The Important Role of Applied Systems Science in Food Systems Transformations

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Abstract

There is a wide acknowledgement that our food systems contribute significantly to some of the major global environmental issues and that there is an urgent need to take actions for food systems transformations at national to international levels. All the necessary changes required to advance the transitioning for sustainable food systems are shaped by natural resources, business and governmental actions, technology, investment decisions, economic incentives and societal goals, patterns of consumer demand etc. all of which create complex and dynamic "food systems" with underlying environmental, political, socio-technical/economic sub-systems. The overall system solutions require inter/trans-disciplinary research & education, broad cross sectoral collaboration across the entire food value chains, and most importantly the right approaches, tools and methods for a holistic understanding of such dynamic and complex food systems. A "food systems approach" and a proper systems analysis can help us to identify the leverage points for potential solutions in today's rapidly evolving, inherent complex food systems. Consequently, the radical changes necessary for genuinely sustainable food system transformations imply a strong need for applied systems science.