Analysis Of Food Insecurity Response And Severity To Changes In Integrated Households In Maiduguri Metropolis, Borno State, Nigeria

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Abstract

This study analysed food Insecurity Response and Severity to Changes in Integrated Households in Maiduguri Metropolis, Borno State, Nigeria. It covered 15 and five peripheral wards of Maiduguri Metropolitan and Jere LGAs respectively. A two-stage sampling procedure was adopted to draw respondents for the study; Purposive selection of ten large concentrations of integrated household wards and proportionate random selection of 376 integrated household. Both primary and secondary data were used for the study. Descriptive and inferential statistics were employed to analyse the data collected. The descriptive statistics used were frequency tables, percentages and mean while inferential statistics included food insecurity response model (FIRM). The integrated household food insecurity response was positive with a coefficient of 0.307, 0.895 and 1.507 for mild, moderate and severe food insecure households respectively.

Keywords: Food, Insecurity, Response, Severity, Integrated Households

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Introduction

Food insecurity response and severity are determine by the rate at which food insecurity levels and rigorousness vary with changes in number of household's non-working, food seeking dependants. This was evidenced in the report by Babatunde *et al*. (2007) and Omonona and Agoi (2007) revealed that the incidence of food insecurity increases with increase in household size. The marginal effect of an additional increase in the number of non-working member of a household decreases the probability of the household being food secure by 0.1483.

This is the basic idea behind Boko haram Induced food insecurity and severity due to changes in number of IDP dependants in existing households of Maiduguri metropolis the epi-center of the north-east crisis in which International Organization for Migrations (IOM) (2016) provided a figure of 1,317,524 IDPs that integrated into the host communities at two different levels; IDPs households (Primary Integration) with a population 402,424 and IDPs in existing households (secondary integration) with a population of 914,600. This excludes those camped at designated centers of Maiduguri metropolis. This worsens food insecurity and vulnerability situation in the area but there remains knowledge vacuum with respect to food insecurity level and severity as a result of changes in integrated household dependency ratio in these communities. Specifically, the extent of food insecurity response and severity to changes in household membership among the integrated households has not been closely examined. Therefore, the population of IDPs in exiting households, their food insecurity level and severity remain relevant and of interest to the drivers of food insecurity. Thus, this study critically analysed food insecurity response and

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severity to changes in dependency ratio among integrated households in Maiduguri Metropolis, Borno State, Nigeria.

Conceptual model of the study

The conceptual model of this study is drawing on the existing literature based on interrelationship between food insecurity level and household dependants. The study postulates that household food insecurity level is influenced by household socio-economic characteristics especially, household dependants and indirectly by income through household expenditure on food (Abdulrahaman, 2013; Adepoju and Adejere, 2013). In this regard, household income mediates the effect of the magnitude of household dependants on food insecurity (Headey, 2011). Hence, this framework has been depicted to clarify the interrelationship in the determination of integrated household food insecurity response (HFIR) to changes in dependency ratio in the study area.

The basic idea of the model is to explain the rate at which food insecurity level varies with changes in dependency ratio, keeping socio-economic and economic access factors of integrated households and all forms of interventions constant. This clarifies dependency ratio response of integrated household food insecurity level; which is a specific point on household food insecurity curve. The model to represent this equation is thus, change in value of Household Food Insecurity Level (HFIL) divided by the change in Household Dependency Ratio (HDR) which is the slope $\frac{\delta HFIL}{\delta HDR}$ (gradient) of the household food insecurity response curve (Figure 1).

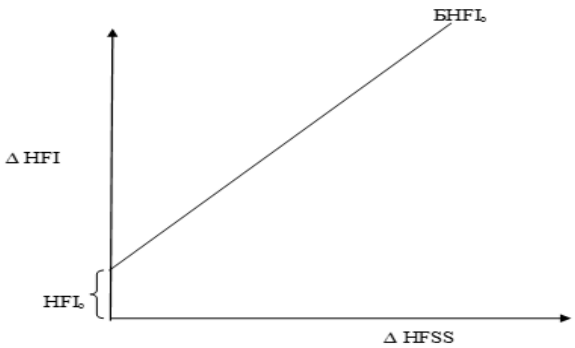

Figure 1 Household Food Insecurity Level Response Curve
Source Conceptualized in this Study

The second part $\sum_{i=1}^{n}\frac{(HDR)}{n} / \sum_{i=1}^{n}\frac{(HFI)}{n}$ related to the actual point on the curve at which a measurement is made.

The model provides food insecurity response index as ($0 \leq HFIRI \geq 1$) that defines the responsiveness of food insecurity due to changes in dependency ratio. The IHFIR model however, does not lend itself an analysis of the influence of simultaneous multivariate socio-economic determinants on integrated household food insecurity level.

RESULTS AND DISCUSSION

Response of Integrated Household Food Insecurity to Changes in Dependency Ratio due to BH Induced IDPs.

The food insecure integrated households of Maiduguri metropolis were estimated to be (97.07%). These households were categorized into; mild, moderate and severe with prevalence of 5.32%, 27.65% and 64.10% respectively and their individual Food Insecurity Response (FIR) coefficient were estimated as shown in Table 1

Table 1: Distribution of Food Insecurity Response (FIR) based on Severity of Integrated Household

Variables	Food Secure	Mild	Moderate	Severe
Slope	0.000	0.523	0.77	0.8683
HMDR (%)	0.31	52.01	58.17	41.02
HMFIL (%)	0	30.60	50.02	71.24
HMFIL/HMDR	-	0.588	1.163	1.736
HFIR	-	0.307	0.895	1.507

Source: Field Survey 2018

The result from Table 1 reveals that the estimated slopes obtained from the ratios of changes in household food insecurity levels (HFIL) and dependency for mild, moderate and severe were progressively increasing in order of 0.532, 0.770 and 0.868 respectively. This means that changes in food insecurity levels as a result of changes in dependency ratios were all positive and increasing in magnitude with increasing levels severity in integrated household food insecurity. Implying that severity of integrated household food insecurity increases with increasing number of household dependents. The Household Mean Food Insecurity Level (HMFIL) which is the estimated food insecurity level per integrated household were also increasing with respect to severity of food insecurity as 52.01, 58.17 and 41.02 for Mild, Moderate and Severe integrated households.

The Household Mean Dependency Ratios (HMDR) were also estimated and found to be increasing as 41.02, 52.01 and 58.17 for mild, moderate and severe integrated households. Meaning increase in number of household dependents increases dependency ratio, thereby increasing the severity of food insecurity among the integrated household. However, food secure integrated household had 0 slopes with 0.31 and 0.00 for HMDR and HMFIL respectively as shown in appendix III. This implies that severely food insecure household had the largest HFIR coefficient (1.506), meaning that, those households have more than proportionate change in response in dependency ratio to changes in food insecurity levels. This signifies a marginal increase in dependency ratio could result to more than proportionate increase in food insecurity level while moderately food insecure households have equal response to food insecurity due to changes in dependency ratio. This is interpreted as a marginal change in dependency ratio result to approximately equal change in the level of food insecurity. Thus, any increase in household membership X translates into an increase in the magnitude of the FIR coefficient. This findings are in line with Babatunde *et al.,* (2007), Omonona and Agoi (2007).

Conclusion and Recommendation

The study analysed food insecurity response due to change in BH induced IDPs among integrated households and concluded that food insecurity increases with increasing dependency ratio as indicated by HFIR coefficients progressively increasing from mildly food insecure to severely food insecure integrated households.

There exist strong relationship between integrated household food insecurity and size of integrated household dependants as indicated by HFIR coefficients. Hence there is need to consider policies focused on the reduction of food insecurity directly through separation of excess IDP members from the existing households that could not be supported by their personal income. The excess IDP members are then grouped into another independent household whose income can temporarily be supported through the financial contribution of private philanthropic organizations. Therefore dependency ratio is an arithmetic division of number of household dependants (Non working members) by the sum of household membership (including working and non working)

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