Introduction to TWG: FOOD SYSTEMS

Paweł CHMIELIŃSKI, PhD
BIOEAST TWG Food Systems, Chair
Institute of Agricultural and Food Economics – National Research Institute, Poland
Pawel.Chmielinski@ierigz.waw.pl

FOOD SYSTEMS

- Food systems (FS) encompass the entire range of **actors and their interlinked value-adding activities** involved in the **production, aggregation, processing, distribution, consumption and disposal of food products** that originate from agriculture, forestry or fisheries, and parts of the broader **economic, societal and natural environments** in which they are embedded.

- The food system is composed of sub-systems (e.g. **farming system**, waste management system, input supply system, **rural (local) systems** etc.) and interacts with other key systems (e.g. energy system, trade system, health system, etc.).

(FAO, 2018)

SUSTAINABLE FOOD SYSTEMS

- A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the **economic, social and environmental bases** to generate food security and nutrition for future generations are not compromised.

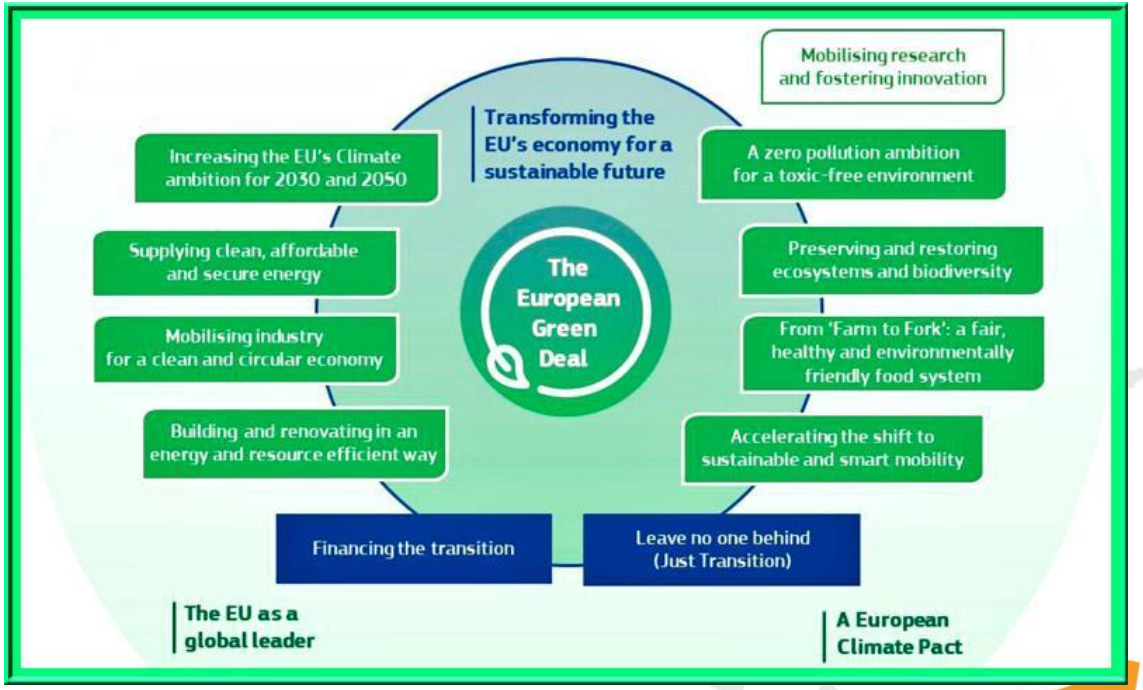
(FAO, 2018)

POLICY OBJECTIVES

- In the heart of the successful implementation of the UN Sustainable Development Goals **(SDGs)** and Food System R&I Policy implementation at the level of the **European Commission.**
- Food systems play a key role in Bioeconomy and therefore require the strategic advice and support, as it is stressed in the Policy Framework "**FOOD 2030**" and **the EU Bioeconomy Strategy** (2018).

FOOD SYSTEMS AND THE GREEN DEAL

- Food Systems is a key element of the European Green Deal and its new **“Farm to Fork strategy”**,
- Involvement in the **Cluster 6 of Horizon Europe** initiatives, as well as the European Partnerships, are extremely important tools for achieving the common objectives of creating added value in food systems.



CHALLENGES IN RESEARCH &INNOVATION FOR SUSTAINABLE FOOD SYSTEM IN CENTRAL AND EASTERN EUROPE

The main purpose of sustainable food system is nutritional food production with the respect to the environment and climate. To achieve this goal 3 main elements should be included:

- **Response to society needs** to ensure that quality and quantity of food make the solid basis of food security
- **Natural environment protection** and climate change mitigation as the crucial determinants of sustainable food systems
- Understanding of **complex adaptive food systems** at different levels and ensuring the multi-level approach to food chains analysis and solution development

RESPONSE TO SOCIETY NEEDS: QUALITY AND QUANTITY OF FOOD AS THE SOLID BASIS OF FOOD SECURITY

- Challenges: changes in the demographic structure, nutritious food delivery issues, and ensuring high levels of food safety and traceability. This includes also the problem of obesity vs. hunger and malnutrition reduction, thus helping consumers adopt sustainable and healthy diets to reduce the incidence of non-communicable diet-related diseases

Research and Innovation Actions:

- Undertaking activities to improve society awareness and practices (scientific evidence and knowledge from a wide diversity of actors) concerning *inter alia* more sustainable and healthy diets.
- Different innovation implementation (boosting innovation and investment, new business models creation) establishment of governance models enabling sustainable and inclusive bioeconomy patterns, including consumption patterns, market measures and financial models.
- Empowerment of communities and institutions (through closer partnerships) to foster fair trade and pricing, inclusiveness and sustainability).

NATURAL ENVIRONMENT PROTECTION AND CLIMATE CHANGE MITIGATION AS THE CRUCIAL DETERMINANTS OF SUSTAINABLE FOOD SYSTEMS

- Challenges: natural resources reduction, natural resources conservation and use within the planetary boundaries, as well as building climate smart food systems, while maintaining the biodiverse ecosystems.

Research and Innovation Actions:

- To map the interactions between the different components of current food systems, such as the interactions between food, biodiversity and water systems, to maximise co-benefits, accelerate transition and to better mitigate the climate change.
- To prepare R&I background to build climate smart and environmentally sustainable food systems adaptive to climate change, which conserve natural resources, and implement resource-efficient circular economy principles, while reducing environmental footprint.
- To provide resilience and sustainable biomass production systems while ensuring the functions of balanced ecosystems with greater carbon sequestration and biodiversity conservation.

UNDERSTANDING OF COMPLEX ADAPTIVE FOOD SYSTEMS AT DIFFERENT LEVELS AND ENSURING THE MULTI-LEVEL APPROACH TO FOOD CHAINS ANALYSIS AND SOLUTION DEVELOPMENT

- Challenges: to ensure diversity in food systems (production, processing, packaging, logistics, distribution, consumer).

Research and Innovation Actions:

- Short chains better organization and management.
- To improve agricultural practices (production diversity, sustainable production, precise practices).
- Circular solutions and waste management (reducing environmental footprint, food losses, resource-efficient solution implementation).

BIOEAST FOOD SYSTEMS TWG

- In Food Systems TWG we are to **generate discussions** and **develop a bottom-up stakeholder driven approach** for defining synergies and complementarities between the agricultural sectors and food systems of our countries

- We will generate the input to a BIOEAST common **Strategic Research and Innovation Agenda**. This will allow for increased participation in the implementation of R&I initiatives in the Member States and the EU as a whole, and will be a key element in creating coherent and ambitious strategies for bioeconomy development in countries of BIOEAST macro-region.

- **We mobilised partners** (CEE Member States, private sector) to provide **access to expert networks in CEECs**, to jointly work on mobilising resources beyond Horizon Europe to implement National and EU R&I policy framework on food systems of the future.

Paweł CHMIELIŃSKI, PhD

Pawel.Chmielinski@ierigz.waw.pl

THANK YOUFOR YOUR ATTENTION

BIOEAST.EU