This side event brought together a diverse panel and audience to discuss how health and nutrition can be better integrated into existing socio-economic and ecological systems and contribute to building resilience. First, three perspectives were presented, including snapshots of current work applying a socio-ecological systems approach, by John McDermott, Director of the CGIAR research program on Agriculture for Nutrition and Health (A4NH), led by the International Food Policy Research Institute (IFPRI); Ann Tutwiler, Director General of Bioversity International; and François Gasengayire, Senior Program Officer in Ecosystems and Human Health at the International Development Research Centre (IDRC). This was followed by reflections from four panelists - Per Pinstrup Andersen, Cornell University; Polly Ericksen, International Livestock Research Institute (ILRI); Bronwen Powell, Centre for International Forestry Research (CIFOR); and Alex Awiti, Aga Khan University - and an open discussion with the audience, facilitated by Jeff Waage from the Leverhulme Centre for Integrated Research on Agriculture and Health (LCIRAH).

This document provides a summary of the key points from the session. To watch the entire session on YouTube, click here.

1. Why this session?
John McDermott formulated a key question across different CGIAR research programs (CRPs) as "How can programs engage with existing socio-ecological systems and communities to effectively integrate nutrition and health dimensions?" In addition, what key partnerships are needed, and how can we build these partnerships so that trust relationships with communities are central and long term?

In preparation for the second phase of the CRPs, there is now a 2-year window for A4NH to develop such a systems-based approach together with the other CRPs and with a diversity of partners. This session aimed at moving forward the agenda on linking environment, agriculture and health and at generating new ideas to do so in a practical way.

2. Nutrition-sensitive landscapes (NSL), a partnership to develop a practical socio-ecological systems approach to improve nutrition
Ann Tutwiler, Director General of Bioversity International, introduced a NSL approach to generate synergies between environmental and human health, moving beyond the no-harm approach towards systems thinking for sustainable diets. The term 'landscape' adds a specific spatial dimension and an emphasis on using the existing systems as a starting point. The NSL
approach does not imply that the environment can produce all nutrients required for adequate human nutrition. However, it does suggest a focus on building diversity into the landscape and food system. Key components of the NSL approach include: 1) better understanding of the relationship between dietary diversity, environmental and social variables; 2) linking of agrobiodiversity to dietary diversity; 3) informed agriculture-based nutrition and sustainable intensification strategies; 4) strengthening of human capacity at different levels. The NSL approach is being developed as a wide partnership across the CGIAR centers, poor communities and other stakeholders. Pilot studies are starting in Zambia and Kenya.

For more information on NSL, contact: g.kennedy@cgiar.org; f.declerck@cgiar.org; or rremans@ei.columbia.edu.

3. An Ecohealth case study
François Gasengayire presented an IDRC-supported project in Malawi that aims to reduce child malnutrition through improving environmental quality, particularly soil quality. The project includes agro-ecological practices (legume intercropping) combined with a social transformative approach (grandmother engagement as champions of change particularly for infant and young child feeding practices); community seed banks; and community outcome monitoring. In a second phase of the project, a component to build stronger resilience to climate change will be included. Another Ecohealth project in Tanzania includes the establishment of eco-nutrition guidelines.

Building on such case studies, IDRC has developed an Ecohealth approach that emphasizes the dependency of human health on ecosystem's health and includes three main components: 1) systems thinking, which improves understanding of the relationship between social and ecological variables and leads to improved program design; 2) transdisciplinary research, which integrates scientific and traditional knowledge; and 3) research to action.

4. A systems approach: What's new?
Comments from the panelists and the audience highlighted a few key points in answer to this question:

- Considering human health and ecosystems together stimulates forward-looking thinking that can bring the interdependency of human and environmental health into the center of health, agriculture and environmental program and policy planning.
- The landscape-based approach allows a focus on a scale that includes, but is larger than, the more conventional household scale. This is critical to capture interactions between social and environmental aspects.
- Integration and looking at win-win scenarios can avoid situations where decision-makers are overwhelmed by a number of different, and seemingly, unrelated messages. Understanding the linkages between the different aspects of environmental and health challenges, for example, can tell the story - and related guidelines - in a more coherent way and would ultimately be more cost-effective too. Identifying and empowering
common delivery channels (e.g., community extension platforms, joint learning tools), are an example of such integration on the ground.

- The discussion emphasized the importance and practical potential of using (agro) biodiversity as a key entry point for the systems approach.
- The systems approach - as well as a resilience angle - emphasizes the need for building human capability/capacity. The approach needs to place people and building capacity in the center. Nutrition is also about building human capacity.

5. A systems approach: Easier said than done - how to implement and make it feasible, also at scale?
While there was broad consensus on the importance of a systems approach, the discussion focused on feasibility and how to make it practical on the ground and at scale. A summary of reflections and ideas are presented below.

- How can we generate incentives so that the best choice becomes the easy choice? Placing dietary diversity central in the approach directly engages the consumers as potential drivers of change and provides an entry point for creating simultaneous nutrition and landscape incentives. To tap into that potential, it will be important to work directly with consumers at every stage and engage multiple stakeholders along the food system.
- How do we build a solid evidence base around the idea of NSL? How do we avoid some of the research/evidence-based challenges that the agriculture community currently faces? It is not possible to randomize forests or other environmental settings. The public health community has traditionally promoted the idea that randomized controlled trials are the only way to generate evidence on impact, but we need to think about evidence in a broader and more innovative way, e.g., using dose-response thinking and working along gradients of change. This is a key part of the research agenda that needs to be further developed.
- Participatory action research needs to play a key role in a social-ecological systems approach, with community-led research to serve joint learning.
- A new interesting evidence base is growing around the relationship between forests and dietary diversity (see recent CIFOR publications based on studies in several African countries). This literature also provides insights in relevant methodology.
- Much progress in using a systems approach and how to integrate certain dimensions into existing programs and contexts can be found in and learned from the climate-smart agriculture community, with respect to how to inject a climate angle into existing systems. The process might be comparable in several ways with respect to how to integrate nutrition and health.
- One critical aspect to consider is land tenure - how it can be a critical confounding factor for land management-related issues and how it could be taken into account. It was recommended to engage with the land tenure research/policy community.
6. Linking to resilience - does it make a difference?
In the IFPRI 2020 conference framework, a specific question raised in the discussion was: how does the resilience thinking make a difference to the discussed systems approaches? Would we do things differently with/without the link to resilience thinking?

Key points made around this topic include:
- Building strong systems has the objective of contributing to adaptive capacity to change in response to shocks. Biodiversity and nutrition are two key inputs, and potential outputs, for resilience. The agendas align even if the concept of resilience is not always explicitly mentioned.
- Resilience thinking emphasizes the human capability aspect, which is also critical in a systems approach but not always sufficiently recognized.
- Reference was also made to another IFPRI 2020 conference side event and conference brief titled 'Nutrition as an input and output of resilience'.