



# The Influence of Women Empowerment on Child Nutrition in Rural Nigeria

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## Abstract

Women empowerment is key to reducing weak dietary diversity and chronic child malnutrition. In Nigeria, child malnutrition is persistent, despite several interventions that failed to factor in the need to empower women to eradicate the menace. In this study, we examined the influence of women empowerment on child nutrition in rural Nigeria using the five basic domains of empowerment, namely: production, resources, income, leadership and time. Data from General Household Survey Panel 2015-2016 were analyzed using Poisson regression, Ordinary Least Square regression and Instrumental Variables techniques to

correct for potential endogeneity. The results show that most (over 90%) of households consumed cereals, vegetables, oils and fat, spices, condiments and beverages. It also shows that, on average, women had access to less than two empowerment indicators, implying low empowerment among women. Women empowerment significantly increased household dietary diversity and consequently reduces the probability of child stunting. These findings support the claim that woman empowerment is a pathway out of the cycle of weak dietary diversity and consistent child malnutrition in rural Nigeria. It is therefore recommended that complementary and supportive policies on women empowerment aimed at preventing and reducing severe child malnutrition in Nigeria should be strengthened.

## Introduction

Agriculture and nutrition are directly related, since agriculture provides food which is essential for human survival. The roles of agriculture in the provision of steady income to farmers and reduction of poverty cannot be over-emphasized. Gillespie and van den Bold (2017) opined that agriculture has positive influences on nutrition. Inadequate nutrition has negative effects on health (Khan et al., 2018) as malnourished people become less productive and are unable to provide for family needs. In extreme cases, malnutrition leads to death, especially among children under-five years of age. Black et al. (2013) attributed about 45% of child deaths in the world to malnutrition. In Nigeria, the Demographic and Health Survey (Government of Nigeria, 2018) report showed that 37% of Nigerian children were stunted while 22%, 7%, and 2% were underweight, wasted and overweight, respectively. The report further affirmed that malnutrition is more prevalent in rural areas where agricultural activities take place than in urban areas. Additionally, the Food and Agricultural Organization - FAO (2017) showed that the number of undernourished people in Nigeria has increased to 25.58 million, which is considerably higher than the 13.76 million recorded in 2014, thus increasing the prevalence of undernourishment from 7.8% to 13.4%. This implies that poor nutrition is still a major problem that can hinder the achievement of the Sustainable Development Goals (SDGs) in Nigeria.

Women make up about 43% of the agricultural labour force in developing countries (FAO, 2011). In Nigeria, the agricultural sector employs about 70% of the populace in rural communities. Women are important in Nigerian agriculture especially in the different areas of the agricultural value chain, namely production, processing and marketing (Okojie, 2013). Despite the important role of women in agriculture/food production, family life and wage labour, they are faced with gender gaps in respect of access to economic resources due to various social, economic, and political barriers (Kangas et al., 2015; Quisumbing et al., 2014; FAO, 2011). These gaps result in less access to and control over productive resources, lower decision-making power in the household and children's affairs, less access to health services, and more

mobility and time constraints, which are some of the catalysts and indicators of low empowerment (Peterman et al., 2015; Wouterse, 2016; Meierzu, 2016; Sell and Minot, 2018). Low-level empowerment among women could affect the well-being of women and that of their families in terms of outcomes such as the nutrition and health of household members, thus resulting in low national economic growth and development for the country (Sraboni et al., 2014; Manfre et al., 2013). It is evident, as Kabeer (1999) explains, that empowerment expands people's ability to make strategic life choices, particularly in contexts in which this ability has been denied. The ability to make choices is made up of three dimensions, namely resources, agency and achievements.

## **Policies aimed at improving nutrition, agriculture and women empowerment in Nigeria**

Many policies in Nigeria have been geared towards improving the quality of nutrition among her populace, especially children who are among the vulnerable groups. Prior to 1990, food and nutrition activities in Nigeria were carried out by the individual sector. Therefore, there were several policies limited in scope, uncoordinated and ineffective in comprehensively addressing the nutritional problems of the country (Nigeria National Plan of Action on Food and Nutrition, 2005). The National Committee on Food and Nutrition established by the Federal Government in 1990 formulated the National Food and Nutrition Policy in 1995. Launched in 2002, the policy aims at addressing problems of food and nutrition across sectors and levels in Nigeria. Within this policy, there is a National Plan of Action on Food and Nutrition, which caters to translating the goals, objectives and strategies of the National Food and Nutrition Policy into implementable projects and activities. The objectives of the National Plan were also to ensure the commitment of the country to achieving the goals of the World Summit for Children (1990), International Conference on Nutrition (1992), World Food Summit (1996), the Millennium Development Goals (2000) and research findings from the Nigeria Food and Nutrition Survey (2001) and Nigeria Nutrition Programme Review in the health sector (2001).

Inadequate implementation of policies and plans of action resulted in little or no improvement in the nutritional situation of the country, especially among the vulnerable groups composed mostly of women and children. The policy was therefore reviewed in 2016. This also became necessary because of recent concerns in the science, practice and programming of food and nutrition activities such as nutrition in the first one thousand days of life, nutrition during emergencies and the prevalence of diet-related, non-communicable diseases and conclusions from the International

Conference on Nutrition (2014). Furthermore, the review was also done because of the realization of the importance of nutrition in achieving the Sustainable Development Goals (2030) and the involvement of Nigeria in signing up for the Scaling-Up Nutrition (SUN) movement, which aimed at working with various partners to come up with common nutritional objectives and ensure food sufficiency through empowerment of women (Ministry of Budget and National Planning, 2016).

Nutrition is multi-sectoral and multi-disciplinary, involving several sectors of the economy such as agriculture, health, education and trade, among others. These sectors have developed policies and strategies to address the nutritional perspectives of their mandate. For instance, the agricultural sector of the country had policies such as the National Agricultural Policy (2000-2010), Agricultural Transformation Agenda (2011-2015) and currently the Agricultural Promotion Policy (2016 to date). The major aim of the Agricultural Transformation Agenda was to develop an agricultural sector capable of reducing hunger by promoting income growth and accelerating reductions in nutrition and food insecurities (Federal Ministry of Agriculture and Rural Development, 2011). Women were part of the target group identified by the policy to drive growth of the agricultural sector due to the important roles they play in production, processing, marketing and operating small enterprises. Succeeding the Agricultural Transformation Agenda is the Agricultural Promotion Policy of the present administration of President Muhammad Buhari. An important guiding principle of the Agricultural Promotion Policy formulated in 2016 is the need for nutrition-sensitive agriculture, which aims at focusing policy instruments on stunting, wasting, being underweight and other manifestations of hunger and malnutrition, particularly among the vulnerable groups (Federal Ministry of Agriculture and Rural Development, 2016).

In order for the present administration to fill the gaps of gender integration and responsiveness identified in the Agricultural Transformation Agenda, a gender policy in agriculture was integrated in the Agricultural Promotion Policy of 2016. The policy complements existing policies in agriculture and the National Gender Policy (2006). This policy was aimed at ensuring that agricultural practices at all levels are gender responsive, as the role of agriculture cannot be underestimated in the achievement of the sustainable development goals of eradicating poverty (SDG 1), ending hunger, achieving food security, improving nutrition and sustainable agriculture (SDG 2) and achieving gender equality and empowerment of women and girls (Federal Ministry of Agriculture and Rural Development, 2016).

Prior to the formulation of the National Gender Policy of 2006 and the inclusion of the gender issue in the 2016 agricultural policy, an existing medium-term plan that fills the gap created by the non-inclusion of gender-equality in most government documents is the National Economic Empowerment and Development Strategy (NEEDS). The strategy serves as a target instrument for protecting vulnerable groups, ensuring affirmative action for women in all programmes, education, access to credit

and land, maternal and child care and specifically 30% affirmative action to increase women participation in decision-making and domestication of the Convention to Eliminate all forms of Discrimination against Women–CEDAW (Kezie-Nwoha, 2006).

The main objective of the National Gender Policy of 2006 is to address disempowerment among women, feminization of poverty, gender inequality and underdevelopment in the country. Its goals are to eradicate poverty, achieve gender equality and encourage inclusiveness in governance and development. The targets of the policy used in this study are those closely related to women empowerment indicators. These are: (i) to remove all gender-based barriers, including tenure security, access to credit and inputs in agricultural production and to enhance the visibility, productivity, valuation and documentation of women's work in the agricultural sector by 2010; (ii) to ensure equal access of women and men to critical resources such as capital, labour, land, technology and entrepreneurial skills through special initiatives, thereby reducing the number of citizens in core poverty groups, particularly women by 2012; (iii) to guarantee equal access of women, men, girls and boys to both formal and informal education and skills development opportunities through special programmes and initiatives by 2015; and (iv) to institute the culture of respect for the rights of women and men, including freedom of expression and the elimination of all negative stereotypical representation of women and girls and the presentation of gender issues at various levels of the information dissemination and communication chain by 2010. Among the programmes/projects instituted to achieve these targets were: Growing Girls and Women Nigeria Initiatives (G-WIN); gender mainstreaming into all national, state and local government policies (NEEDS/SEEDS /LEEDS) and Gender Action Plans for all MDAs.

From the aforementioned, women remain relevant in solving developmental problems such as child nutrition. Since one of the major goals of the National Gender Policy is to enhance women empowerment and encourage development, this study aims at examining how this policy on gender has influenced child under-nutrition that is rampant among under-five children in the country. It is believed that improving nutrition is not just a national agenda peculiar to Nigeria but a universal agenda that needs to be achieved. This can be achieved through empowering women, since they are in-charge of cooking and taking care of children and other household members (Scaling up Nutrition in Practice, 2016).

## **Women empowerment**

Understanding the influence of women empowerment on various sectors of the African economy is very important, as gender inequalities have been a major problem in Africa, despite various formal agreements in different conventions and commitments of different countries in Africa to bridging the gender gap (Damino

and Nwakubo, 2013). Women remain dominant in the informal sector and the care economy. However, their marginalization through some socio-cultural beliefs, norms and practices results in discrimination and feminized poverty as pointed out by the African Partnership Forum of 2007. The informal sector in which rural African women are highly prominent is agriculture. Women play an important role in the four pillars of food security: availability, accessibility, utilization and stability (Garcia, 2013). However, they are constrained by limited access to productive resources, when compared to their male counterparts.

About 60-80% of African women are employed in agriculture, and they are responsible for 70-80% of food production (Africa Partnership Forum, 2007). In Nigeria, more than half of the agricultural labour force is also made up of women who produce about two-thirds of the food crops (Ogunlela and Muktar, 2009). Despite this important role performed by women, they have limited access to land, credit facilities, agricultural inputs, equipment, extension services, market for their produce, education and training facilities, compared to their male counterparts (Wekwete, 2014). Women empowerment is not only crucial in achieving gender equity but also in increasing agricultural productivity and reducing hunger and poverty in Africa. The FAO (2011) affirmed that if there is equitable access to agricultural production resources such as capital, input and land among men and women, agricultural productivity will increase by 20-30%, thus reducing the number of the world's hungry people by 150 million.

Ayebuoman et al. (2016) found that about 43% of women in rural Nigeria are being disempowered with regard to education, with the resource dimensions of empowerment contributing the highest percentages to their disempowerment. The majority of production and management decisions are carried out by men in the sector. The low decision-making power of women in agricultural production and management decisions could be attributed to lack of empowerment among women in Nigeria (Oyediran and Odusola, 2006). Heaton and Forste (2007) affirmed that the low empowerment among women affects their decision-making autonomy on the desired family size, healthcare-seeking behaviour, the amounts and types of food fed to children and themselves, and the amount of time to spend on child-rearing.

Assessing the impact of women empowerment on child nutrition is important as it gives insights into how developmental policies that would promote gender equity, increase productivity and reduce poverty and hunger can be formulated. This is in consonance with the view of Meinzen-Dick et al., 2013 where they affirmed that considering the role of gender and gender equity as important pathways in agricultural development is highly necessary if agriculture is to improve health and nutrition. Women empowerment and nutrition are key developmental issues in the social and economic development of any nation. Assessing the impact of women empowerment on nutrition is very important at this critical period that Nigeria is experiencing food insecurity (Metu et al., 2016), high food prices (Okuneye, 2017), economic

diversification from the oil sector to the agricultural sector (Uzonwanne, 2015), poor health outcomes (Onisanwa, 2014) and poverty (UN Report, 2016). The contribution of women is critical to agricultural development in Nigeria. Palacios-Lopez et al. (2017) reported that 37% of the agricultural labour force in crop production in Nigeria were women, with variations across regions in the country. Women constituted 51% and 32% of agricultural labour force in crop production in the southern and northern regions, respectively. Therefore, assessing women empowerment could impact positively on the agricultural productivity of the country.

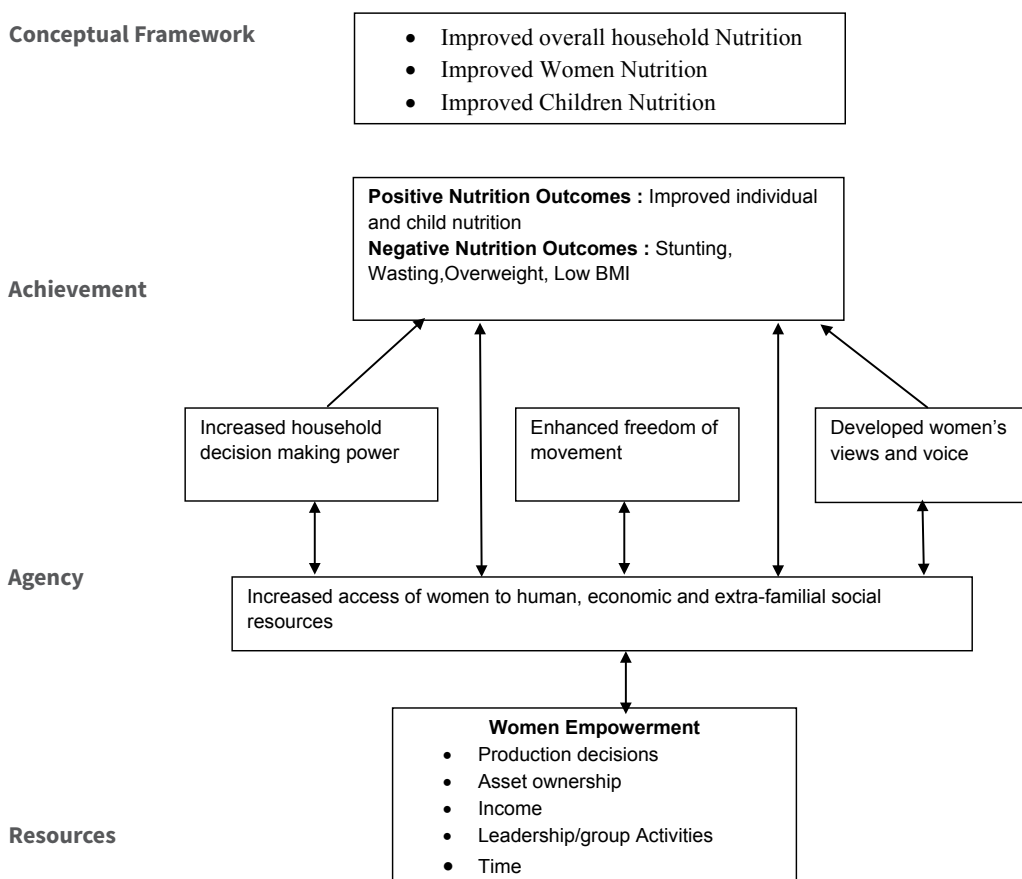
Available studies such as those of Oyediran and Odusola (2006), Ogunlela and Muktar (2009) and Ayevbuoman et al. (2016) have assessed the determinants of women empowerment in Nigeria, and there is a dearth of information linking women empowerment to key development issues such as nutrition, especially in Nigeria. Tanankem et al. (2016) have assessed women empowerment and intra-household dietary diversity in Nigeria using the 2013-2014 General Household Survey (GHS) panel data. However, nutritionists have affirmed that dietary diversity is a measure of food security, and not a measure of nutrition. Therefore, this study distinguishes itself by its use of household dietary diversity (food security measure) as a pathway to nutrition using stunting as the indicator of nutrition. The household dietary diversity pathway would provide more information on the linkage between food security and adequate nutrition. It would also make valuable empirical contributions to the limited literature available on the linkage between women empowerment and child nutrition in Nigeria, especially in the rural areas where agriculture predominates. The empirical evidence from the study would also show whether there is an improvement in women empowerment indicators such as accessibility to productive resources, decision-making power, and control over income and leadership roles among rural women in Nigeria.

The consideration of gender role and gender equity in agriculture could have a positive impact on the health and nutrition of women and of their household members, thus leading to agricultural development and economic growth (Meinzen-Dick et al., 2012). This study is also important as it unveils the role of women in decision making in agriculture. This is necessary because the decisions made by women often influence the possibility of translating income to improvement in the nutritional status of household members. The outcome of this study would help in the development of effective and holistic gender-responsive policies that will enhance women empowerment; improve child nutrition and food insecurity; improve agricultural production, productivity and farm income; reduce poverty and inequality in the country.

Evidence from this study would enable the Nigerian government to understand how effective the National Gender Policy and the Integrated Gender Policy in the Agricultural Promotion Policy are, and how these policies could be strengthened to

enable the country achieve the Sustainable Development Goals of gender equity, zero hunger and wellness for all come 2030. It would also aid the attainment of inclusive and sustainable growth and development as specified in the African Agenda 2063. From the aforementioned, the research question is “Does women empowerment influence child nutrition in rural Nigeria? The objective is to examine whether women empowerment influences child nutrition in rural Nigeria.

**Figure 1: Relationship between women’s empowerment and child nutrition**



Source: Adapted and modified by authors’ from Yount (2017)

The framework in Figure 1 shows the relationship between women empowerment and child nutrition. Women accessibility to empowerment indicators such as production decisions, asset ownership, income, leadership/group activities and time could enable women to acquire resources to develop their views and voice, increase their decision-making capacity and fulfil their aspirations. This can also be vice-versa as women’s access to resources to develop their views and voice, increase their decision-making capacity, and fulfil their aspirations could also empower the woman. The resources that could be acquired by women include human resources such as schooling attainment, skills development and self-efficacy; social resources such as



participation in organizations, access to peer networks and role models outside their family; and economic resources such as earnings, property and land. Women's access to these resources will improve her decision making within the household, enhance her freedom of mobility, and also develop her views and voice. Also, improvement in women's decision-making, freedom of mobility and development of views and voice could enhance women's access to resources. Access to human, economic and extra-familial social resources could lead to positive or negative nutrition achievements, thus re-emphasizing the mixed effects reported by previous literature. Positive nutrition outcomes, that is improved nutrition for adults and children within the household, would be achieved if economic gains as a result of women's empowerment are used to provide household members, especially children, with nutritious diets while negative nutrition outcomes such as stunting, wasting, overweight and low BMI could occur due to limited time for child care and preparation of nutritious meals, thereby making household members, especially children, to rely on alternative child care options, consumption of fast foods and other junks that may be detrimental to their health.

## **Conclusion and policy recommendations**

Women's empowerment is extensively perceived to be a key factor in closing gender gaps to improve livelihood outcomes. This study was aimed at finding out whether women empowerment measured by five (5) basic domains (production, resources, income, leadership, time) has any relationship with child nutrition. The Household Dietary Diversity Score (HDDS) was used as a proxy for the nutritional status of households, while child stunting was used as the indicator of child nutrition. The 2015/2016 Living Standard Measurement Survey data (LSMS-ISA) for rural Nigeria was used. To estimate the relationship, the Instrumental Variable Probit strategy, which corrects for the potential endogeneity of women empowerment and nutrition outcomes, was used. The main findings are summarized in the following paragraphs.

Cereals, vegetables and fats and oils were the most consumed staples in rural households in Nigeria while eggs were the least consumed among the 12 food groups considered. Time and income were the major domains that contributed most to the empowerment of rural women while playing a leadership role contributed the least. It was also found that women empowerment is positively associated with dietary diversity in Nigeria, the lack of which has been identified as a major reason for poor nutritional status of household members. Nevertheless, the estimation of the relationship between women empowerment and nutrition is usually challenged by the fact that women empowerment does not necessarily take into account possible unobserved household and cultural norms that are likely to stimulate intra-household food allocation and household food preferences. It was also found that education, access to extension services and the proportion of crop sold were key factors that

positively and significantly influenced the nutrition outcomes of children in rural households. The age of the women and being resident in the northern region were negatively associated with child stunting in rural Nigeria. To further explore the effect of women empowerment, women empowerment education and northern geopolitical zones were interacted. It was found that despite empowerment, living in the northern region increased child stunting.

Since adequate nutrition is a prerequisite to good health and good health is a prerequisite for active and productive human resources, it is suggested that the widespread child stunting in rural households in Nigeria needs to be addressed. This can be efficiently and effectively done if public policies are envisioned to improve women empowerment through education. This is because education is likely to provide women with the knowledge and skills that are vital for appropriate nutrition and enlightenment about the adverse effects of large households while also giving them the opportunity to engage in productive employment. The results of the study also corroborate the evidence that educating mothers and avoiding conflict zones are significant determinants of a households' long-term and short-term nutritional status. Finally, since women's empowerment is assumed to affect household nutrition through diet diversification, policies aimed at preventing and reducing severe malnutrition in Nigeria are needed. The increase in women's empowerment as a strategy to fight malnutrition in Nigeria should not take the place of nutrition policies but rather should be seen as a complementary and supporting approach, especially among women in rural households.

Although our results are robust to the use of different measures of women empowerment and instruments, our paper suffers from a limitation. The policy implication of this study is that absolute empowerment, and the relative empowerment of women within households, can positively affect child nutritional well-being. Therefore, there is need for additional support policies to narrow the gender gap in Nigeria. The limitation is that our data set only included information on the food groups to measure dietary diversity. Therefore, it was not possible to test if women's empowerment also has an effect on calorie intake and other measures of nutrition. Additionally, though we provided proxies, some indicators of the domains are not available in the data. Therefore, an interesting improvement would be to construct a more general indicator of female empowerment for all adult women using a larger sample. Also, conducting randomized controlled experiments can reveal important insights on the role of women empowerment and child nutritional outcomes in Nigeria and elsewhere in Sub-Saharan Africa. Future research should carry out rigorous evaluations of policy interventions in terms of whether they affect women empowerment and thus reduce the prevalence of child malnutrition in developing countries such as Nigeria.

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## Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

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