



EU-China FAB Task Force

26/03/2019

**Report session on Sustainable
agriculture, ecosystem services and
environment – how to manage the
trade-offs**

Rapporteur: Luiza Toma

Three questions...

1. Common challenges (EU-China)
2. How R&I can address them
3. Best way of jointly tackling these challenges/expected output



Overview of challenges from the EU and China

- a. Agriculture 'led' by **non-agricultural drivers**
- changes in **consumer** diets towards e.g. healthier or fast food patterns
 - supply chain pressures/opportunities e.g. agric. inputs cost, agro-ecological niche **markets**
 - Lags/disconnect between agriculture's response and exogenous drivers e.g. pressure for cheap food linked to intensive agriculture and environmental protection/sustainability
- b. Common **environmental/food safety impacts** of agriculture
- Heavy metal pollution
 - Pesticides use
 - Food waste
- c. Sustainable agriculture triggered by ('green') **technology/innovation** development (within biophysical boundaries)



Overview of challenges from the EU and China

- a. Behavioural uptake of technological and social innovation
 - Farmers/smallholders/agricultural households
 - Adoption behaviour to internalise environmental externalities & encourage production of environmental and social benefits/public goods influenced by
 - education and information
 - state/private (stakeholders) carrot/stick incentives*
- b. Behavioural change through capacity building & training/education of (entry) farmers to sustainable agricultural practices
 - Attention to weight of state/private advisory/extension services
 - 'demonstration villages'



- **carrot incentives missing especially in China*

Overview of challenges from the EU and China

- Agricultural/food systems **complexity** requires
 - **Systems approach**
 - **Multi-criteria/multi-scale assessment** of non-market cost/benefits of agriculture
 - **Harmonisation of methodologies, standards, indicators, typologies**
 - **Harmonisation of data** – different sources, difficult/inaccurate aggregation/analysis
- **Scaling up/transferability of data & methodologies & interventions** (environmental management/planning)
 - from local (e.g. nonpoint source pollution)
 - to regional/national/transboundary (e.g. climate change)



Overview of challenges from the EU and China

- **Climate change** resilience, vulnerability, impact on farming systems
- **Multi-actor/stakeholder cooperation**
- **Multi-level governance** and policy priorities – 'focus on interventions that work' (evidence, data)
- **Rural-urban**
 - Policy tensions
 - Labour migration
 - Land use/demand
 - Urbanisation impact on diet, access to key micronutrients



How R&I can address these challenges in both EU & China

- a. Monitoring, data, indicators, standards and multi-criteria/multi-level modelling
- b. Technological development
- c. Transdisciplinary research
- d. Behavioural analysis research
- e. Systems impact assessment*
- f. Comparative assessment of different farming typologies, ecosystems services

*Learn from mistakes (e.g. EU past focus on intensive/profit focus farming) and good practices (current EU focus, 'demonstration villages') can serve as lesson to Chinese agriculture to help jumping a few 'unhealthy' steps towards sust. agric.



How R&I can address these challenges in both EU & China

- g. (Adaptive) policy relevant research
- h. Embedding climate change adaptation into research agenda
- i. Meteorological risks and extreme weather events
- j. Rural & urban interactions
- k. Agricultural – environment nexus

a-k – harmonised R&I between EU and China through collaborative design & implementation of R&I programmes



Expected impact

- a. Resilient farming systems
- b. Lower environmental footprint/climate change
- c. Increase nature contribution to people*
- d. Enhance entrepreneurial innovation
- e. New technologies
- f. Revitalisation of rural areas
- g. Relevant rural and agri-environmental policies
- h. Improve agriculture's contribution to SDGs

*new term for ecosystems services





Thanks!

谢谢！