



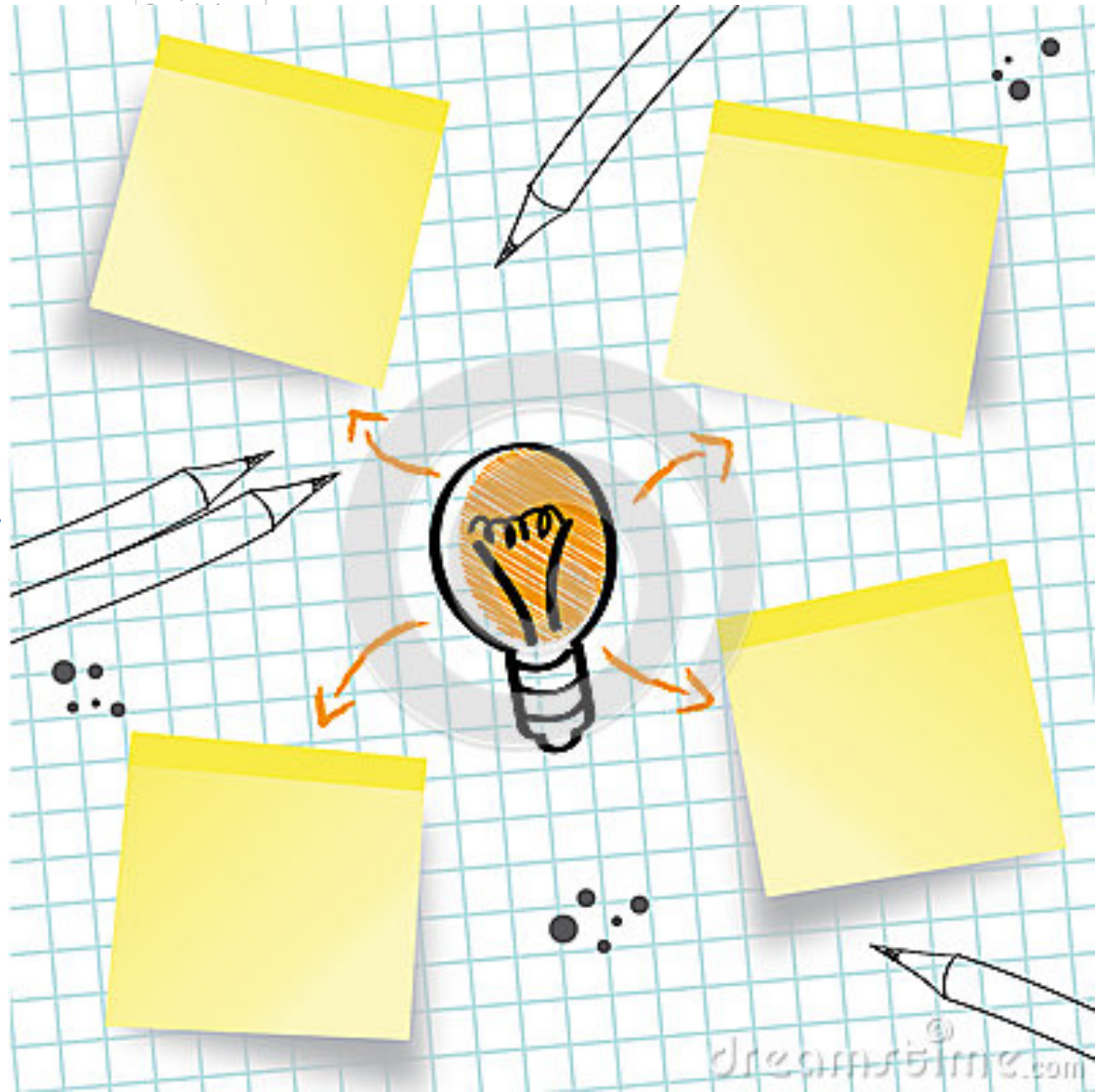
JRC Foresight on Global Food Security

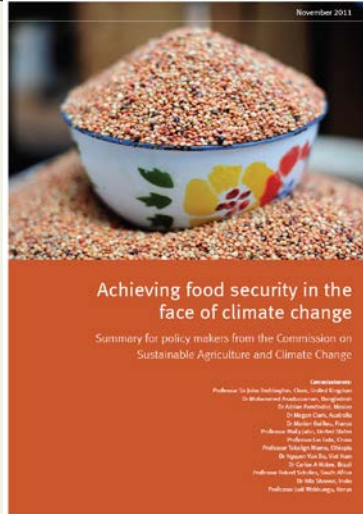
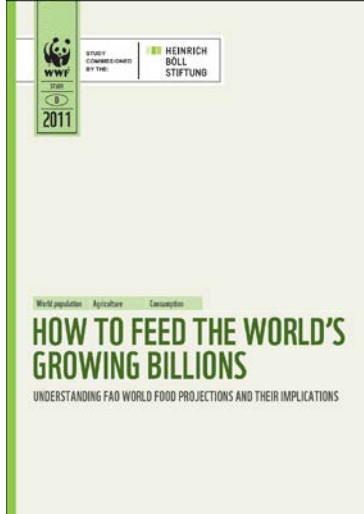
XXVII EURAGRI Conference
Montpellier
28-30 September 2014

Albino MAGGIO
EC Joint Research Centre
Foresight & Behavioural Insight Unit

The Concept

Why another
foresight
study on
Food
Security?





EUROPEAN SCIENCE FOUNDATION
SETTING SCIENCE AGENDAS FOR EUROPE

FORWARD LOOK
European Food Systems in a Changing World

COST




www.esf.org
www.cost.esf.org

challenge paper
HUNGER AND MALNUTRITION
JOHN HODDINOTT
MARK ROSEGRANT
MAXIMO TORERO



COPENHAGEN CONSENSUS 2012

Government Science WW Foresight




The Future of Food and Farming:
Challenges and choices for global sustainability

FINAL PROJECT REPORT

Agrimonde®
Scenarios and Challenges for Feeding the World in 2050

December 2009
Summary Report



INRA cirad

European Commission – Standing Committee on Agricultural Research (SCAR)
The 3rd SCAR Foresight Exercise

Sustainable food consumption and production in a resource-constrained world
February 2011

Annette Freibauer (chair), Erik Mathijs (rapporteur), Gianluca Brunori, Zoya Damiánova, Elie Farouk, Juan Gómez I Gorris, Lance O'Brien, Sébastien Treyer

General features of most studies

- Highlight the complexity
- Strong focus on production and the main challenges for the agricultural system
- Define the key actions for sustainable intensification
- *Everything* is important – difficult to prioritize

Setting priorities is important to define future policies

The aim of this study was to explore potential developments that will significantly affect the world food situation in 2030 in order to identify the most useful EU policy intervention



First expert meeting – *preparatory* June 14, 2012

The overall question

"What should the EU do to meet the major food security challenges the world will face by 2030?"

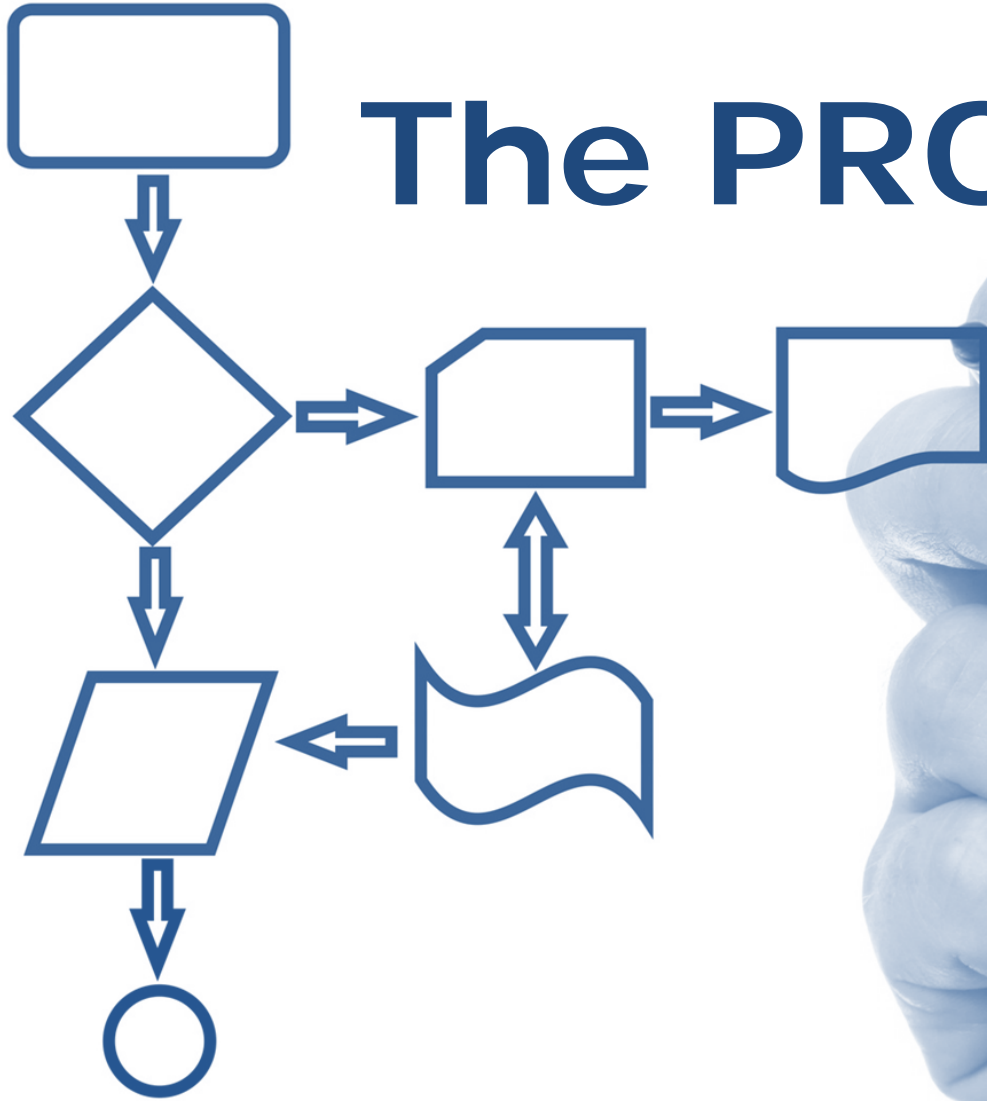
Key areas in food security

Sustainability

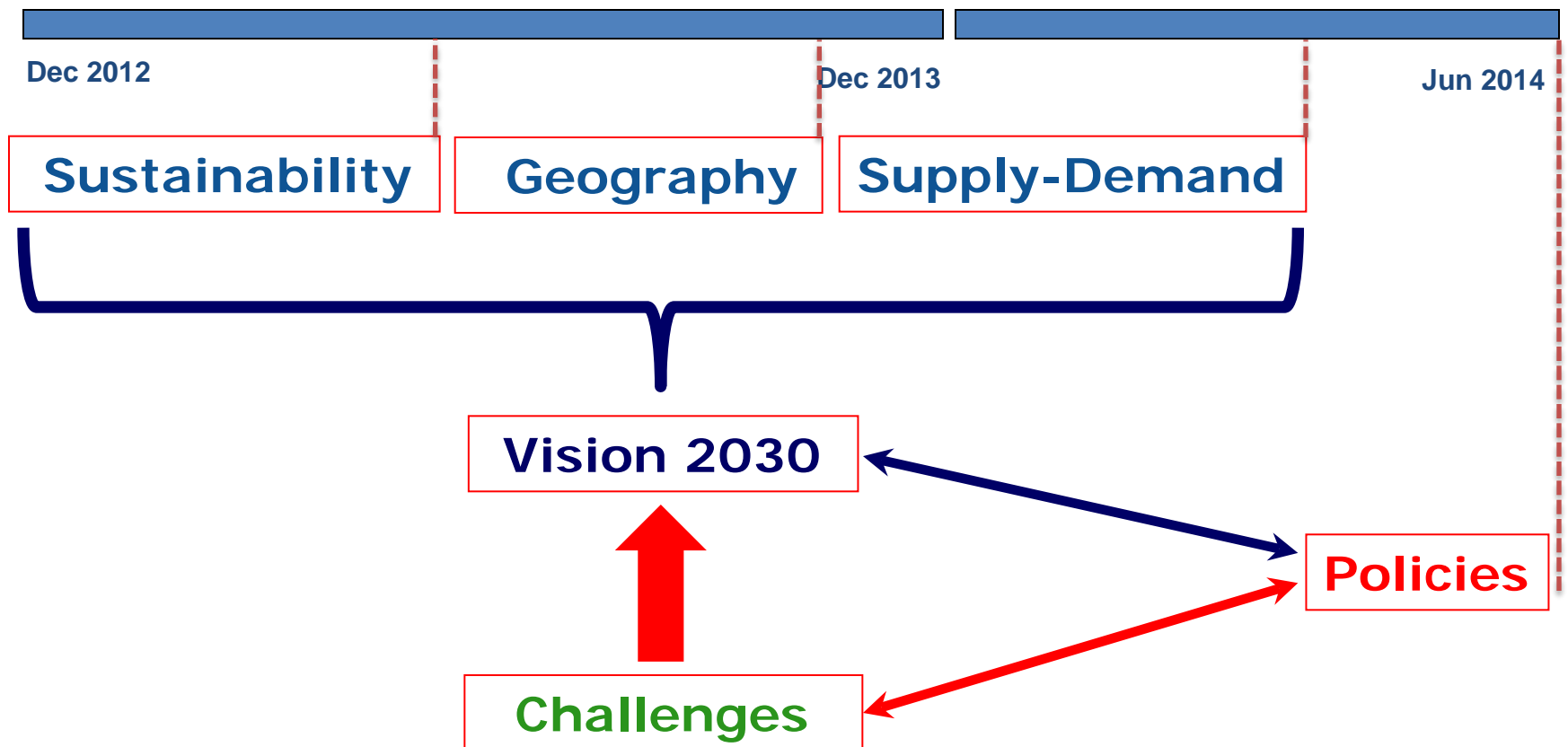
Geography

Supply-Demand

The PROCESS



Structural frame and building blocks of the foresight on Global Food Security



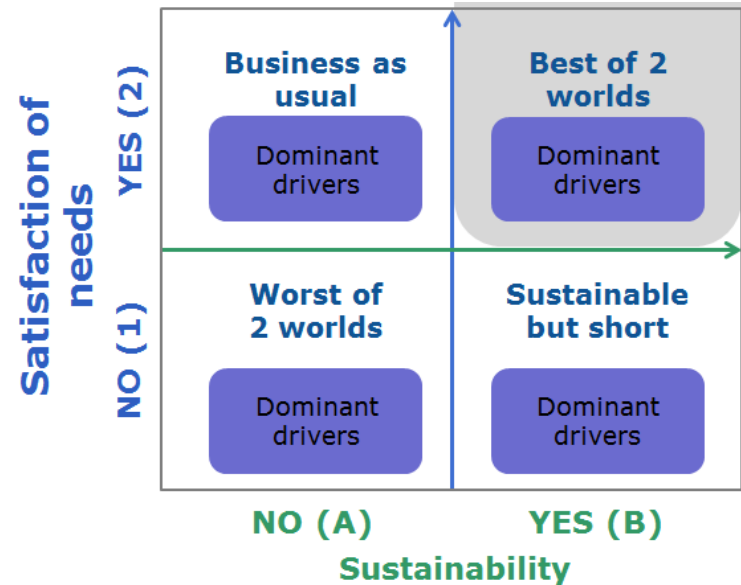
The thematic workshops: Sustainability

- Held in Seville, Spain
- Attended by 30 participants

Objective: to define the most important drivers that might shape future scenarios and to develop a roadmap for necessary future actions.

Actions taken:

- Propose and discuss **scenarios** for possible futures of global food security
- Define the most important **drivers of change**
- Define key **framing questions** on sustainability
- Draft a **roadmap of actions** to be taken in order to achieve the desirable scenario



The thematic workshops: Geography

- Held in Brussels
- Attended by 27 participants

Objective: to define the key actions and measures to be taken in 5 world regions in order to reach a vision of sustainability and food access for all by 2030.

Actions taken:

- **Visions** for food security in 2030 in 5 world regions (Africa, Asia-Pacific, Europe, Latin America, North America);
- **Challenges and opportunities** faced by each of the regions in reaching their vision;
- **Regional pathways** towards reaching these visions by prioritising key actions to be taken and designating measures for implementing these actions;
- Identified key **inter-links, synergies, overlaps, and cross-cutting issues** between the regional visions.



The thematic workshops: Supply/Demand



- Held in Brussels
- Attended by 32 participants

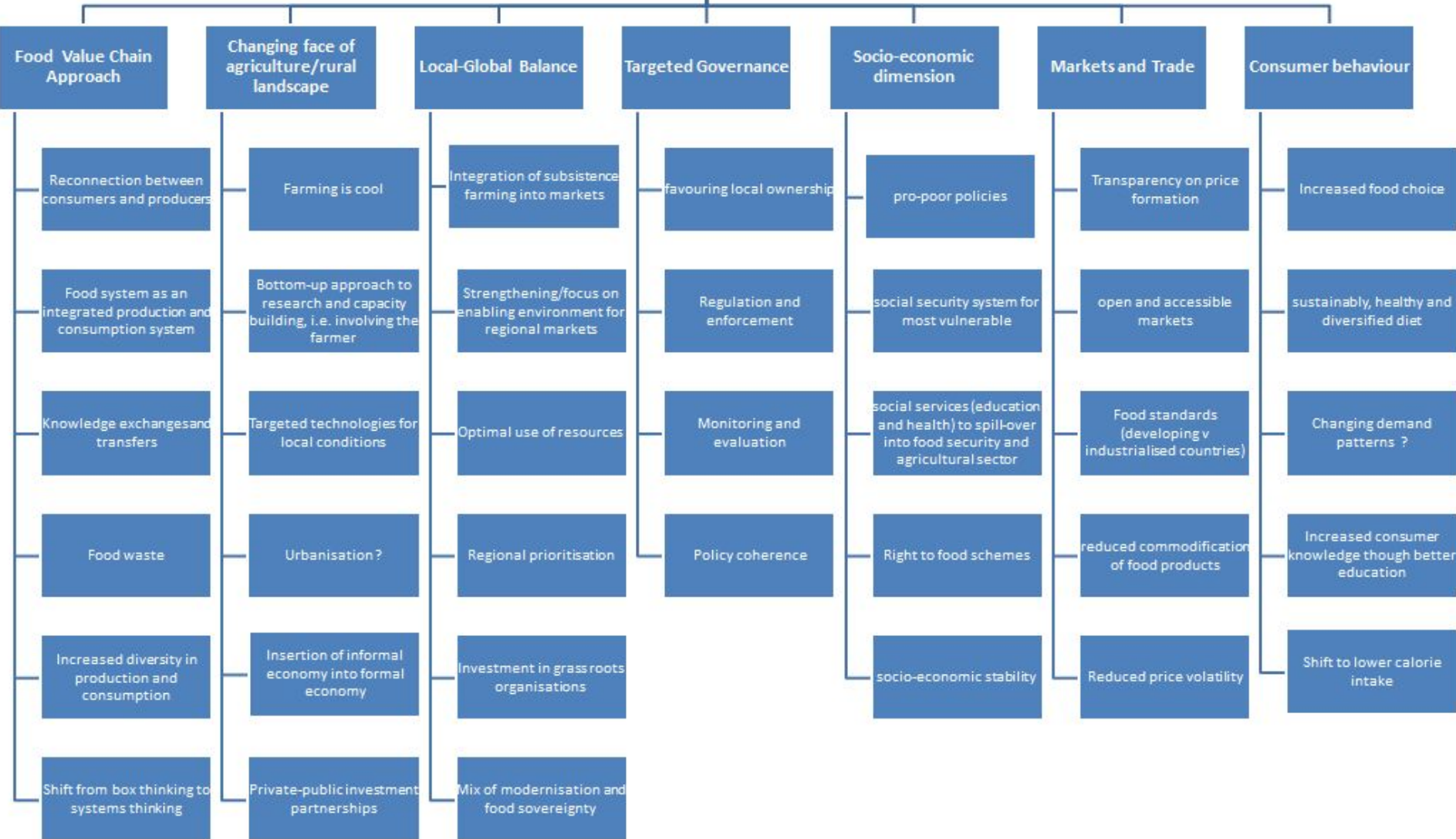
Objective: define the key actions and measures to be taken in order to ensure food security by 2030.

Actions taken:

- Establish what needed to change in the **current food system** in order to ensure food security by 2030;
- Identified **priority actions** as to how to change the system;
- Examined the **synergies, trade-offs and incompatibilities** amongst the four dimensions of food security (accessibility, availability, utilisation and stability);
- Examine possible **disruptions** to the food system of 2030;
- Tested the **robustness** of the future food system.



Dominant themes in food system narrative





Today

2030

Rural Development
Precision Farming
Industrial Agricultural System
Response to Mass Demand

Urbanisation / Changing Diets

Sustainable Intensification

Resilience (agricultural, societal)

Responsible Diets

Internalising
Environmental Costs

Climate Change Adapted Crop
Systems

Resource Use Efficiency/Waste Reduction

High-Tech World

Globalised Trade System



1

Hyperurbanisation
Rapid Change in Diets

3

Culture of Innovation

2

Regionalised Trade Systems

Expert Steering Committee

Objective: to present and validate with the SC the Vision and the 3 Challenges to this Vision

Actions taken:

- Discussion on the vision with suggestions for improvement
- 4 presentations by the experts to the SC
- 1.5 day brainstorming session with the experts on how to improve the 3 narratives on urbanisation, trade, and innovation

Urbanisation



Innovation



Trade



Changing Demand



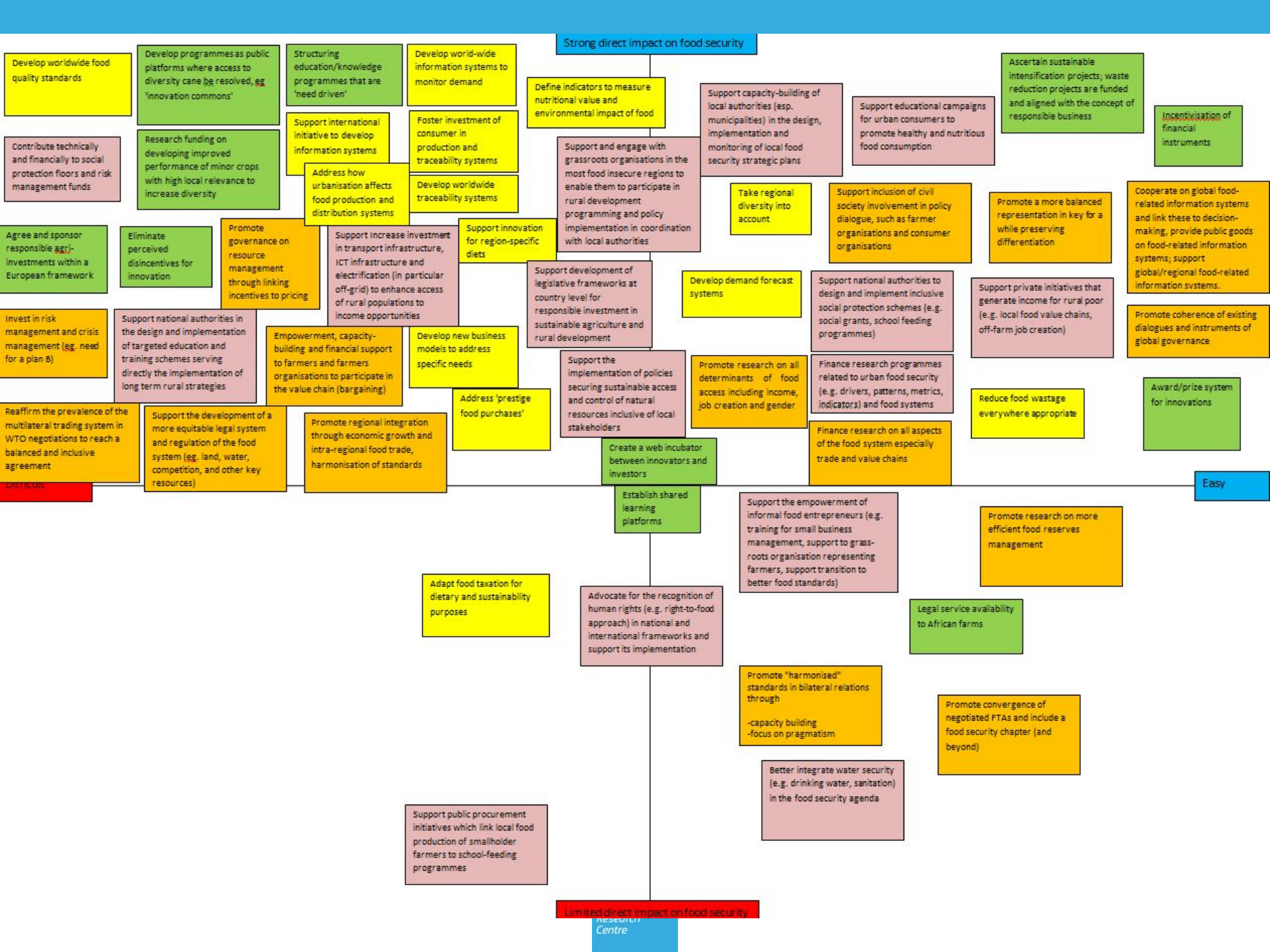
The policy workshop



- Held in Brussels
- Attended by 25 participants (mostly EC)

Objectives:

- To validate the **Global Food Security Vision 2030**;
- To present and discuss three **challenges** to the vision;
- To determine the **most relevant policy issues** for the EU;
- To **prioritise the policy areas** according to their feasibility in terms of implementation by the EU and to their impact on food security;
- To allow for **cross-policy dialogue** and preliminary steps towards policy coherence





The Main Findings

Vision 2030

Enhanced and More Sustainable Food Security Worldwide

In 2030 the demand for nutritious food by a world population of 8.5 billion is still only partially satisfied. There has been however a significant reduction of the relative number of today's undernourished people.

Key points

- Focus on agricultural productivity in all African and South Asian regions where yield gaps were the easier to bridge.
- Improved resilience and increased investments targeting nutrition deficiencies of children under five.
- Waste and crop loss management
- The world food system has also become more secure and sustainable thanks to its evolution towards a balanced mix of food systems for a more sophisticated demand.



Challenges to the Vision 2030

What if...

Urbanisation underestimated

Global food security will become primarily an urban challenge in the future. However, the current international food security agenda is mostly rural-oriented and still focuses more on food availability than on food access and nutrition.

- Food deserts
- Urban* food security indicators
- Informal economy
- Rural-urban linkages

What if...

Trade of agricultural products collapses

The last thirty years have been marked by increased liberalisation and globalisation, yet a number of uncertainties could profoundly stop or reverse this trend

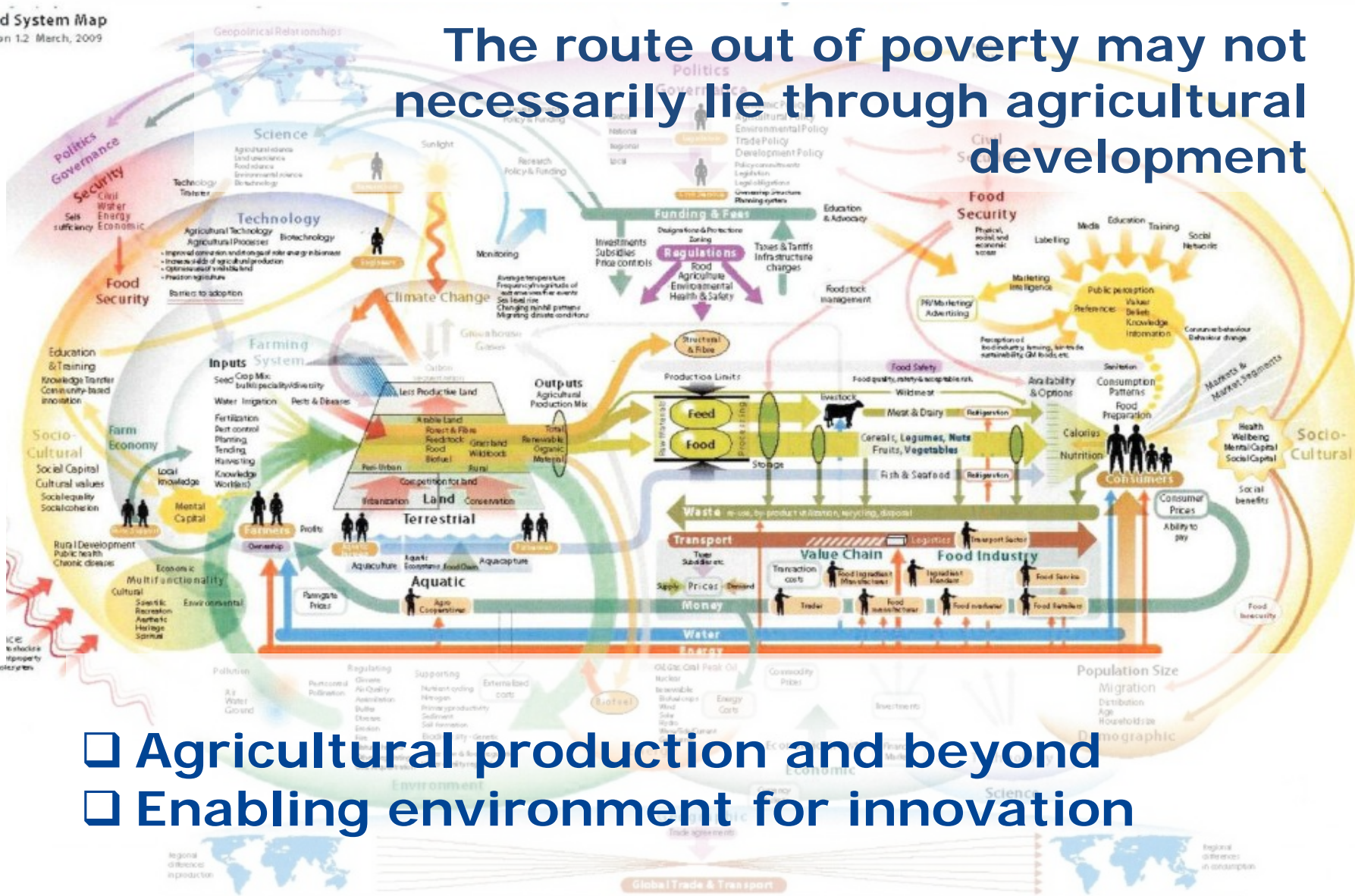
- governance local/global
- international negotiations
- food quality and safety standards
- regulations
- climate change
- trade, value chains, food access

What innovation do we need?

The global Food System

Food System Map
Version 1.2 March, 2009

The route out of poverty may not necessarily lie through agricultural development



- ❑ Agricultural production and beyond
- ❑ Enabling environment for innovation

Innovation framework as a transversal system that looks at opportunities for transitions to improve societal wellbeing



How do we respond to future challenges ?



- *A sustainable food security framework* should move away from the conventional focus on individual components but instead **address more holistically the complex relationships between its different stages and actors.**
- **Trade, value chains, food access** (and its determinants, e.g, income, employment, gender, etc.) will need to feature much more prominently on the research and policy agenda.
- **Innovation throughout local and global food system** will also be key to foster sustainable food security worldwide.
- The agricultural and rural context cannot anymore be considered as an isolated entity but rather a component of an **interconnected system** with rural, sub-urban and urban dimensions which operate at local and global level.

The Team

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