

Understanding the paradox of undernutrition in Sri Lanka

**– What does it tell us about what
matters in Sri Lanka and South Asia?**

Ravi Rannan-Eliya
Institute for Health Policy

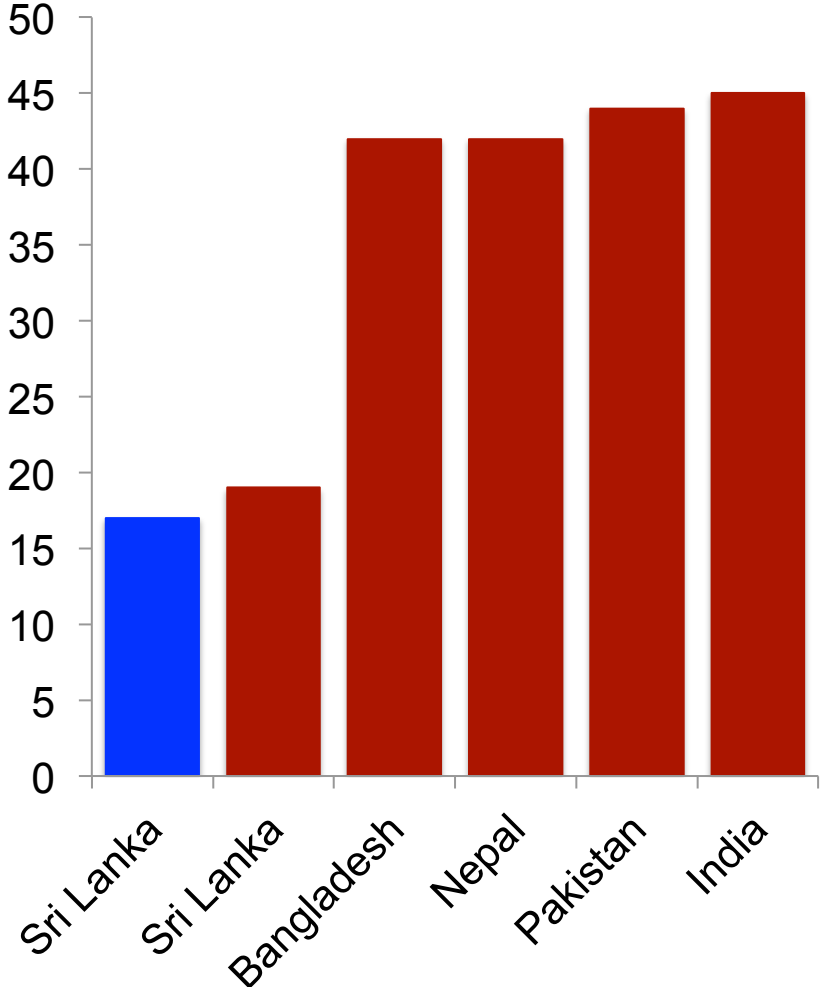
SAIFN Conference
23 November 2015, Colombo



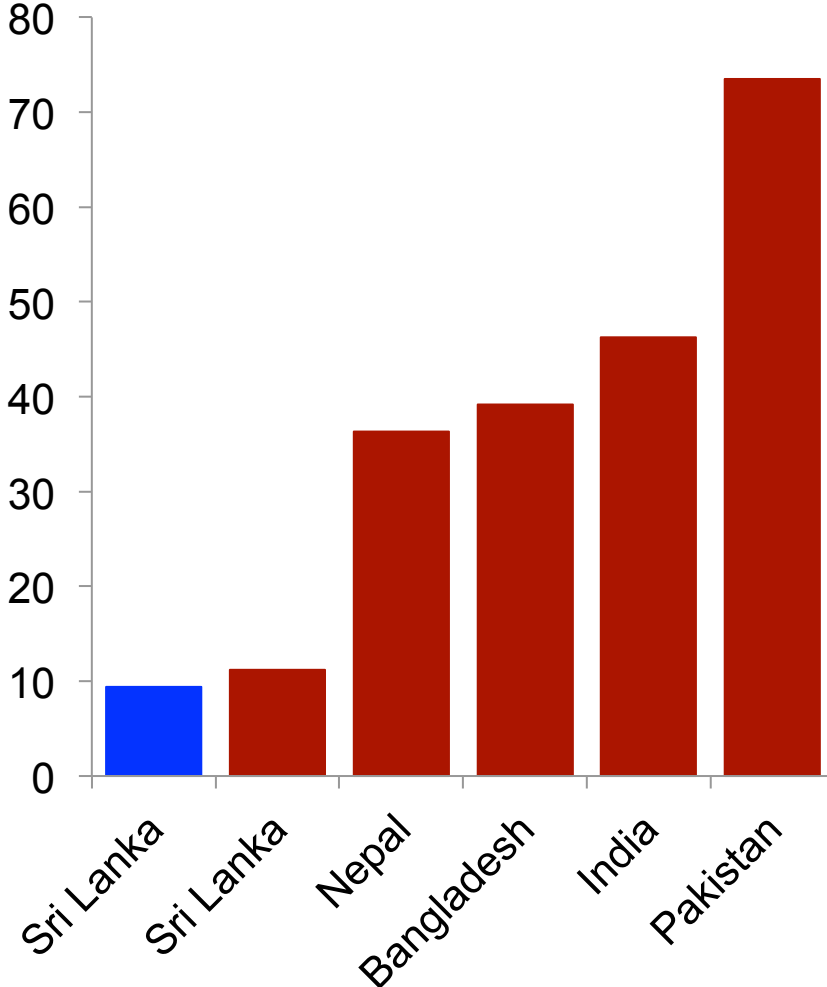
The Sri Lankan Problem

Comparative performance in South Asia

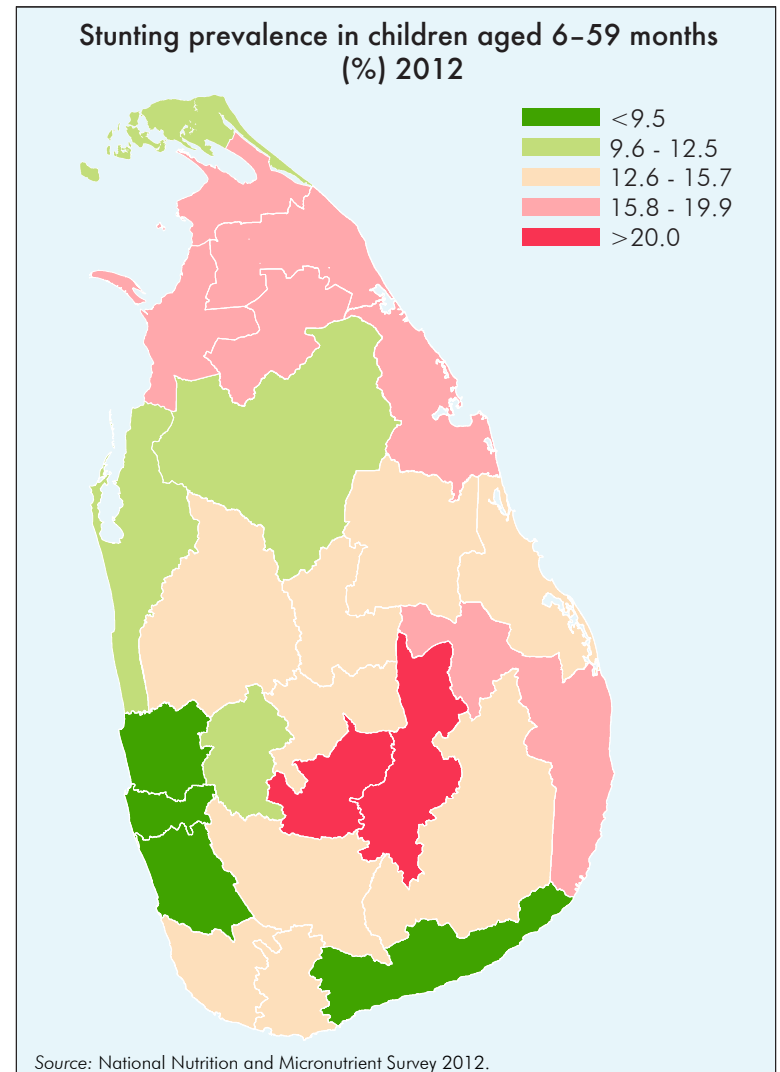
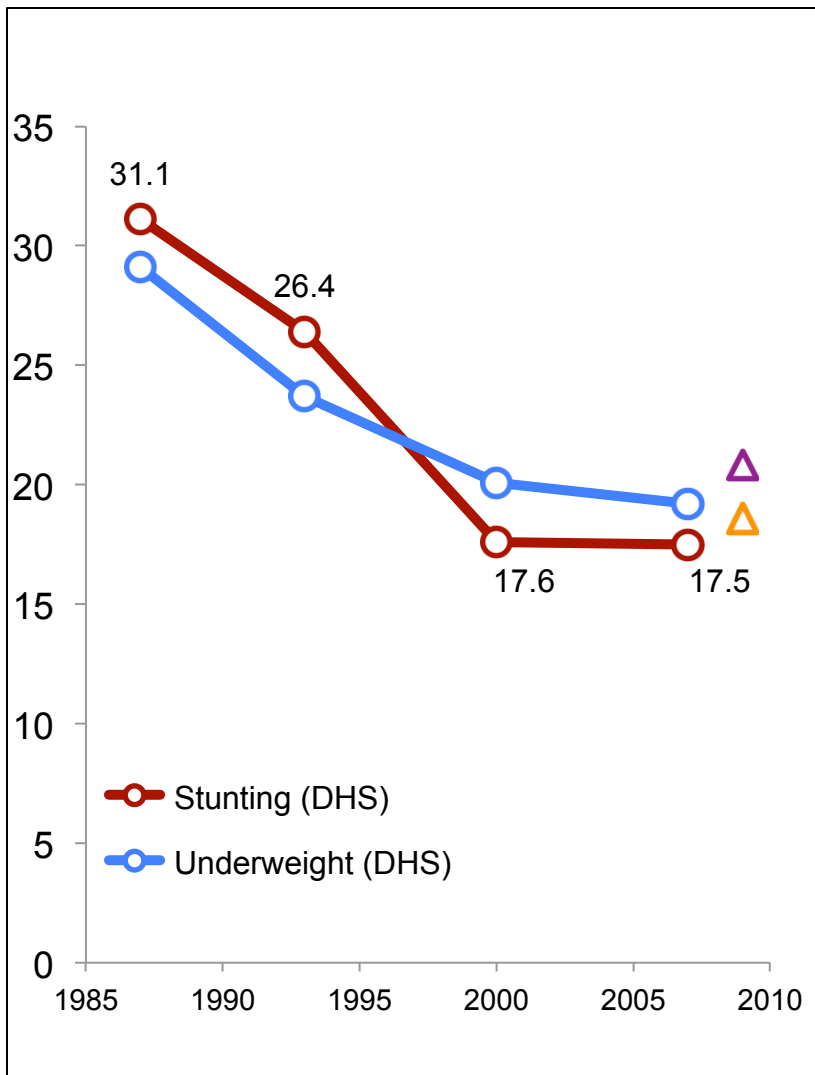
Stunting (%)



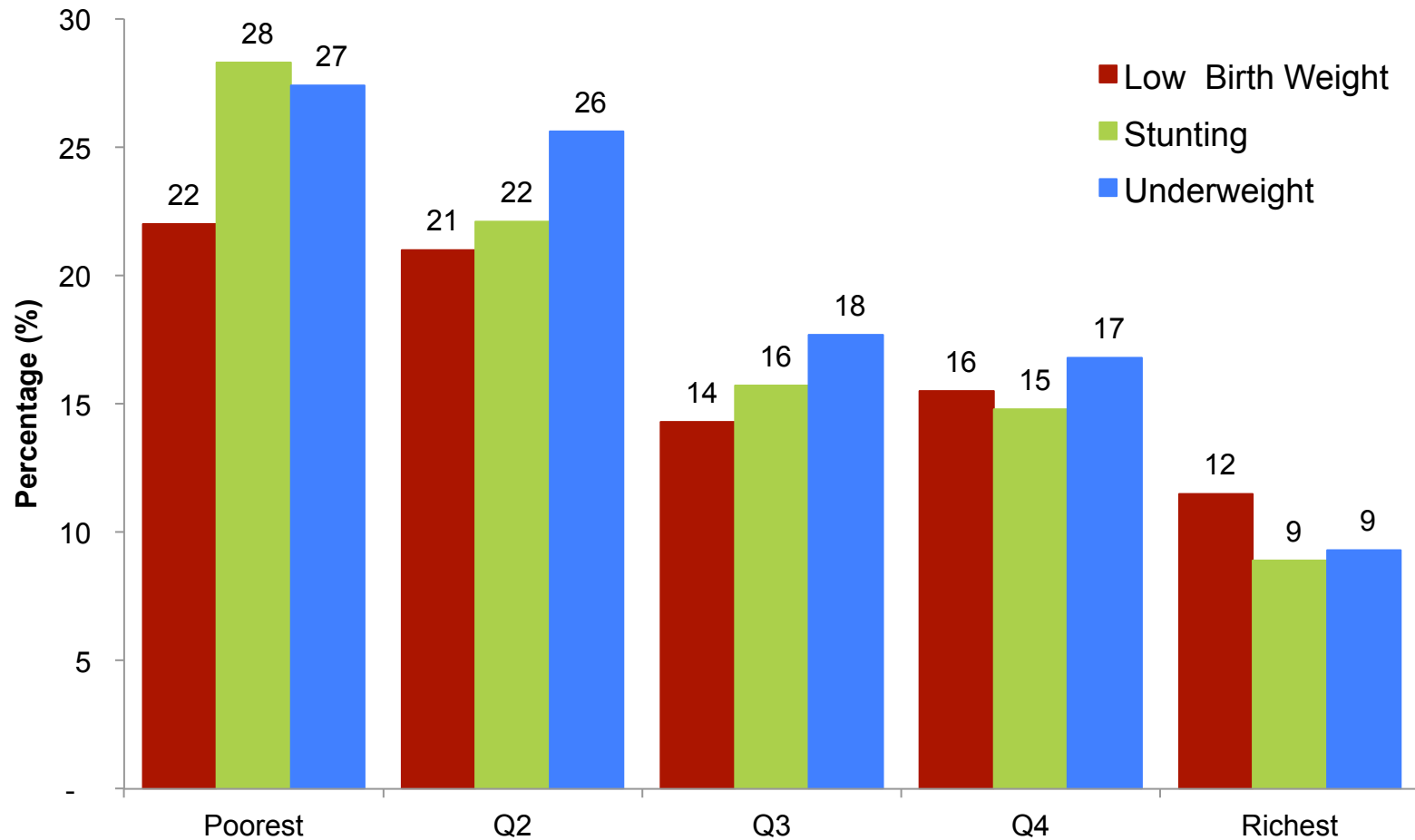
IMR



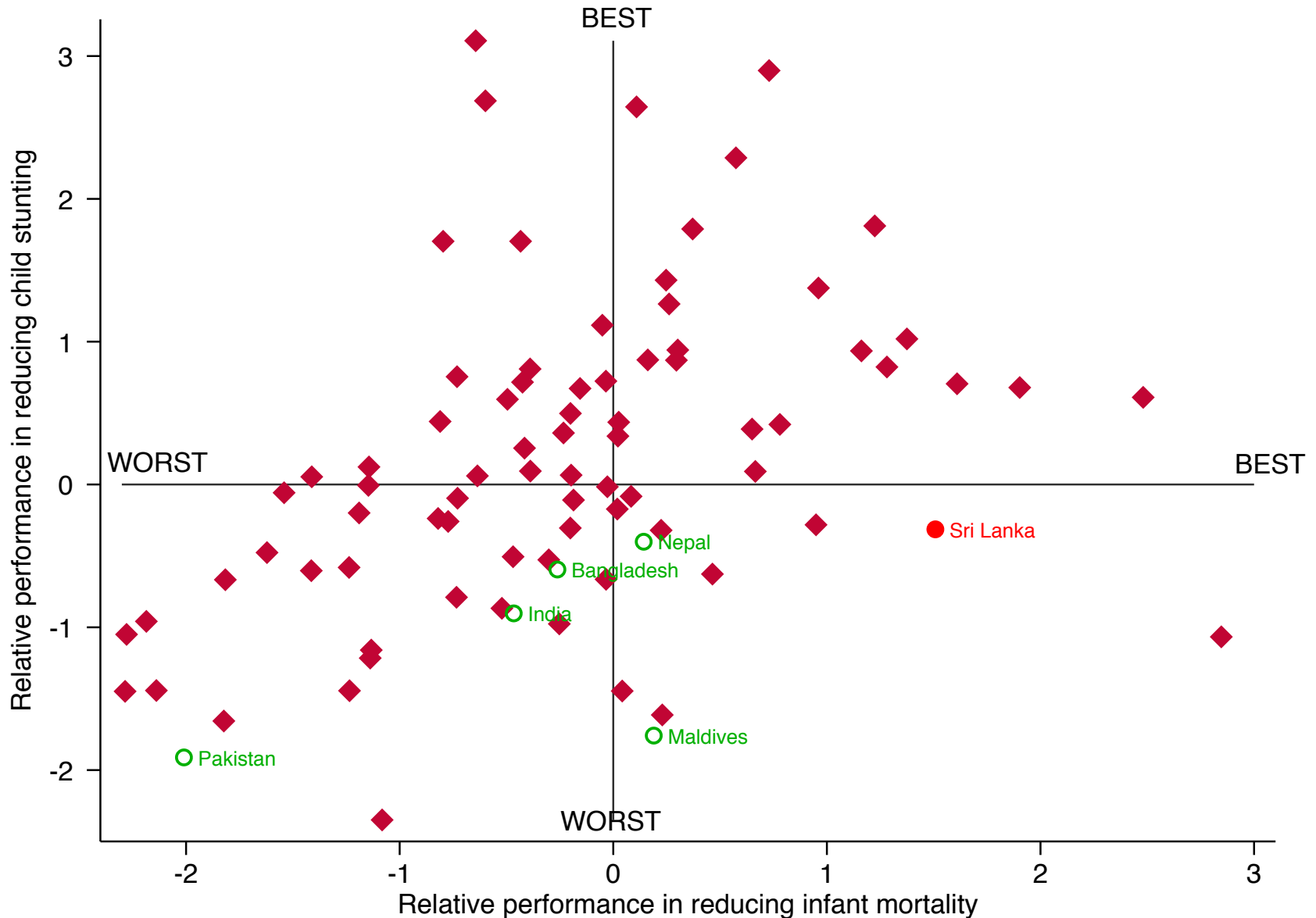
Stagnation and disparities in Stunting Sri Lanka (recent years)



Income inequalities in Sri Lanka in undernutrition –amongst the worst in world



Comparative performance in undernutrition vs. IMR (controlling for income)



The Sri Lankan Paradox

- Poor performance in child undernutrition despite otherwise excellent health outcomes
- Large inequality in undernutrition outcomes despite generally equitable access to healthcare and comparatively equitable health outcomes
- Slow improvement in nutrition outcomes despite good economic growth
- No obvious impact from large scale food supplementation program (Thriposha) since 1970s
- But part of wider South Asian enigma
 - Discrepancy in nutrition performance and health outcomes/ economic growth shared with rest of South Asia

What do the data tell us?

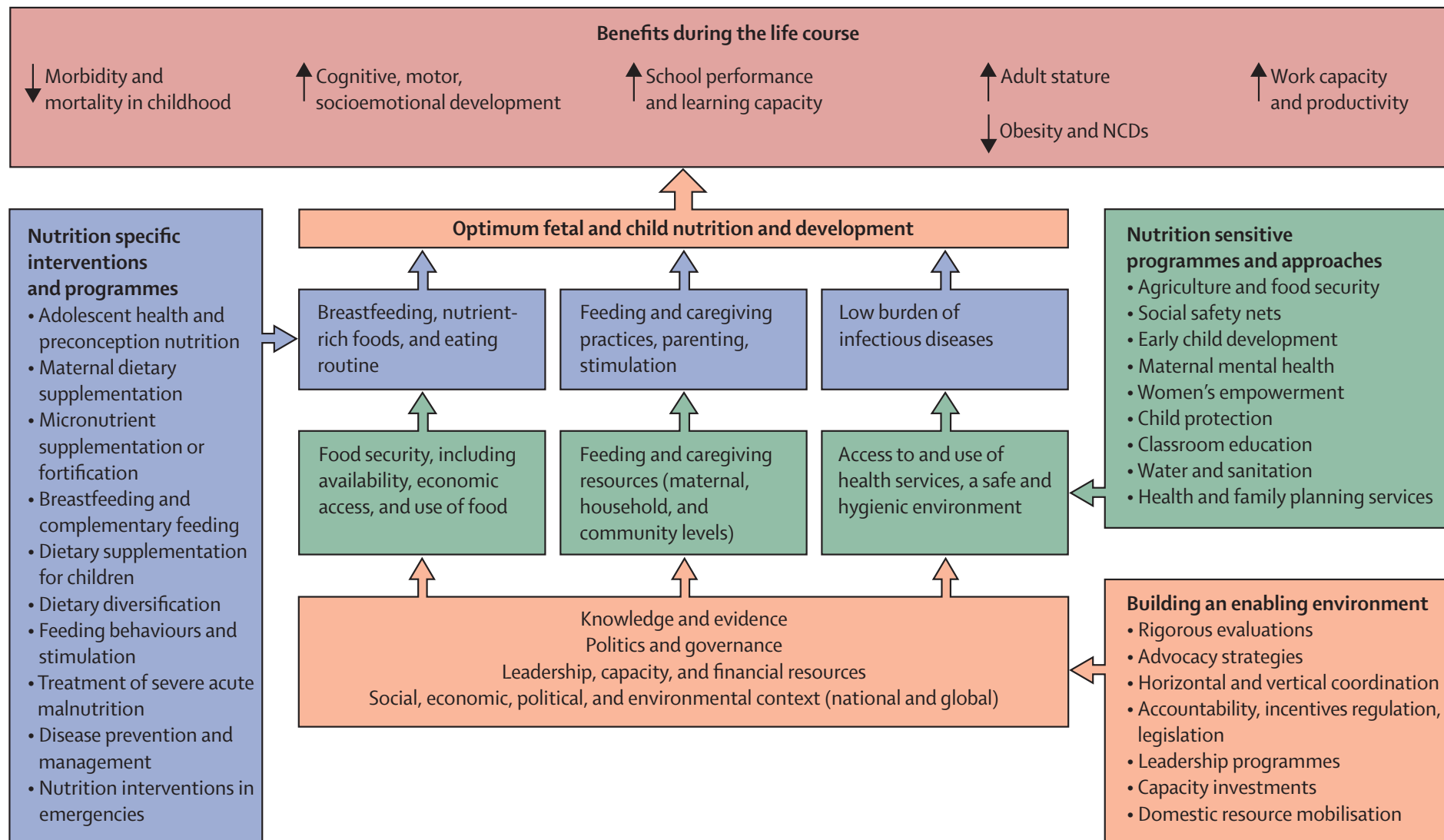


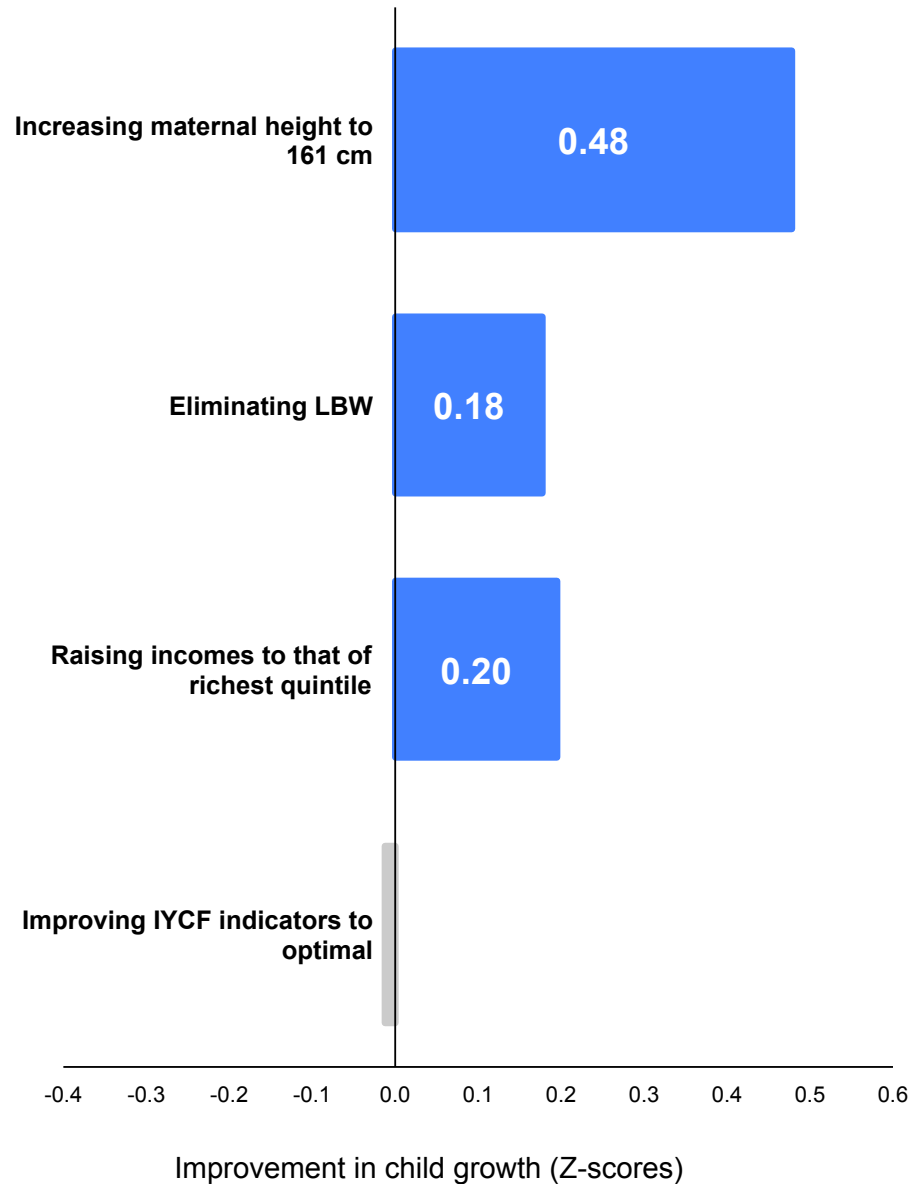
Figure 1: Framework for actions to achieve optimum fetal and child nutrition and development

Determinants of Stunting/Low Birth Weight, Sri Lanka DHS 2006/07

	BIRTH WEIGHT	STUNTING
Significant Risk Factors		
Household income	+++	+++
Maternal height	++	++
Altitude above sea-level	+	+
Indian Tamil ethnicity	+	+
IYCF Indicators		
Breast-feeding >12 months		+
Early initiation of BF		
Exclusive BF >5 months		
Dietary diversity (9-23 mos)		
Iron rich diet/Meal frequency		
Other Factors		
Complementary food indicators		
Receipt of Thripasha		
Vitamin A/Iodine/Access to healthcare		
Indoor air quality		+
Sanitation/electricity/water		

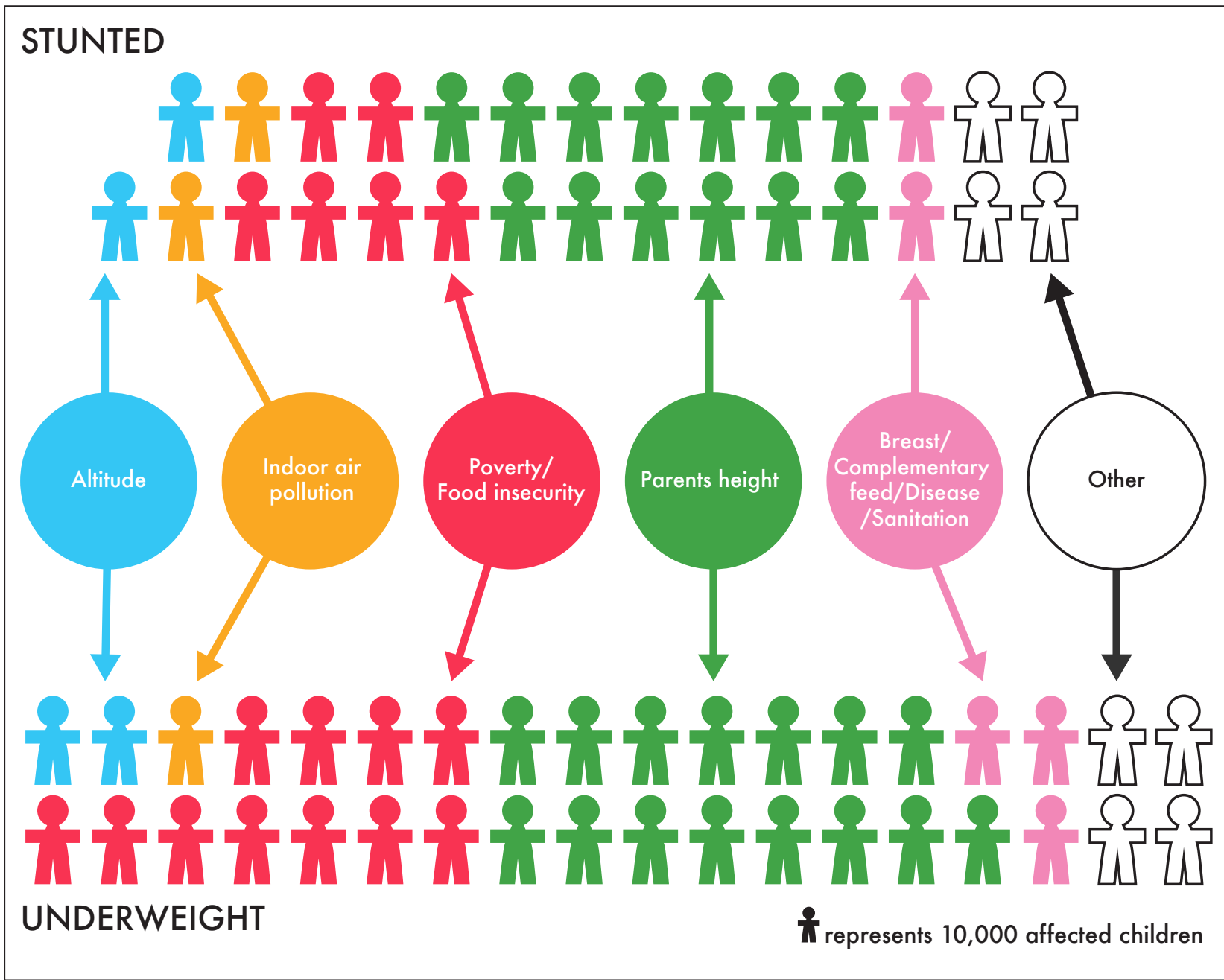
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Impact of key determinants on stunting – simulation results

- Improving breastfeeding/ complementary feeding practices will have no impact
- Only three factors have significant impact
- Increasing incomes or eliminating LBW will have modest impacts
- **Largest impact would be from increasing in maternal height**

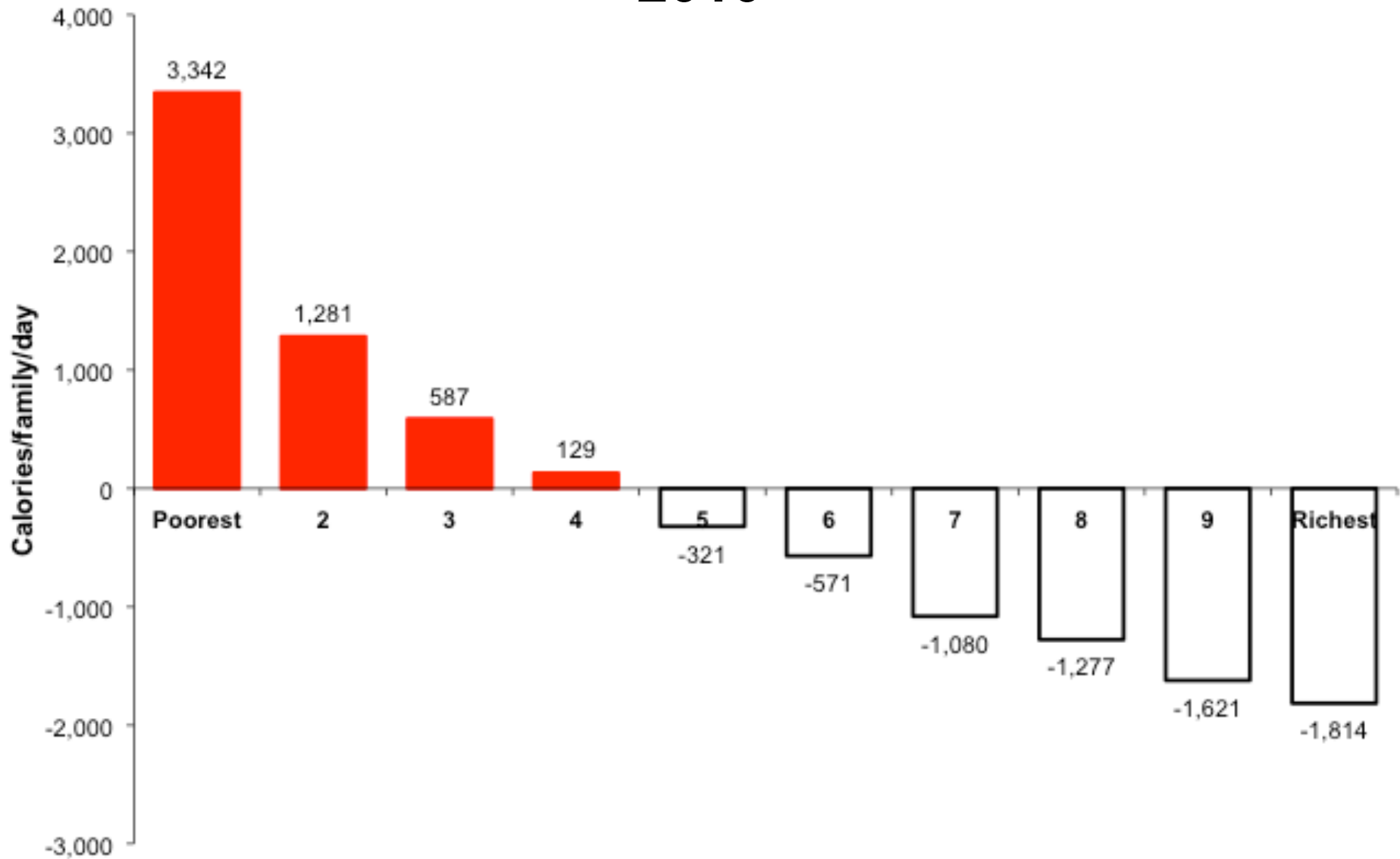


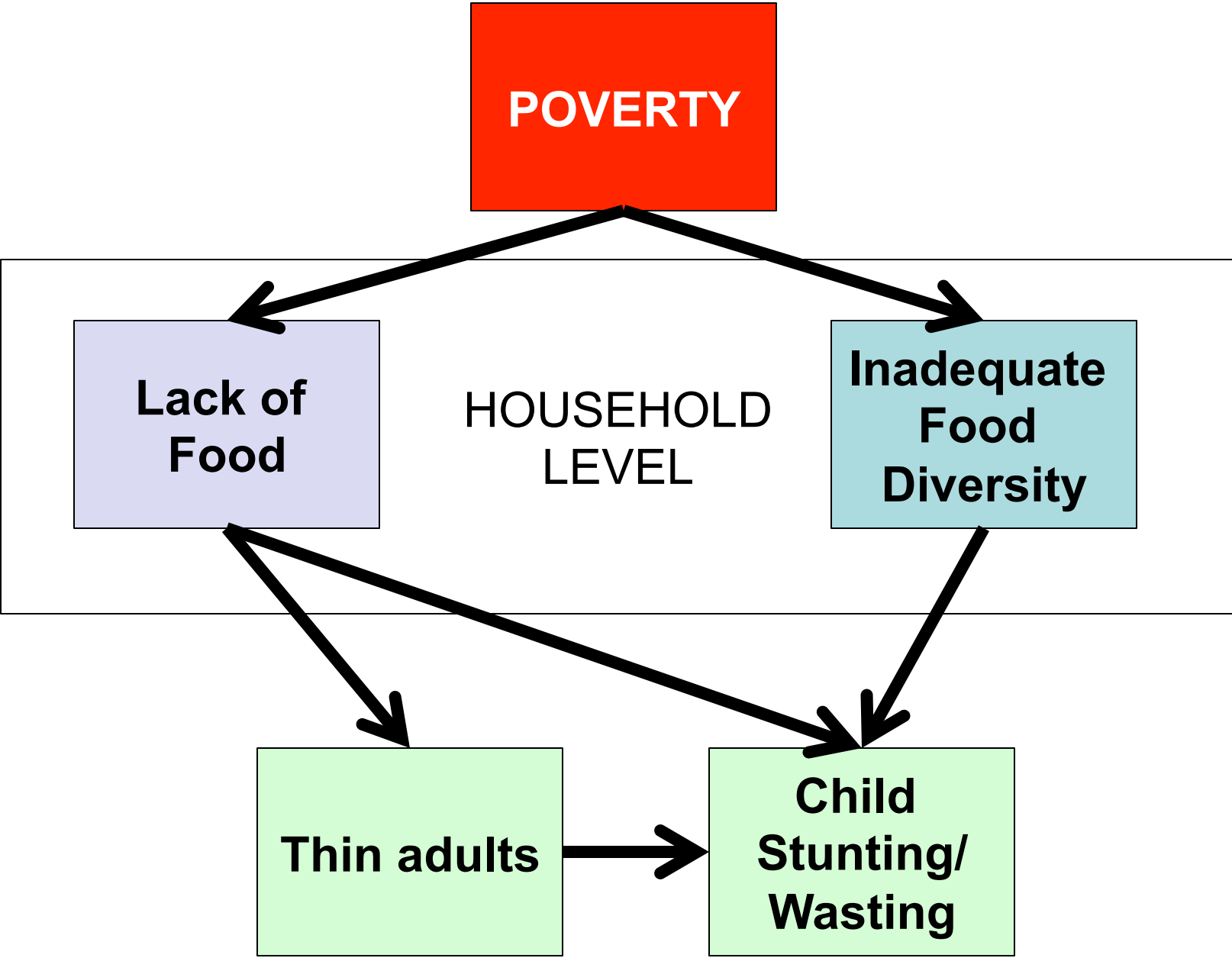
Source: Results of population attributable risk analysis by IHP and Subramanian

The nexus between poverty and food insecurity

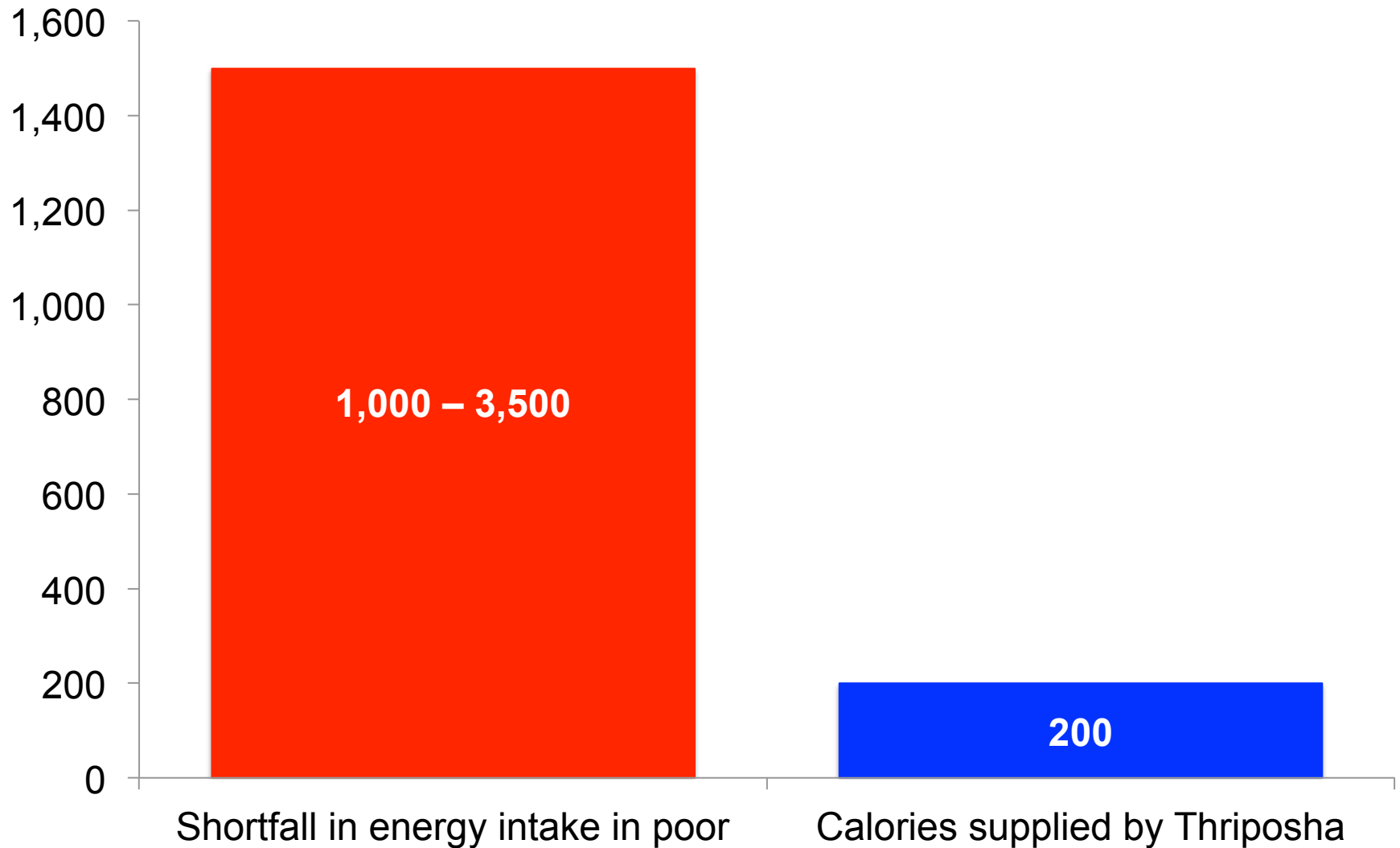
- Association or causal relationship?
- Why hasn't Thriposha solved the problem?

Short-fall in energy intake by income decile, 2010





Gap between Thriposha contribution and family deficit in calories/day



Is an expanded supplementary food scheme feasible?

Could it work?

- Experience of Jaffna Nutrition Rehabilitation Programme (NRP)
- Global evidence is yes

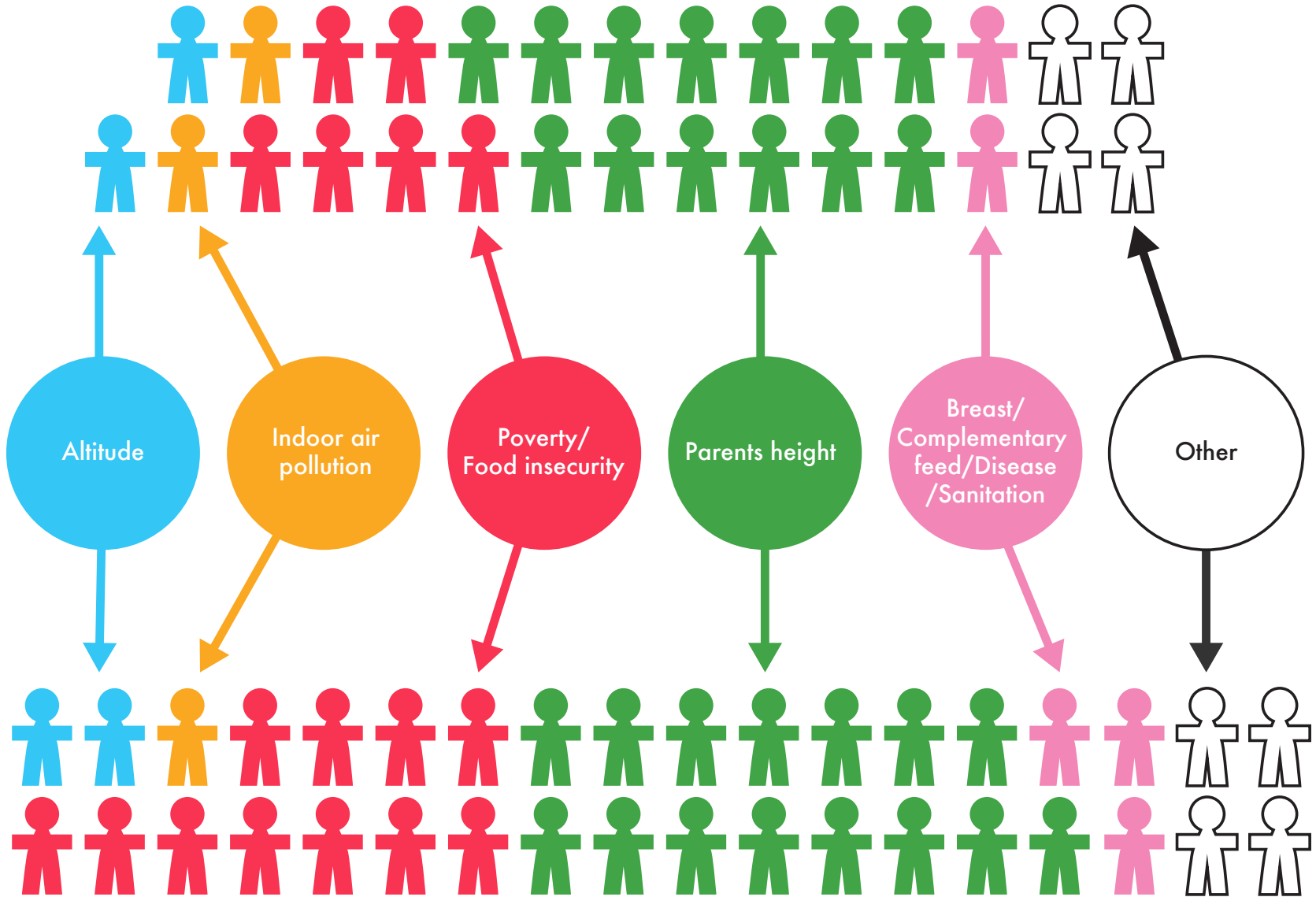
Is it politically feasible?

- Will politicians be willing to spend the money?
- Can policy-makers be persuaded to spend more on supplementary food given experience with Thriposha?

*. . . Did the nutrition community miss
the boat in Sri Lanka?*

That problem of parental height

STUNTED



UNDERWEIGHT

 represents 10,000 affected children

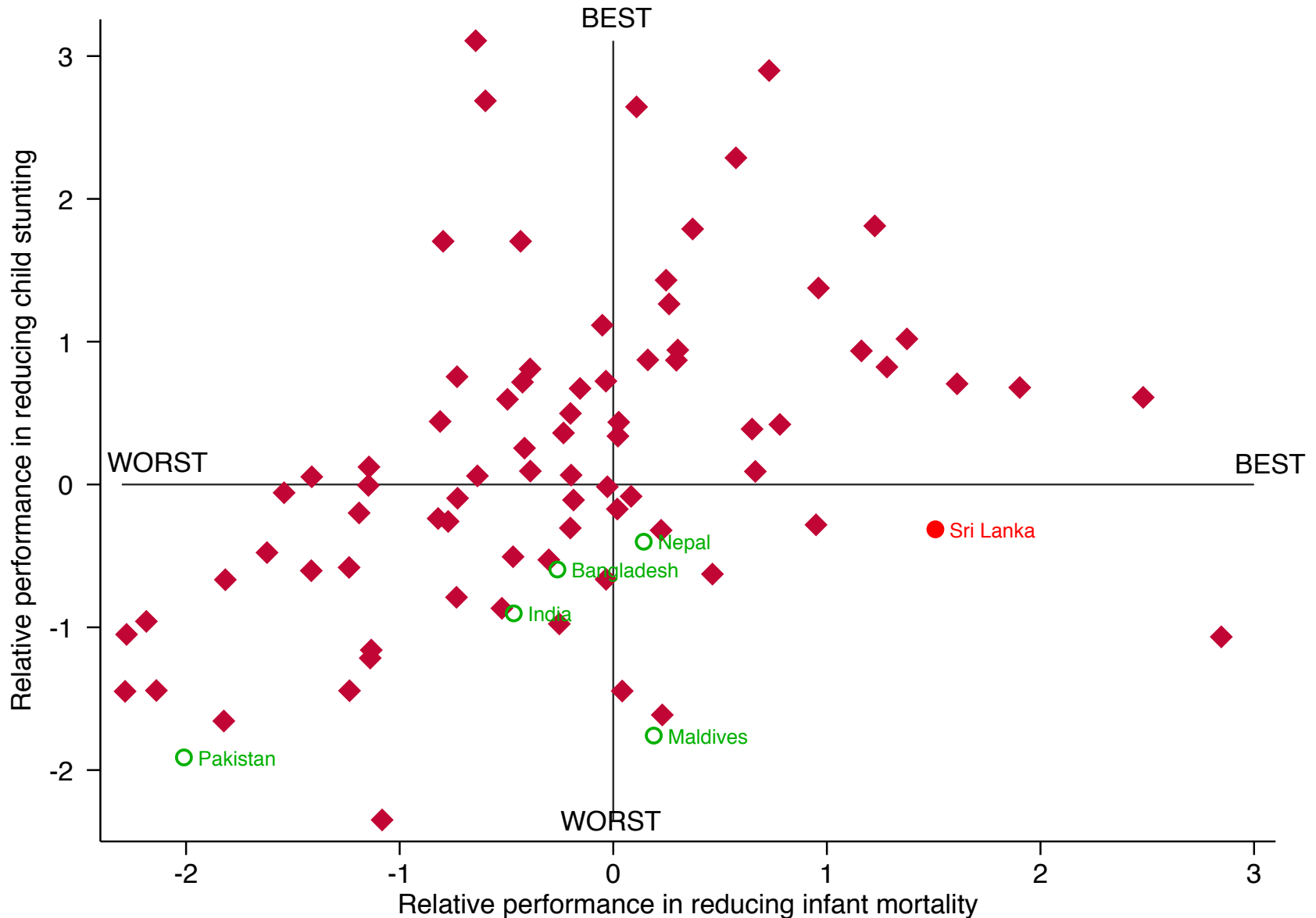
The meaningfulness of parental height

Increasing importance of maternal height as a risk factor in Sri Lankan data may reflect success in addressing other issues, plus short height of Sri Lankan women (151-154 cm)

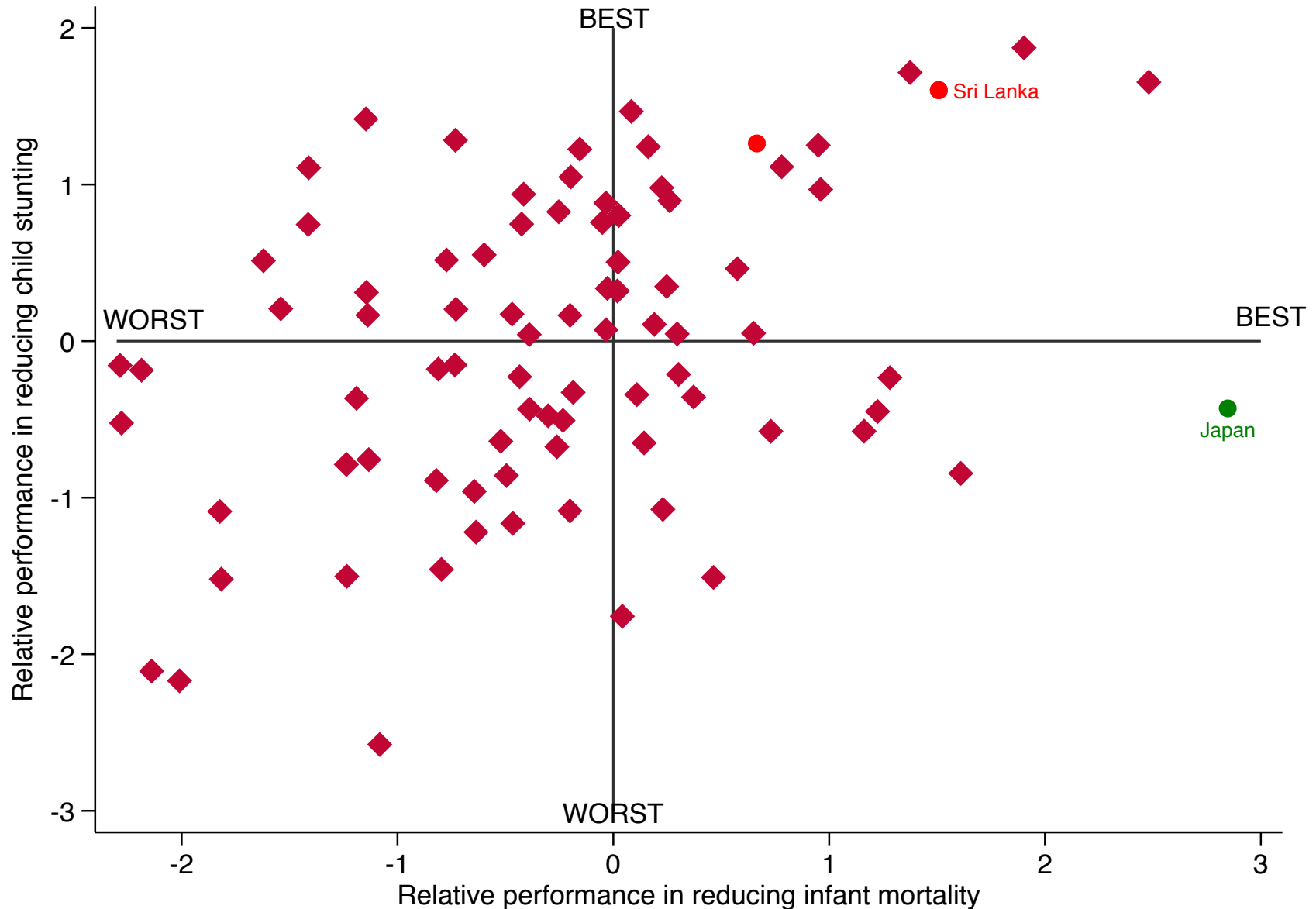
But raises several questions:

- 1. How long will it take for Sri Lankans to close the adult height deficit if we break the “*cycle of undernutrition*”?**
 - Net increase in height unlikely to be more than 1 cm/decade!
- 2. Can child growth compensate for short parental height?**
 - No evidence for any intervention with this size of impact
 - Parental height may impose limit on potential improvement
- 3. Should lower child linear growth in better-off linked to maternal height be of concern? Or does it represent normal physiological growth?**

Comparative performance in undernutrition vs. IMR (controlling for income)



Comparative performance in undernutrition vs. IMR (controlling for income and maternal height)



Q3:

**Is lower child growth/higher
stunting due to parental height
always bad?**

– Some observations

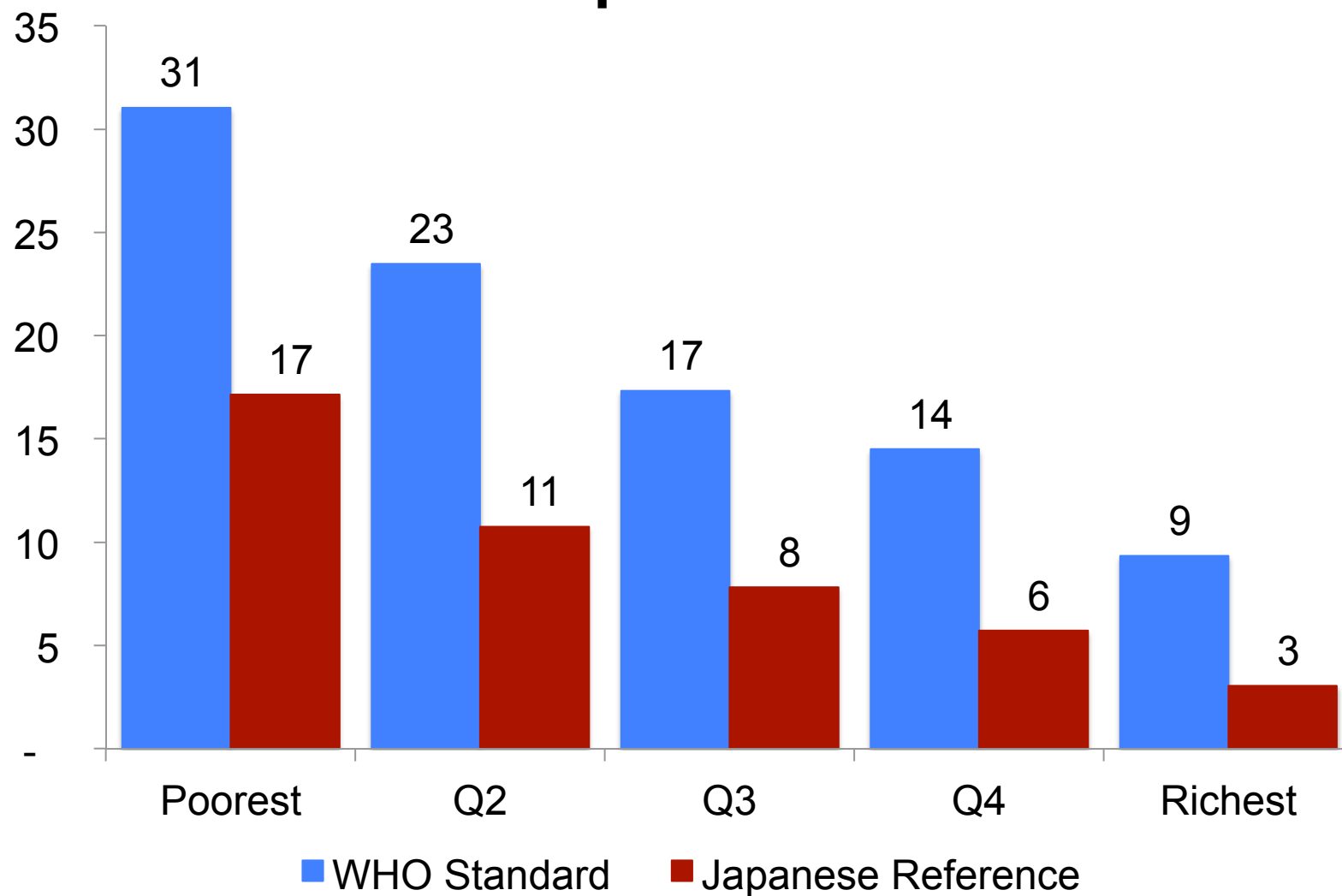
Is lower child height in non-poor a problem?

Growth in Sri Lankan kids matches children in populations where this pattern of growth is not thought to be of concern

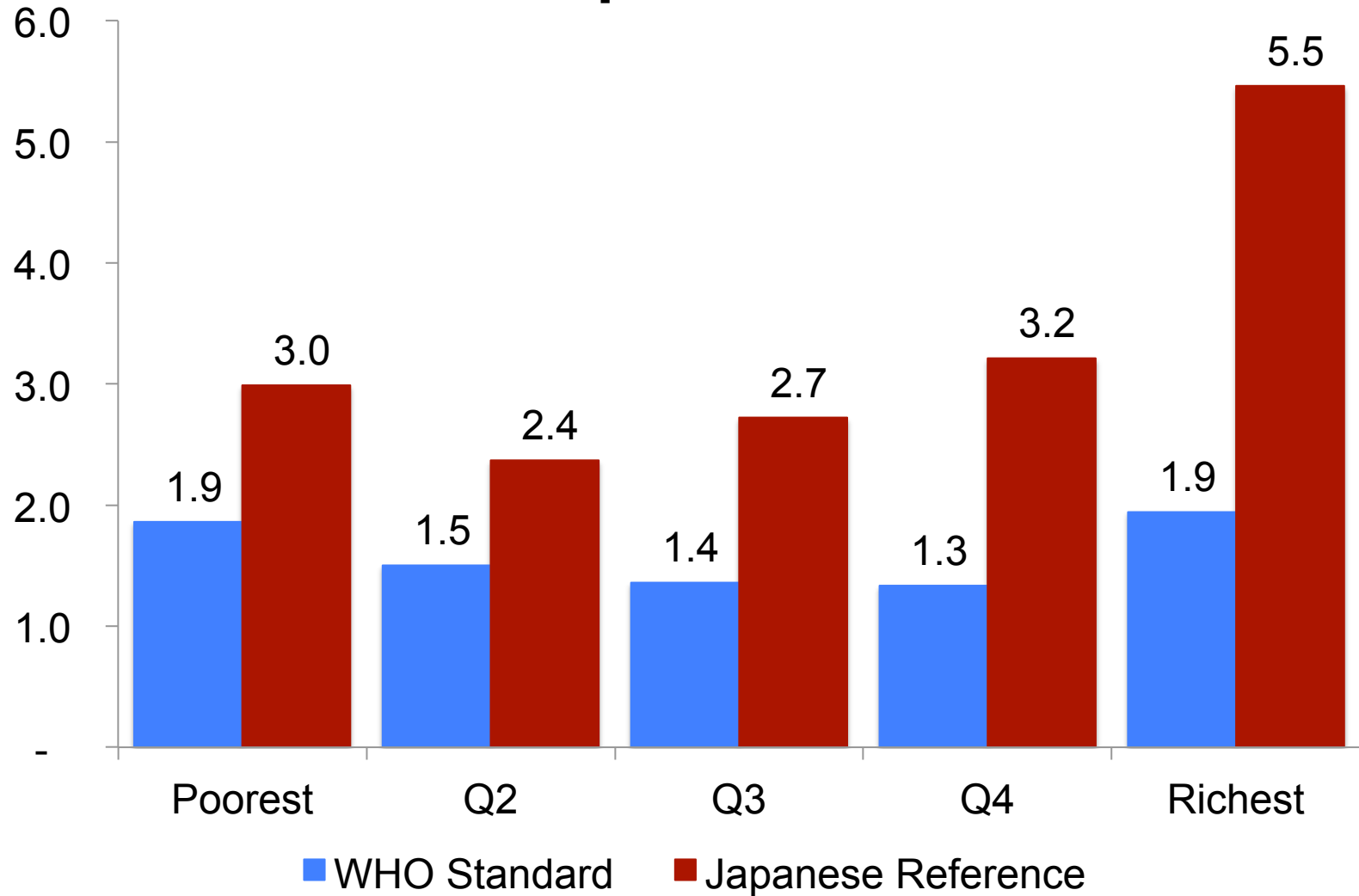
1. Linear growth in better-off top quintile matches children of South Asian-origin parents in UK and Netherlands
2. Linear growth and stunting rates in better-off top third matches children in Japan

What does a Japanese perspective tell us?

Impact of using Japanese national reference on assessment of stunting (%), Sri Lanka by quintile

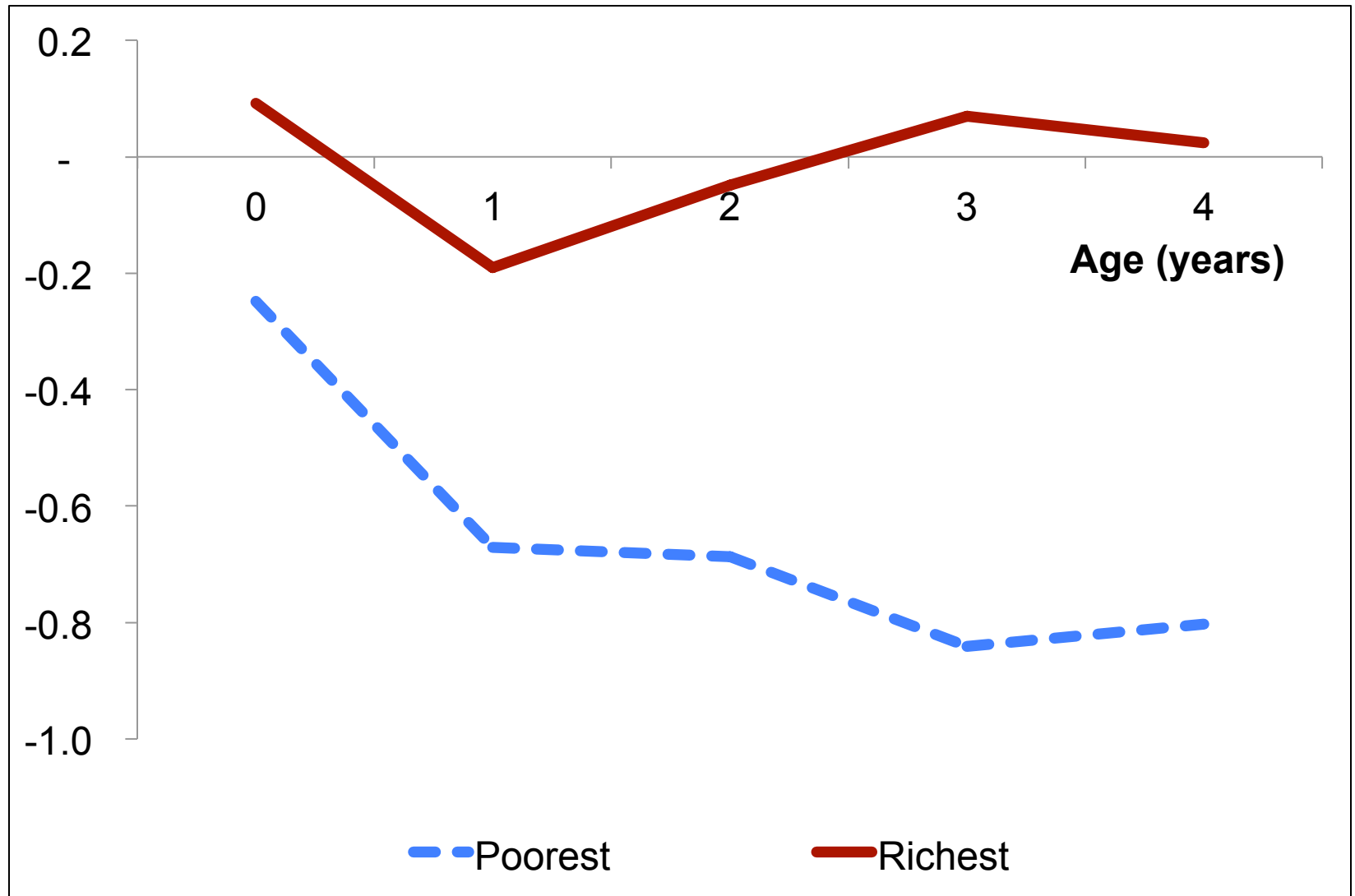


Impact of using Japanese national reference on assessment of HAZ>2 (%), Sri Lanka by quintile



Impact of using Japanese national reference

Assessment of linear growth (HAZ): Poorest 40% vs Richest 40%, Sri Lanka 2007



Implications

Applying a growth reference more relevant to Sri Lanka's population (short stature) leads to very different conclusions about:

- Inequality in child undernutrition
- Potential for improvement at different income levels
- Trade-off between undernutrition and obesity
- Interpretation of growth faltering

Reflections

For Sri Lanka policy

1. An effective undernutrition strategy must focus on family food insecurity with an expanded supplementary food intervention. **Anything else is a waste of time.**
2. An effective undernutrition strategy must target the poor. **Anybody else is a waste of time.**
3. Sri Lanka should consider the use of nationally-specific growth references as in Japan and be realistic about the limits for improvement

For South Asia

1. The South Asian enigma may simply reflect patterns of growth linked to parental height.
2. There may be more global success in the region, *i.e.*, *Sri Lanka and Maldives*, than recognized which can be a basis for learning