



PMAC | PRINCE MAHIDOL
AWARD CONFERENCE **2023**

PS 2.1

FOOD SYSTEM TRANSFORMATION: CHALLENGES (PART 1)

| BACKGROUND

We are at a cross-roads: our largely dysfunctional food productions systems are responsible for about one quarter of all anthropogenic greenhouse gas (GHG) emissions; land use change is now the primary driver of biodiversity loss and infectious disease emergence; land degradation has reduced the productivity of one quarter of the global land surface. Over the past 5 decades, there has been a 300% increase in volume of agricultural production dependent on animal pollination and up to 75% of global food crops are dependent on animal pollination. Yet, pollinator declines alone contribute to annual losses ranging between USD \$235 and \$577 billion (IPBES 2017). Plastic pollution has increased tenfold since 1980, and its impacts come right back to human populations through the food chain.

Moreover, the loss of diversity from agro-food systems is increasing the vulnerability and reducing the sustainability of many production systems and has had negative effects on human health. While there have been significant increases in food production through the introduction of higher yielding uniform varieties and breeds, loss of genetic diversity in production systems through monocropping of uniform crop varieties or animal breeds has led to instances of large production losses and, in some cases, has had significantly negative health consequences. Loss of diversity has also resulted in the reduced provision of regulating and supporting ecosystem services, requiring additional chemical inputs and creating negative feedback loops (WHO, 2020).

The large and growing body of scientific evidence at this nexus will be instrumental to informing the format and structure of this session.

| OBJECTIVES

The global food system is the leading driver of biodiversity loss, a significant driver of climate change and at the heart of many communicable and noncommunicable diseases. The core aims of these sessions will be to answer the following broad questions: What are the primary (environment/climate/health) challenges posed by our dysfunctional global food system? What are some of the key entry points to overcome them?

The "Food System Transformation" session will be divided into two parts. Part 1 (Parallel Session 2.1) will emphasize the need for urgent food system transformation at the biodiversity, climate and health nexus and Part 2 (Parallel Session 2.4) will highlight opportunities to overcome them.



Panelist

Jessica Fanzo

Professor

Johns Hopkins University - School of Advanced International Studies and the
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Jessica Fanzo, PhD is the Bloomberg Distinguished Professor of Global Food Policy and Ethics at Johns Hopkins University. She holds appointments in the Nitze School of Advanced International Studies (SAIS), Berman Institute of Bioethics and the Bloomberg School of Public Health. Professor Fanzo also serves as the Director of Hopkins' Global Food Policy and Ethics Program, and as Director of Food & Nutrition Security at Hopkins' Alliance for a Healthier World. From 2021 to 2022, she was the Vice Dean of Faculty Affairs at SAIS.

Professor Fanzo served as the Editor-in-Chief for the Global Food Security Journal and Associate Editor for the American Journal of Clinical Nutrition. From 2017 to 2022, she has been a part of various collective endeavors including Food Systems Economic Commission, the Cornell Atkinson Center's Socio-Technical Innovation Bundles for Agri-Food Systems Transformation report, the Global Panel of Agriculture and Food Systems for Nutrition Foresight 2.0 report, the Lancet Commission on Anaemia, and the EAT-Lancet Commissions 1 and now 2. She was also the Co-Chair of the Global Nutrition Report and Team Leader for the UN High-Level Panel of Experts on Food Systems and Nutrition. The main thrust of Professor Fanzo's research is on sustainable food systems and their impacts on healthy and equitable diets in resource constrained contexts. She currently leads on the development of the Food Systems Dashboard and the Food Systems Countdown to 2030 Initiative, in collaboration with GAIN.