

World Food Research and Technology Forum

Fabio Fava

Professor, Alma Mater Studiorum, University of Bologna and Italian Representative
for Bioeconomy in Horizon2020 Committees, European Commission

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Role of Research & Innovation (R&I): key messages from the plenary talks and the WFF discussion paper

How R&I can contribute to ensure a global and durable sustainable food and nutritional security and safety?

- ❑ developing solutions targeted to increase productivity, sustainability and safety at all stages of the food chain, from the primary production to the formulation of safe and healthy diets;
- ❑ providing the scientific/technical knowledge to resolve inherent trade-offs impacting on the societal choices (i.e., between intensive production of food and environmental protection) and to underpin good and robust policies in the sector.

R&I actions: key messages from the plenary talks and the WFF discussion paper

Major R&I actions to be taken to promote durable Sustainable Food Security and Safety:

A) to increase primary production yields from the current agriculture whilst simultaneously reducing environmental impact and increasing resilience to climate change. This by increasing soil fertility, adopting improved cultivars, sustainable agricultural models, precision farming and advanced mechanization. To improve the productivity along with resilience of livestock, fishery and aquaculture sectors in a sustainable manner;

B) to develop new agricultural landscapes via rural and marginal land development, integrated land-use planning (to produce food and bio-based products/fuels), wider eco-system service provision and boost marine aquaculture, urban farming, horticulture and the use of alternative sources of proteins;

R&I actions: Key messages from the plenary talks and the WFF discussion paper (*con't*)

C) to minimize raw material losses and food wastage throughout the entire food chain, via longer-range agricultural planning and demand forecasting, more resistant cultivars, more efficient processing (i.e., producing more food and less byproducts and waste, with lower water and energy consumption), smarter packaging and supply and distribution chain logistics. Conversion of unavoidable by-products and expired food into food ingredients and products, and water to be reused;

D) to improve food safety and quality (lower the occurrence of chemical, microbial and biological contaminants throughout the whole food chain), via the adoption of more resistant cultivars, innovative technological processes, smarter packaging, and real time control methods for hazards. Improvement of existing toxicological tests;

R&I need: Key messages from the plenary talks and the WFF discussion paper (*con't*)

E) to increase the availability of healthy, safe and nutritionally improved foods, both traditional and novel foods;

F) to promote healthy diets via science-based information and education of the society on the beneficial and adverse health effects of foods. To improve knowledge on the nexus diet, life style and health;

R&I and other needs of developing/emerging Countries: key messages from the Round Table speakers and the WFF discussion paper

- A) R&I actions should be tailored for the specific local needs, based on the local socio-economical, environmental and climate conditions. Agriculture is the core sector, but the focus should be on the entire food chain. Frugal innovation processes and practices can generate more business and social value, while significantly reducing the use of scarce resources and turning constraints into growth enablers;
- B) Implementation of local public/private partnerships, technical and commercial, also involving foreign partners, led by local actors;
- C) Launch of R&I funding programmes (e.g. Horizon2020, UNEP cooperation programs, World Bank, etc.) sustaining local knowledge transfer and cooperation, the set up of local clusters, also with partners from developed countries;

R&I and other needs in developing/emerging Countries: Key messages from the Round Table speakers and the WFF discussion paper (*con't*)

- D) to ensure the access to resources (i.e., knowledge/technology, infrastructures, finances/local investments, lands, indigenous seeds, onsite selected genetic resources, etc) and to the market to the local small-scale food producers, family farmers and fishers, in particular women (who are responsible for 60-80% of non-cash crop food production), to generate site specific economic growth and equity, via policy, social and communication actions;
- E) Existing successful examples of cooperation with developing countries should be duplicated and used as models for further actions. The ER Region models could be appropriate to stimulate such development. Donors actions and local needs should better matched.