

# What are the key FNS elements for the Americas: Template Q1

- Poverty reduction has been substantial.
- Availability of arable land, but land use policies for other high value purposes adds constraints.
- Reduction in malnutrition rate, but increase in over nutrition.
- Population rate of increase has declined.
- Diverse agricultural systems and pool of genetic resources.

# Major challenges/opportunities for FNS: Template Q2

- Climate change – Caribbean at highest risk, semi arid regions face water limitations, higher variance in storm intensities and droughts.
- Availability of water resources varies greatly (desertification threats)
- Management of the **water-Energy-Food nexus**: Potential to both conserve water and to enhance uses of renewable energy in agriculture.
  1. Conflicts between water storage/release for energy and agriculture.
  2. Conflicts between bioenergy and food production.
- Urbanization is high (87%), but reduced rate of population growth
- Efficiency of agriculture varies across countries. Low production / low income countries and high production industrialized agriculture.
- Ample energy supplies in much of region, but some areas of inadequate supply. Greater energy demands for irrigation.
- Marine resources are important, but often threatened.
- Increases in value added agriculture

# Strengths and weaknesses of S&T at regional level: Q3

- Substantial range in capacities across countries:
  1. Scientific and technical capacities range from excellent to poor.
- University and research systems vary greatly. Training opportunities also vary greatly.
- Public sector investments in S&T capabilities have declined, but this is partially offset by higher private sector investments in some countries.
- Good efforts at sharing research knowledge across the region.

# Prospects for innovation to improve agriculture: Q4

- GMO and other technological acceptability is good
- Plant and animal breeding is OK
- More environmentally friendly approaches to pest and disease management is widely practiced.
- Food safety issues persist in some countries.
- Precision ag and other high tech approaches are adopted in countries where large scale industrial agriculture is predominant.
- Aquaculture has emerged as an important industry in some countries.

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

- There is a trade off between high investment high efficiency ag systems and small holder agriculture in many countries of the hemisphere. This social trade off is a major public policy issue.
- Substantial opportunities for minimization of food waste, but limited progress.
- Governance/market/trade issues to ensure affordable food and minimise market instability varies among countries.
- Science offers numerous opportunities for increasing agricultural efficiencies. This is highly dependent on the strengths of national research systems and on the scale of research investments, both of which vary across countries in the region.

# What are the public health and nutrition issues: Q6

- Health issues related to nutrition in the Americas: Malnutrition, anemia, over weight and obesity, diabetes, hypertension, heart disease. These are common to all countries of the Americas.
- High caloric processed foods are cheaper per calorie than healthy foods like fruits and vegetables. This helps account for substantial levels of obesity among the poor.
- Needs for better public education on nutrition and healthy diets including written materials and public outreach through various media. Some traditional diets are not well balanced.
- Food safety issues remain substantial and relate to water and sanitation infrastructure and preparation practices.
- Trade policies and subsidies can distort food supplies in ways that reduce dietary options.

# What is the competition for arable land use: Q7

- Urbanization and industrial uses compete for arable land in all countries of the Americas.
  - Distribution of arable land is heterogeneous over countries
  - Arable land is frequently used for single crops that are intended for animal feed or bio energy or mining purposes. Arable land is always not used for highest and best purposes.
  - Diverse cropping systems are especially important in soil management and in providing dietary diversity.
  - Expansion of agriculture into landscapes that are not sustainable. E.g US Dust bowl of the 1930s.
- Biodiversity, water resource and conservation conflicts with arable land uses.
- Deforestation for agriculture increases GHG loads.

# What are other major environmental issues associated with FNSA: Q8

- Live stock systems contribute disproportionately to GHGs.
- Increased climate variability including droughts and high rainfall events are growing problems in the Americas.
- Soil health is crucial and requires management regimes that avoid degradation including erosion, compaction, salination, toxic contamination.
- Over use of water resources (e.g. over withdrawal from major aquifers) and decline in quality owing to agricultural contamination (e.g. N<sub>2</sub>, salts, chemicals).
- Conflicts between sustainable water supplies and food production in over withdrawal from aquifers. Contamination of water supplies from agricultural run off and toxic chemicals.

# What may be the impact of national/regional regulatory frameworks and other sectoral/inter-sectoral public policies on FNSA: Q9

- Policy frameworks are very heterogeneous across the western Hemisphere. Need improved coordination. This relates to:
  - Technological innovation
  - Human resource development
  - Consumption of healthy foods
- Little regional regulation.
- Sectorial/intersectoral policies are also poorly coordinated if coordinated at all.
- More attention needs to be paid to regional cooperation in FNS.

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

- Efforts at GHG reductions are uneven but improving. Countries with high biodiversity are especially impacted by climate change.
- Trade policies are now in flux owing to recent US administration change.
- Research collaboration is good, but can be improved.
- National governments need to expand science advise mechanisms and a regional mechanism should be established and utilized.