One size doesn't fit all: stunting for under 5 children and social protection in Tanzania

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Abstract:

Tanzania has been at the forefront on the global fight with malnutrition first in the Iringa nutrition programme in the 1980s and 1990s which facilitated the application and perfection of the UNICEF conceptual framework of malnutrition and now as one of the first member countries of the global Scaling Up Nutrition (SUN) movement. Yet, nutrition status of children under 5 years old has not dented much in the last twenty years. This paper intends to examine the associational factors of stunting for under 5 children in Tanzania using the Tanzania Demographic and Health Survey 2010 data and to shed lights on the directions of its nutrition programming.

Multivariate linear probability regression model is established to study the relative contribution of various risk factors identified by the UNICEF conceptual framework of malnutrition (1990). Empirical findings from the full sample of under 5 children indeed suggest that stunting is a manifestation of **multi-dimensional** factors as stipulated in the conceptual framework. Food intake, food security, caring practice of children, healthy environment and family control of resources are all significant predictors of children's chances of being stunted. Childhood illness is not found to be associated with stunting but it is also the least well-measured risk factors in the survey data. Therefore we should be cautious on our inference. More importantly, not all factors count equal. Mother's height, children's birth weight, mother's working status, mother's age, children's age in months and maternal education are the top risk factors for stunting, followed by access to safe water and sanitation, mother's BMI, number of under 5 children in households and the size of the households. Food intake and food security variables are worth special attention here. These critical measures of nutrition intake at the household level start to lose both power and significance in predicting stunting once family household characteristics and wealth quintile are controlled for. Richer families are better positioned to eat well and more regularly and more likely to secure access to food. This pattern is driven primarily by the 2-5 years old sample. Food security significantly reduces children's odds of being stunted for children between 2 and 5 years old, a topic we will return in the following section.

The determinants of stunting also **vary by children's age**. For children less than 2 years old, stunting is more strongly determined by mother's work status than 2 to 5 years old especially in rural areas. In contrast, as children age, wealth and food insecurity factors become much stronger predictors of stunting than before. The size of the households and the number of under 5 in the family hold much more sway in determining stunting status than under 2 years old. It suggests that the caring from one's mother related to IYCF practices is most probably indispensable and irreplaceable at this early stage but as they age, substitute care can be sought to replace the maternal care if there is such supply readily available to meet the demands in the households. This suggests that biology and maternal attention trump other more medium-term and long-term causes in the beginning of the children's life but as children age, family resources, food security and access to

healthcare gradually start to exert their influence. It also provides evidence on the **cumulative effects of biological factors** as the correlation between mother's height and children's stunting status is much stronger for 2 to 5 years old compared to those below 2.

These findings have important policy implication for Tanzania. First, the results necessitate the **multi-sectoral nature of interventions** to tackle stunting in Tanzania, a well-known fact since the early days of Iringa Nutrition Programme but not always followed in practice. Nutrition interventions need to go hand in hand with other sectoral intervention in water and sanitation, maternal and child health but also it has to involve programmes and policies on girls education, social protection, livelihoods and decent employment if we are to sustain the gains in nutrition interventions. Jonsson (2012), one of the key architect behind the conceptual framework of nutrition, cautioned that we face the risk that "priority is given to addressing the immediate and underlying causes (Nutrition specific interventions), while the basic causes are perceived as politically too sensitive to address (Nutrition sensitive interventions)". Second, the multi-sectoral package also needs to be **age-specific**. One-size does not fit all. Mother's attention and care is indispensable and irreplaceable when children are less than 2 years old. Therefore intervention at this stage should avoid diverting maternal attention away from children. Also when we deal with older children, more attention should be given to the address the basic causes of malnutrition if we are to consolidate and sustain the gains made with younger kids.

The Productive Social Safety Net Programme (PSSN), a multi-sectoral social protection intervention led by the Tanzania Social Action Fund and supported by the World Bank and other development partners (DPs), is to be rolled out in 13 Local Government Authorities in financial year 2013/14. As is currently designed, moms with young children including those less than two years old are eligible to public work component for 15 days per month for 4 months during the lean season of the year. While there is plan to provide on-site childcare as part of the public work component, this could potentially put their children at heightened risk of stunting and the extra income and consequential rise in household consumption may not be enough to compensate the loss of mother's care. In order to reduce stunting, the PSSN should provide additional incentives for poor mothers with young children to spend more of their time with their children to counterbalance the economic pull factors.