Global Nutrition: Challenges and Opportunities to Address both Under- and Over-nutrition

The Role of Nutrition-Sensitive Interventions, including Agriculture

CUGH Global Health Conference
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March 2015
Lancet 2013

- 10 targeted interventions implemented at 90% coverage cut stunting by 20% and mortality by 15%.

- Cost: US$9.6 billion per annum.

- Even at 90% coverage, 80% of stunting remains!!!
Children below 5 years (n=5,237) (DHS 2011)
Maternal and Child Nutrition 3

a) Discussion of potential for agriculture to contribute to, accelerate, and enhance coverage of improved nutrition outcomes

b) Search for evidence that it can
What Makes Programmes Potentially Nutrition-sensitive?

- They address critical underlying determinants of undernutrition
- They are implemented at large scale and are effective at reaching the poor – who also have the highest malnutrition rates
- They can be leveraged to serve as delivery platforms for nutrition-specific interventions

Accelerating progress in nutrition requires increasing the nutritional impact of effective, large-scale, nutrition-sensitive development programmes

Source: Lancet series 2013
“There is no existing literature that explicitly tests whether...nutrition-sensitive growth really has a large impact on changes in malnutrition over the medium term.”

Nutritional Impacts of Targeted Agricultural Programmes

Evidence of nutritional impact is inconclusive

Although there is some evidence of impact from home gardens and homestead food production systems on vitamin A intake and status of children

Strong evidence from roll out of biofortified vitamin A rich orange sweet potato on vitamin A intake of mothers and children and vitamin A status of children

Limited evidence likely due to

Weaknesses in program goals, design, targeting, implementation

Lack of rigor in impact evaluation, including lack of theory-based program impact pathway analysis
Doubling per capita income through agriculture associated with 15-21% point decline in child stunting (<5y).
New crop technology
Higher productivity
Higher household income, sales, consumption
Transfer of labor and inputs

Net return/day of labor \( \times 3 \)
Net rise in real income 13%/hh
10% income rise = 4.8% rise in calorie supply

Child nutrition improved, but could have been higher
10% rise in calories = 2.4% fall in children underweight

Source: von Braun et al. (1989)
Suggestive evidence that WASH improves height-for-age

Cochrane review:
- 5 cRCTs involving 4,627 children aged <5 years

Source: Dangour et al. (2014)
International variation in height explained by sanitation

Source: Spears (2013)
Gambia, 138 children at birth, 1 year follow-up

“Strong effect of maternal aflatoxin exposure during pregnancy on growth in the first year of life.”

Reduction of maternal AF-alb from 110 pg/mg to 10 pg/mg would lead to 0.8 kg increase in weight and 2cm increase in height within the first year of life.

Conclusions

- 10 Lancet interventions address ‘only’ 20% of stunting.

- The ‘other 80%’ requires multi-sector actions. Need to link agriculture with public health research.

- Knowledge gaps on role of WASH, food safety, safety nets, perishability/processing, market access.

- ADVOCACY for nutrition is essential. Nutrition is complex, multifaceted – not just absence of ‘hunger’. Need support of agric. and health communities for the six World Health Assembly nutrition metrics in SDGs.