The Importance of Context in Programme Decision Making:
An analysis of Public Health and Agriculture Contributions to Nutrition Outcomes

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Malnutrition is the single largest contributor to child mortality worldwide underlying 45% or 3.1 million child deaths a year (Black R. et al 2013). The immediate determinants of foetal and child nutrition are adequate food and nutrient intake, feeding, caregiving and parenting practices and low burden of infectious diseases (UNICEF 1991)**.** However, if specific interventions that address immediate determinants are scaled to 90% coverage, they would eliminate only one quarter of child under-nutrition as they deal with the problems rather than underlying causes (Bhutta et al. 2013). Beyond these specific interventions, mainly implemented by the public health sector, sectors like agriculture, social protection, education, and employment have a crucial role to play by addressing underlying causes of foetal and child nutrition, such as reducing poverty and producing more adequate nutritious foods (Ruel M. et al. 2013, World Bank 2013).

The theoretical case to improve nutrition through an approach that catalyzes the contribution from multiple sectors rather than an individual sector has been widely documented and reviewed by many studies (IFPRI 2012, Pinstrup-Anderson P. 2011 and 2013, World Bank 2007, Hoddinott J. 2012, Herforth A. et al 2013). Yet, in practice, non-health sectors struggle to fully appreciate their potential contribution for improved nutrition and be recognized for acting responsibly on their mandate.

This study draws on the Lives Saved Tool (LIST tool) developed at Johns Hopkins University to quantify the impact of specific interventions on child mortality and morbidity. It identifies five intermediate outcome areas linked to child stunting: complementary feeding, diarrhea incidence, family planning, maternal nutrition and breastfeeding behaviors. The LiST Tool outputs are based on impact and calculated from randomized control trials. The work between Columbia University and the SUN Movement Secretariat goes one step back. It uses regression analysis from multiple data sources to look at statistically significant associations between sectoral contributions and the intermediate outcome areas. Findings from the study underline the importance of contextual factors[1] in determining the possible impact of nutrition sensitive sectors to nutrition outcomes.

Two different models were used in the research: one for public health interventions and another for agriculture. Among public health interventions, where there are meta-analyses results of effects, an important association was found between contextual factors and the uptake of the different interventions. For instance, girls' education (as a contextual factor) was strongly linked to relevant nutrition outcomes such as uptake of family planning, complementary feeding and maternal nutrition. As another example, peer counselling, an intervention to increase the prevalence of exclusive breastfeeding, was shown to be more successful in specific contexts (in a rural setting, lower educational attainment of mothers and mothers who are not highly engaged in labor).

[1] Contextual factors are characteristics of the ecology/environment that are related to the effectiveness of an association or outcome.

In the agricultural model, three indicators for dietary patterns were strongly associated to reduced child stunting prevalence: 1). Percentage of energy from non-staples in supply, as an indicator for diet diversification; 2) Calories available per capita as an indicator for food quantity; and 3) Iron availability from animal products, as an indicator for micronutrient availability. Agricultural production diversity, increased access to finance for farmers and strengthened agriculture research and development were all found to be positively associated with diversification of supply and iron availability from animal products. On the contrary, mechanization and extensification of agriculture were negatively associated to diet diversification as well as complementary feeding, possibly showing trade-offs between quantity and quality of food sources. Contextual factors again play an important role in this sector and are mostly linked to macro-economic issues. For example, increased exports as percentage of GDP was negatively associated with diversification, quantity and iron availability of supply but per capita income and road infrastructure were shown to have a positive association with all three outcomes.

This study highlights how sectoral decisions might contribute to improved nutrition outcomes and mitigate potential harms from macro-economic issues and contextual factors. This study shows how important it is to continuously frame the relationships between factors and intermediate outcome areas to identify potential pathways towards child stunting. The assumptions used to define the conceptual frameworks should be tested through quantitative methods and qualitative analysis. While the approach is grounded in evidence from scientific literature, the end product is expected to be useful for a decision maker, who ultimately is the one dealing with highly political and context-specific issues.

Documents developed for the study:

1. **Report on the study**
2. **PowerPoint Presentation on the study**
3. Details on the datasets and methodology used for the analysis:
   - **Annex I**: Methodology (Public Health and Agriculture models)
   - **Annex II**: Trials included in the meta-analysis (Public Health model)
   - **Annex III**: Moderator analysis (Public Health model)
   - **Annex IV:** Indicator list and datasets (Agriculture model)Moderator analysis

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