Does Household Production of Nutrient-rich Crops and Livestock improve child nutrition?

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Zambia's malnutrition challenge continues to persist despite the steady growth in national-level agricultural production. Prevalence of stunting in children below the age of five years has remained high at 35%, a marginal improvement from 40% reported in 2013/14 (CSO et.al 2019) The high rates of stunting threaten child survival and cognitive development (WHO & UNICEF, 2017). Other economic challenges associated with child stunting are poor performance in school, reduced adult economic productivity and increased risk to diseases such as diabetes and hypertension. Agricultural production at household level is one of the approaches that has been identified to have impact on reducing child stunting. However, evidence of effects of agricultural production on stunting has remained scanty with some studies concluding that agricultural production is only effective if households consume what they produce (see for example Khan, 2015).

In this paper we argue that agricultural production for consumption is not sufficient for improving child nutrition but that production of nutrient-rich crops and livestock. It is against this background that this paper investigates effects of production of nutrient-rich crops and livestock on child nutrition status measured by Minimum Acceptable Diet (MAD) for children. We particularly focus on children below the age of two years as early childhood nutrition affects the growth, health, and cognitive development of children, thus limiting their full potential to grow into economically productive adults later in life (WHO, 2009). The specific objectives of the study are twofold:

i)   Examine child dietary diversity among children in the 30 SUN districts

ii)   Determine the effect of production of nutrient-rich crops and livestock on child's MAD

The study used a 2019 district representative data obtained from a baseline survey conducted in 30 districts in Zambia under the Scaling up Nutrition Learning and Evaluation (SUNLE) program. The survey involved completed interviews of 7,486 households where, among other variables, information on dietary diversity, minimum acceptable diet, anthropometrics of children and mothers/caregivers was collected. The survey followed a stratified random sampling design where 250 households were selected in each district. The 250 households were

drawn from 10 enumeration areas randomly selected in each district. This meant 25 households in each enumeration area. The 25 households were randomly selected from a listing of households with children aged zero to 24 months in the enumeration areas. In each household, one child was observed together with its mother or female primary caregiver. Where there was more than one child in a household, one child was randomly selected using Survey Solution, the program which was used for data collection. The data therefore is representative at district level.

The study uses both descriptive and econometric analysis to examine child nutrition and the effects of household production of nutrient-rich crops and livestock on MAD

Key Findings

1. The results show that child dietary diversity is highly influenced by household production of nutrient-rich crops and livestock. Children from households producing and consuming nutrient-rich crops and livestock are more likely to achieve MAD compared to others. Access to nutritious foods and diverse food availability is likely to directly improve the child's diet but also indirectly through improving the mother/caregiver's diet. Production of nutritious foods is also likely to improve household income which can be spent on more diverse nutritious food. s.
2. Breast feeding children are more likely to achieve MAD compared to non-breast-feeding children.
3. The age of the mother or the primary caregiver has a significant and positive effect on MAD in that achieving MAD increases with the age of the mother/caregiver.
4. Nutrition interventions through various community level activities is important for improving child nutrition status. The results show that children whose households are reached by at least 90% of the nutrition community interventions are more likely to receive MAD compared to those who are reached by less interventions or none.
5. Other variables that positively and significantly influence children's attainment of MAD include child's breast-feeding status, education level of the mother, if the mother is in formal or informal employment compared to being a farmer. Furthermore, children from households experiencing severe hunger are less likely to achieve the minimum dietary intake.

In conclusion, the paper has evidently brought out the importance of household's nutrition-sensitive agricultural production and consumption in improving child dietary requirement. The

findings reflect the conceptual pathways from agricultural production to child nutrition where dietary intake is an immediate outcome of agricultural production and consumption. The results substantiate the various previous findings showing linkages between agricultural production and nutrition outcomes measured dietary intake.

Recommendations

1. The paper recommends policies and interventions that encourage nutrition-sensitive agricultural production and consumption at household level to improve dietary intake which in turn have effect on child stunting.
2. Diversified of mother's economic status by encouraging off-farm activities
3. Deliberate policies targeting improving nutritional status of the mother or women in general as this has significant implications on nutrition status of the child
4. As observed from the results that nutrition status of the child increases with the education level of the mother. This means intensifying the current efforts targeting girl child education especially in the rural areas and the low income urban communities.

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