

## **EASAC Working Group**

### **IAP FNSA Objectives 1-5**

#### **Opening comments:**

What elements do we take forward to the Global report and are certain aspects more important than others.

Discussion upstairs highlighted policy makers, industry, finance, security communities as our key audiences.

Who are the audiences and what do we want to say?

Social Sciences are not covered within the scope of the Academy. Our report touches on social impacts on FNSA.

Key elements and opportunities and challenges – combine objective 1 and 2

#### **Objective 1: Key drivers of change in FNSA:**

- 1) Biological sciences
- 2) IT capabilities (data and information)
- 3) Markets and trade
- 4) Social norms

#### **Objective 2: Challenges and Opportunities**

**Challenges**– water, climate change, population growth, health, land degradation, prices, urbanisation, data/information exchange, communities inability to adopt innovations

**Opportunities** – innovation, science education, developing technologies in nutrition food and agriculture, sensors, climate science, personalised health, gender effects, monitoring

Projections, plausible or

#### **Objective 3: Strengths and weaknesses of science and technology**

Too little public investment food/nutrition (Public spending but not enough) and too short term

Human behaviour changes very slowly

Silos of disciplines (Making gains in areas but more integration needed)

Sustainable diets

#### **Objective 4: Innovation to improve agriculture**

Mechanisation is key, in new forms

Cooperation between small farms

Precision agriculture

Utilisation of ecosystems

Remote sensing

Consumer science e.g. health monitoring will influence

Food safety e.g. packaging for preservation

Defining what a farm is e.g. indoor growing

Market innovation through digital platforming e.g. internet access, opens access to specialised foods, drives demand

Society – impacts from other sectors drive the innovation of the market

**Objective 5:** Efficiency of food systems

Cannot increase efficiency by throwing out environmental costs or through scale

Should be measured in terms of delivering sustainable healthy diet and nutrition outcomes in the end. In order to answer the question we need to consider what defines optimal nutrition status.

Loss of waste from all stages of the food system: agriculture, processing, consumer, overconsumption

Losses due to lack of information e.g. predicating climate conditions could drive farm level decisions for crops and treatments and therefore improve production etc.

**Aside notes:**

World Economic Forum future exercise – 2 big unknowns, 1) unhealthy/unsustainable to healthy/sustainable, 2) reconfiguration of trade systems. Structured by connectivity and resource efficiency (related to health).

Nature paper applied agenda for future food

ASTI global monitoring initiative e.g. scientists, national budget etc.

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### **IAP FNSA Objectives 6-10**

#### **Objective 6:** Public health and nutrition issues

Undernutrition, deficiencies, over-nutrition

Lack of baseline data, in developed undernutrition monitoring, in developing dietary intake and food consumption

Transboundary diseases acute and chronic e.g. infectious diseases. Need to consider solutions together.

#### **Reframe the objective to:**

Transforming diets for public health and nutrition outcomes

Impacted by:

- Regulatory frameworks and policy
- Climate change
- Environment
- Behaviour change
- Science innovation

#### **Objective 7:** Land use pressures

Urbanisation

Indirect land use (in Europe), connected to excessive consumption

Biofuel

#### **Objective 8:** Major environmental issues at landscape scale

(Climate change)

(Water)

Soils

Contamination (due to agriculture and industry), micro plastics (also relevant through oceans)

(Global action, what pollutes globally e.g. micro plastics)

Erosion, due to agriculture processes or lack of (i.e. wind)

Air pollution

Mono-culture in agriculture and lack of diversity

#### **Objective 9:** Regulatory frameworks (needed)

1. New bioscience (evidenced based), integrate social science

2. Impact positively on diets e.g. industry regulations (prevent from being cheated), low environment footprints
3. Facilitates behaviour change

Basic research on how are diets adopted in globalising consumer world that eats more similar. On a positive side eating more diverse e.g. Rwanda, rural households potato or beans/lentils.

Understanding incentives and rating of corporations, e.g. access to nutrition index

Regulatory frameworks need to work together (complex system approach)

Don't be tempted to over regulate, but regulation for transparency

We do not need the same regulatory framework globally, expect in some circumstances e.g. biodiversity and food safety

Evidence should include local social/culturally relevant evidence

### **Regulations and policy monitoring**

**Objective 10:** Other implications for inter-regional and global levels

Large scale "global" climate changes

Food trade, new solid research on indirect effects on trade (long distance and local)

Implications for the global science system, mechanisms of sharing, science rich and poor nations, patents food and food sources (IP for foods), public institutions-private (innovations)?

Science system is vulnerable to media, and lobby groups etc. Voices count and evidence count less and less.