

Micronutrients Need

For Women

PFNDAI, 19th November 2021



Unilever

By 2030, end all forms of malnutrition and leave no one behind

When

UNITED NATIONS DECADE OF ACTION ON NUTRITION



What



How

ICN2 Framework for Action

- Sustainable, resilient food systems for healthy diets.
- Aligned health systems providing universal coverage of essential nutrition actions.
- Social protection and nutrition education.
- Trade and investment for improved nutrition.
- Safe and supportive environments for nutrition at all ages.
- Strengthened nutrition governance and accountability.

Food Systems Summit & SDG's

5 GENDER EQUALITY



Gender equality

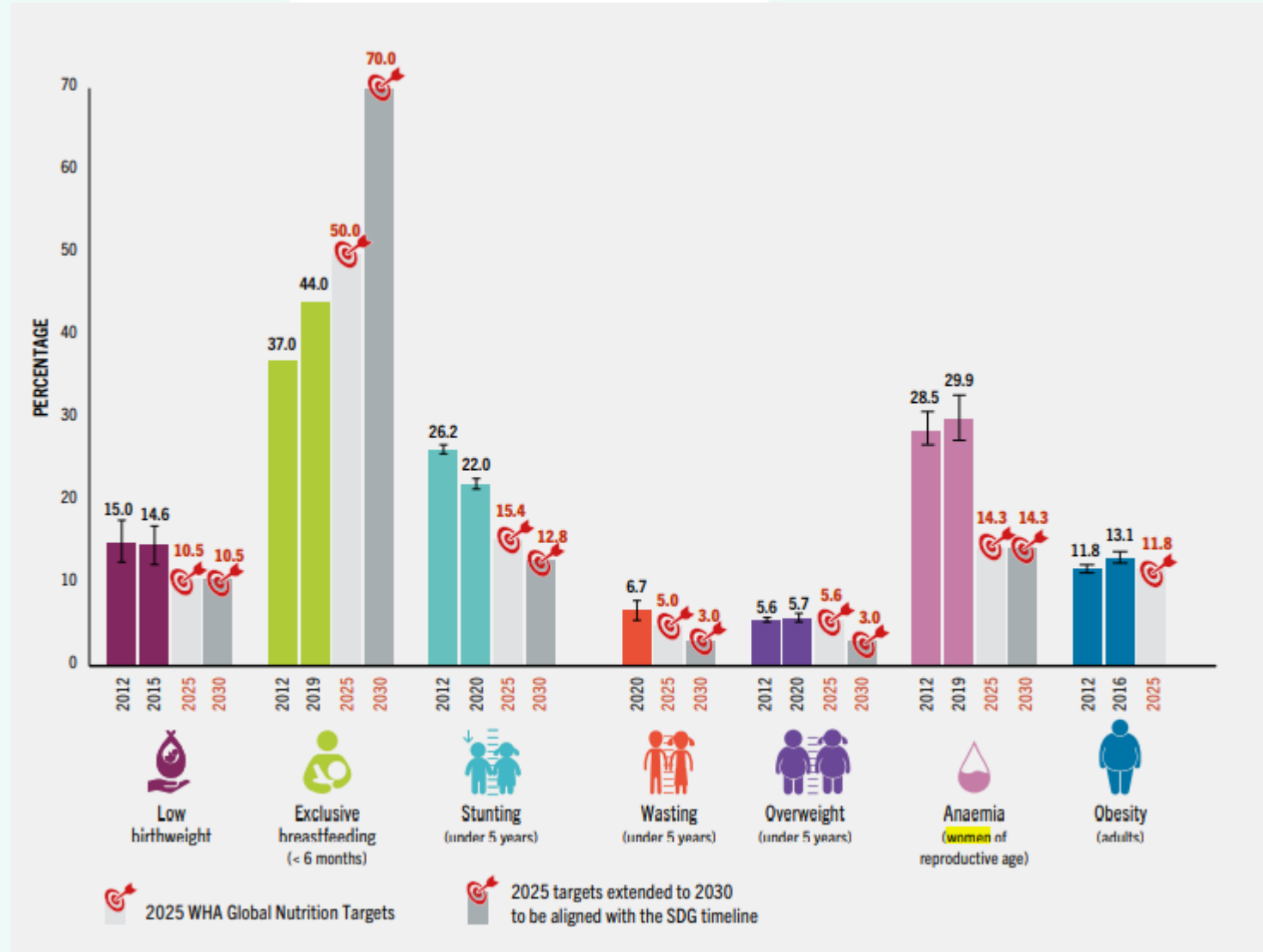
Globally, women are just 13 per cent of agricultural landholders. The social and economic impacts of the COVID-19 pandemic have adversely affected progress towards gender equality. **Women are up to 11 percentage points more likely than men to face food insecurity.** Sustainable food systems can empower and support women and bolster their livelihoods around the world.

Prevalence of food insecurity

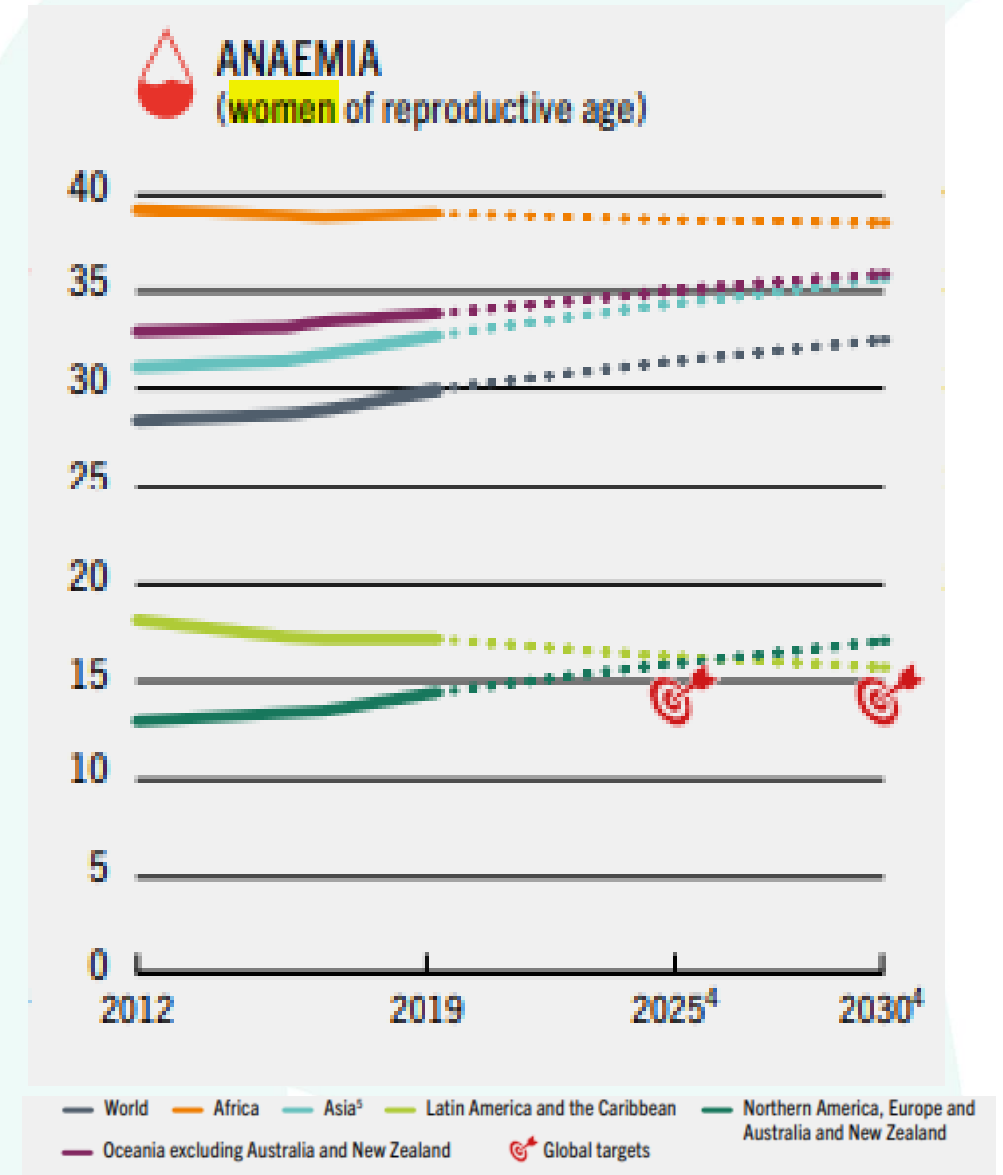
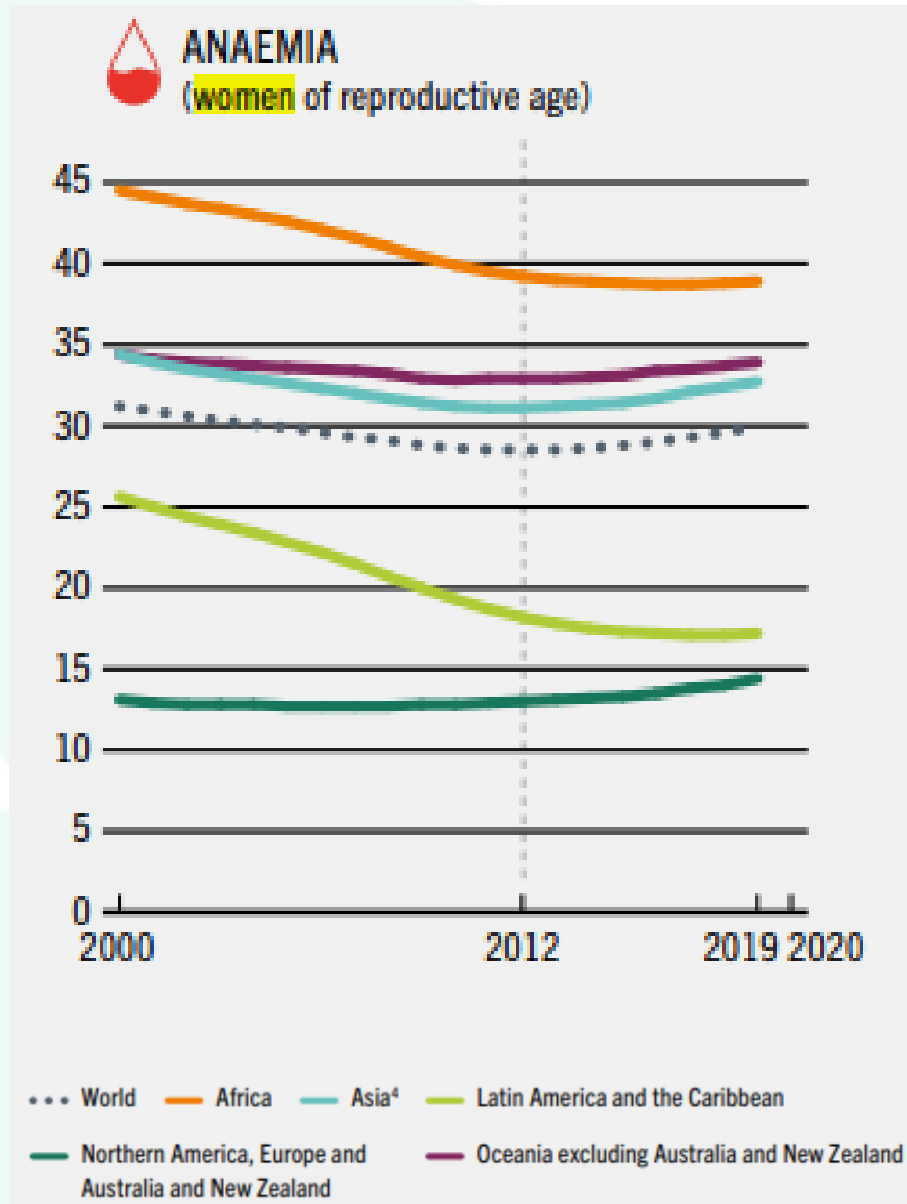


Globally and in every region, the prevalence of food insecurity is higher among women than men

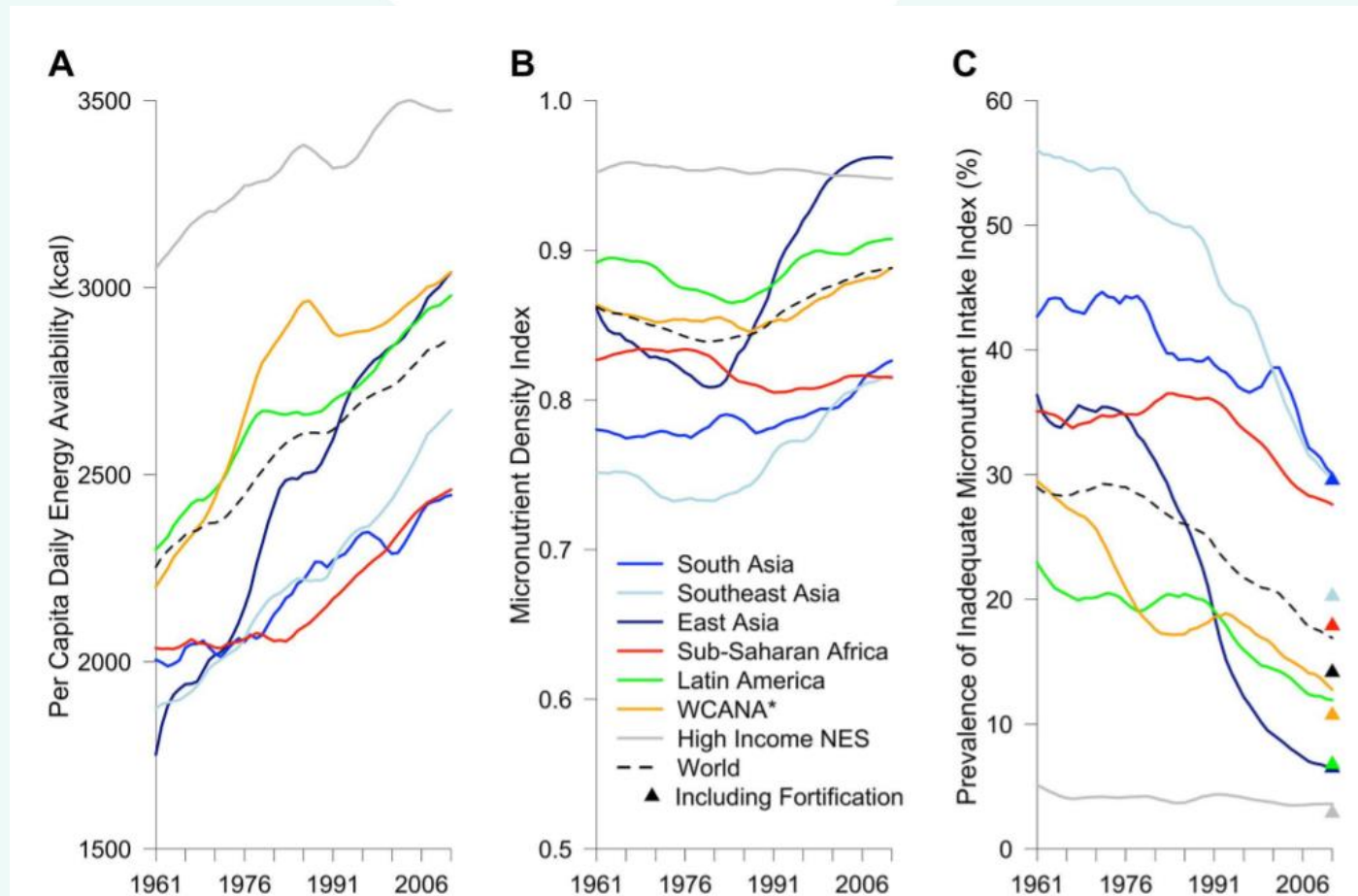
Meeting global nutrition target remains a challenge



Meeting global nutrition target remains a challenge

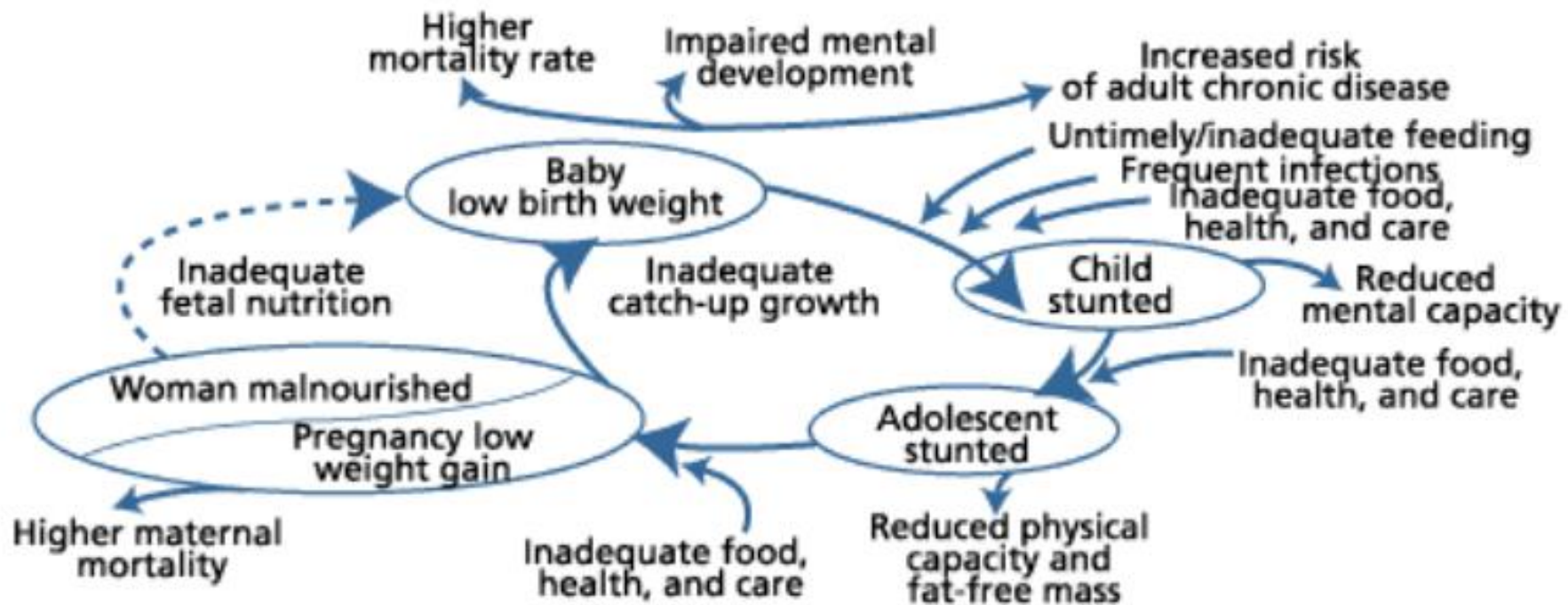


Trends in dietary micronutrients supplies & prevalence of inadequate intakes



Energy availability and micronutrient density index have increased over the years
For reduction of 10 units in prevalence inadequate micronutrient intake, we have taken 45 years

Nutrition of Women and Girl Child: Why it matters



Source: *Nutrition of Women and Adolescent Girls: Why It Matters* | PRB

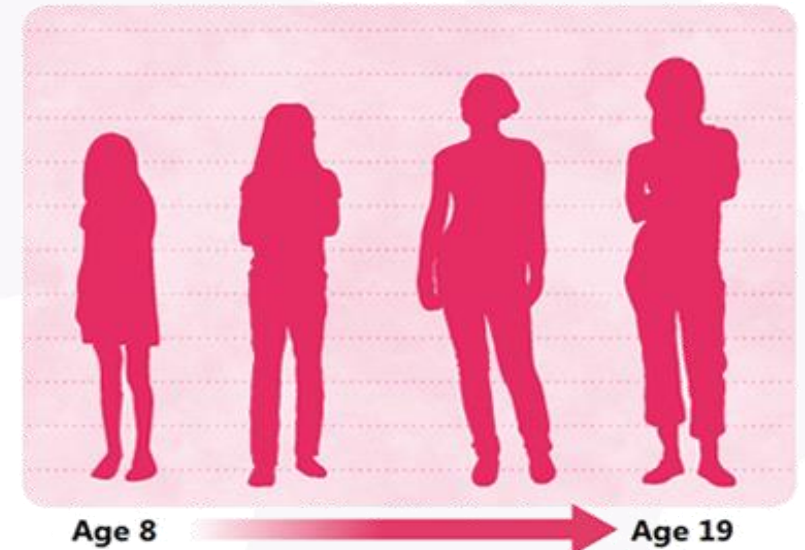
Adapted from the ACC/SCN-appointed Commission on the Nutrition Challenges of the 21st Century.



Why is Adolescent Girl nutrition so important In India?

Rapid growth during adolescence

- 25% of adult height
- 50% of adult weight
- 40% of adult bone mass
- Peak Bone Mass is achieved during 15-25 y



Maternal nutritional status influences **infant's birth weight** ¹



LBWs babies are more likely to suffer from **diabetes, hypertension, heart disease** than adults who were at normal birth weights ²



Every 1 cm increase in **mother's birth length**

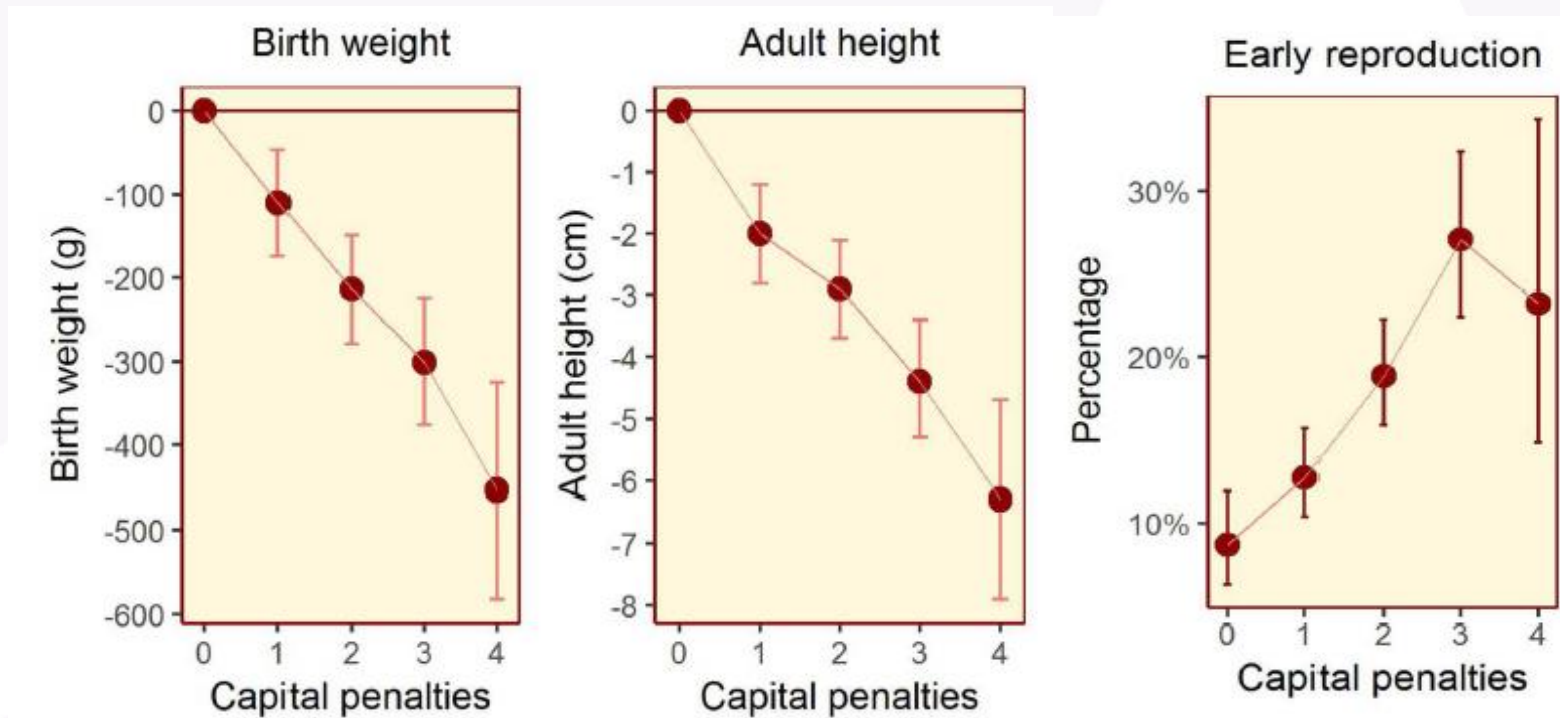
- 29 g ↑ in birth weight of her offspring
- 0.2 cm ↑ in Birth length of the offspring ⁴



Every 100g ↑ in maternal birthweight Child's birthweight ↑ by 10–20 g ³

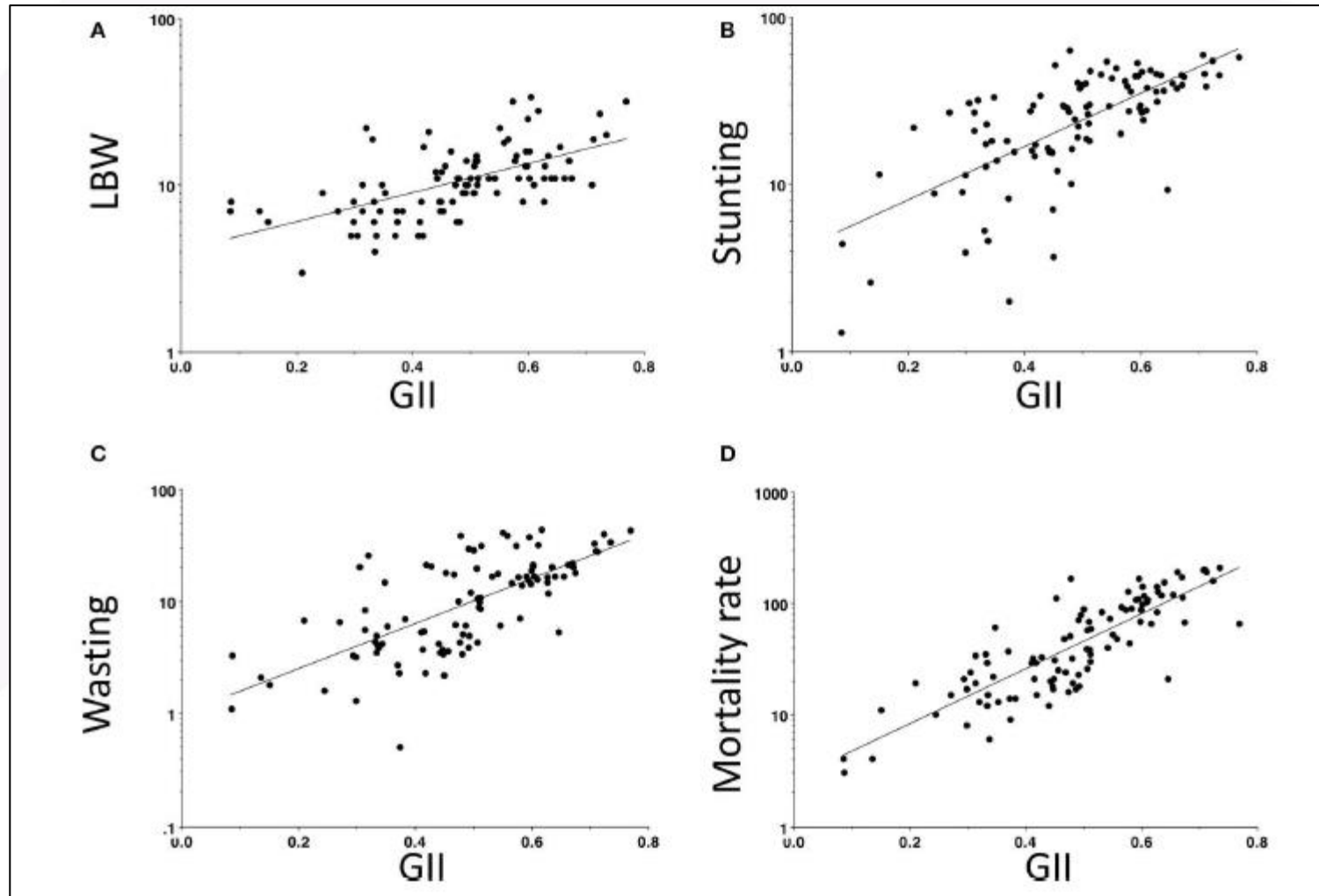
Maternal health and daughter's trajectory- Intergenerational effects

- 2091 mother-daughter dyads
- Maternal data at delivery
- Daughter data at 18 yrs
- Markers of low maternal investment: Height <157cm; Pre-pregnancy BMI <21kg/m²; Maternal education <6 yrs; Family income (US\$ 93/month); more the number of markers, lower is the investment in pregnancy



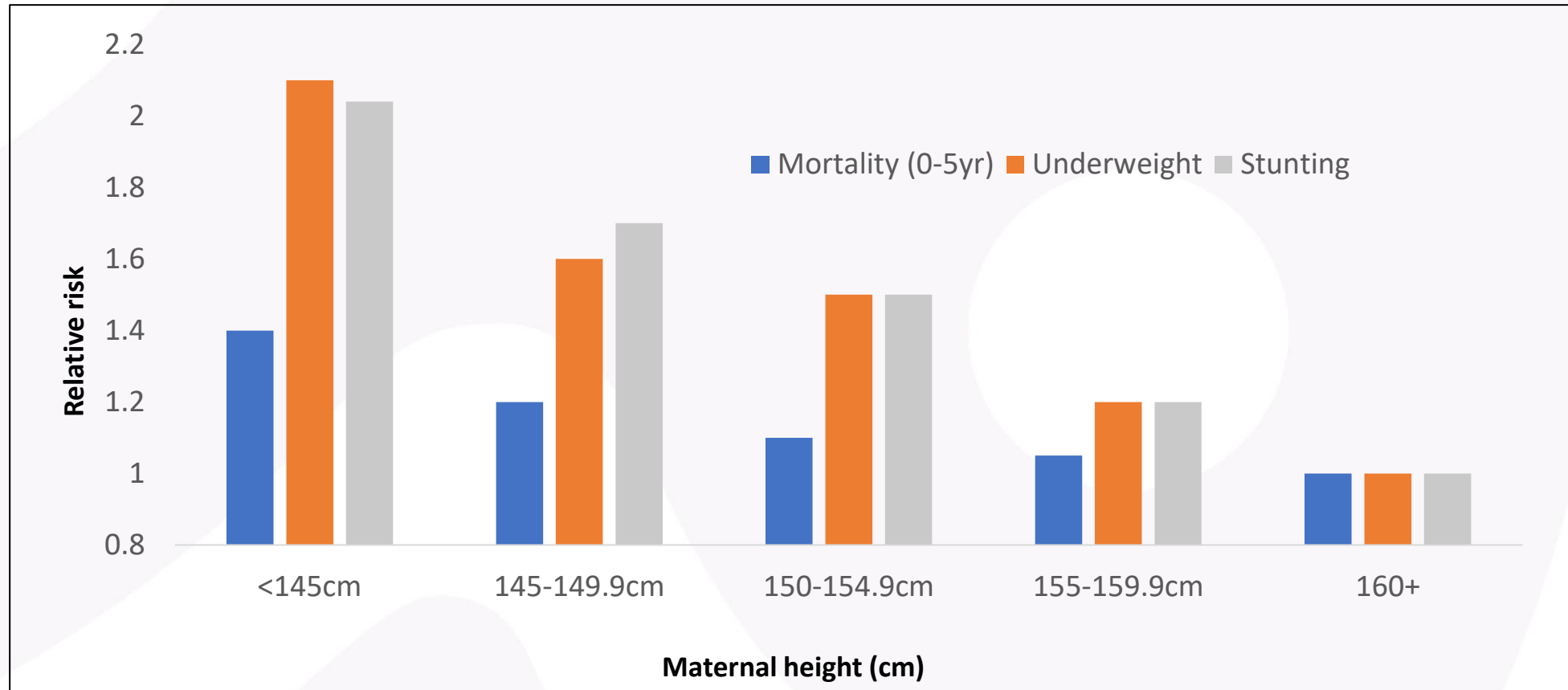
Source: Wells et al. Low Maternal Capital Predicts Life History Trade-Offs in Daughters: Why Adverse Outcomes Cluster in Individuals *Frontiers in Public Health* 2019

Maternal health and child growth



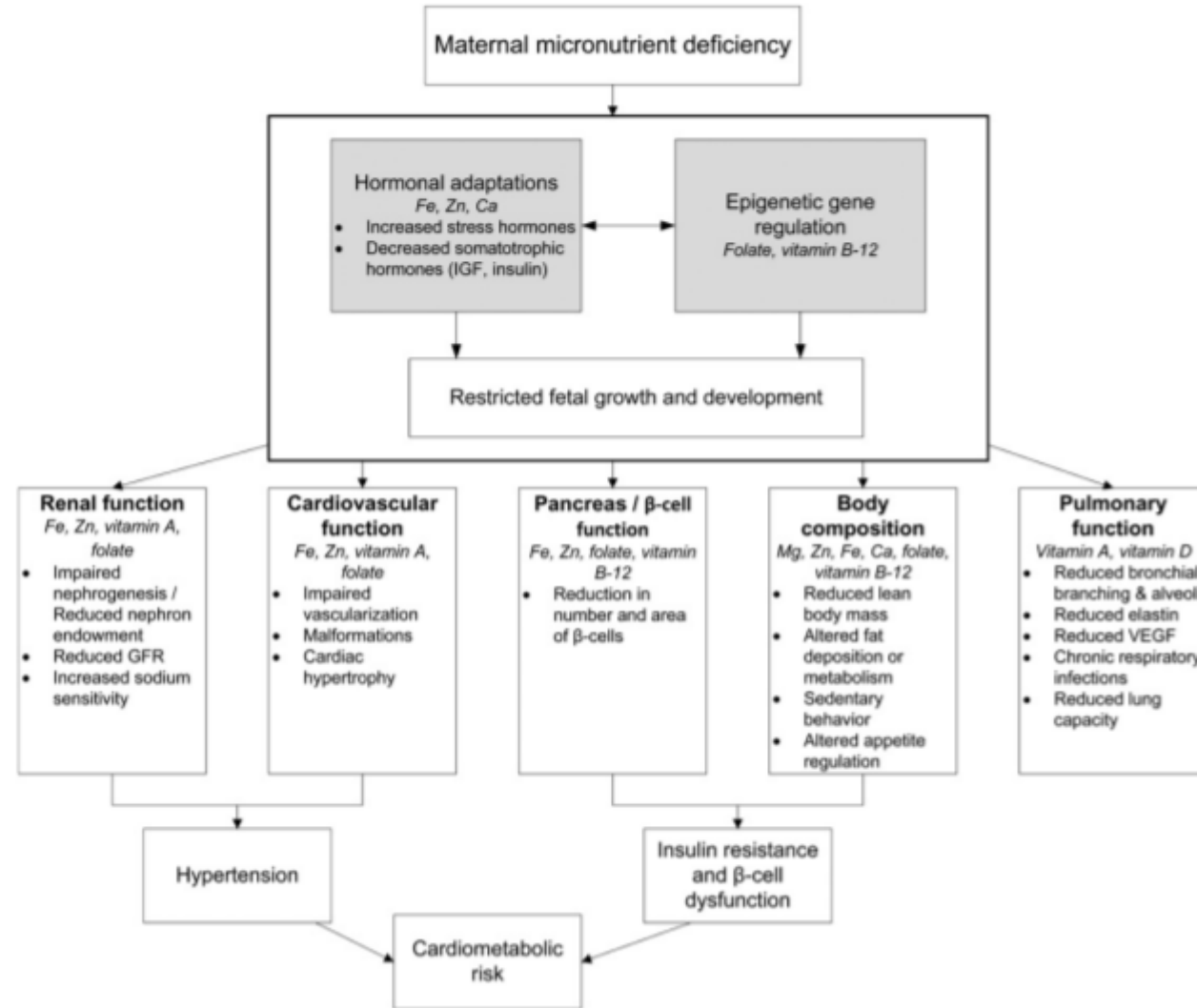
Associations of Gender Inequality index (GII), a marker of societal gender inequality with (A) low birth weight (B) child stunting (C) child wasting (D) risk of child mortality in first 5 yr of life across 96 countries

Maternal height and stunting



Source: Association of Maternal Stature With Offspring Mortality, Underweight, and Stunting in Low- to Middle-Income Countries. Ozaltin et al. JAMA. 2010 April 21; 303(15): 1507–1516.

Maternal micronutrient status & affect on chronic diseases



Conceptual framework for how maternal diet and micronutrient status may affect the development of chronic disease in the offspring.



1-9yrs

Calcium	500-650mg
Iron	8-15mg
Magnesium	135-215mg
Phosphorus	500-650mg
Zinc	3-5.9mg
Iodine	90-120ug
Vitamin A	390-630ug
Vitamin D	15ug
Vitamin E	7.5-10mg
Vitamin C	27-43mg
Vitamin B1	0.7-1.1mg
Vitamin B2	0.9-1.6mg
Vitamin B6	0.9-1.5mg
Vitamin B9	110-170ug
Vitamin B12	1.2-2.5ug



Infants

Calcium	300mg
Iron	3mg
Magnesium	30-75mg
Phosphorus	450mg
Zinc	2.5mg
Iodine	100-130ug
Vitamin A	350ug
Vitamin D	10ug
Vitamin E	7.5-10mg
Vitamin C	20-27mg
Vitamin B1	0.2-0.4mg
Vitamin B2	0.4-0.6mg
Vitamin B6	0.1-0.6mg
Vitamin B9	25-85ug
Vitamin B12	1.2ug



**Pregnant/
Lactating
Women**

Calcium	1000-1200mg
Iron	23-40mg
Magnesium	325-385mg
Phosphorus	1000-1200mg
Zinc	14-14.5mg
Iodine	250-280ug
Vitamin A	900-950ug
Vitamin D	15ug
Vitamin E	7.5-10mg
Vitamin C	80-115mg
Vitamin B1	2-2.1mg
Vitamin B2	2.7-2.9mg
Vitamin B6	2.3-2.6mg
Vitamin B9	330-570ug
Vitamin B12	2.75-3.5ug



10-17yrs

Calcium	850-1050mg
Iron	28-32mg
Magnesium	255-335mg
Phosphorus	850-1050mg
Zinc	8.5-14.2mg
Iodine	150ug
Vitamin A	790-860ug
Vitamin D	15ug
Vitamin E	7.5-10mg
Vitamin C	52-68mg
Vitamin B1	1.4-1.7mg
Vitamin B2	1.9-2.3mg
Vitamin B6	1.9-2.3mg
Vitamin B9	225-270ug
Vitamin B12	2.5ug

Micronutrient Needs Journey of a girl



**Adult
Women**

Calcium	1000mg
Iron	29mg
Magnesium	325mg
Phosphorus	1000mg
Zinc	13.2mg
Iodine	150ug
Vitamin A	840ug
Vitamin D	15ug
Vitamin E	7.5-10mg
Vitamin C	65mg
Vitamin B1	1.4mg
Vitamin B2	1.9mg
Vitamin B6	1.9mg
Vitamin B9	220ug
Vitamin B12	2.5ug

Summary

- It is critical to ensure adequate nutrition for children and adolescents (girl) as this is intrinsically linked to the health of future generations.
- Investing in Nutrition & Development of AG is essential to break the intergenerational cycle of Low-birth-weight babies & undernutrition.
- Maternal diet and micronutrient status may affect the development of chronic disease in the offspring.



Thank You

“Women’s deprivation in terms of nutrition and healthcare rebounds on society in the form of ill-health of their offspring- males and females alike” Siddiq Osmani and Amartya Sen



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