Food and Agriculture Organization of the United Nations

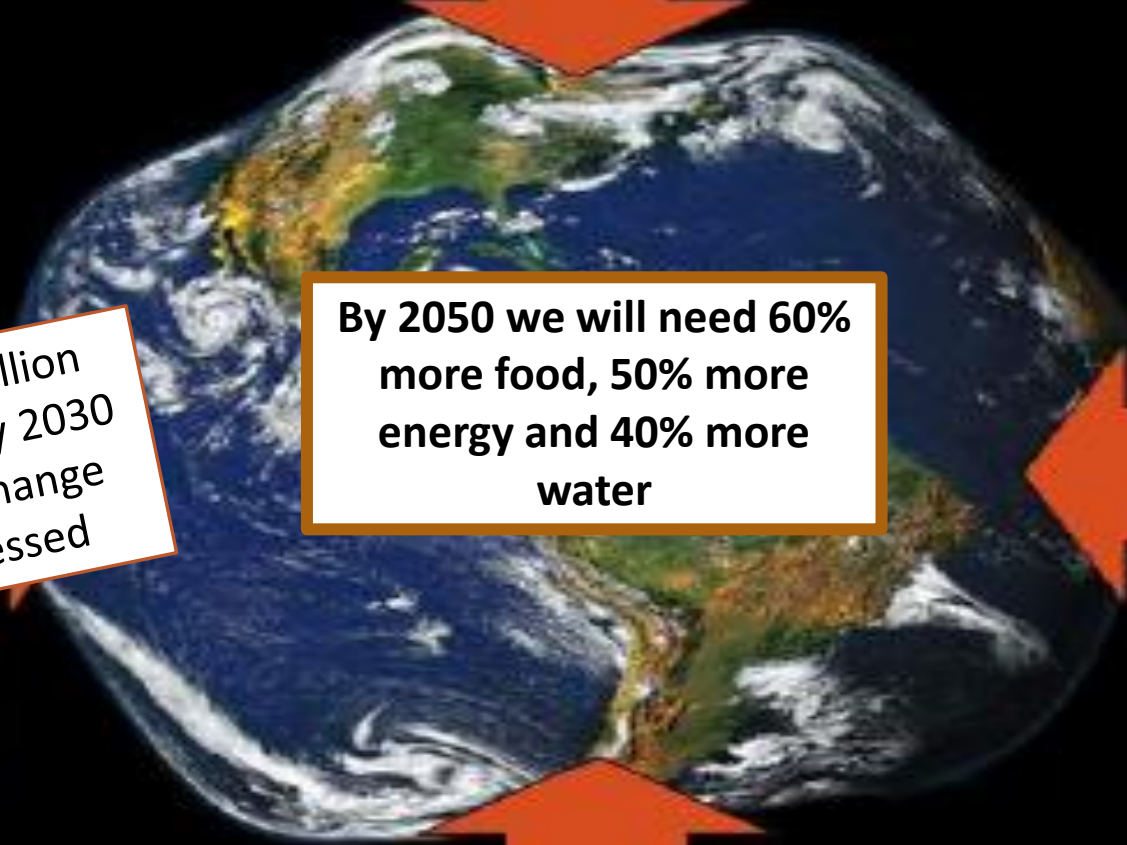
Interfaces: research and interaction with different actors: **communities**

NEVENA ALEXANDROVA-STEFANOVA

FAO AIS AND KNOWLEDGE SHARING OFFICER

25 SEPTEMBER 2017, EURAGRI CONFERENCE, DUBLIN

"The Quadruple Squeeze"



Human growth
20/80 dilemma

7.5 billion today
9.7 billion in 2050

By 2050 we will need 60% more food, 50% more energy and 40% more water

35 to 122 million more poor by 2030 if climate change not addressed

C[illegible]ate
550/450/350
dilemma

Ecosystems
60 % loss dilemma

Surprise
9/11 dilemma

Source: UNEP 2011, FAO SOFA 2016 "Climate Change, Agriculture and Food Security"

Challenges in Europe and Central Asia and SDGs

Rural livelihoods and rural poverty
- **62% of poor live in rural areas**
- **Migration from rural areas**

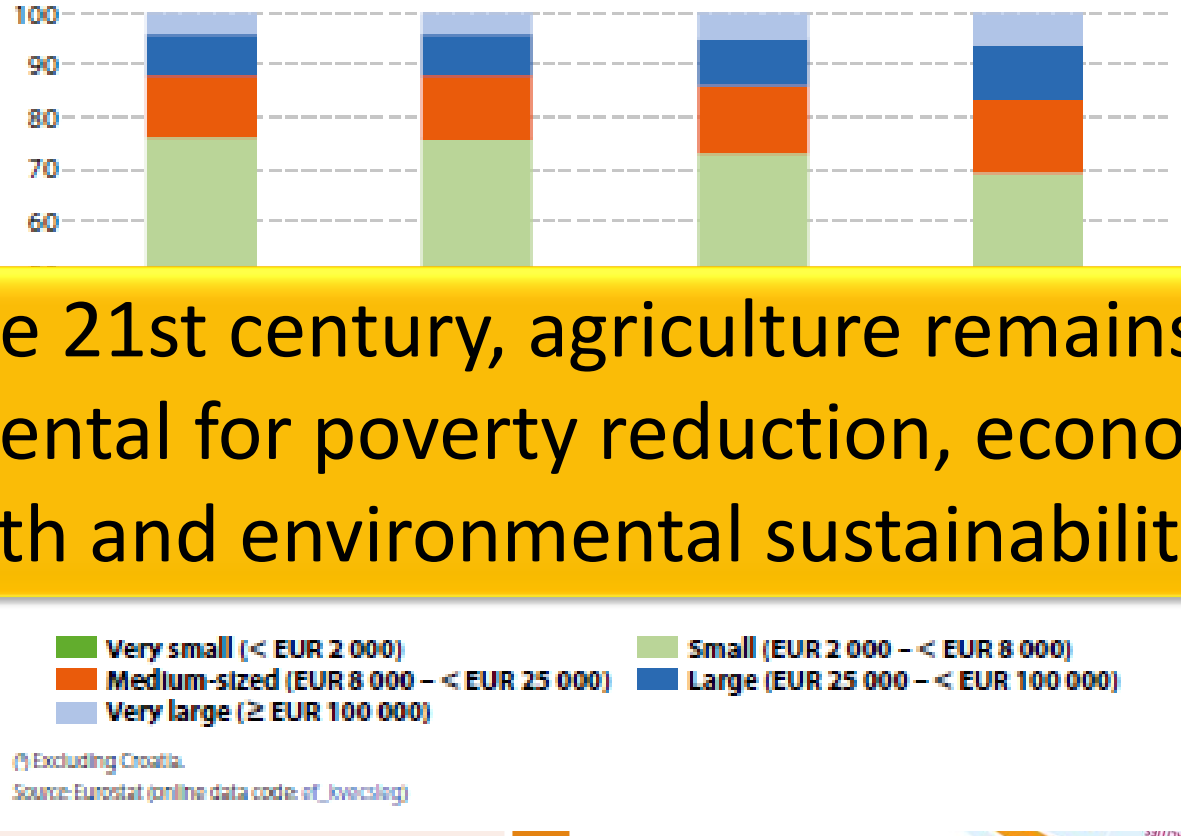
Farm structure
- 97% of farmers in Europe and 70% in

Sustainability of food production and food
- Land degradation and
- Transboundary diseas

Food Security and malnutrition
- Triple burden of malnutrition: undernu micronutrient deficiencies

Agrifood Trade
- Potential for export promotion, implementation of trade agreements
- Capacity Development in WTO
- Growing demand for updating the SPS

Figure 2.1: Share of total number of farm holdings, by economic size of farm, EU-28, 2005–13
(% of total)



(1) Excluding Croatia.
Source: Eurostat (online data code: ef_lvecsleg)

In the 21st century, agriculture remains fundamental for poverty reduction, economic growth and environmental sustainability

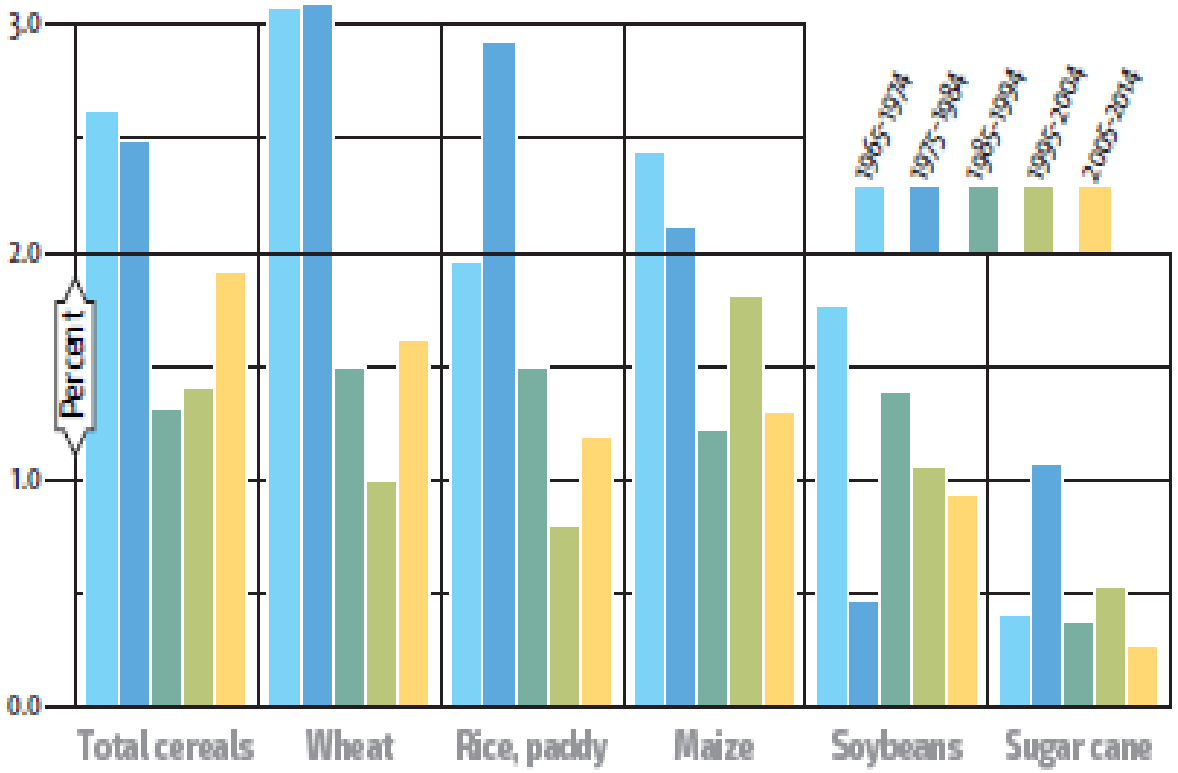
Food and Agriculture Organization of the United Nations

The future of food and agriculture

Trends and challenges

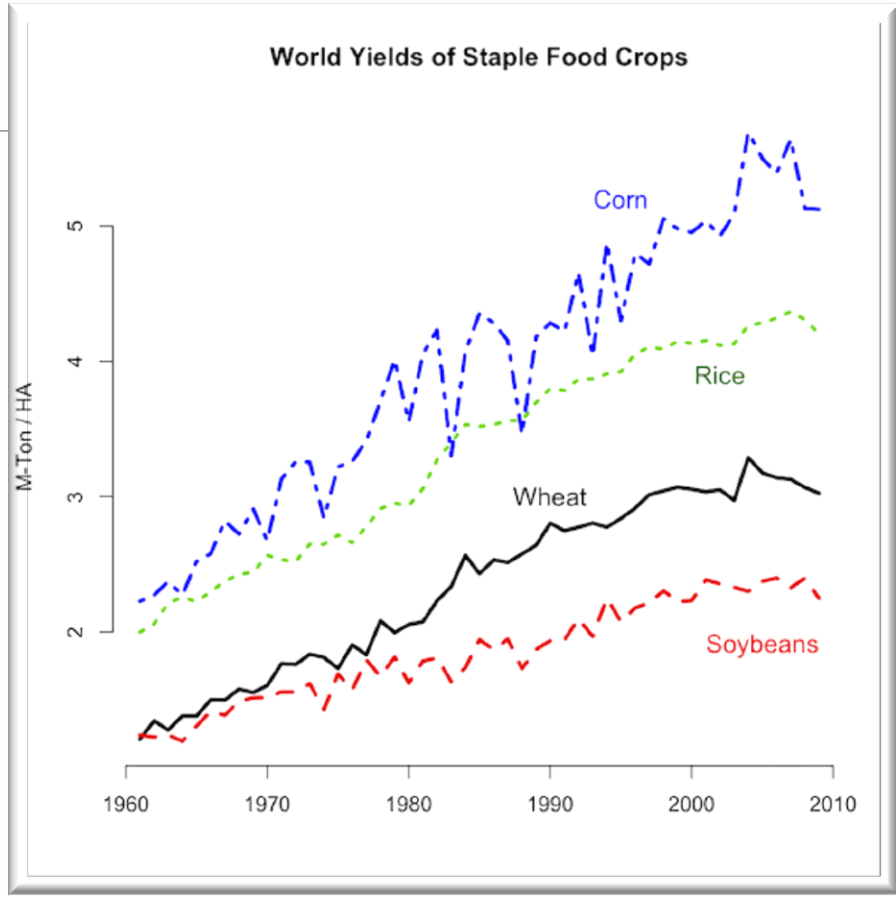
Crop yields: too low for comfort

Figure 1 Average annual rate of increase in crop yields



Note: Calculations based on FAOSTAT production statistics (downloaded on 20 September 2016). Growth rates estimated using the ordinary least squares (OLS) regression of the natural logarithm of crop yields on time and a constant term The commodity group 'Cereals (total)' is from FAOSTAT and includes: wheat, rice (paddy), barley, maize, rye oats, millet, sorghum, buckwheat, quinoa, fonio, triticale, canary seed, as well as grains and mixed cereals not elsewhere specified.

Source: FAO. 2016. FAOSTAT [Website] (available at http://faostat.fao.org). Accessed November 2016.



Face of vulnerability

Business-as-usual not an option

If challenges not addressed: 563 million people back to poverty

- Demographics
- Out-migration from rural areas
- Knowledge gap – new and old technologies and practices;
- Geographical, political or social isolation;
- poor skills or capacity of rural actors to undertake development initiatives on their own;
- weak capacity of local institutions to respond to local needs;
- Commercial services –farmers as users and not co-creators of knowledge
- lack of physical and social infrastructures support at the local level enhancing human and social capital/Lack of incentives

Agricultural innovation…

…is about adding value from end-user's perspective; … may or may not require new research

Interactive process

Multiple actors

Networking

Focus on the impact in terms of development

Participatory approach

Pluralistic origin

Demand driven

FAO Publications

Evolution of agricultural knowledge systems

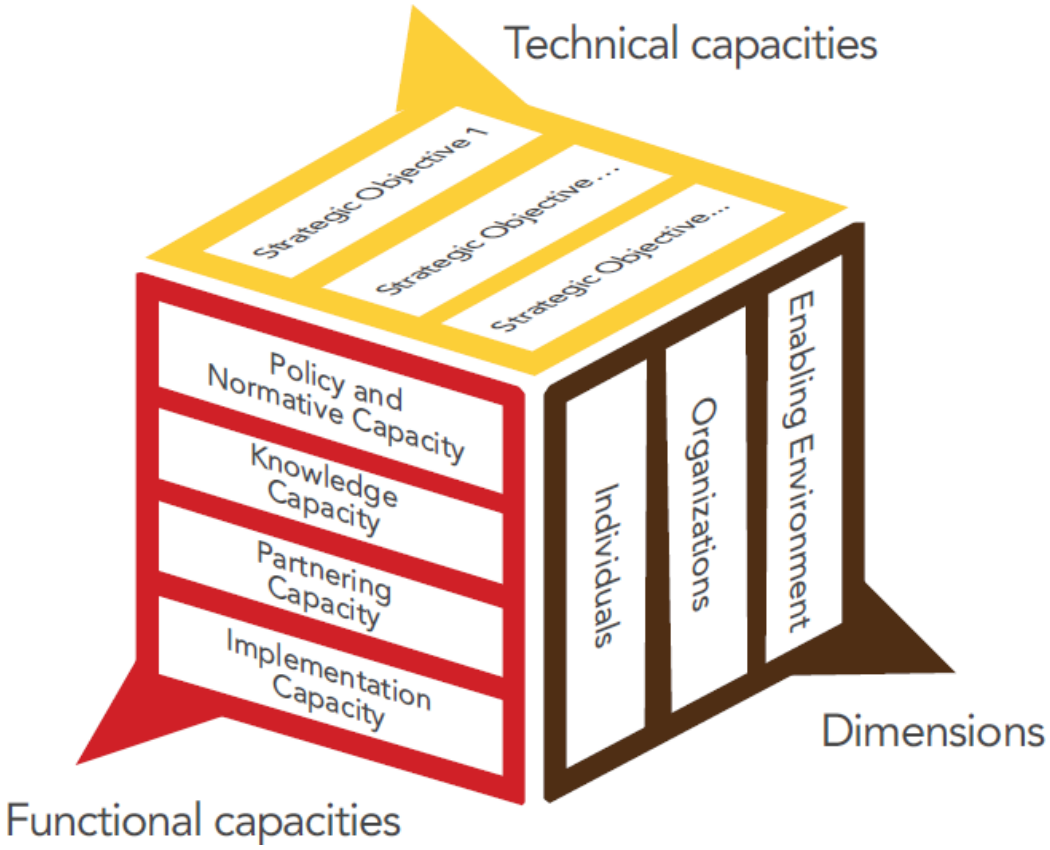
Table 1: Defining Features of the Three Main Frameworks Used to Promote and Invest in Knowledge in the Agricultural Sector

Defining feature	National agricultural research systems	Agricultural knowledge and information systems	Agricultural innovation systems
Actors	Research organizations	Farmer, research, extension, and education	Wide spectrum of actors
Outcome	Technology invention and technology transfer	Technology adoption and innovation	Different types of innovation
Organizing principle	Using science to create new technologies	Accessing agricultural knowledge	New uses of knowledge for social and economic change
Mechanism for innovation	Technology transfer	Knowledge and information exchange	Interaction and innovation among stakeholders
Role of policy	Resource allocation, priority setting	Linking research, extension, and education	Enabling innovation
Nature of capacity strengthening	Strengthening infrastructure and human resources	Strengthening communication between actors in rural areas	Strengthening interactions between all actors; creating an enabling environment

Source: World Bank 2006.

Integrated approach to CD

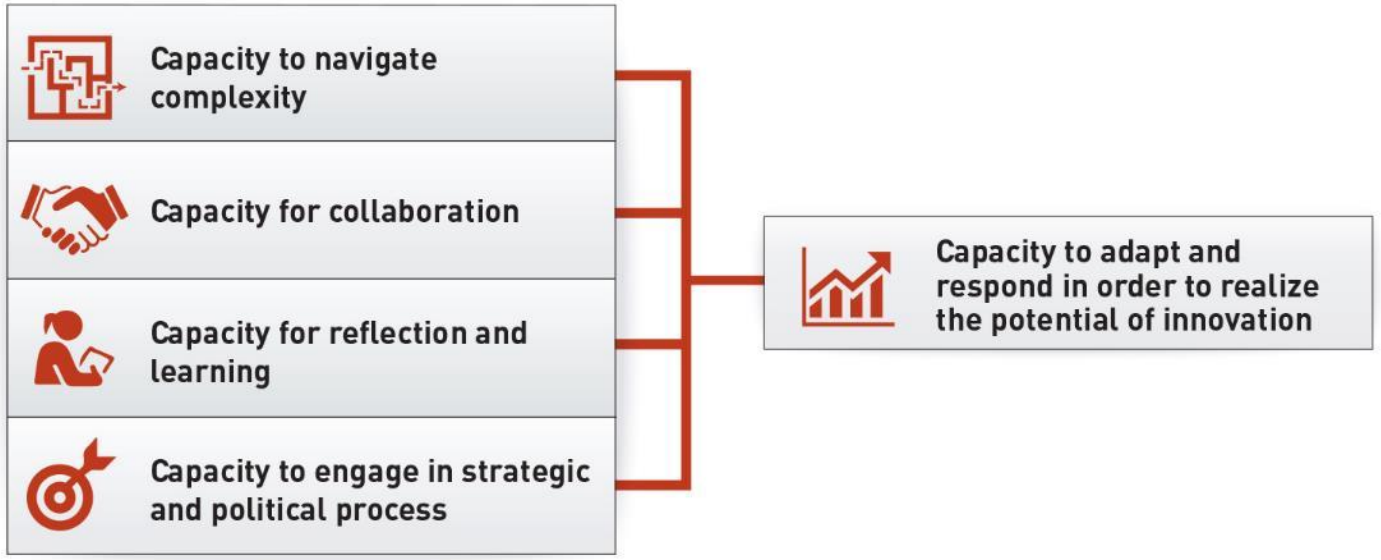
The Framework emphasizes the need to strengthen **functional capacities** alongside **technical skills**.



Technical and functional capacities must be seen as complementary and should be developed in an integrated manner across the three CD dimensions.

Functional capacities

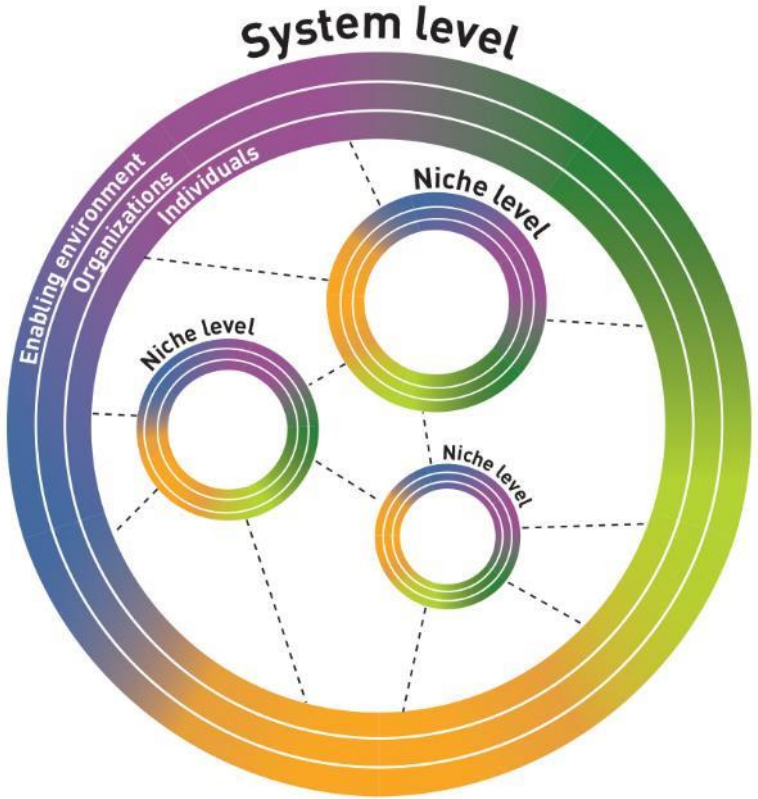
The Common Framework identifies **4 + 1 key capacities** for AIS to perform effectively. These apply to all three dimensions of CD.



The 4 capacities on the left are the core of an overarching capacity to **adapt and respond in order to realize the potential of innovation**.

Dual pathway

The Common Framework proposes a dual pathway approach to CD for AIS. This conceptual approach includes two aggregated processes: at **system level** and at **innovation niche level.**



System level: the focus is on the functionalities and performance of the system as a whole.

Innovation niche level: CD takes place around specific innovation agendas, in which actors of all types allocate time and resources to achieve change.

Examples:
Rural advisory services in Albania- from niches towards system level interventions

Three pilot projects (value chains) in rural areas

- small ruminants
- Vegetables
- Olives

System level Coordinated approach “single window system”

GOOD PRACTICES AND APPROACHES TO REPLICATE:

- Collaboration of the public extension service and ATTCs with NGO and a local PO

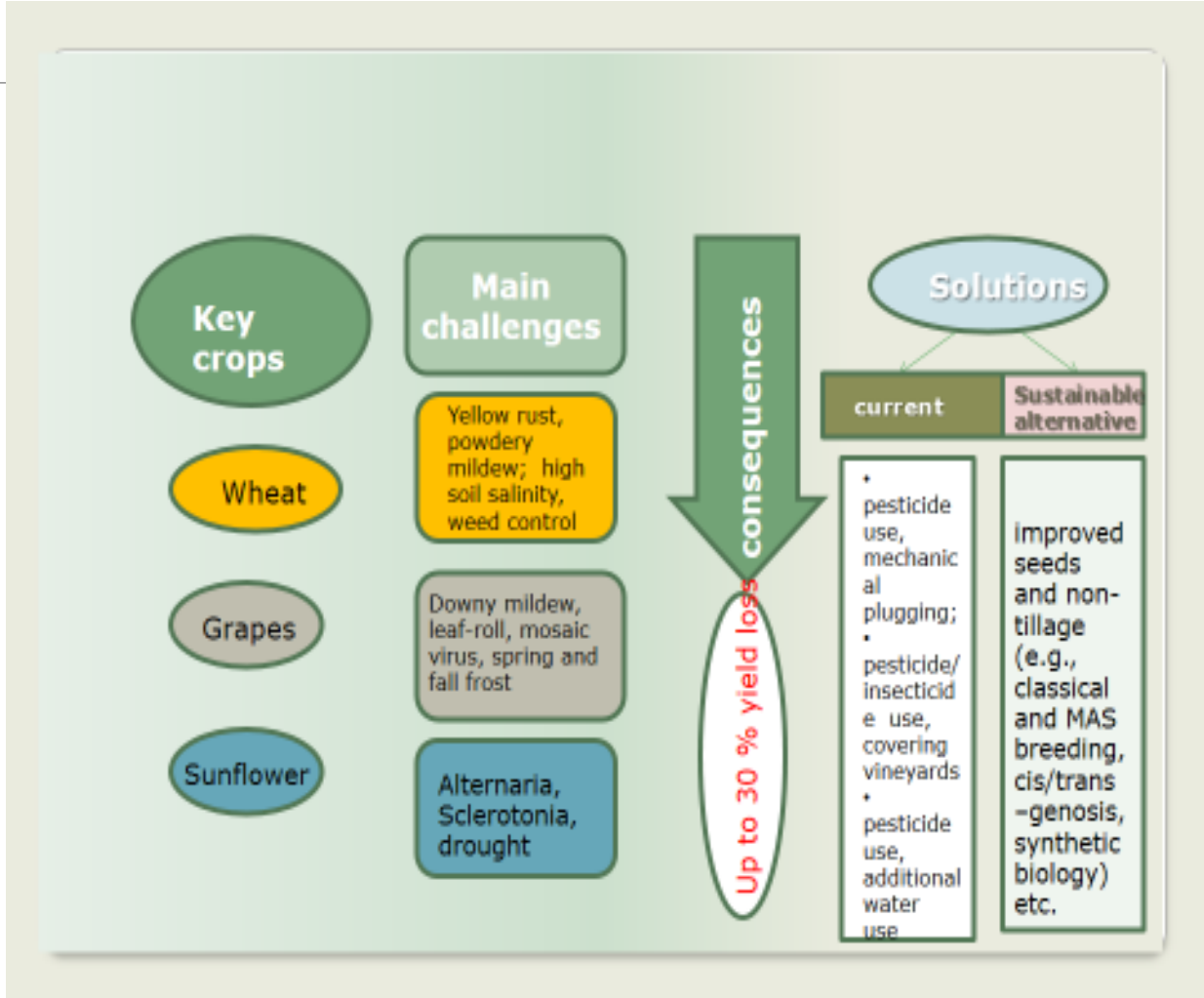
Examples:
Agricultural research, extension and education reform in Moldova- from system level to niche level

- Preparation of AIS strategy
- Piloting the strategy in a niche setting: berry production

Examples: Participatory approach for agricultural research policy formulation

FAO ‘Participatory Approach’:

- Needs based: Surveys per country:
  - Key crops/ animal breeds/ value chains (food sytems)
  - Major challenges, e.g. pests, droughts, nutritional values
  - Consequences/opportunities: % yield loss, improved nutrition
  - Current approaches, e.g. rotation, pesticide use...
  - Potential for improving the crop plants
- Participatory and Collaborative
- Solutions oriented
- Shared.



Considerations

- We are facing several challenges at global and regional level that affect food security which require adequate actions now
- Agricultural innovations are much needed to address community development issues and should be part of community development
- Strengthening innovation capacities is needed at all levels
- Niche approach based on open innovation is very promising but needs to be institutionalized
- Policy upscaling based on good practices and lessons learned
- Incentives for researchers to be engaged in community level: both access to regional funds and adjustments in the accreditation system
- “No man is prophet in his own land”

Thank you!