

FOOD SECURITY AND ADAPTATION OF AGRICULTURE TO CLIMATE CHANGE

PRIORITY AREA UNDER RESPONSIBILITY OF **PUCRS** AND **ZSI**

INITIATIVE OF INCOBRA PROJECT INTEGRATING STRATEGIC ACTION PLANS TO
FOSTER RESEARCH AND INNOVATION (R&I) COOPERATION

WHY FOOD SECURITY AS A PRIORITY AREA OF MUTUAL INTEREST?



- GLOBAL PRODUCER/EXPORTER;
- GREAT PRODUCER OF SOYBEANS, CORN, CATTLE BEEF, POULTRY, CITRUS, SUGAR CANE, EUCALYPTUS, ETC;
- GREAT READY-TO-CULTIVATE LAND: 150 MILLION HECTARES;
- HIGH CONSUME OF PESTICIDES/HAZARDOUS PRODUCTS;
- AGRICULTURE AS A POLLUTING ACTIVITY.



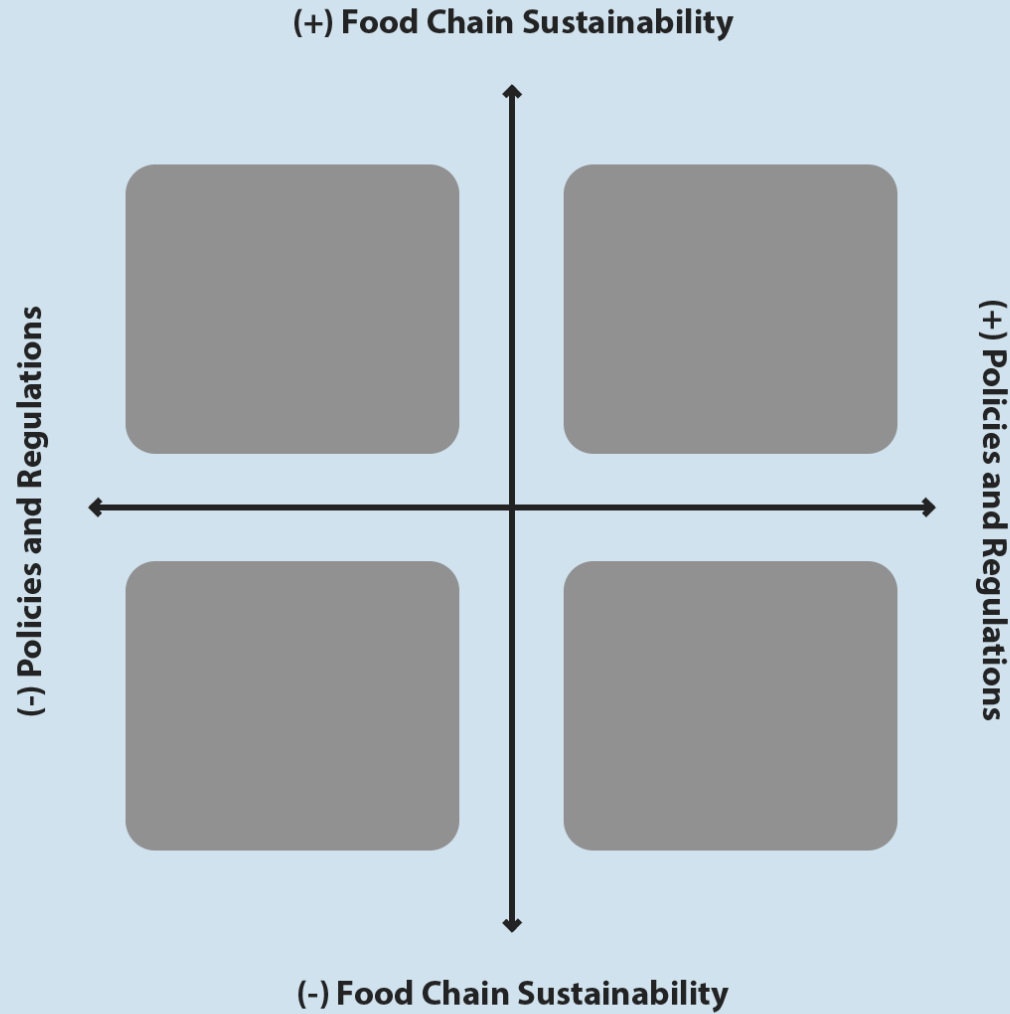
- LONG-TERM TOPIC OF INTEREST;
- CONCERNED WITH HEALTH, ENVIRONMENTAL SAFETY;
- ORIENTED TO STRATEGIC FOOD SUPPLY.

THE DESIRABLE FUTURE OF R&I EU/BR IN FOOD SECURITY

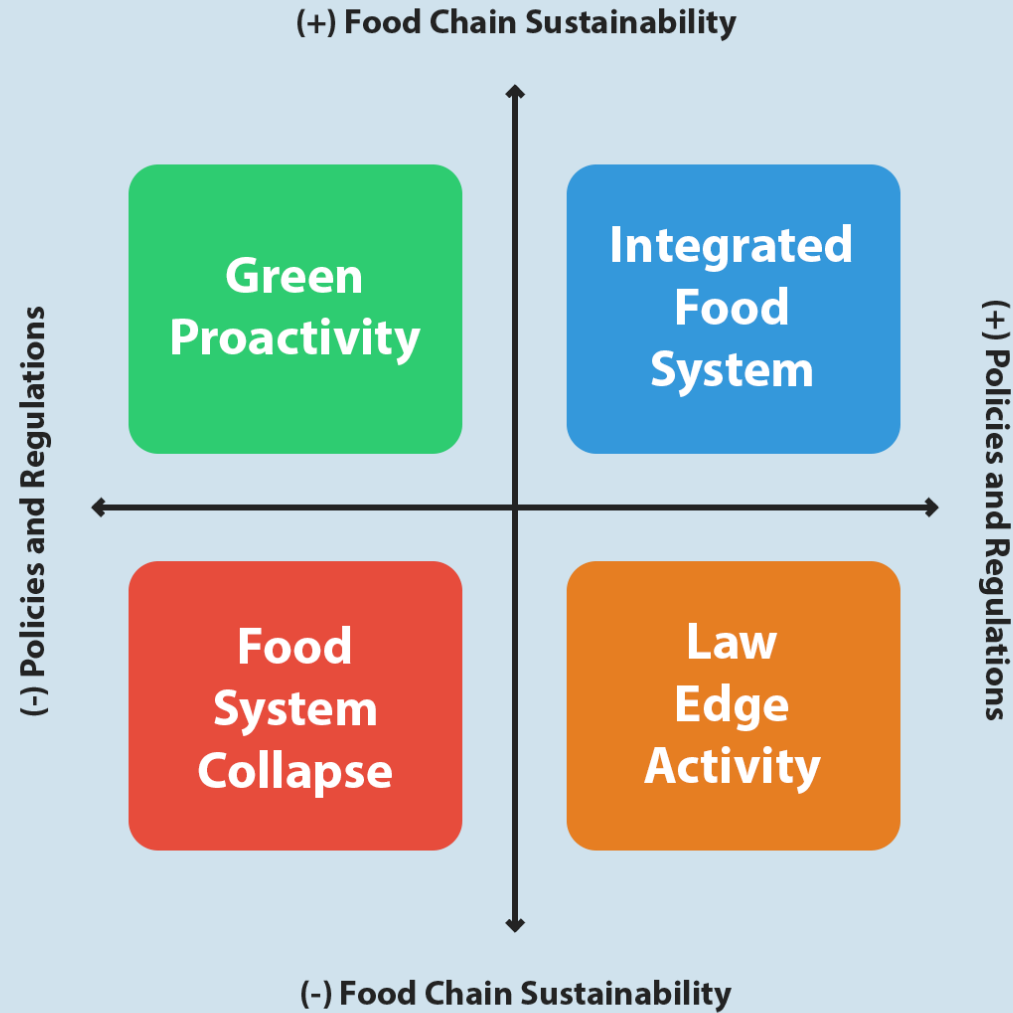


- HIGHLY COMMITTED ON **LONG-TERM R&I STRATEGY**;
- CONSOLIDATED PARTNERSHIP ON **RESILIENCE** IN AGRICULTURE;
- FOOD **SECURITY GUARANTEED** AND EFFECTIVE ACTIONS IN PLACE TO **PREVENT CLIMATE CHANGE** HAZARDS;
- AGRICULTURE AND RELATED TECHNOLOGIES SUPPORTS **ECONOMIC DEVELOPMENT**.

SCENARIOS AND PRIORITIES



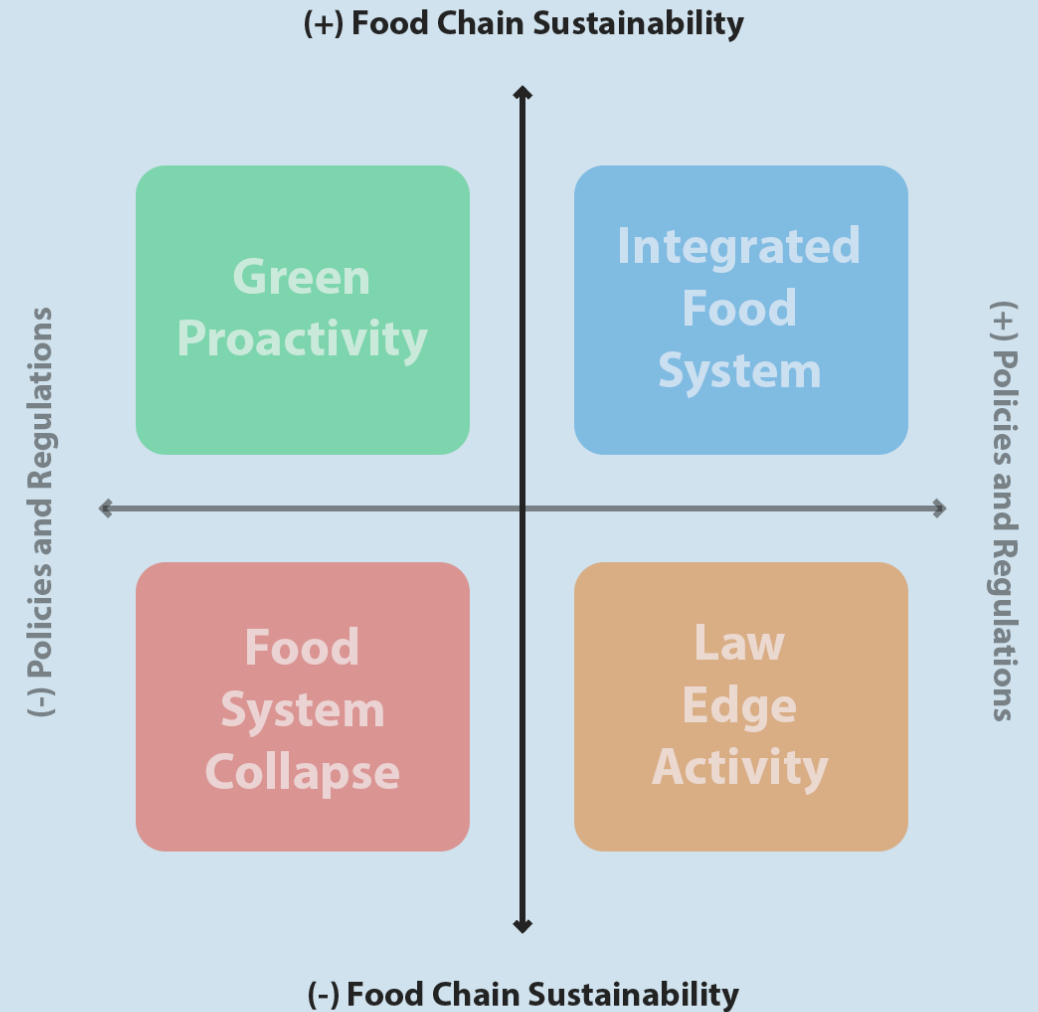
SCENARIOS AND PRIORITIES



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FOOD CHAIN SUSTAINABILITY:

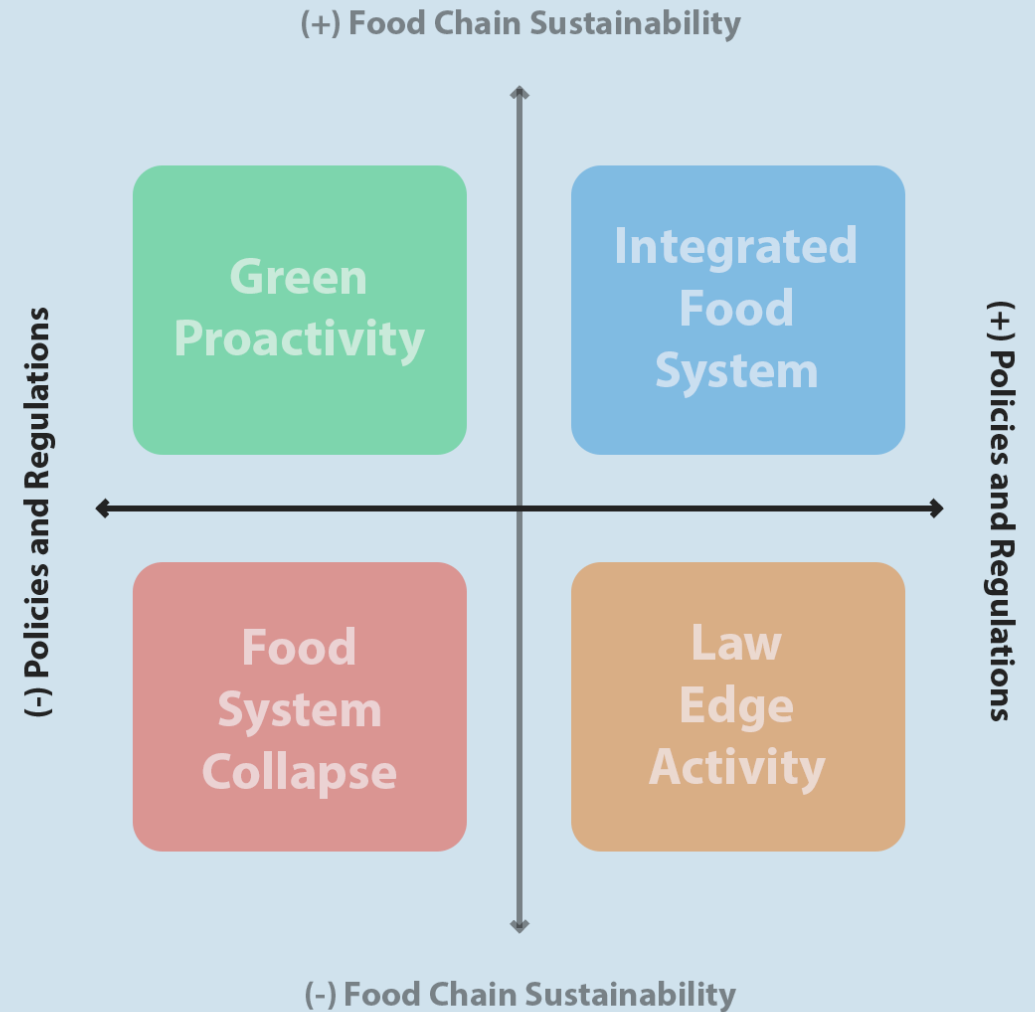
- SUSTAINABLE STRATEGIC ORIENTATION;
- SUPPLY AND DEMAND REVISITED:
 - SUITABLE SCALE;
 - DECENTRALIZATION;
 - AGRO ECOLOGICAL;
 - ORGANICS.
- TRACEABILITY;
- STAKEHOLDERS CHAIN.



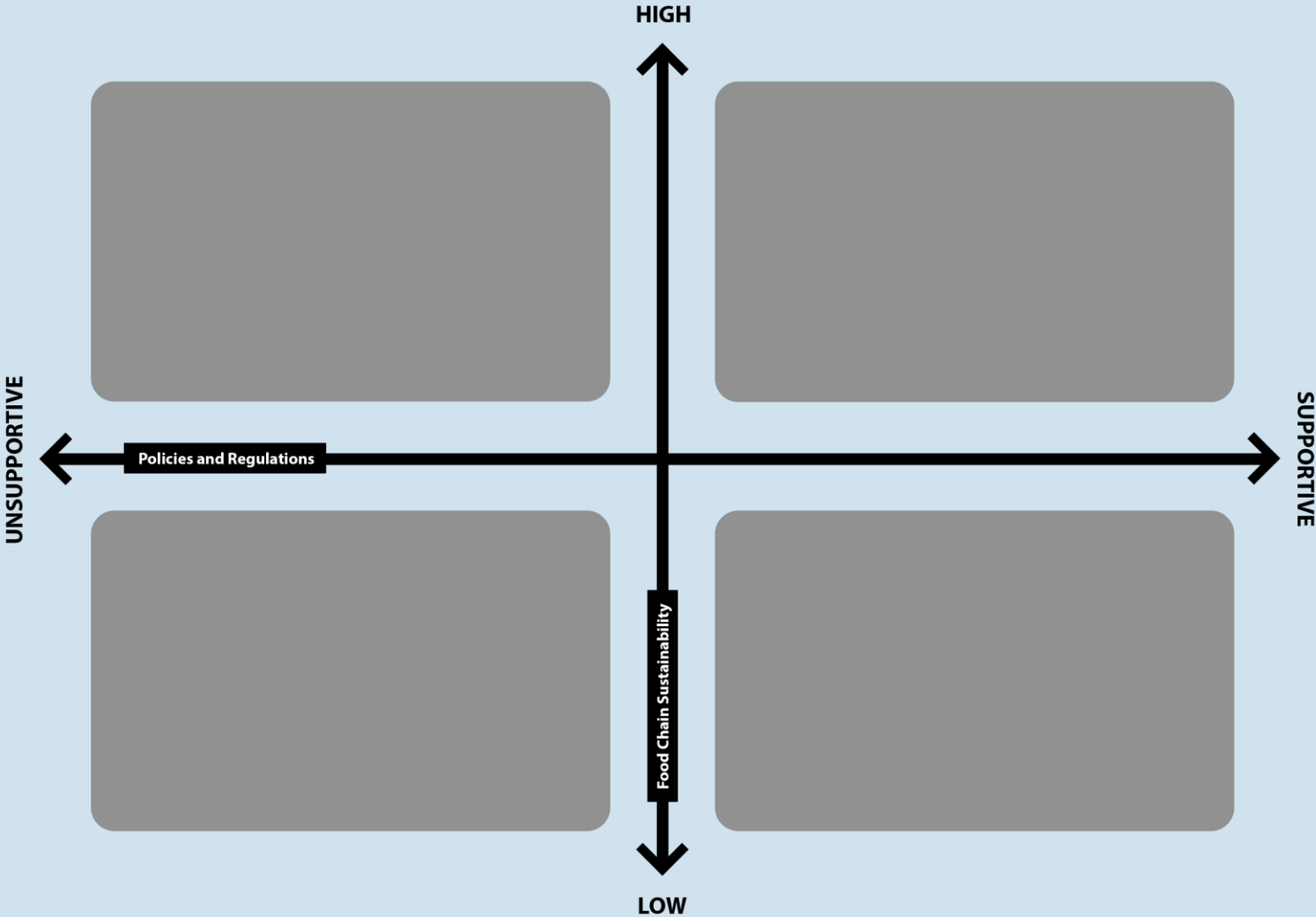
SCENARIOS AND PRIORITIES

POLICIES AND REGULATIONS:

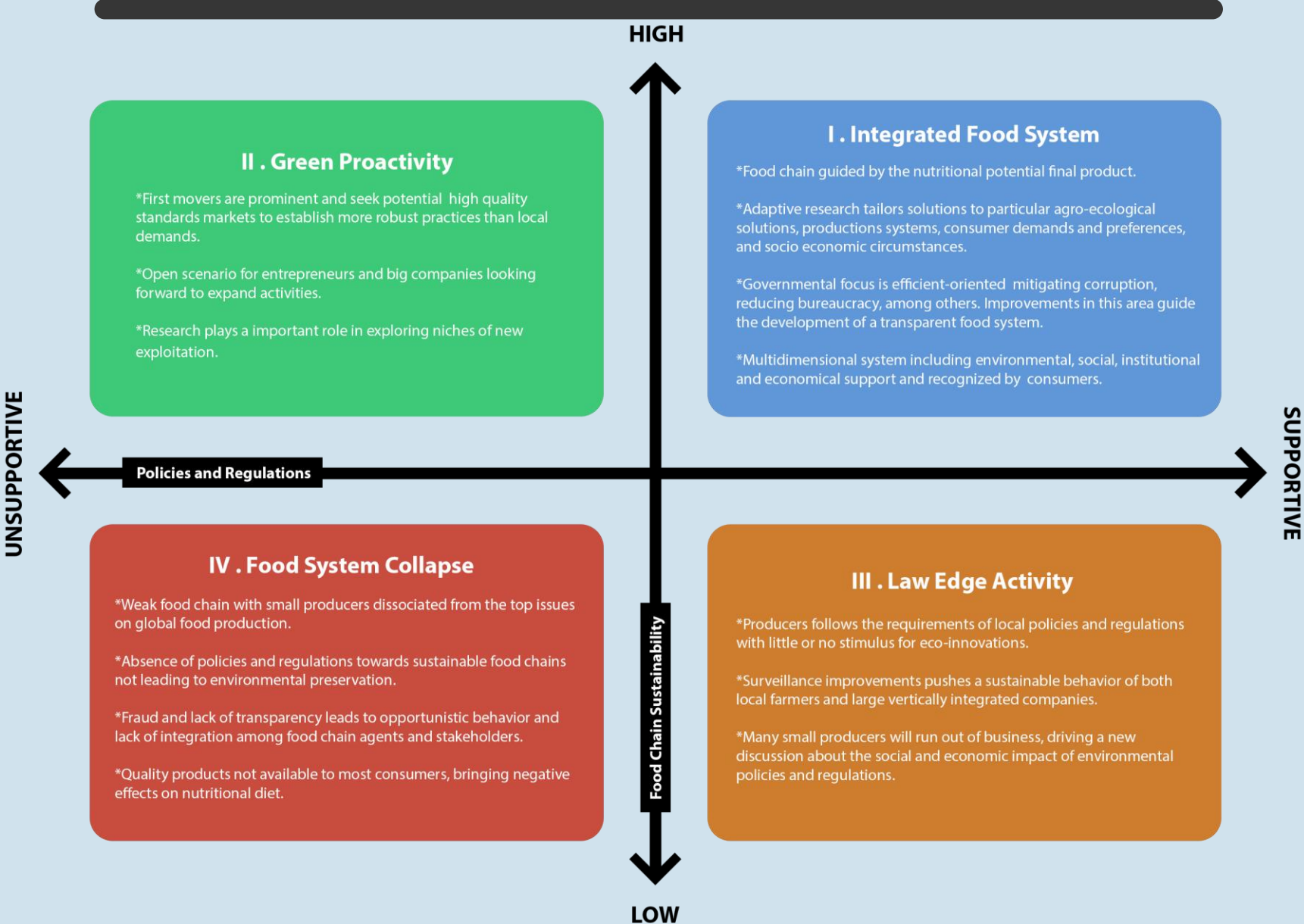
- LONG-TERM PROGRAMS;
- UP-TO-DATE RULES;
- FINANCIAL SUPPORT;
- TRANSPARENCY;
- INCLUSIVE SYSTEM.



SCENARIOS OVERVIEW



SCENARIOS OVERVIEW



I . Integrated Food System

*Food chain guided by the **nutritional potential final product**.

*Adaptive research tailors solutions to particular agro-ecological solutions, productions systems, consumer demands and preferences, and socio economic circumstances.

***Governmental focus is efficient-oriented mitigating corruption, reducing bureaucracy**, among others. Improvements in this area guide the development of a **transparent food system**.

*Multidimensional system including environmental, social, institutional and economical support and recognized by consumers.

POLICIES AND REGULATIONS: **SUPPORTIVE**

FOOD CHAIN SUSTAINABILITY: **HIGH**

II . Green Proactivity

- *First movers are prominent and seek potential high quality standards markets to establish more robust practices than local demands.
- *Open scenario for entrepreneurs and big companies looking forward to expand activities.
- *Research plays a important role in exploring niches of new exploitation.

POLICIES AND REGULATIONS: **UNSUPPORTIVE**

FOOD CHAIN SUSTAINABILITY: **HIGH**

III . Law Edge Activity

*Producers follows the requirements of local policies and regulations with little or no stimulus for eco-innovations.

*Surveillance improvements pushes a sustainable behavior of both local farmers and large vertically integrated companies.

*Many small producers will run out of business, driving a new discussion about the social and economic impact of environmental policies and regulations.

POLICIES AND REGULATIONS: **SUPPORTIVE**

FOOD CHAIN SUSTAINABILITY: **LOW**

IV . Food System Collapse

*Weak food chain with small producers dissociated from the top issues on global food production.

*Absence of policies and regulations towards sustainable food chains not leading to environmental preservation.

*Fraud and lack of transparency leads to opportunistic behavior and lack of integration among food chain agents and stakeholders.

*Quality products not available to most consumers, bringing negative effects on nutritional diet.

POLICIES AND REGULATIONS: **UNSUPPORTIVE**

FOOD CHAIN SUSTAINABILITY: **LOW**

**MAINSTREAMS TO
REACH AND EFFECTIVE:**

INTEGRATED FOOD SYSTEMS (SCENARIO I)

GLOBAL FOOD SUPPLY

Food Security
Compliance with Standards
South-South Cooperation in
Food Security
Traceability
Zero Food Waste
Improvement of Agriculture
Production Systems
Digital Farming

CLUSTER 1

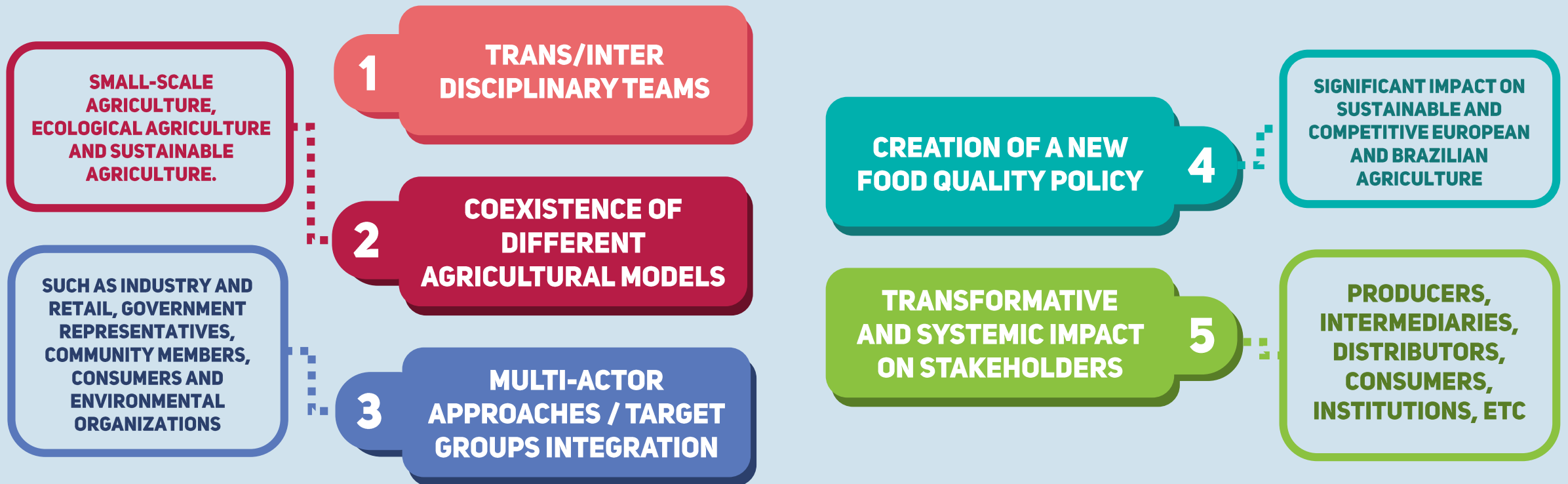
CLIMATE CHANGE & SUSTAINABILITY

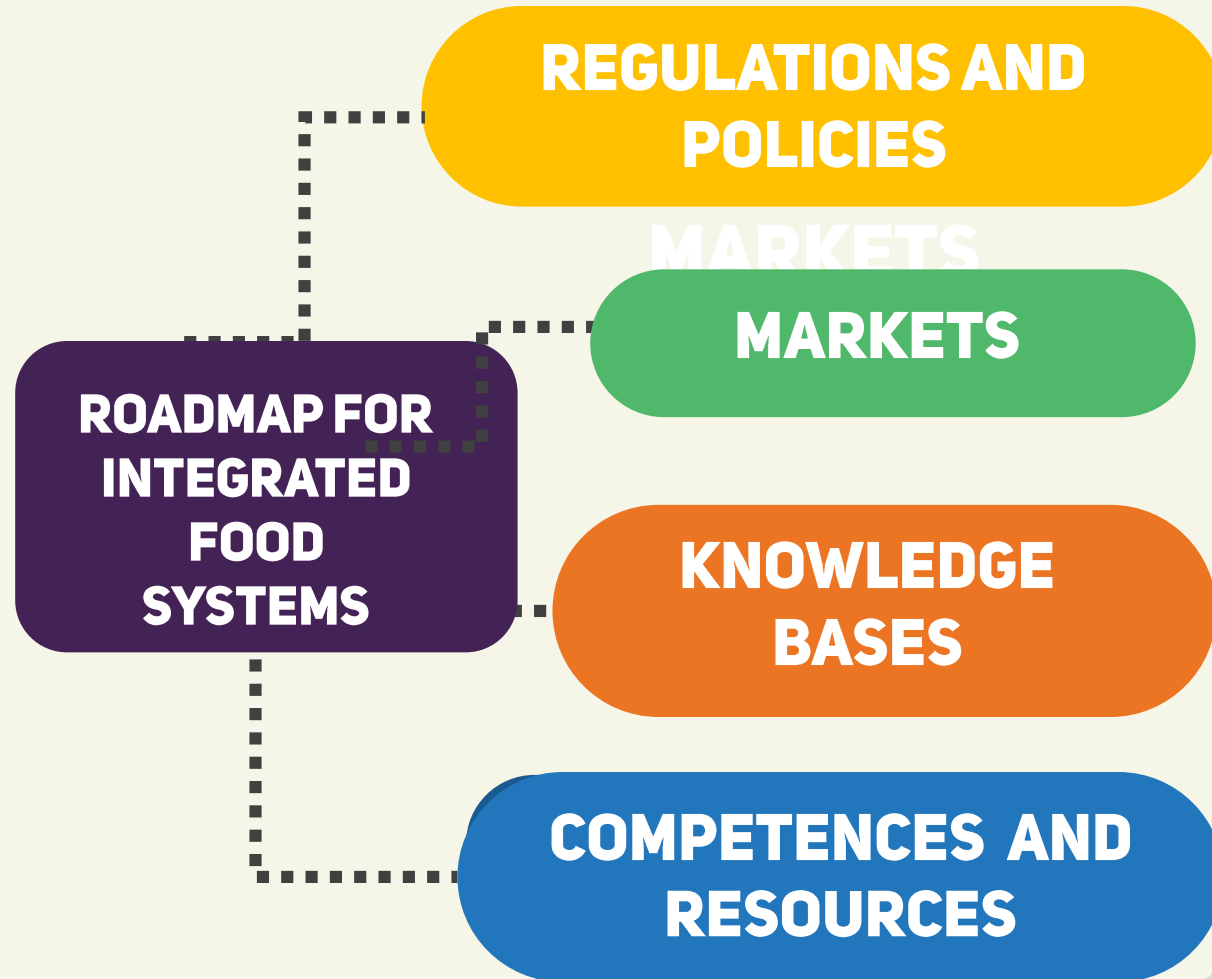
Nutritional Aspects of
Food Products
Increased Agriculture
Sustainable Productivity
Integrated Agri-Forest-Livestock
Systems
Low Carbon Agriculture
Lowering GHG Emissions
Precision Agriculture
Circular Economy and Eco-Innovation

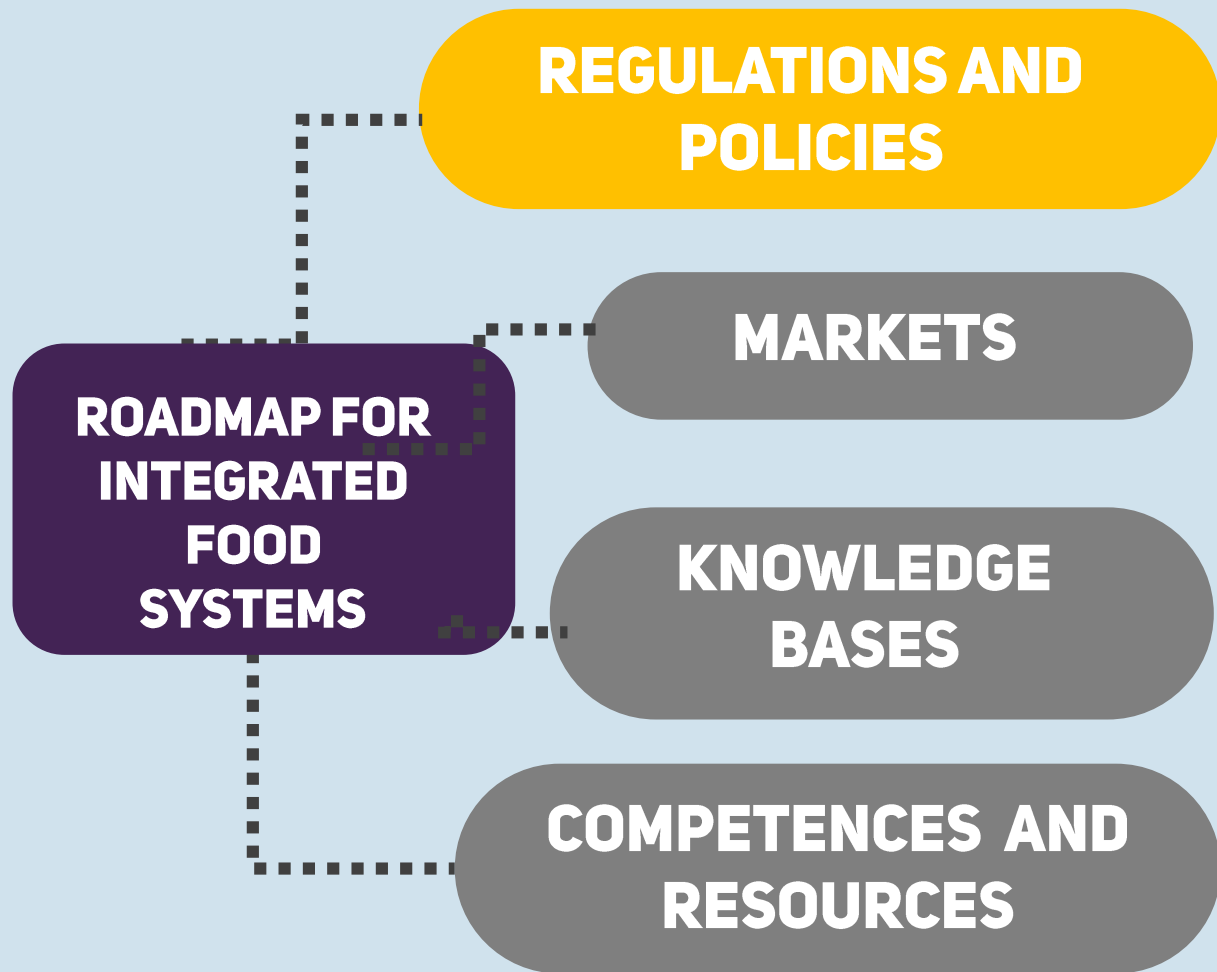
CLUSTER 2

INTERRELATIONS

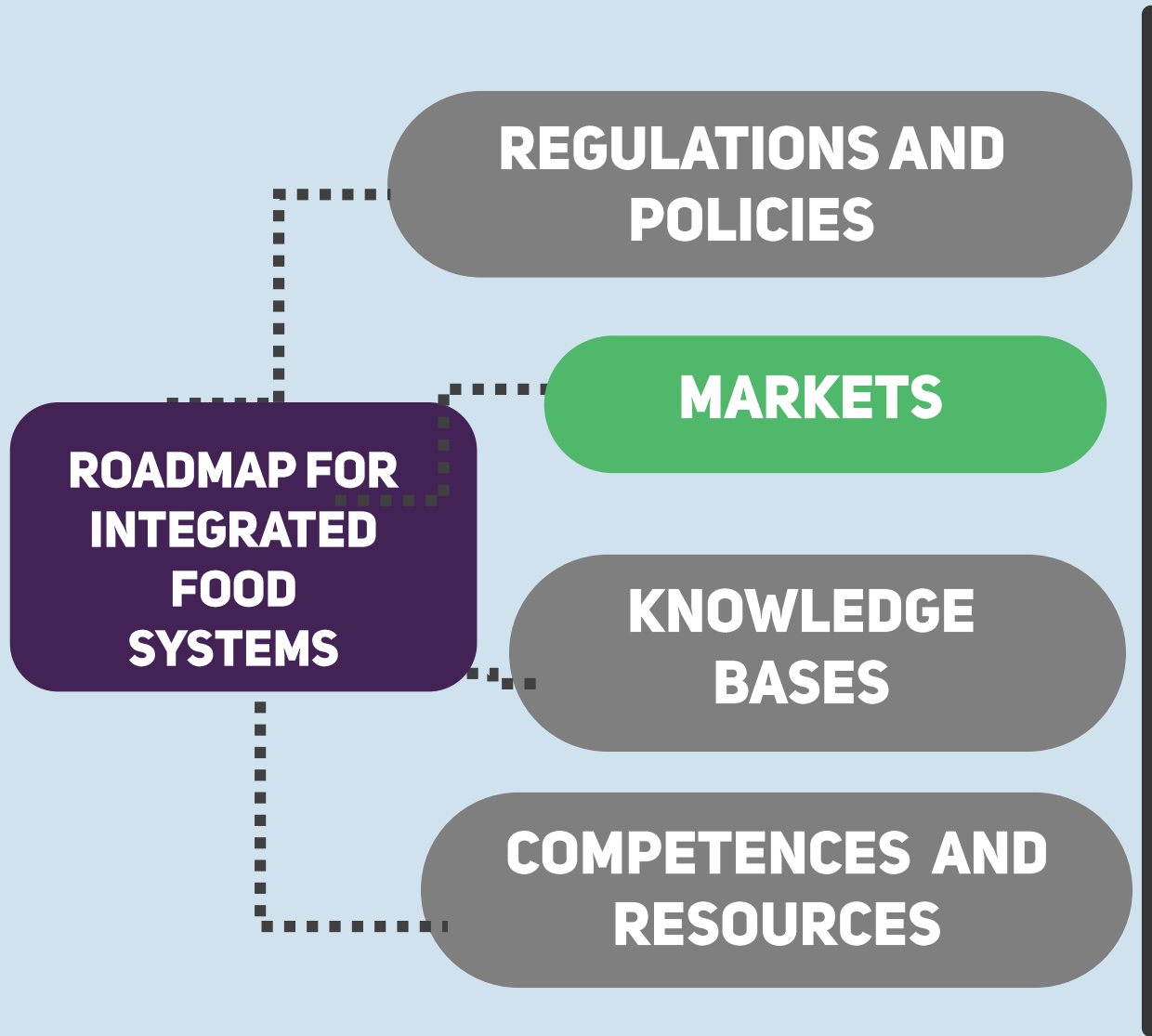
COORDINATION ACROSS PRIORITIES



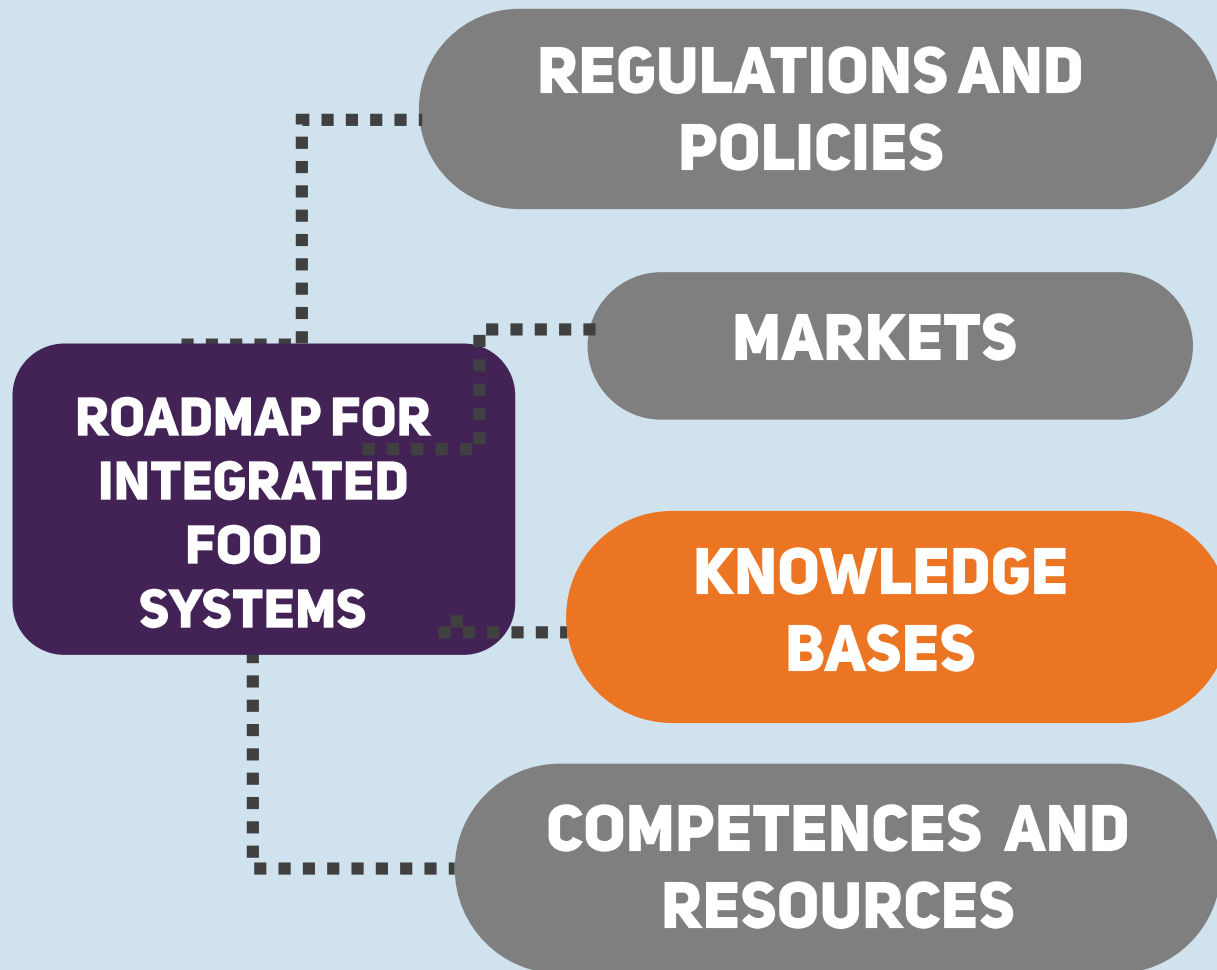




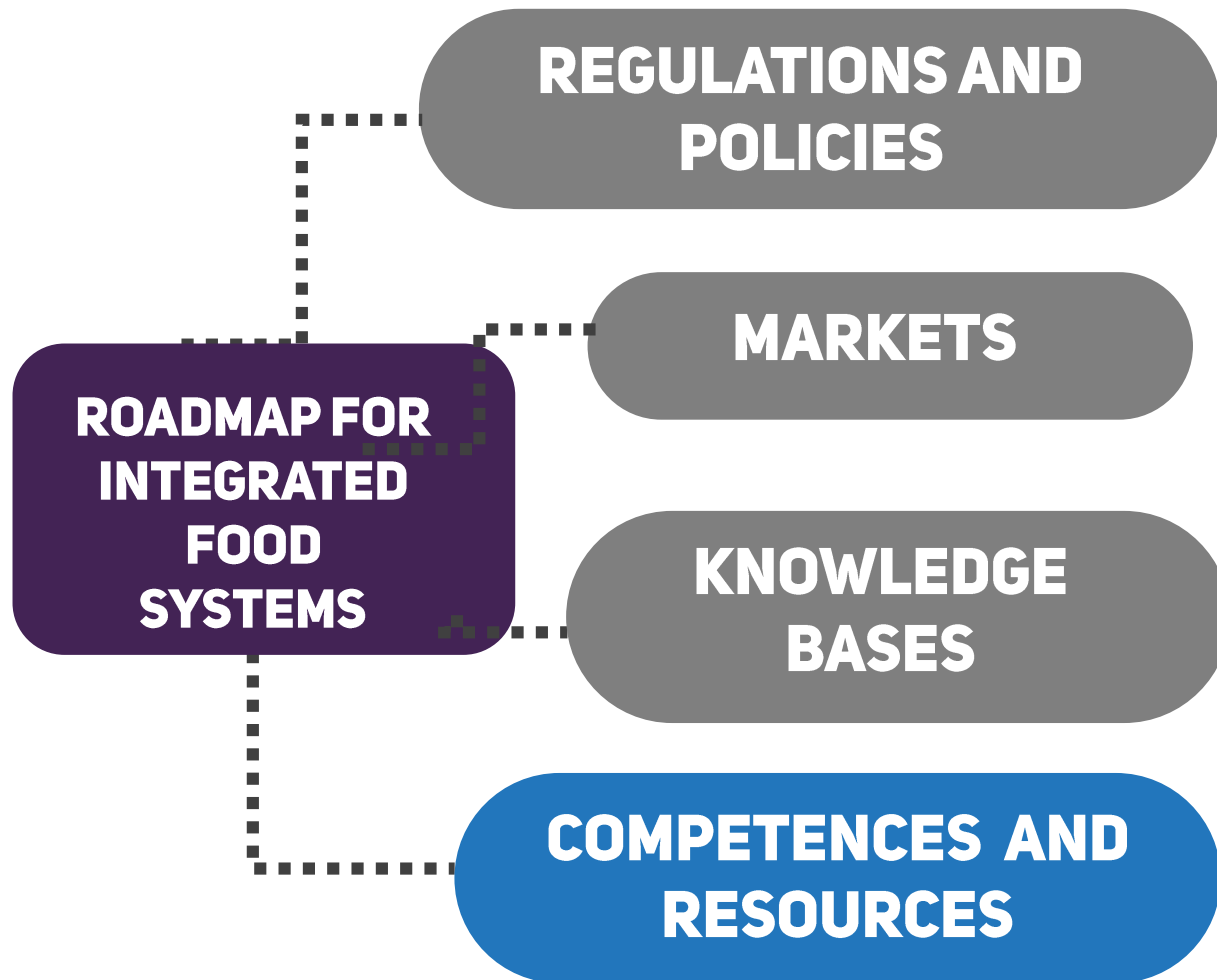
- **REGULATORY FRAMEWORK TO SUPPORT AN INTEGRATED FOOD SECURITY SYSTEM**
- **PUBLIC-PRIVATE INITIATIVES TO SUPPORT AND BOLSTER PRACTICES AND TECHNOLOGIES**
- **TRANSPARENCY AND CONSENSUS THROUGH INTEGRATION AND JOINT COMMITMENT**



- **CONSUMERS AND ECONOMY AS DRIVERS FOR DEVELOPMENT AND INNOVATION ON SUSTAINABLE AGRICULTURE (GREEN PRODUCTS)**
- **BOOST BENCHMARKING THROUGH COLLABORATIVE PROJECTS EU-BR (EX. R&I INTELLIGENCE CENTERS; GRANTS AND TRAINING ON KEY AREAS AS ECO-INNOVATION, CIRCULAR ECONOMY, ETC)**
- **PURSUIT OF HIGH LEVEL COMPETITIVENESS AND GUARANTEE OF FOOD SECURITY**



- **JOINT EU-BR INVESTMENT/TECHNOLOGICAL PROJECTS ON INFRA-STRUCTURE AND MACHINERY (FERTI-IRRIGATION, PRECISION AGRICULTURE, BIO-ECONOMY, FOOD TECHNOLOGY, ETC);**
- **TAKE ADVANTAGES OF THE BENEFITS OF BIG DATA DEVELOPING APPS, MOBILE SOLUTIONS, SOFTWARE, CLOUD-BASED SERVICES, ETC**



- **WORKSHOPS TO STIMULATE INFORMATION EXCHANGE AND BENCHMARKING WITH EU EXCELLENCE PROGRAMS**
- **DEVELOPMENT OF A BOOK OF KNOWLEDGE (BOK) TO QUALIFY PRODUCERS AND CONSOLIDATE BEST PRACTICES**
- **FOCUS ON KEY-AREAS AS NANOTECHNOLOGIES, GEO-INFORMATION AND SPACE APPS, BIO-ECONOMY, ENERGY SMART GRIDS, ETC**

THANK YOU!
