



Sustainable Diets

WORKING GROUP: CASE STUDY REPORT

“Diet Dimensions”: a case study on a sustainable diets policy game



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Agriculture, Nutrition and Health Academy

Innovative Methods and Metrics for Agriculture and Nutrition Actions

The Agriculture, Nutrition and Health Academy (ANH) Technical Working Groups aim to synthesise innovative methods and metrics to better understand and address complex issues in the area of agriculture, nutrition and health. The Groups explore critical issues in their respective thematic areas by bringing together experts from various disciplines such as agriculture, environmental science, nutrition, health, food environments research as well as epidemiology and zoonotic and foodborne diseases. The Working Groups tackle multidimensional challenges and analyse different pathways linking agriculture and nutrition, using interdisciplinary approaches whilst experimenting with alternative teaching, knowledge-sharing and dissemination methods.

THE SUSTAINABLE DIETS WORKING GROUP

Assessing and improving the sustainability of food systems is a complex challenge that lacks universally agreed conceptual frameworks and measurement criteria. Policy makers, however, are still left with difficult trade-offs to make, for instance promoting healthy diets at the expense of the domestic processing industry. The working group aims to synthesise innovative methods and metrics for use in sustainable diets research and facilitate policy development.

CASE STUDY REPORT

This report provides an introduction to the live social game “Diet Dimensions”, including feedback from a case study play session. Games are an effective way to engage people in research and provide an informal environment for creative thinking. Live multi-player games can also be a great way for participants to make new connections across institutions and disciplines. “Diet Dimensions” is a novel method to engage researchers, policymakers and key stakeholders to generate and inform policies for healthier and more sustainable food systems as well as critically engaging with issues such as measurement and implementation.

ACKNOWLEDGMENTS

The game “Diet Dimensions” was created by Zowi Vermeire, Lucas Rutting and Joost Vervoort and was adapted from the Future Earth “Seeds of Good Anthropocenes” project. The “Diet Dimensions” version was created for the ANH Sustainable Diets Working Group, with support from the Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA) programme, the CGIAR Programme on Climate Change, Agriculture and Food Security (CCAFS) and the FP7 programme, TRANSMANGO. The game is a publicly available tool and can be adapted for different purposes.

This case study is an output of the ANH Sustainable Diets Working Group with the game designers. The Working Group members are Lukasz Aleksandrowicz, London School of Hygiene & Tropical Medicine; Tara Garnett, Oxford Martin Programme on the Future of Food and Food Climate Research Network; Alfred Gathorne-Hardy, University of Oxford; Rosemary Green (coordinator), London School of Hygiene & Tropical Medicine; Andrew Jones, University of Michigan; Edward Joy (coordinator), London School of Hygiene & Tropical Medicine; Sofia Kalamatianou (Research Assistant), London School of Hygiene & Tropical Medicine; Jennie Macdiarmid, University of Aberdeen; and Elin Rööf, Swedish University of Agricultural Sciences. The Sustainable Diets Working Group is supported by the IMMANA Research Uptake and Knowledge Managers, Joe Yates and Anna Marry.

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Introduction

Defining sustainable diets:

“Sustainable diets are those diets with low environmental impacts, which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimising natural and human resources.”

FAO, 2012

THE ISSUES

Global nutrition is an area of conflicts and contrasts; with almost 800 million people suffering from undernutrition (FAO, IFAD and WFP, 2015), an estimated 2 billion people being overweight or obese (WHO, 2016) and approximately 2 billion experiencing hidden hunger - i.e. micronutrient deficiencies that may be difficult to diagnose and are often overlooked (von Grebmer et al., 2014). One of the key factors contributing to the current nutrition situation is the evolving global food system and the subsequent changes in consumption patterns, also known as the “nutrition transition”, whereby local diets tend to shift towards more globalised dietary patterns, including increased consumption of heavily processed foods and those with high sugar and fat content (Popkin et al., 2012). Alongside the human health impacts of poor diets are a range of environmental issues related to the production and supply of foods. It is estimated that current agricultural systems and practices contribute to 24% of global greenhouse gas emissions (IPCC, 2014) and account for around 70% of freshwater use (FAO, 2010), as well as having implications for land use and biodiversity. Such environmental externalities of food systems generate negative feedbacks, which contribute to the persistence of malnutrition.

THE CHALLENGE

Current food systems are unsustainable both in terms of the resource inputs required as well as their environmental and social implications (FAO, 2016). At the same time, the world’s population has been rapidly growing over the past decades and is estimated to approach 10 billion by 2050 (UNDESA, 2015). Consequently, food systems face massive, multi-dimensional challenges that require systematic and coordinated global efforts.

Sustainable diets research presents an opportunity to address these challenges by bringing together multiple sectors, disciplines and expertise to guide the development of local, national, regional and global policies.

Figure 1. Key components of a sustainable diet. Adapted from FAO, 2012.



SHIFTING PARADIGMS OF RESEARCH

To date, dietary guidelines have typically been informed by human nutrition outcomes. Given the current and projected global sustainability challenges, it is essential to consider the wider impacts of diets and food systems. Dietary change has the potential to benefit health and reduce pressure on environmental resources in an equitable manner (Aleksandrowicz et al., 2016).

Policy changes that affect the food system are likely to have multiple impact pathways and assessing trade-offs and co-benefits throughout the system requires interdisciplinary perspectives. This report presents a novel methodology of using a live social game to facilitate dialogue and interaction between research and practice as well as between academic disciplines.

AIM

The game aims to:

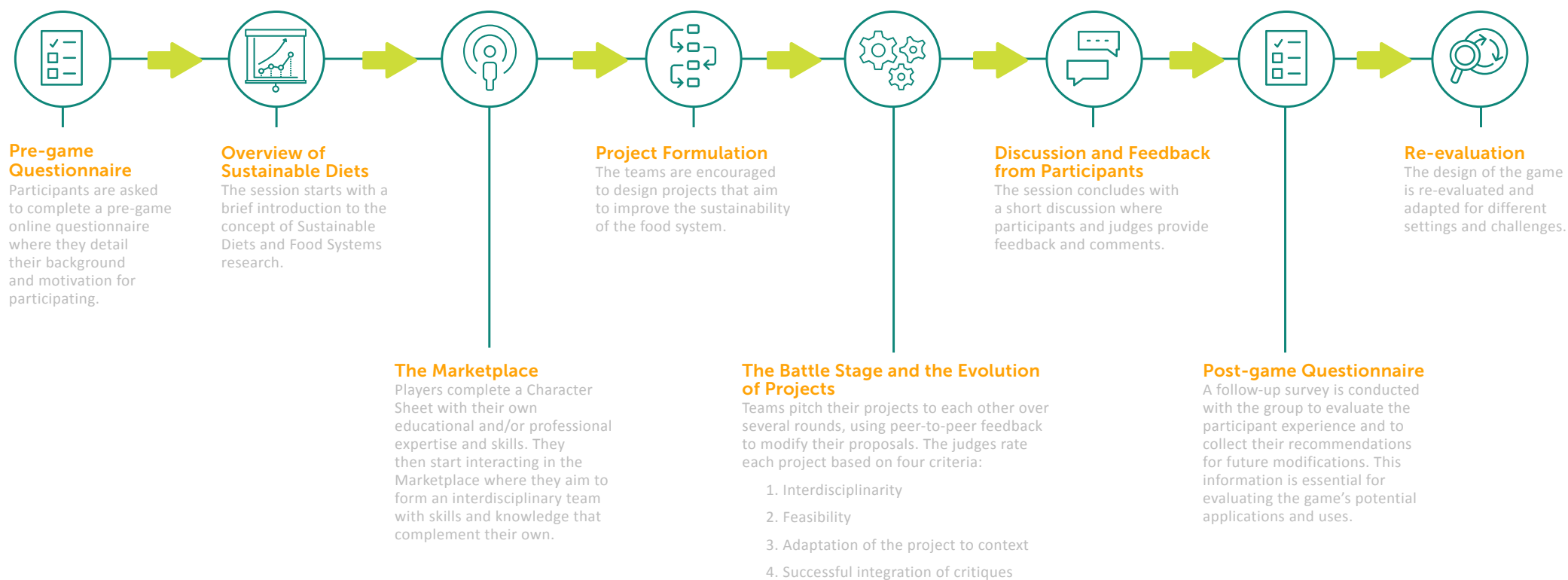
- Foster interactions between groups that might otherwise not communicate
- Develop innovative policies to make food systems more sustainable
- Encourage players to think and work in an interdisciplinary way through a collaborative and reflective process.

For the duration of the game, participants coming from a wide range of backgrounds form teams and collectively develop project ideas that aim to deliver sustainable food systems in various contexts, whilst critically engaging with ongoing debates and challenges. The idea is that the more interdisciplinary a team, the more holistic and comprehensive their proposed projects can be as they will be informed by multiple perspectives and can address issues and concerns of different disciplines and sectors.

Diet dimensions



HOW THE GAME WORKS





Case study

WHERE: SOAS, University of London

WHEN: November 2016

PARTICIPANTS: 13

This case study report presents observations from a pilot session of “Diet Dimensions” to demonstrate its purpose and intended objectives; to reflect on how sustainable diets and food systems can be discussed and to evaluate the extent to which the process of playing the game might be a useful catalyst for innovative research and policy-based communications and negotiations.

Using games for research is a creative approach that facilitates public and key stakeholder engagement. The informal and sociable approach helps to make technical and complex issues accessible. In this case, it has the potential to foster collaboration between researchers, practitioners and policymakers working in different sectors and fields. In doing so it can draw attention to key challenges across different sectors of the food system, whilst critically engaging with ongoing debates and stimulating new ideas.

PARTICIPATION

The game session was advertised via the ANH Academy and the Leverhulme Centre for Integrative Research on Agriculture & Health (LCIRAH) and included 13 participants and 2 judges. The group was a mixture of postgraduate students along with academic and policy researchers of various disciplinary backgrounds and experiences. There was a strong interest in interdisciplinary research and participants were either studying in fields broadly related to sustainable diets or working at the intersection of academic research and policy.




Each team had two opportunities to pitch their project and two opportunities to respond to challenges and adapt the proposed projects. All teams incorporated the critiques they were presented with and refined their projects after every stage. As a result, the final projects improved in feasibility and scope.

SCORING SYSTEM

Projects were assessed based on a set of core criteria: interdisciplinarity; adaptation of the project to context; feasibility and; successful integration of critique. These factors were deemed significant for the purposes of the game and in the context of sustainable diets, however they were not disclosed to participants so as to further encourage organic development of creative and innovative projects. This flexibility was identified by participants as a key strength of the game, as it allowed them to debate on which issues they considered most pertinent and worth addressing in nutrition programming from a sustainability perspective. The range of proposed projects, however, also highlighted that the criteria could be refined and shared with participants in order to facilitate the development of more targeted and feasible projects. A traffic light scoring system is used here to illustrate the extent to which a project met each of the criteria (Figure 2).

Figure 2. Traffic light scoring system

Traffic light scoring system:

-  Project successfully meets criterion
-  Project partially meets criterion
-  Project does not meet specific criterion

PROJECT FORMULATION

The first version of the projects was developed within twelve minutes. The teams then pitched their projects, received critiques and had four minutes to address comments and feedback from the opposing teams. This process was repeated in a second round and each team had another opportunity to defend their project. This section summarises the final iterations of the projects developed and the final critiques from the competing teams and the judges.



Tackling food waste and undernutrition in Nigeria

Concept

This project would be working primarily with supermarkets and restaurant chains that mainly cater to diaspora in Nigeria. It would involve collecting leftover food and distributing it across peri-urban areas. The aim would be to improve people's access to nutritious food as well as to increase awareness regarding food waste. This project would adopt a bottom-up approach, involving local leaders and champions.

Critiques

Issues with respect to the feasibility of the project were raised, especially given the local context and the challenges of working with government and engaging the public. Additional concerns were discussed pertaining to hygiene practices and food safety, particularly considering the need for stricter regulation in LMIC contexts. Finally, the potential environmental impacts of hiring multiple vehicles for the purposes of the project were discussed, which has direct implications on the environmental sustainability of the project.



Working with Indian farmers' associations to deliver agricultural extension services to remote parts of India

Concept

The aim of this project was to improve dietary diversity through the provision of low-cost seeds and equipment loans. Crop diversification would be particularly encouraged and pesticide overuse would be discouraged. By fostering community collaboration and gender empowerment, the project would seek to address malnutrition and hidden hunger on a local level with a particular focus in remote regions.

Critiques

This project would require an on-going collaboration with technology and seed corporations, which could have an impact on the project's feasibility and function. The scalability of the project was also a concern, while the potential influence of the project would be uncertain given the presence of farmers' associations and lobbies.



Re-imagining local trade regimes and agri-cooperatives in Burkina Faso

Concept

This project envisaged a shift towards a hybrid trading system that incorporates market-based and nutrition-based exchanges of agriculture commodities. That would involve supporting small-scale cooperatives via subsidies and extension services that would facilitate growth in certain high nutrient and resilient crops. The overarching aim of the project would be to help meet the dietary needs of farmers; reduce long distance transportation; reduce the amount of food waste and increase resilience of smallholder farmers who are vulnerable to exogenous price and weather shocks.

Critiques

The main critique for this project revolved around its feasibility and operationalisation of the concept. Challenges would most likely arise particularly with respect to regional and international legislation, which would heavily influence the implementation of the project.



Sustainability labelling in the UK

Concept

This project would develop a framework for tracking and certifying the sustainability credentials of particular foods in the UK through a labelling system. This would involve auditing value chains to evaluate the final products' sustainability and its impact on the food system and the environment. The project would be piloted in London and then would be scaled up on a national level.

Critiques

Concerns around the equitability of the project were raised, since such certifications tend to increase the price of foods and make them less accessible to households with low purchasing power. This would be particularly problematic in the context of a project that its impact relies on changes in consumer behaviour. The operationalisation of the project was also discussed as auditing multiple food products in this way and in different contexts would be challenging.



Key: Representation of core criteria: interdisciplinarity (I); adaptation of the project to context (A); feasibility (F) and; successful integration of critique (C).

Discussion: Debating concepts and trade-offs

DEFINITIONS AND EMERGING THEMES

Teams tended to take a wide definition of “sustainability” to include environmental, economic and social sustainability and as a result the projects and policies that were developed varied widely in scope and scale. This is also in line with the most current perspective on the multiple dimensions of sustainable diets and sustainable food systems (Figure 3).

In spite of the different ways that the challenge was conceptualised by the teams, a number of key issues emerged through the projects and were addressed in different ways throughout the session, such as the empowerment and resilience of producers and smallholder farmers, equity as well as agricultural and trading systems. (Figure 4).

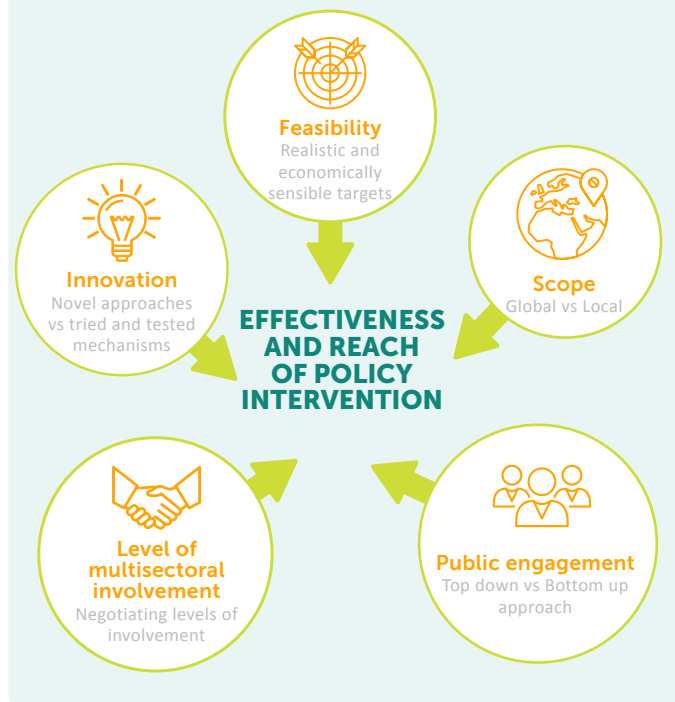
Figure 3. Aspects of sustainability that need to be negotiated and optimally consolidated for a sustainable food system.



Figure 4. Key issues emerging from formulated projects.



Figure 5. Trade-offs to be made with respect to effectiveness and reach.



ENGAGING STAKEHOLDERS AND BALANCING TRADE-OFFS

The iterative process that guides the development of the projects exposed and emphasised some of the critical trade-offs at play in the context of sustainable food systems when attempting to optimise the effectiveness and reach of a suggested project, namely striking a balance between feasibility; innovation; scope; level of multisectoral involvement and public engagement (Figure 5). Projects varied considerably and each one revealed something different about the trade-offs that need to be made in different settings and provided useful insights into the policy formation process.

For instance, depending on whether a project was developed for a high income or a low or middle income country context the expected feasibility and level of effectiveness varied as a result of different needs and existing infrastructure, organised institutions and regulatory frameworks, the dynamics of which inform much of the policy-making process.

Local experience, contextual knowledge and sensitivities emerged as factors of significant importance in the iterations as teams questioned the practicality of implementing plans on the ground. This illustrated that the views and expertise of local practitioners are essential components of any such conversation and highlighted the need for communication and productive collaboration between different stakeholders (Figure 6).

The range of projects and policies developed through the game reflects the importance of engaging across disciplines and areas of expertise in discussions concerning sustainable food systems. Players immersed primarily in academic study or research evidently brought analytical strengths while players with experience in policy were able to elucidate how politicians, policy makers and practitioners may interact with scientific evidence. The game demonstrated its value in providing an interface between research and practice. These ensuing debates inform much about potential disconnects between research and practice, which the ANH Academy and this game aim to bridge.

Figure 6. Key stakeholders that can facilitate the creation of more effective and targeted policies.



A SIMULATION EXERCISE

This version of “Diet Dimensions” is intended to be a simulation exercise based on current interactions and debates between stakeholders within the food system, to allow players to engage with the process of project formation and the intricacies of policy making. As such, maintaining a balance between encouraging innovation on the one hand, whilst grounding projects in the current reality of sustainability research and policy on the other, is one that must be carefully managed. Ideally, participants are to maintain their positions and disciplinary perspectives and attempt to reach a point of convergence with their team mates as they form a multi-disciplinary project.

What this process also demonstrated to participants, based on the post-game feedback, is the importance of collaboration for the development of successful projects. At the same time, it also illustrated the competitive nature of the field, where all disciplines seek representation and every sector has its own sets of priorities to defend.

KEY LEARNING OUTCOMES



Understanding what elements and issues tend to be prioritised by stakeholders and researchers from different backgrounds and disciplines.



Gaining insights into co-benefits and trade-offs inherent in interdisciplinary and intersectoral collaborative projects.



Greater appreciation of and reflection on the research and policy nexus; how, when and why scientific knowledge is best translated into practical policy.

Get involved

The game “Diet Dimensions” is a work in progress, informed and modified between each play session. The materials needed to set up a session will be available and free to use through our website. We welcome any comments and suggestions and are happy for the game to be used to further research and policy around sustainable diets. If you would like to play the game at a conference or similar forum, we would appreciate it if you get in touch to help us capture our impact and keep improving the game. Compiling observations from cumulative simulation games among different stakeholders is invaluable for informing the ANH Academy’s ongoing research.

For more information visit: www.ANH-Academy.org or email: ANH-Academy@lshtm.ac.uk



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RESEARCH PROGRAM ON
Climate Change,
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Food Security

