more vulnerable children in the country who are deprived of their specific needs and demand are on the increase. Although, child deprivation is a complex occurrence since children has no definite economic power or autonomy on their own. But according to White *et al.,* (2003), they are often categorizedas being deprived and non-deprived base on the status of the household they live. They are not able to secure their own income/resources until a certain age and they are not sovereign in making consumption decisions. To enjoy basic needs, children have to depend on production of goods and services by public authorities more than the need of the adults (Gordon *et al*., 2003a; Minujin*et al.*, 2005; Notten and de Neubourg 2011).

Aliyu and Garba, (2012)posited that children are to enjoy good health, education, nutrition, adequate and safe water, shelter, information, social security and other fundamental right. But, in the absence of these they are to consider being deprived – a condition which many children in the developing countries live. Nigeria children face a lot of challenges such as lack of quality education, adequate food/nutrition, poor health, lack of care and social security (child abuse and labour). Okpukpara, (2016) observe that large number of children in Nigeria aged between 5 – 17 year are child labourer.Gordon *et al.,* (2003b) reported that more than half of the total children living in the country were deprive of basic human need in one form or the other. The United Nations Children's Fund (UNICEF, 2005) affirm this in their reported that about 25 percent of the children with age less than 7 year were stunted due to inadequate nutrition. In the face of series of effort to reduce child mortality in the country, report has it that nearly one million children die every year before they celebrate the fifth birthday. And about one-quarter of these children even die within their first year (UNICEF, 2011).

II. DEFINITIONS AND ESTIMATION STRATEGY OF MEASURING CHILD DEPRIVATION

Poverty affects children development and it takes different forms from the adult. It could be measured and estimated by different approaches. For instance, Bristol indicators approach establishes child poverty multidimensionally. The approach indicated child poverty from different stages of child development and life-cycle,

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that is, from the early childhood stage up to the adolescence. In this study, UNICEF's multiple overlapping deprivation Analysis - MODA(De Neubourg, *et al.*, 2012)was adopted, the method apart from being current also consider additional dimension that captures child's protection against violence – a more robust measurement (UNICEF, 2007; Gordon *et al.*, 2003a)over the seven dimension captured by the Bristol approach (nutrition, health, water, sanitation, housing, education and information).

Three main dimensions were considered in this study namely; survival, development and social protection and equal weight were assigned to all. In all, we consider 11 indicators for the three dimensions selected. The description of dimensions, indicators and the weight to each indicator is shown in Table 1. In addition to the identification of the dimension and indicators of child deprivation, assigning weights to each dimension and indicators are very essential in multidimensional poverty estimation. However, this study adopted the normative approach method used by Alkire and Foster (2011) to compute multidimensional poverty.Normative weighting approach incorporates the value judgment of each dimension into creation of the weight. In this study, a threshold (first cut-off) was set for each dimension which informs us the child is deprivation status. The second cut-off indicates the number of dimension a child will experience to be considered multidimensionally poor. And at last, the weighted deprivation score ranges between 0 and 1.

Sn	Dimensions	Description of Indicators	Weights
1.	**Survival**	**Food and Nutrition access:**No access to food and or quality nutritional diets (malnutrition)	0.04
		Access to drinking water:access only open well, streams, lakes e.t.c for drinking (unimproved water source)	0.04
		Access to health care: No access to primary health care centre	0.04
		Housing: Crowding of dwellings – more than four people living in a room	0.04
		Environmental pollution: No access to a toilet and or unimproved sanitation facilities	0.04
2.	**Development**	**School enrolment:** No access to formal education	0.05
		Level of education: Highest level of education attended	0.05
		Access to information: No access to electronic media, mobile phone or computer	0.05
		Access to cultural activities:	0.05
3.	**Social protection**	**Health insurance:**any form of health insurance for the household member	0.1
		Violence: children aged 2-14 years resident in a household where a woman states to have experienced domestic violence	0.1

Table 1: Dimensions, indicators and weights used in computation of multidimensional poverty index (MPI)

III. METHODOLOGY

The study was carried out in Nigeria. The study area is located in the tropical zone of West Africa (latitudes 4°N and 14°N and longitudes 2°2'E and 14°30'E), it has a total area of about 923,768 km^2. The country is bordered by Republic of Niger to the north and to the west by Republic of Benin, to the east by Cameroon and to the north-east by Chad. The southern part of the country is surrounded by the Atlantic Ocean. Nigeria is a democratic Federal Republic which consists of 36 States with the Federal Capital Territory (FCT) situated in Abuja. The States were further sub-divided into Local Government Area (LGAs). We have 774 LGAs in Nigeria; most of the population in each LGA are culturally homogenous and share similar norms and values. Politically, Nigeria is divided into six geopolitical zones: North Central, North-East, North-West, South-East, South-West and South-South region.

The study used the National Demographic and Health Survey(DHS, 2018) to estimate child deprivation in Nigeria. DHS is a national sample survey that gives up-to-date information on the socio-demographic characteristics and health indicators of the sampled audience. The data were obtained through a stratified two stage cluster design with enumeration area (EA).In this study, we explore data on socio-demographic characteristics of the households, health information, housing and environmental structure, social protection, public utilities and household's nutrition.

IV. ANALYTICAL TECHNIQUES

In estimating the multiple deprivation analysis, the need to give equal consideration and importance to all the deprivations a child is facing is critical. Implicit assigning of equal weight will indicate the exact dimension with which a child is deprived and it will also give clarity and realistic severity and overlap. The total amount of deprivations per child will be by counting the number of indicator(s) with which a child is deprives and this will help in identifying multidimensional deprived children.

From Olarinde*et al.*, (2020),the head count ratio (H) is the proportion of the overall population of the multidimensional poor children. We compute the head count ratio as:

$$H = \frac{n}{z} \qquad (1)$$

The H represents the head count ratio, n = the number of multidimensionally poor child and z = the total population.

The breadth of multidimensional deprivation i.e. the average deprivation intensity of the deprived (A) was captured as the number of deprivation experienced by the multidimensionally deprived child divided by the total number of the dimension considered for the study. This will give the average number of the deprivation the deprived child experienced.

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$$A = \sum_{n=1}^{n} V$$

Where,
V = total weighted deprivations experiences by the poor.
The adjusted head count ratio is the product of the head count ratio (H) and the intensity of multidimensional deprived child (A). This is calculated as;

M0 = H * A

V. RESULTS AND DISCUSSION

The summary statistics of child poverty indicators was presented on Table 1. The table showed the three dimensions (Survival, Development and Social security), the mean value and the standard deviation. The first child poverty dimension presents five indicators: child food and nutrition access, access to drinking water, access to health facilities, environmental pollution and housing while the second and the third dimension showed four (school enrolment, level of education, access to information and access to cultural activities) and two (domestic violence and social security) indicators respectively.

Sn	Dimensions	Indicators	Mean	Std. Dev
1.	**Survival**	hh_d_nutri	0.2995649	0.4580692
		hh_d_water	0.3663648	0.4818127
		hh_d_medical_facility	0.299902	0.4582166
		hh_d_toilet	0.7644282	0.4243573
		hh_d_housing	0.7021051	0.4573348
2.	**Development**	hh_d_enrolment	0.098475	0.2979571
		hh_d_lev_edu	0.5323298	0.4989556
		hh_d_media	0.4123486	0.4922592
		hh_d_cultural	0.2983496	0.4575355
3.	**Social protection**	hh_d_violence	0.7436356	0.4366271
		hh_d_securiy	0.9996629	0.0183582

Table 2: Summary Statistics of the Dimensions and indicators used to compute MODA

The result presented in Table 3 revealed poverty headcount of 82.6 percent which represent the survival dimension of child's poverty. The implication of the result was that more of the children between 5 and 18 years were deprived of basic survival need. A strong indication that can affect their psychological development and acumen. Children need balance in both nutritional and health requirements; the living condition should be one that supportshealthy growth and psychological stability. Additionally, more children in urban area are deprived on survival than their rural counterpart. Though, the difference is not significant, but there is indication that of children deprivation in the cities than in the rural area.

Furthermore, in development dimension,the indicators are strongly attached to human capital development and social relation; the result showed that about 67 percent of the children were deprived. In Unicef (2017), it was posited that approximately two-third of children in sub-Sahara Africa experience two or more deprivation in multidimension poverty. Hence, the numbers of the children of school age that are out of school juxtapose these claims.Infrastructural deficiency is well pronounced in most rural area in Nigeria. Many rural dwellerssuffer from accessibility of good road network, drinking water, electricity, housing, and some other social amenities such as health facilities and so on. The Electronic gadgets that could aid educational consolidation were inaccessible due to epileptic electricity supply and political unwillingness of the political leaders to liberate the poor.From the table, we have larger percentage of the rural area deprived than in the urban area on development indicators. About 25 percent of the children were found to be deprived in the area of social protection. The increasing occurrence of household domestic violence is becoming worrisome. The implication of this was that the right of the children are been violated (The International Policy Centre for Inclusive Growth, 2018), investment and obligation to meet the right of the children should be prioritized. Comparatively, the result revealed higher deprivation in social protection in the rural than the urbanareas. Acquisition of health insurance contributed largely to this claim, many rural household is not even aware of the scheme and its affordability may also influence the reason why some are not even taking advantage of it. Poverty incidence and deprivation among the children is a major evidence of their misery in visibility and lack of voice.

The result further showed children deprived from two dimensions. From the result, about 92 percent of the children were recorded to be deprived from survival and development. The adjusted poverty headcount (Mo) was 74.82 percent. The result depicted worrisome notes that need the urgency of the stakeholders. Poverty robbed children of potential and opportunities which could also brew domestic violence, criminality, abuse and other social viceson the long run. About 86.8 percent of the children were deprived from survival and social protection. The adjusted poverty headcount (Mo) was53.65 percent. This indicated that more than half of the children deprived in survival were also deprived in social protection. The result also showed that 74.84 percent of the children were found deprived in both development and social protection. Also the adjusted poverty headcount (Mo) was 45.85 percent; the implication stands that a significant number of the children that are deprive in development were equally deprived in social protection dimension.The result further revealed that more than 94 percent of the children were deprived in the entire three dimensions (survival, development and social protection) considered.The result indicated high level of

poverty incidence and deprivation among children. Although, these problems are not insurmountable provided that right instrument were used to tackle the menace.

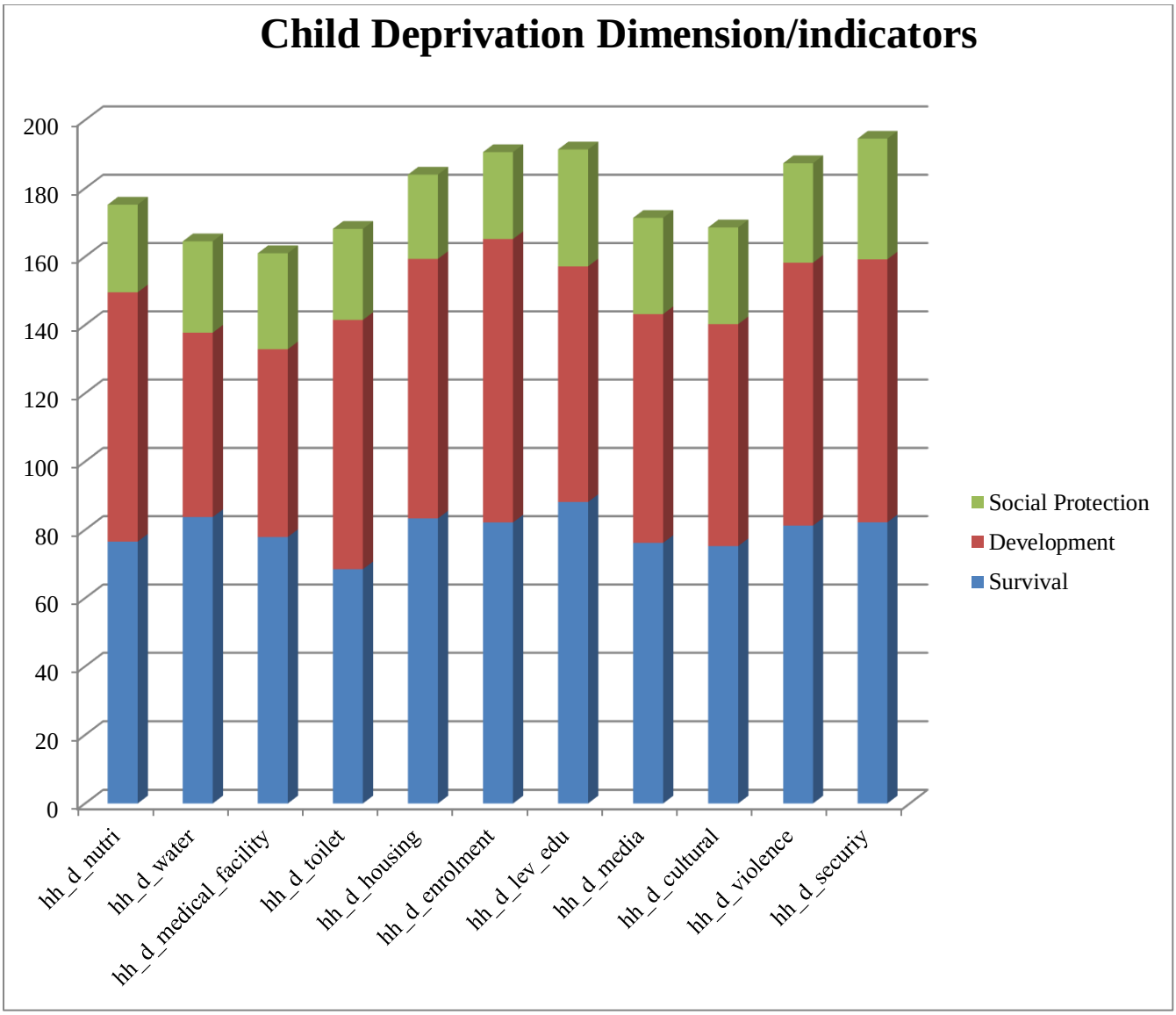

Fig. 1: Contribution of Child Deprivation indicators to poverty incidence

Dimensions	Pooled			Rural			Urban		
	Head count (H)		M_0	Head count (H)		M_0	Head count (H)		M_0
	Union	Intersection		Union	Intersection		Union	Intersection	
One dimension:									
Survival (Dim1)	82.62	82.62		82.45	82.45		83.35	83.35	
Development (Dim2)	67.03	67.03		68.76	68.76		59.10	59.10	
Social security (Dim3)	24.68	24.68		28.03	28.03		9.32	9.32	
Two dimensions:									
Dim1 - Dim2	92.93	56.71	74.82	93.15	58.06	75.61	91.91	50.54	71.23
Dim1 - Dim3	86.80	20.50	53.65	87.15	23.34	55.24	85.20	7.47	46.34
Dim2 - Dim3	74.84	16.87	45.85	77.43	19.36	48.40	62.99	5.43	34.21
Three dimensions:									
Dim1 - Dim2 - Dim3	94.48	14.23	58.11	94.89	16.40	59.75	92.64	4.31	50.59

Table 3: Multiple Deprivation Analysis (Head count H)

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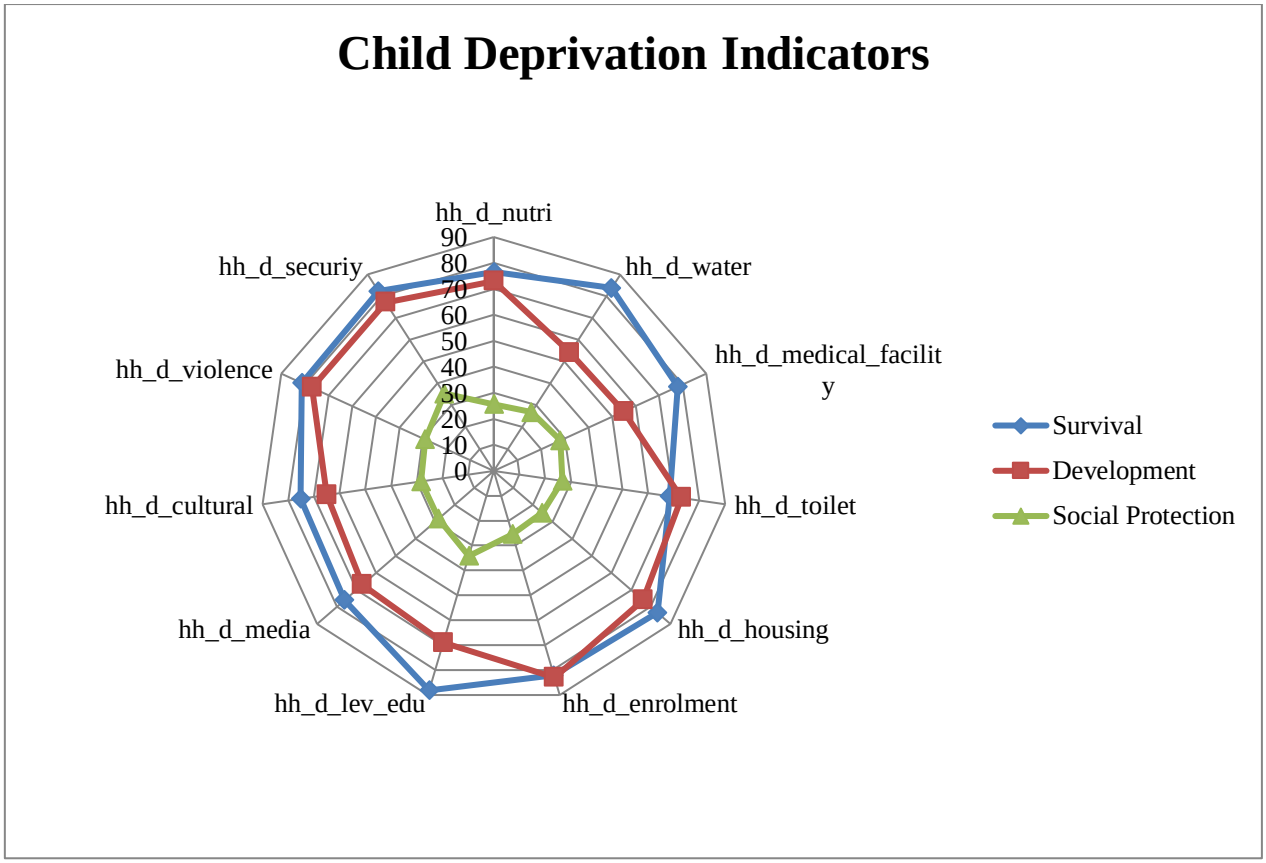

Fig. 2: Probability scale according to Child deprivation

Source: Author

Figure 2 revealed the probably scale of child deprivation indicators. The child nutrition showed a higher probability of deprivation in terms of survival (76.6 percent), access to drinking water (83.7 percent), medical facilities (77.9 percent), toilet (68.5 percent), and housing (83.3 percent). When compare with other dimension, we observed that survival indicators have higher probability of child deprivation that others (Development and Social protection) except in the case of level of education which is measure by the number of out of school children.This showed that large numbers of the children who are of school age were deprived of basic education.

VI. CONCLUSION

This study estimates child deprivation and poverty incidence in Nigeria.Using the overlapping multiple deprivation analysis approach of multidimensional poverty, the study found out that the deprivation headcount for the dimensions considered were extremely high. This implied that several children experience deprivation in term of survival, development and social protection in Nigeria. Also, the study discovers that many children experience deprivation in two or more dimension concurrently. The existence of significant overlap of poverty indicator is a pointer to insufficient provision of basic developmental needs of the children and laxity in provision of adequate social protection network that could enhance the developmental needs of these children. This study however recommends strict focus on child right action plans that will aid the developmental growth of children and enable them to fully participate as part of the society.

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