

# The IAP Questions

## Food and Nutrition Security and Agriculture

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## Developing IAP project core template

- Discussions in Halle and Hermanus: template incorporates priorities identified by all 4 networks
- Criterion of scientific opportunity: how science can be engaged to promote and support Food and Nutrition Security and Agriculture, by better use of scientific evidence already available and filling knowledge gaps
- Shared starting point to guide and inform each region. Does not mean uniform structural format but that regional outputs can be subsequently mapped onto agreed themes as resource for IAP global phase
- Template is illustrative – regional content will vary according to particular evidence reviewed and expertise employed within each regional network

## **Q1: What are key elements to cover in describing national/regional characteristics for FNSA?**

- Conceptual framework used to provide context to chosen themes: How is FNS measured? What links with health? Covering demand-side as well as supply-side issues
- Variation within region in status of population groups – demographics and vulnerable groups
- Covering excess consumption as well as under-nutrition

## **Q2: What are major challenges/opportunities and future projections for the region?**

- Climate change impact on FNSA
- Population growth, urbanisation, migration
- Supply and other instabilities e.g. political, financial
- Ensuring sustainability (environmental, economic, social), building resilience to extreme events, and tackling systemic risk
- Links with the bioeconomy

## **Q3: What are strengths and weaknesses of S&T at national/regional level?**

- Cutting-edge research capabilities, including social sciences, trans-disciplinary research, modelling
- Opportunities and challenges for research systems – both public and private sector
- Generating and using big data/open data
- Mobilising science, addressing innovation gaps and ensuring next generation researchers, farmers.....
- Sharing science within the region
- Science-policy interfaces
- External effects – impact of research and innovation conducted within the region on outside the region

## **Q4: What are the prospects for innovation to improve agriculture (e.g. next 25 years) at the farm scale?**

- Issues for societal acceptability
- Plant and animal breeding
- Tackling pests and diseases
- Precision agriculture e.g. remote sensing
- Sustainable soil management
- Aquaculture and marine issues

## **Q5: What are the prospects for increasing efficiency of food systems?**

- Understanding integrative agriculture/food value chain – taking a systems perspective
- Food utilisation and waste minimisation (harvesting, processing, consumption stages)
- Governance/market/trade issues – ensuring affordable food and minimising market instability
- Food safety
- Food science and technology

## **Q6: What are public health and nutrition issues?**

- Characterising current trends in health related to food and nutrition security
- Expected changes in consumption patterns; incentivising behavioural change and emergence of personalised nutrition
- New food sources and innovative foods
- Promoting nutrition-sensitive agriculture to provide healthy and sustainable diet with connected issues for resource use and food prices



## **Q7: What is the competition for arable land use?**

- Impacts of urbanisation (on available land and labour force) and urban agriculture
- Using land for bioenergy and other bioeconomy production
- Multifunctional land use – goals for biodiversity and ecosystem services
- Potential for expanding arable land availability
- Marine sustainability

## **Q8: What are other major environmental issues associated with FNSA – at the landscape scale?**

- Contribution of agriculture to climate change – implications for sustainable diets
- Intersection with other natural resource inputs e.g. water, energy, soil health, and fertilisers/other chemicals
- Issues for recycling
- Balancing goals for sustainable development and food and nutrition security

## **Q9: What is the impact of national/regional regulatory frameworks and sectoral/inter-sectoral policies?**

- Policies that foster technological innovation
- Policies that build human resources e.g. education, gender, equity
- Policies that redesign whole agricultural ecology e.g. land use, bioeconomy
- Policies to promote consumption of healthy food
- Issues for policy coherence

## **Q10: What are some of the implications for inter-regional/global levels?**

- Links with global objectives – SDGs and COP21 – their scientific underpinning and resolution of conflicting goals
- Wider impact of national/regional policy instruments e.g. for trade, development
- International collaboration in research and research spillovers
- International science governance infrastructure and science advisory mechanisms for food and nutrition security