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What the Lancet Nutrition Series of 2013 tells us (and what it doesn't)

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Kathmandu, August 2013

Feed the Future Innovation Lab
For Collaborative Research on Global Nutrition

USAID
FROM THE AMERICAN PEOPLE

Tufts
UNIVERSITY

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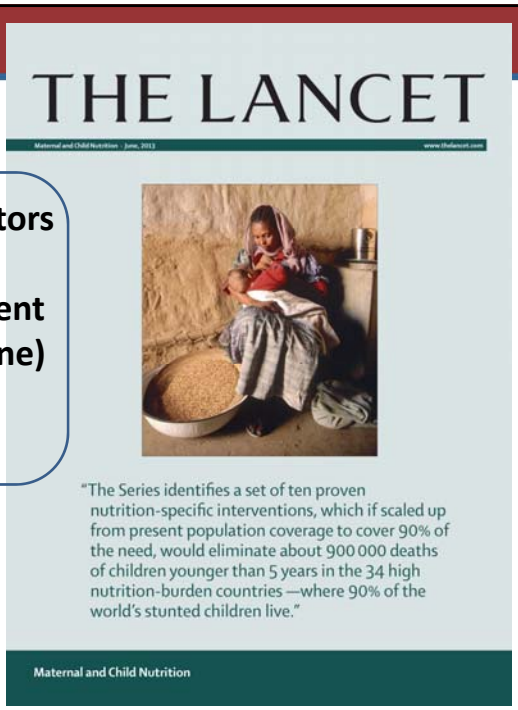
- Dozens of contributors
- 120+ pages of content (with yet more online)
- Complex analyses



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Factoids from Lancet Series 2013

165 million children under five are stunted.

Undernutrition is responsible for 45% of all under five child deaths

20% of stunting by 24 months attributed to being born SGA

10 interventions at scale prevents 1 million child deaths and **averts 20%** of all stunting

"Coverage rates for [many] interventions are either poor or non-existent."

The cost of scaling up needed interventions to 90% coverage is US$9·6 billion per year

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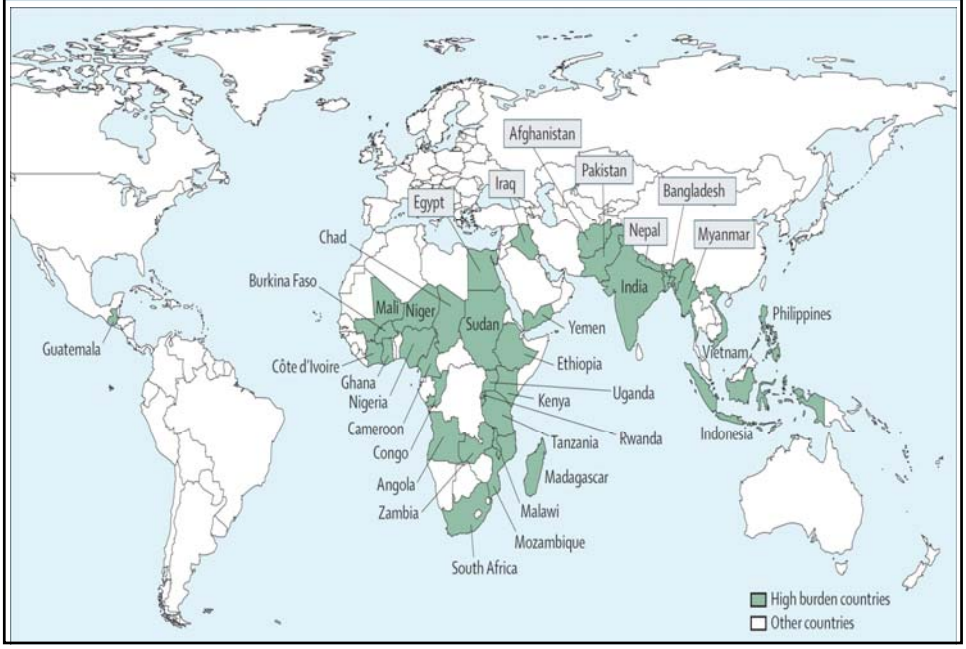

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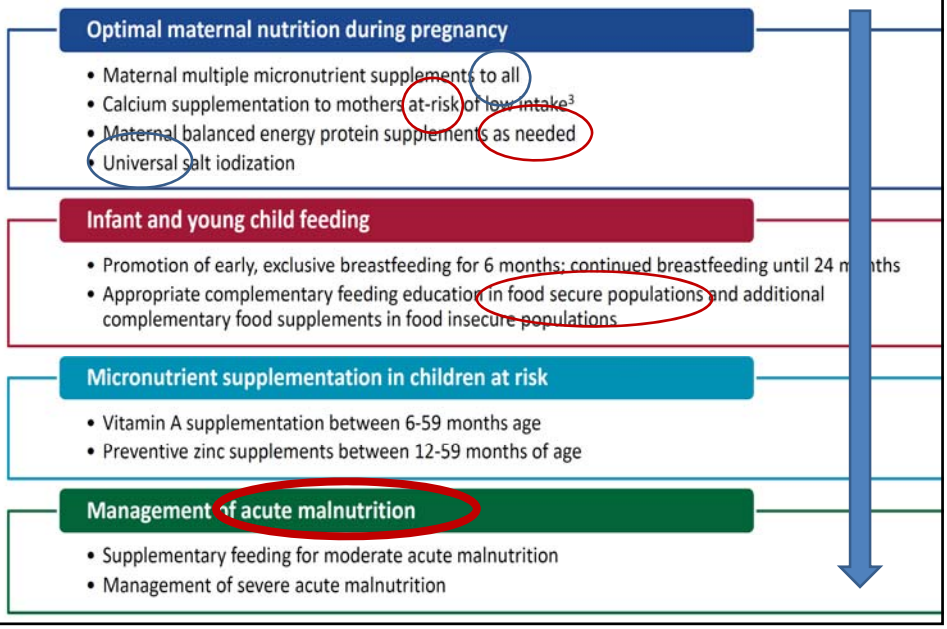

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Current evidence and ***modeling*** of impacts
10 interventions @ 90% coverage can reduce:

- *Mortality* in children younger than 5 years by 15% (range 9-19%)
- *Severe wasting* by **61%** (range 36-72%)
- *Stunting* by at least 20% (range **11-29%**)

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But, that's only 20%. That leaves 80% of the stunting problem to be solved!!!

Enter… nutrition-sensitive programming, multi-sector integration, and enabling policy environments.

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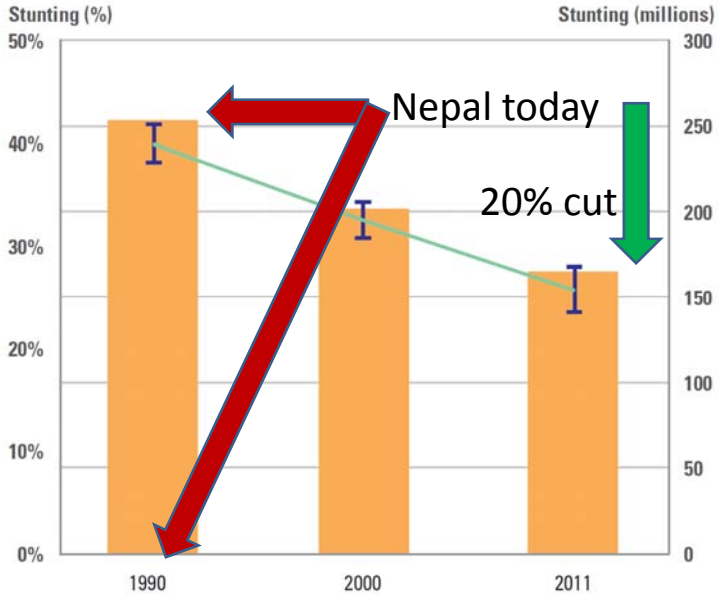
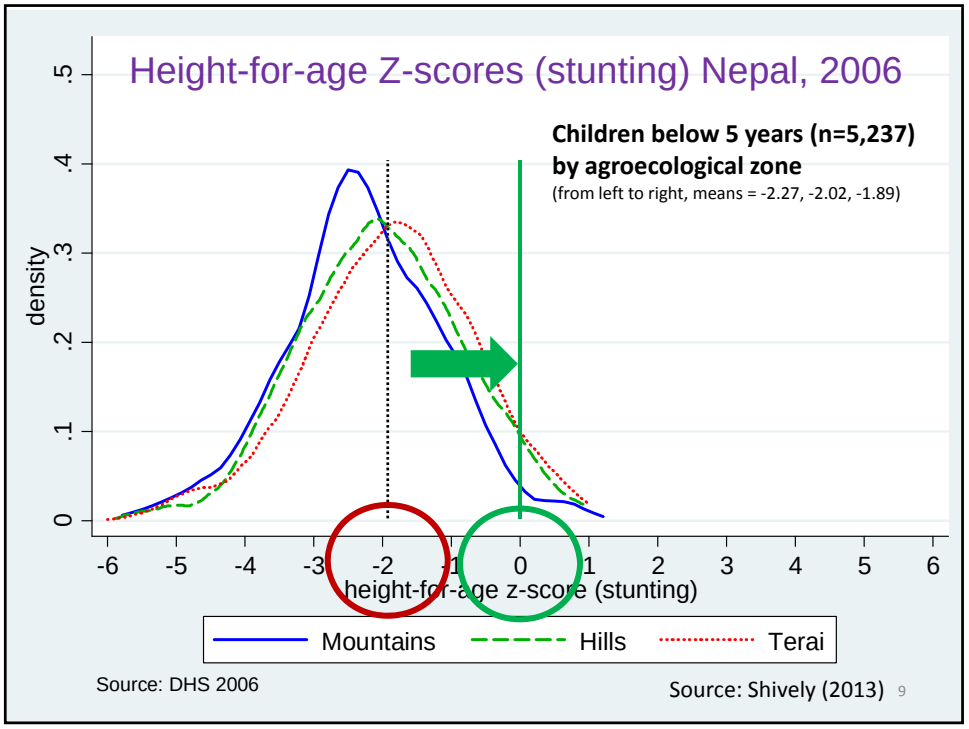


Source: UNICEF (2013) *Improving child nutrition*


Height-for-age Z-scores (stunting) Nepal, 2006
Children below 5 years (n=5,237)
by agroecological zone
(from left to right, means = -2.27, -2.02, -1.89)
density
0
.1
.2
.3
.4
.5
-6
-5
-4
-3
-2
-1
0
1
2
3
4
5
6
height-for-age z-score (stunting)
Mountains
Hills
Terai
Source: DHS 2006
Source: Shively (2013)
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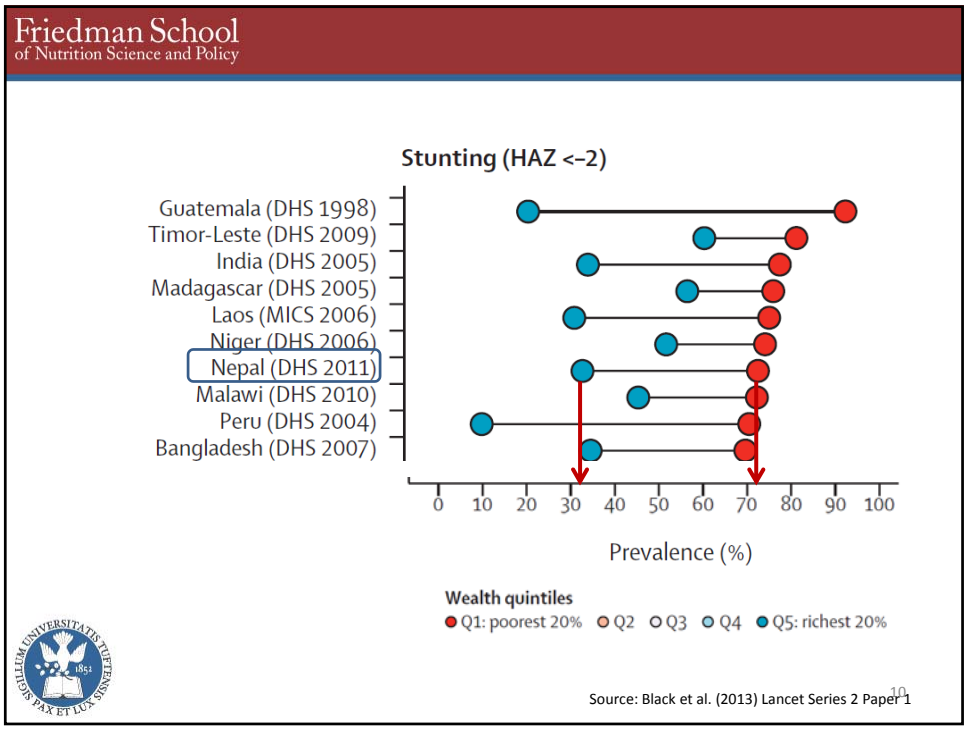
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Stunting (HAZ <-2)
Guatemala (DHS 1998)
Timor-Leste (DHS 2009)
India (DHS 2005)
Madagascar (DHS 2005)
Laos (MICS 2006)
Niger (DHS 2006)
Nepal (DHS 2011)
Malawi (DHS 2010)
Peru (DHS 2004)
Bangladesh (DHS 2007)
0
10
20
30
40
50
60
70
80
90
100
Prevalence (%)
Wealth quintiles
Q1: poorest 20%
Q2
Q3
Q4
Q5: richest 20%
Source: Black et al. (2013) Lancet Series 2 Paper 1
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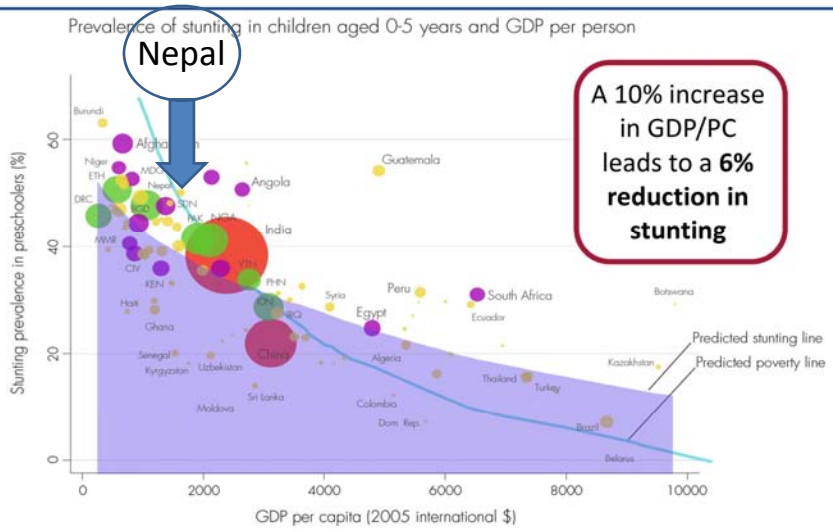
Nutrition-sensitive Programmes Can Impact Nutrition: Through Increases in Income



THE LANCET 6

Definition: Nutrition-sensitive Interventions and Programmes

Interventions or programmes that address the **underlying determinants** of fetal and child nutrition and development— food security; adequate caregiving resources at the maternal, household and community levels; and access to health services and a safe and hygienic environment—**and incorporate specific nutrition goals and actions**

Nutrition-sensitive programmes can serve as delivery platforms for nutrition-specific interventions, potentially increasing their scale, coverage and effectiveness

Examples:

Agriculture and food security	Social safety nets
Early child development	Maternal mental health
Women's empowerment	Child protection
Schooling	Water, sanitation and hygiene
Health and family planning services	

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Evidence Review of Programmes from 4 Sectors

- ✓ Agriculture
- ✓ Social safety nets
- ✓ Early child development
- ✓ Schooling

Selected based on:

- Relevance for nutrition
- Availability of evaluations of nutritional impact
- High coverage of the poor
- Targeting: programmes that are or could be targeted to reach nutritionally vulnerable groups

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Agriculture to Nutrition Pathways

1. Productivity
2. Diet Quality
3. Empowerment



A doubling of per capita income **from agriculture** is associated with 15-21% point decline in stunting.

4. Food system safety
5. Delivery platforms


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Nutrition-sensitive Programmes Can Impact Nutrition: Through Empowerment of Women

There is evidence that men and women allocate food and other resources differently

Evidence shows:

Positive associations between dimensions of women's empowerment and improved maternal and child nutrition

Negative associations between *dis*empowerment (e.g. domestic violence) and child nutrition outcomes

Positive impacts of cash transfers and agricultural programmes on measures of women's empowerment

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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

THE LANCET 12

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Research priorities in 2013 Lancet Series

More than 60 'research priorities' defined in the 4 main papers.

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- We know more than ever what kinds of things work; let's get on with it! But generate rigorous evidence in doing so.
- What is needed, feasible and cost-effective is context- and need-specific. Tailoring!
- It's never either/or! We need targeted treatments, universal prevention, *and* nutrition-sensitive actions. The latter requires much careful research.

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Limitations should be :

"A large proportion of the evidence on interventions is still derived from efficacy trials as opposed to effectiveness studies and hence variations exist in **estimates of effect size** for various interventions.

Few robust assessments in programme settings and available data from observational studies do not permit ready assessment of intervention effectiveness."

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"Nutrition effects resulting from agricultural and other food system policies and programmes are very difficult to assess with RCTs, partly because treatments cannot be randomised and because the effect pathway is long.

Yet **the most promising opportunities for improvement of health and nutrition are undoubtedly found in such policies**, and not in home gardens and other minor projects which are amenable to study within the framework of randomised trials."

Pinstrup-Andersen (2013) Commentary on Lancet Series 2

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Lives Saved Tool (LiST)

- LiST is a linear, mathematical model that describes fixed associations between inputs and outputs that will produce same outputs each time model is run.
- 'Outputs' are changes in population level of risk factors (such as wasting or stunting rates, or birth outcomes such as prematurity or size at birth) and cause-specific mortality.
- Model assumes that changes in distal variables, such as increase in income per person or mothers' education, will affect mortality by increasing coverage of interventions or reducing risk factors.

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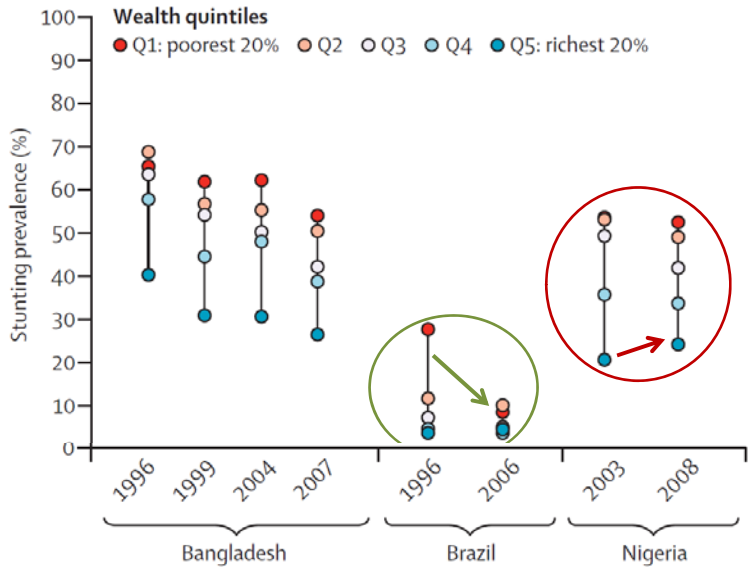

Source: Black et al. (2013) Lancet series II