**THE CHALLENGE OF FOOD SYSTEM RESEARCH:**

**Organizing Interdisciplinary and Multi-stakeholder engagement**

Food systems analysis is based on the systematic appraisal of different underlying processes that influence food availability, access and utilization, as well as a detailed analysis of the roles of different stakeholders involved. It requires a thorough understanding of the structure of food system and the dynamics of food system change over time and space. Key pillars for food system analysis are:

* Household disaggregation: focus on nutritional outcomes for individual consumers
* Food interactions: focus on dietary intake based on combination of products
* Multiple delivery pathways of food: through open markets, restaurants, retail & food services
* Multiple needs: specific consumer groups with particular demands and preferences

Taking stock of the experiences from the Wageningen Research knowledge base (KB) program on Global Food & Nutrition Systems, we outline three strategic research interfaces that are critical for steering research into this direction:

1. Focus on **Intersections**: food systems are both horizontally and vertically structured, and their behaviour can be understood through systematic analysis of:
* Transition pathways from rural to (peri)urban food systems
* Comparison between food systems at different development stages
* Food flows between agents (value chain) and in space (landscape)
1. Understanding **Interactions** : food systems are based on upstream and downstream linkages that enable to reach system outcomes through remote interventions:
* Food waste reduction at upstream level creating improved margins at downstream level
* Healthier diets through consumer targeting or by reinforcing food environment;
* Food safety assessment based on likelihood of risks.
1. Relying on clever **Incentives** : food systems change is supported by different incentives that simultaneously influence various – sometimes opposed - system outcomes:
* Production of healthier food might lead to reduced sustainability (increased energy use);
* Healthier food choices hardly respond to market incentives and more to social norms;
* Investments in waste management tend to increase market volume and lead to lower prices.

This 3-I framework is useful to support exchange between academic disciplines and to guarantee engagement of multiple stakeholders.