

# Measuring the effects of integrated agriculture-health interventions

## Report of an LCIRAH | IFPRI conference

May 12-13 2011, London

The success of the recent conference *Leveraging agriculture for improving nutrition and health* in New Delhi highlighted the current breadth and depth of interest in agri-health, and the importance of bringing together the broad agriculture, nutrition and health communities to tackle complex development problems. A major barrier to such integrated working is the longstanding isolation of the health, nutrition, and agriculture sectors found in research organizations, government ministries, multinational business and intergovernmental bodies, and the different research languages and tools currently used in each sector. This workshop, organized by the Leverhulme Centre for Integrative Research on Agriculture and Health (LCIRAH) and the International Food Policy Research Institute (IFPRI)'s Agriculture and Health Research Platform as well as the 2020 Vision Initiative, brought together health, nutrition and agriculture specialists to explore development of common tools and methods for the evaluation of integrated agri-health interventions, with three specific objectives:

- Engage the health and agricultural communities to encourage cooperation in research and evaluation.
- Identify existing metrics and methods for agri-health evaluations and their value and limitations.
- Identify the potential for improved agri-health evaluation and the research that would be required to develop better tools and methods.

### Challenges

Several challenges in the evaluation of integrated agri-health interventions were identified by conference participants, not least the fact that while the evaluation of health outcomes is often associated with controlled, public sector interventions, agriculture is a private sector activity and its outcomes are market driven and less predictable. Other challenges include:

- A lack of common understanding of the metrics and methods used by different sectors, and a lack of communication between metrics specialists in different sectors.
- A lack of relevant, specific and internationally-agreed indicators and metrics for tracking progress and evaluating impact of interventions. In particular, there are limitations of DALYS in measuring diverse impacts other than health; a lack of agreed metrics for measuring the food, health and care determinants of malnutrition; and a difficulty in consistently measuring complex concepts such as social standing and wellbeing.
- A 'data disconnect', whereby data is not only collected too infrequently and often without the required quality standards, but where information on nutrition and health seldom exists in the same datasets as information on agriculture and broader economic indicators, with separate surveys and even sampling frames for each (nutrition surveys are usually by administrative zone and agricultural surveys by livelihood/agro-ecological zone).
- Measuring health and economic impacts from new agricultural interventions which extend beyond poor rural communities where they are traditionally evaluated, for instance into urban consumer populations.
- A need to build the capacity of policymakers to apply evidence, and the capacity of researchers to provide policy-relevant cross-sectoral evidence.

## Tools, measures and methods reported at the meeting:

- **Population health approach**  
Looking at the patterning of health and its complex social determinants
- **Gradient of health inequality**  
Describing the achievement of health across social strata
- **Quality-adjusted life years (QALY)**  
Used to calculate healthy life gained from an intervention, and therefore also cost-effectiveness
- **Disability-adjusted life years (DALY)**  
Used to calculate healthy life lost to a disease or disorder, and therefore also the cost-benefit of intervening
- **Contingent valuation (CV)**  
Uses surveys to assess hypothetical willingness to pay for a service
- **Discrete choice experiments (DCE)**  
Assesses the marginal importance of various attributes of a program to respondents
- **Capability approach**  
Assesses both actual functioning and potential capability, giving a broader view of wellbeing
- **Food consumption surveys**  
Used to estimate household consumption of macro- and micro-nutrients, and model price and income elasticities and the effects of policies on food and nutrient consumption
- **Program theory framework**  
Identifies each stage of a program's hypothesized pathways of impact and helps design tools and indicators to measure program impact pathways.
- **Computable General Equilibrium (CGE) models**  
Can be used to assess both health and economic impacts of dietary change
- **Multi-sectoral Simulation Tool (MST)**  
Linking nutritional outcomes to adequacy of food, health and care
- **UNICEF framework of malnutrition**  
Illustrates the direct, underlying and basic determinants of malnutrition. Can be used to link causal model with implementation model
- **AgSD model**  
Used to model the resilience of food systems to shocks or interventions

## Opportunities

The coming together of experts in metrics and methods from several sectors allowed for the exploration of potential opportunities in cross-sectoral working, including:

- The possibility of adapting tools and measures from different sectors by changing some of their underlying attributes to become more relevant cross-sectorally. For instance, the QALY (assessing length and quality of life) can be adapted away from current health-oriented attributes, and adjusted according to the context or outcome of interest.
- The use of health economics principles to tell us about behavior and choice and trade-offs in sectors other than health, as well as costs associated with these.
- The use of computable models to simulate the complex multi-sectoral impacts of changes in policy or interventions, to guide the introduction of the best program models or policies, and shorten the time taken for evaluations in the field.
- The engagement of all three sectors in joint planning for evaluations of integrated agriculture-nutrition-health programs; this may include the use of complex and resource-intensive randomized controlled trials (RCTs) where hard evidence of impact and cost-effectiveness needs to be generated. The design, methods and indicators needed for such evaluations should be developed jointly and incorporate best tools from all three sectors.
- The development of innovative and rigorous evaluation designs as alternatives to RCTs to measure impacts and understand causality in agri-health interventions.

## Way forward

It is clear from the strong interest at this conference, and at the earlier conference in New Delhi, that there is enthusiasm for working across sectors to develop methods for evaluating complex agri-health interventions. Methods papers and case studies presented at the conference give an indication of how we can measure agriculture and health trade-offs and the co-benefits of policies and interventions in either sector. The next step is to bring the agriculture, nutrition and health sectors together in designing common approaches to evaluating interventions and using common metrics for assessing these approaches. LCIRAH will encourage the networking of researchers interested in this area, and intends to turn this first conference into an annual meeting to discuss agri-health metrics and methods and review research progress. The development community at large needs to capitalize on this current focus to create sustainability in evidence-based, cross-sectoral policy and practice.