Reflections on agricultural production and diets in South Asia

Timothy J. Krupnik
(and many, many supporting colleagues)

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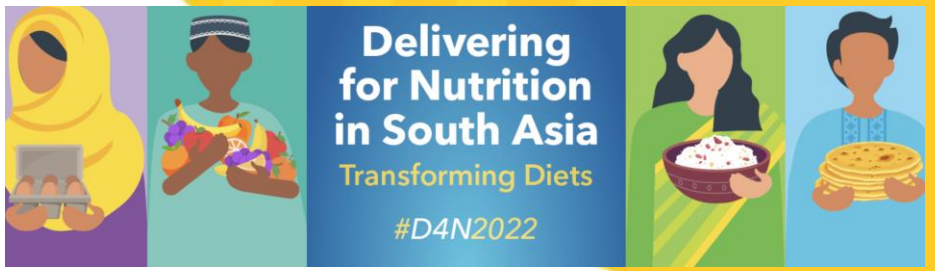

Interlinking challenges confronting South Asia's Agrifood systems

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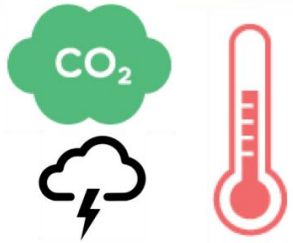
1/4 of all of humanity

World's largest concentration of poverty & malnutrition



World's most crucial climate change 'hotspot'

Severe natural resource degradation and pollution

Systematic inequalities

Institutional and policy challenges

Food production & availability

- High production costs
- Need for diversification
- Unsustainable natural resource use
- Agricultural nonpoint source pollution
- Climate extremes and change
- Greenhouse gas emissions

Food access & affordability

- Connected market systems, but unequal access
- Loss of product quality from field to plate
- Gender and social inequalities
- Unhealthy foods widely available
- Environmental externalities

Consumption

- Multiple forms of malnutrition
- Poor diets main contributor to disease Low dietary diversity
- Heterogeneity in access to sufficiently nutritious foods
- Intrahousehold inequities

Social inclusion challenges (gender, youth, caste, tribe, ethnicity, religion)

Agricultural production and nutrition:

Rethinking critical assumptions

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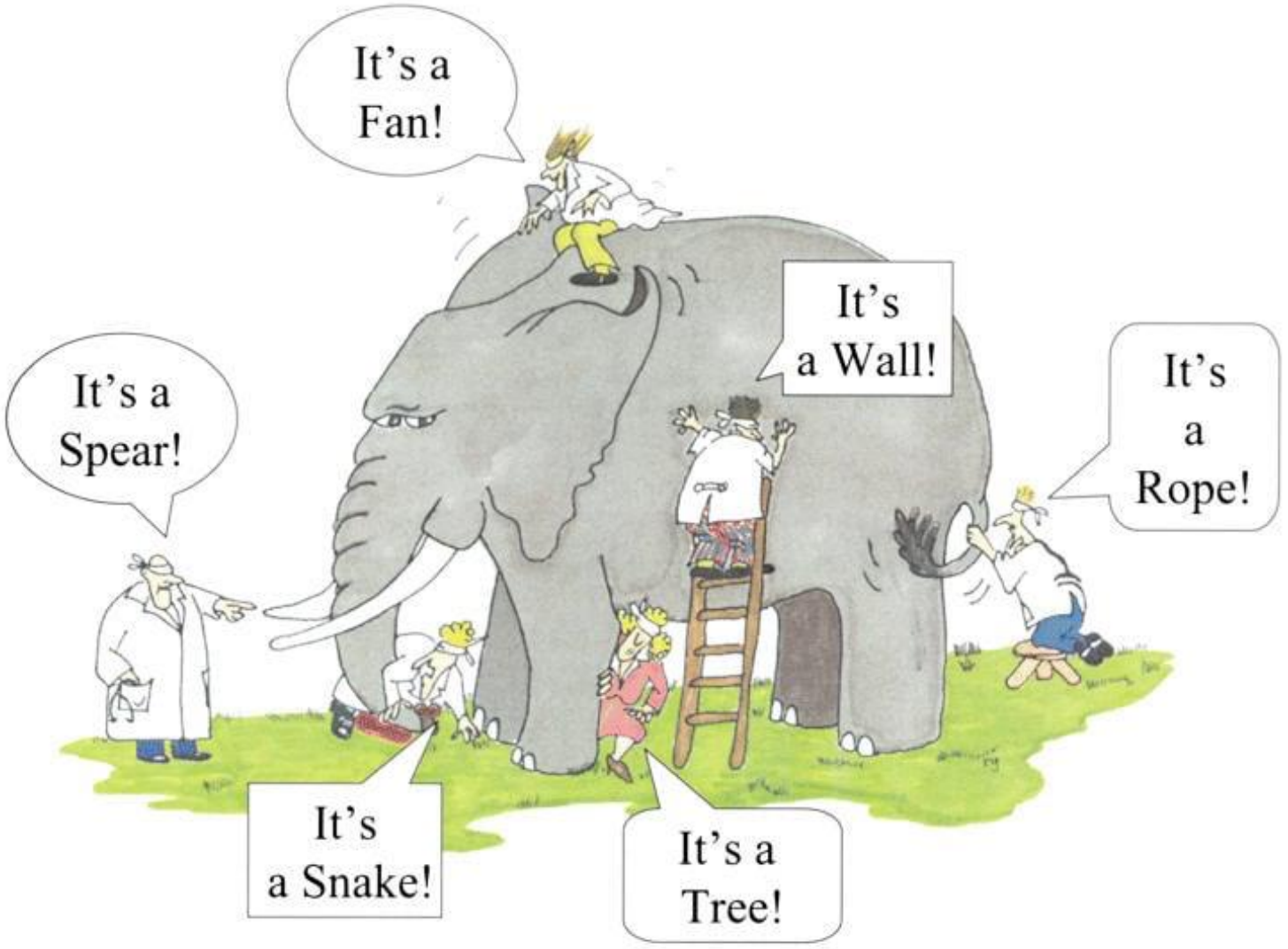

Some common agronomic assumptions

- 'Food security correlates with nutritional security
- Increased production results in increased food availability
- Boosting food production can generate income to purchase more nutritious foods
- Diversified production affects nutritional outcomes
- Agricultural production is the most important part of the food system

New metrics for land-scarce agriculture: The Nutritional yield concept

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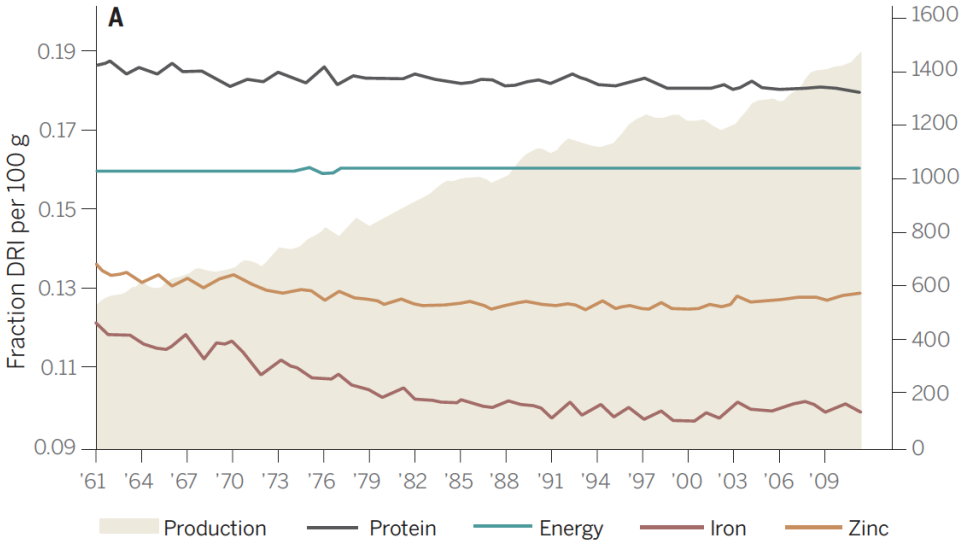



GLOBAL NUTRITION

Metrics for land-scarce agriculture

Nutrient content must be better integrated into planning

By Ruth DeFries,[1]* Jessica Fanzo,[2] Roseline Remans,[3,4] Cheryl Palm,[3] Stephen Wood,[1,3] Tal L. Anderman[5]

$$Nutritional\ product\ yield = adult\ eq.obtaining\ 100\%\ RDI\ year^{-1}ha^{-1}$$

(or)

$$Nutritional\ land\ reqirement = Ha\ to\ produce\ 100\%\ RDI\ adult\ eq.^{-1}\ year^{-1}$$

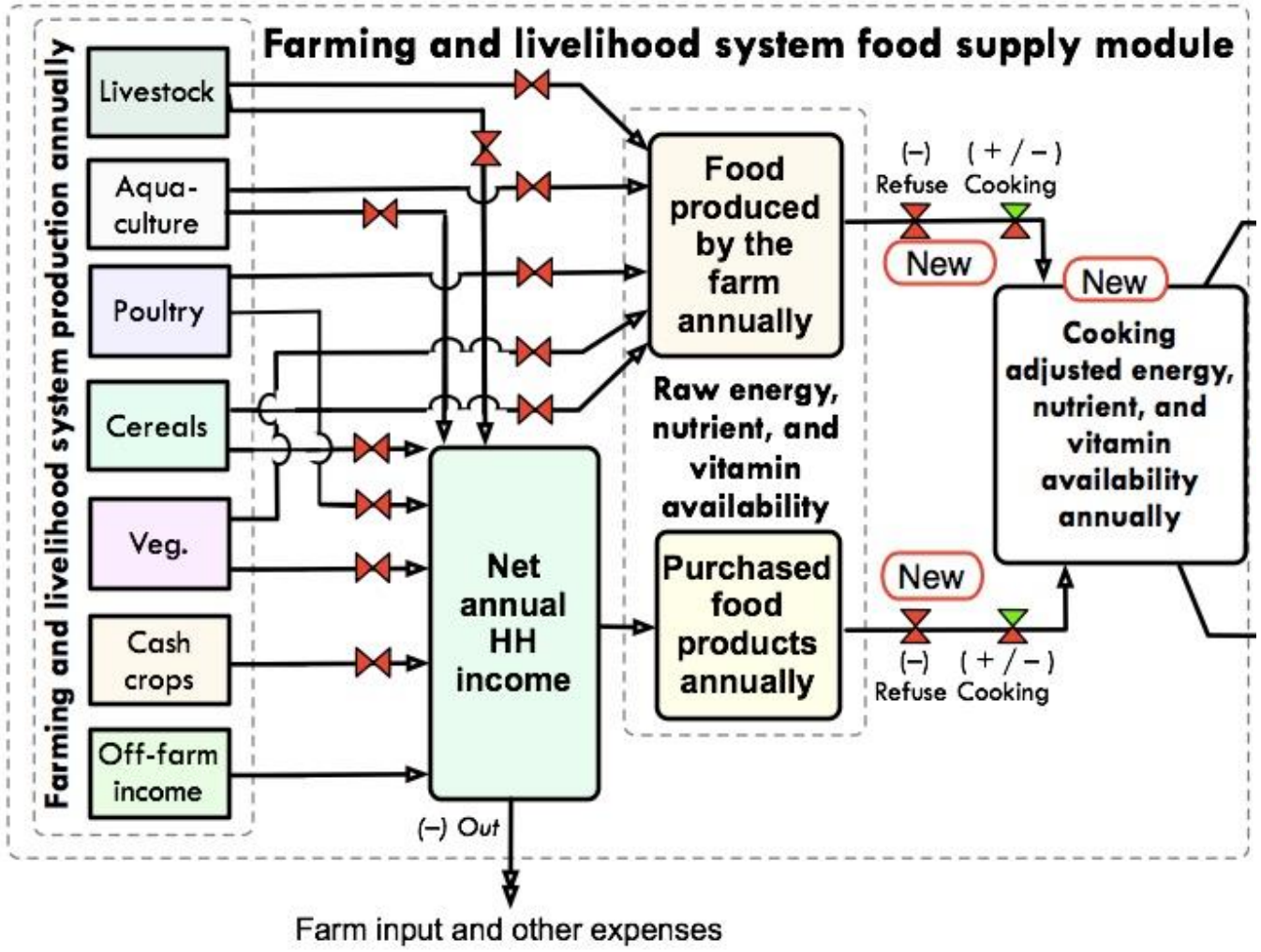
Caveats:

- Conversion factors indicate potential nutrient availability, not actual nutrients consumed
- People do not obtain RDI from single food items
- Farmers do not produce single food items

However:

- Metrics ‘open the box’ for comparison among food products and production systems
- Can be applied to production and full value chains

Complex interactions – and markets – strongly influence production and consumption



TAFSSA provides impact-oriented research across the agrifood system continuum

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1 Inclusive, multi-stakeholder learning platforms and public data systems

2 Transforming agroecosystems to boost income and diversified food production

3 Evidence and actions boosting access to sustainably produced, healthy diets

4 Behavioural and structural determinants of sustainable healthy diets

5 Building resilience to climate change & mitigating environmental degradation

Social inclusion (gender, youth, caste, tribe, ethnicity, religion)

(Re)designing cropping systems through farmer-led research in Bangladesh

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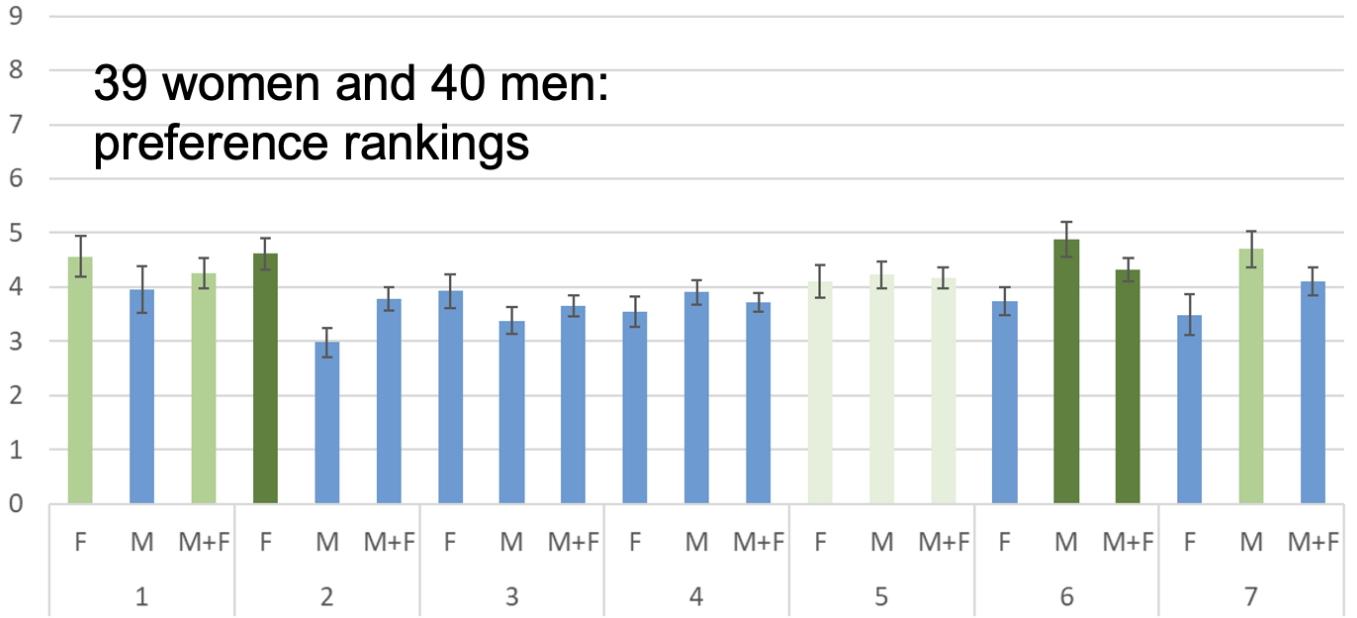

		Average M	Average F	Average M+F
1	Potato - Baby corn - S D Aman Bf	3.95	4.56	4.25
2	Vegetables - Boro Bf -Aman Bf	2.98	4.62	3.79
3	Maize Inter crop - Sorghum - Aman	3.38	3.92	3.65
4	Mustard - Groundnut - Aman	3.90	3.54	3.72
5	Carrot - Maize - Aman	4.23	4.10	4.17
6	Wheat - Jute - Aman	4.88	3.74	4.32
7	Mustard - Maize - Soybean	4.70	3.49	4.10

1st choice
2nd choice
3rd choice

Thank you!

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