Aligning agriculture and nutrition: Can understanding our differences help us meet common goals?

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Grand Challenges Annual Meeting | Agriculture-Nutrition Track
6-7 October 2014
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To help frame the discussion:

- Context
- Differences
- Changes ahead?
Aligning agriculture and nutrition
context | differences | changes ahead?

Everything is connected

Development outcomes

Food composition

Food availability

Nutrition

Agriculture

Food supplementation and food assistance

Agriculture and food systems

Technological change

Education and behavior change
Diets are far from healthy

Presentation slide (suppressed until publication) shows charts of adult population mean intake of fruits and vegetables by region from the Global Dietary Database project, using methods reported in Micha et al., BMJ 2014;348:g2272. These data, obtained from 266 surveys in 113 countries, reveal a pattern of:

--large gaps between actual and WHO recommended intake levels, indicating great potential public health gains;
--wide variation between regions that is not linked to per-capita income indicating possibility of learning from success; and
--small but almost universal improvements from 1990 to 2010 indicating progress that can be accelerated and scaled up.

Source: Micha et al. (unpub.) from 266 surveys in 113 countries, using method reported in BMJ 2014;348:g2272.
Aid priorities have cycled
ODA commitments for health, agriculture and in total, 1967-2012

Note: Health includes nutrition. Agriculture includes forestry and fisheries.
Values are billions of constant US dollars at 2012 prices (both axes).
The two sectors approach food from different angles

Some stylized differences between agriculture and nutrition

**Agriculture**
- (food production)
  - Typical intermediate results and primary outcomes
  - Productivity, income and ending poverty
  - Typical assessment and evaluation methods
  - RCTs on stations & farms, then economics of adoption and impact
  - Typical targeting of interventions
  - Public investment for specific locations

**Nutrition**
- (food utilization)
  - Diets, disease and ending malnutrition
  - RCTs in communities, then epidemiology of prevalence and status
  - Service delivery to specific beneficiaries

**Main focus:**
- **places**
- **people**

...but don’t forget the many similarities, and variation within the sectors!
The two sectors have different market structures

Public domain knowledge, common property resources and other social structures

Funders, farm input and service providers

Many diverse farmers

Food provision and sale

Many diverse food consumers and service beneficiaries

Funders, nutritional product and health service providers

...this is another reason for the high location-specificity of agriculture

Product and service delivery

Many diverse food consumers and service beneficiaries
To align the two sectors, need to anticipate and facilitate change

• **Tailoring**
  • to reach the most malnourished, often the poorest
  • to reach women and newly formed households
  • to suit location-specific circumstances

• **Diversification**
  • of agricultural programs
    -- for more diverse diets
    -- for more diverse market channels
  • of nutritional programs
    -- for more diverse types of foods
    -- for more diverse delivery channels
Examples of tailoring:
Agriculture-nutrition linkages depend on local markets

- **Nonfarm employment** (allows sale of labor to buy food)
  - Qty. of nutritious foods (kg/yr)
  - Qty. of nutritious foods (kg/yr)

- **Rural food markets** (allows sale of other goods to buy food)
  - Qty. of nutritious foods (kg/yr)
  - Qty. of nutritious foods (kg/yr)

*In self-sufficiency, production = consumption*

- Once farmers are actively trading, production decisions are “separable” from consumption choices, linked only through purchasing power.
- That same separability applies whether households are buying or selling, and allows consumption smoothing over time.
Examples of diversification in agriculture:
To anticipate & facilitate nutritional gains

– **in diets**, from starchy staples towards more nutrient-dense foods
  • meeting demand for diet quality through legumes, fruits and vegetables,
    dairy, eggs, meat and fish

– **in markets**, from value chains towards more complex channels
  • using households’ varied income sources to buy from local vendors,
    marketplaces and retailers

Diversifying agricultural programs is not easy!
– can we diversify successfully
  -- and sustain productivity growth in staple species?
  -- and maintain public and philanthropic support?
  -- and adapt our organizational structures?
  ...and find enough technological diversity, plasticity & potential?
Examples of diversification in nutrition:
To anticipate & facilitate agricultural gains

– in programs, from service delivery to various market channels
  • expanding range of mechanisms for nutritional improvement

– in products, from single nutrients to increasingly diverse foods
  • including packaged foods, to save women’s time and meet children’s needs

Diversifying nutrition programs is not easy!
– can we diversify successfully
  -- and sustain delivery of needed services?
  -- and maintain public and philanthropic support?
  -- and adapt our organizational structures?
  ...and develop enough low-cost nutritional improvements?
Agriculture 💖 Nutrition?

A complicated relationship, but three big changes ahead could help the marriage work:

—Tailoring interventions, to meet time- and location-specific needs
  • Reaching the most malnourished women & children
  • Taking account of effect modifiers, such as separability due to local markets

—Diversifying agriculture, to meet dietary needs
  • Beyond starchy staples to more diverse vegetal and animal sourced foods
  • Beyond value chains to more diverse local vendors, marketplaces and retailers

—Diversifying nutrition, to use agricultural potential
  • Beyond service delivery to markets for nutritious and convenient foods
  • Beyond single nutrients to foods, including packaged foods