

Food and Health as a research challenge in the European Union

HEALTHGRAIN
Final Conference
Lund 5-7 May 2010

Need for action to protect health

Why ?



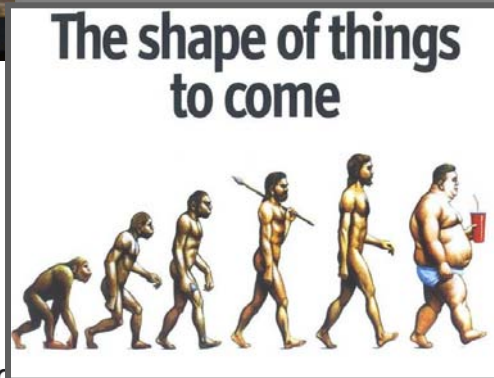
Globalisation

Increasing world Population
and migration



Ageing population

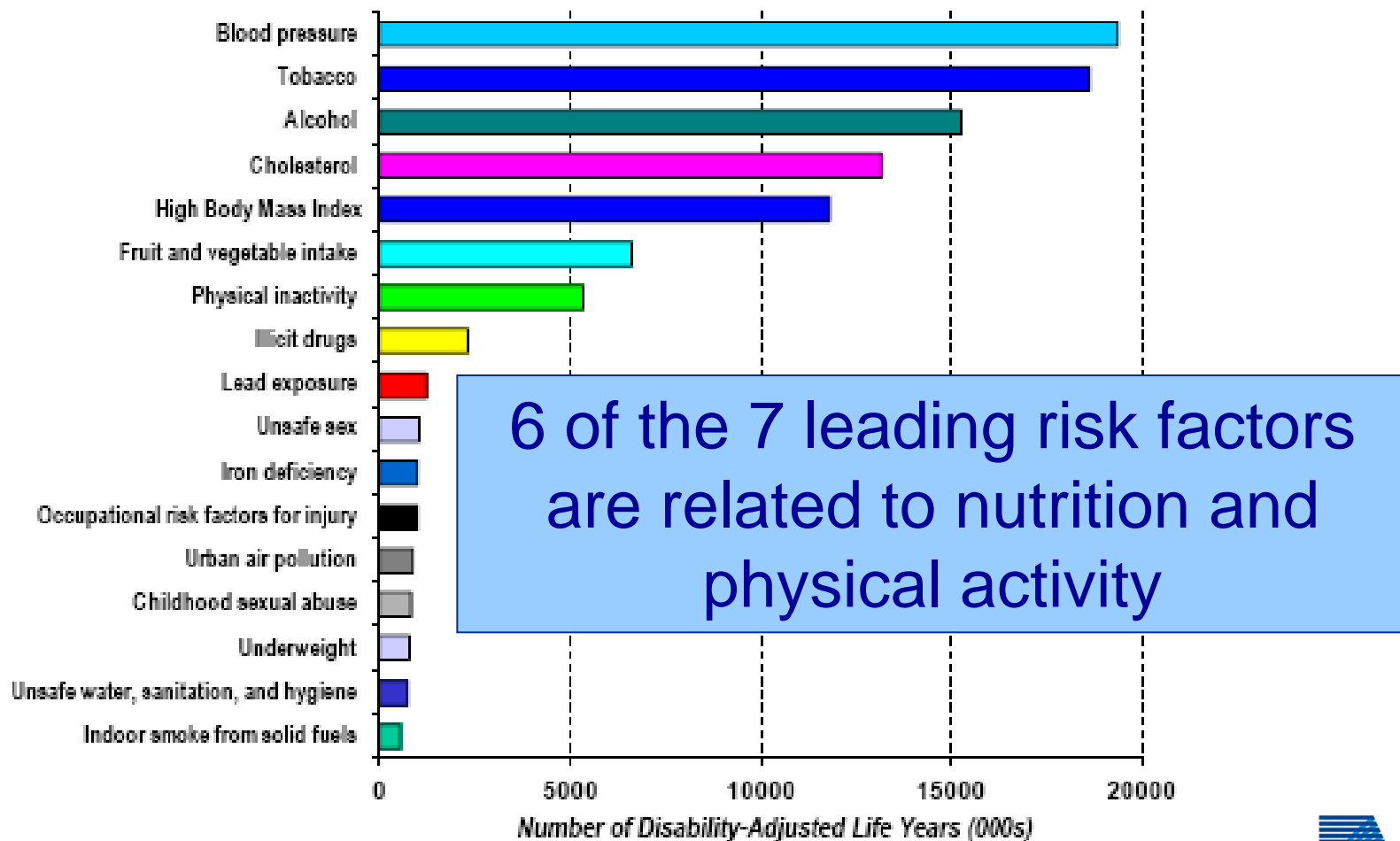
Functional and cognitive decline



Diet-related diseases

Metabolic Disorders, Allergies, Obesity,...

Leading risk factors for ill health in the European Region



Consumers Influence & determinants

NUTRITION TRENDS: Taste, Health, Convenience



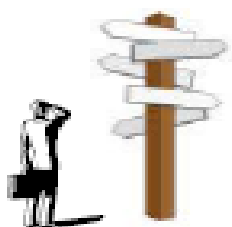
**FOOD
AVAILABILITY**



**Healthy eating &
dietary habits**



FOOD KNOWLEDGE



**FOOD
ACCESSIBILITY**



INDIVIDUAL CHOICES



**NEEDS
AND TASTE**

**FAMILY
PRACTICES**

Nutrition and Ageing

Ageing and functional decline is unavoidable



Goals: Enable healthy ageing
Increase healthy life years
Improve quality-of-life and well-being
Prevent mental and physical impairment

LIPIDIDIET - FP7 project

The therapeutic and preventive impact of nutritional lipids on neuronal and cognitive performance in aging, Alzheimer's disease and vascular dementia (IP - 6 m€)

FP7-KBBE-2010-4

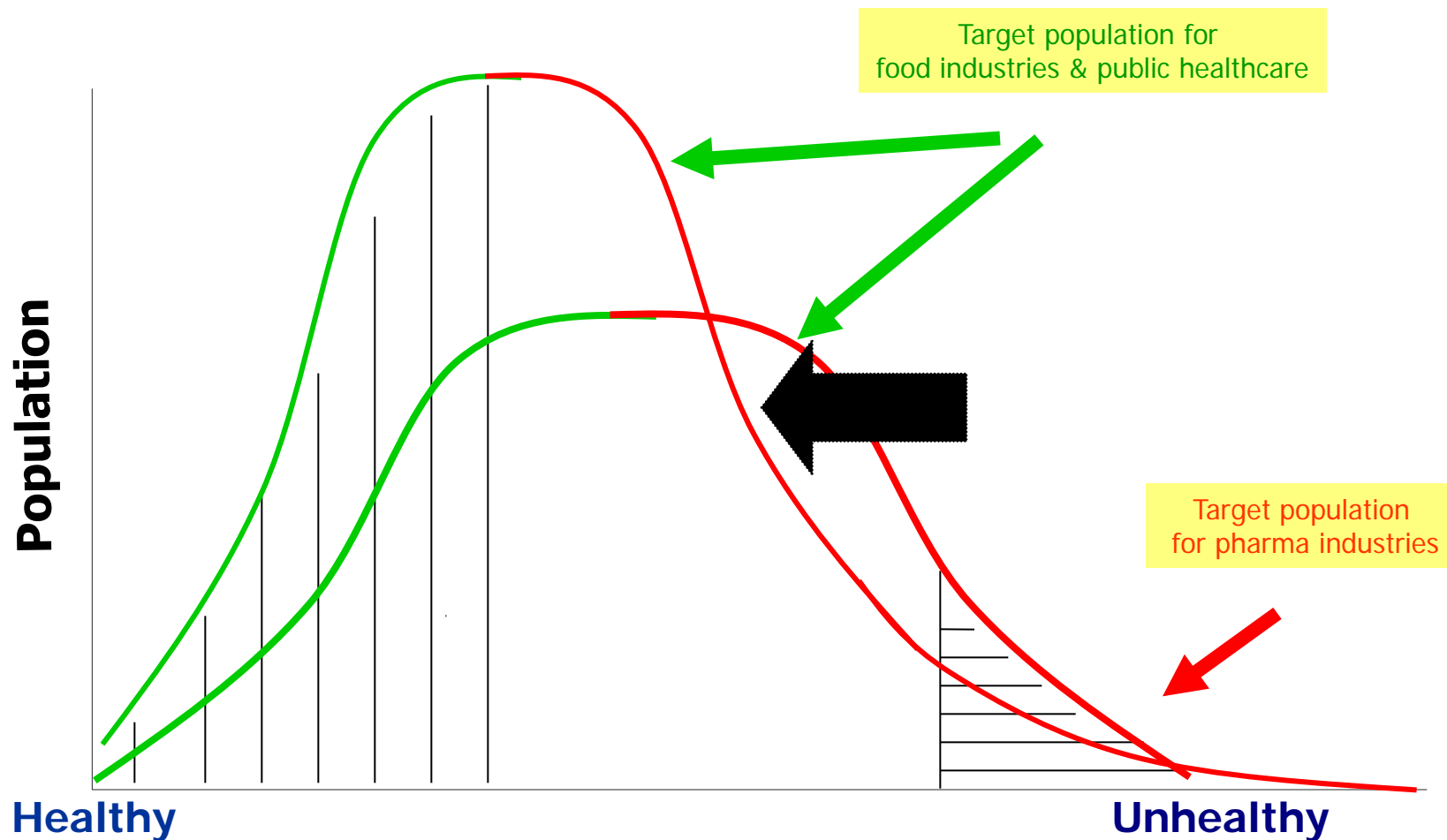
Diet and prevention of functional decline of the elderly (IP - 9 m€)

From curative to preventive health care

**Interactive,
personalised food**

- Healthier lifestyle
- Fresher, healthier safe foods
- Lower on fat, salt and sugar
- Incorporating new ingredients
- Bioactive components with enhanced availability

Improving Population Health



Objectives of Health-oriented Nutrition Research

To make the consumers' **health and well-being** the major driving force for innovation in food & beverage production to give **scientific evidences** for the health claim of food products

To support the science-base of the risk-benefit-analysis of food as well as of dietary recommendations

To develop **innovative/functional products** and services for the early diagnosis, prevention and therapy of nutrition-related disorders/diseases



Nutrition science of today

Evolution from prevention of nutrient deficiencies diseases towards optimal nutrition

Optimise nutrient intake to:

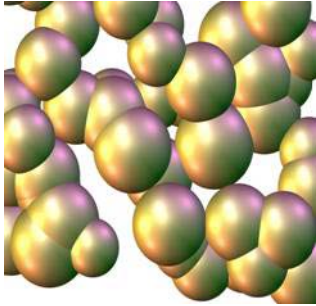
- promote overall health and well-being
- improve physical and mental performance
- reduce risk of disease such as obesity, CVD, diabetes, ...



Converging technologies to identify and elucidate:

- interaction diet, genes and environment
- synergisms between food components & their health impact

Converging technologies and multi-disciplinary approaches

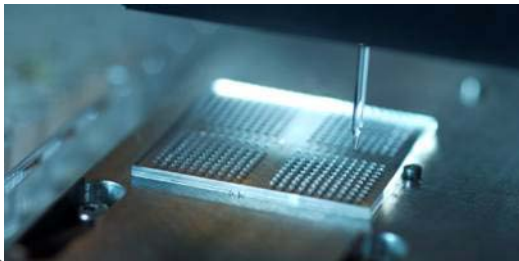
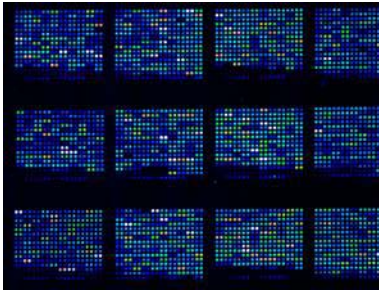


Omics: nutrigenomics, metabolomics, proteomics, ...

Bioinformatics

Micro-nanotechnologies

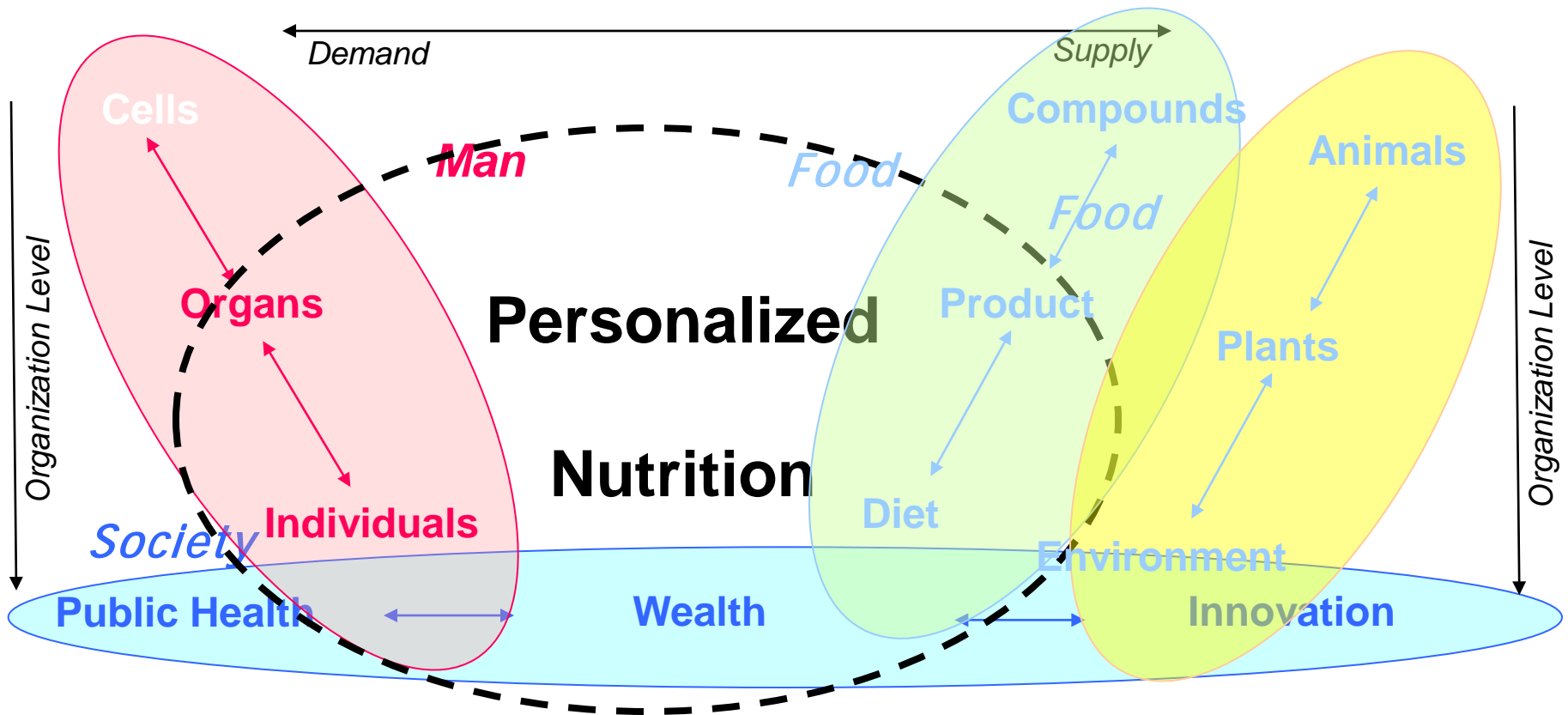
(Neuro)-imaging Techniques: MRI, SCANNER, PET



Food,
Agriculture and **F**iseries,
and **B**iototechnology
Knowledge-Based Bio-Economy (KBBE)



Supporting changes in Food Industry



Food,
Agriculture and **F**isheries,
and **B**iotechnology
Knowledge-Based Bio-Economy (KBBE)

Innovation:
Radical vs Incremental



Future priorities

- Launch of a new vision and action plan for KBBE
- Build stronger links with other EU policies
- Focus on Grand challenges
 - Primary production mitigating and adapting to climate change
 - Building sustainable, eco-efficient and competitive bio-economy
 - Food security and safety for Europe and beyond
 - Social inclusive and healthy Europe
 - Oceans for the future
- Improve knowledge management and knowledge transfer
- Strengthen science excellence and research capacities
- Promote public engagement

Challenges for the future

Goal: Change dietary habits and lifestyle

Nutrition and physical activity as preventive measures

- Reduce health inequalities and health care costs

Innovative research

- Elucidate link between diet, genes, environment, health
- Better understand consumer choice and behaviour
- Personalised nutrition and functional food development

Theme 2 KBBE: Activities

Food, Agriculture and Fisheries, and Biotechnology

Knowledge - Based Bio - Economy (K B B E)



KBBE - Activity 2.1
Sustainable production
and management of
biological resources
from land,
forest and aquatic
environments



KBBE - Activity 2.2
“Fork to farm”: Food
(including sea-food),
health and well being



KBBE - Activity 2.3
Life sciences,
biotechnology
and biochemistry for
sustainable non-food
products and
processes

FP7 KBBE - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments

- **Enabling research** ('omics' converging technologies, bio-informatics, biodiversity) for micro-organism, plants and animals
- Competitive, sustainable and multifunctional **agriculture, forestry, fishery** and aquaculture
- **Animal** health, production and welfare; animal diseases (including zoonoses)
- **Marine** resources, fishery, aquaculture
- Development of **policy** strategies for knowledge based bio-economy, agriculture, fishery as well as rural and coastal areas

FP7 KBBE - Activity 2.2

“Fork to farm”: Food (including sea-food), health and well being



Food, Agriculture and Fisheries, and Biotechnology



EU food facts and figures

- Leading manufacturing sector
- Employs 4.1 million
- EUR 800 billion annual turnover
- 283 000 food companies (99% SMEs)

The food and drink industry is one of Europe's most important and dynamic economic sectors. The European Commission aims to maintain its competitiveness while taking account of the requirements of the Community's policies and the European Union's international obligations.

Food,
Agriculture and Fisheries,
and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

www.cordis.europa.eu/fp7/kbbe/home_en.htm

- Consumer, societal, industrial and health aspects of food and feed
- Nutrition, diet-related diseases and disorders
- Innovative food and feed processing
- Improved quality and safety of food, beverage and feed
- Total food chain concept

FP7 KBBE - Activity 2.3

Life sciences, biotechnology and biochemistry
for sustainable non-food products and processes



Food, Agriculture and Fisheries, and Biotechnology



Food,
Agriculture and Fisheries,
and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

www.cordis.europa.eu/fp7/kbbe/home_en.htm

- Novel sources of biomass and bioproducts
- Marine and fresh-water biotechnology (blue biotechnology)
- Industrial biotechnology: novel high added-value bio-products and bioprocesses
- Biorefinery
- Environmental biotechnology
- Emerging trends in biotechnology

FOOD INNOVATION

Opportunities along the Food chain

- Consumers
- Nutrition
- Processing
- Safety
- Environment

Health and well-being of consumers

Nutritional value / digestion / health impacts

Organoleptic impact

Safe, high-quality foods

Preparation

Storage / transport / retail

Environment

Processing

Production systems:
Agriculture / Fisheries / Aquaculture

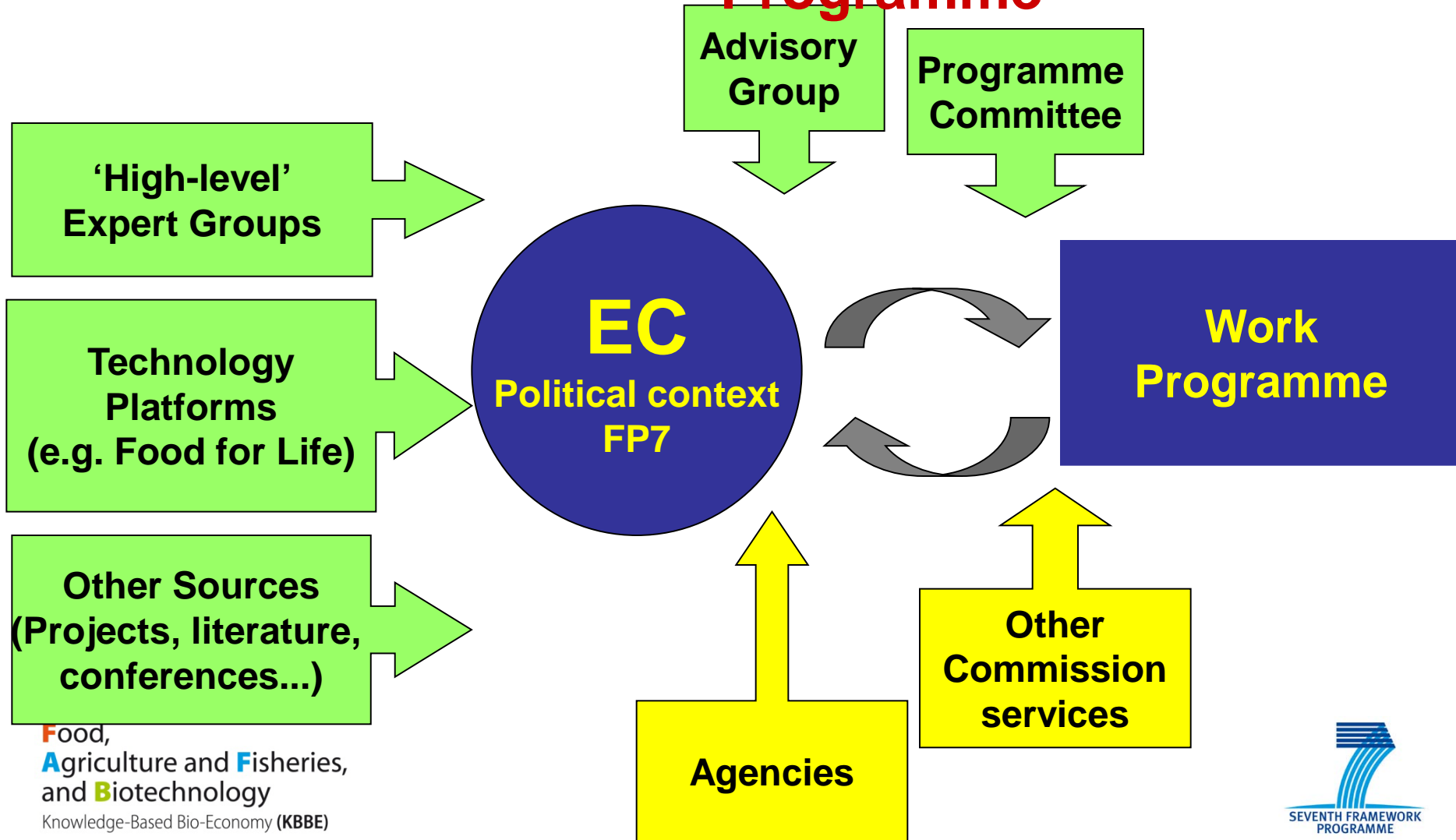
Biodiversity

Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)



Decision Process: Players

From the Political Text to the Work Programme



Call FP7-KBBE-2011-5

Publication date: end of July 2010

Budget: about € 260 million

about 50 Topics (17 for FOOD)

Deadline: about mid-January 2011

Evaluation: March/April 2011 (one stage)



Draft!

Up to one proposal retained per topic

unless indicated otherwise for a specific topic

Work Programme 2011 (1)

- Consumers

- Consumer scientists, food technologists and consumers

- Nutrition

- Functional foods and ingredients
- New technologies for nutrition research
- Early nutrition
- Targeting interventions on micronutrients
- Joint Programming Initiative 'A Healthy Diet for a Healthy Life'

- Processing

- Cleaning and disinfection
- Food Factory of the Future
- Food packaging
- Satiety control through food structures

Food,
Agriculture and Fisheries,
and Biotechnology

Knowledge-Based Bio-Economy (KBBE)



Draft!

Work Programme 2011 (2)

- Food Quality and Safety

- Ready-to-eat foods
- Pan-European Total Diet Study

- Food Chain and Environment

- Environmental sustainability in the European food and drink chain
- Reducing post-harvest losses
- Food science and the retail sector
- ERA-NET on sustainable food production and consumption



Draft!

An SME in a Project (2)



NOCHEMFOOD

www.nochemfood.eu

'At the end of this project, thanks to EU research, we'll be able to market a new range of salami products without nitrates and nitrites'

AN INTERVIEW WITH FRANCESCA SCOGNAMIGLIO

Salumificio F.lli Spiezia S.p.A

www.spiezia.it

Food,
Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)





Thank you for your attention!