Sustainability and Quality System in primary production

How Innovative Solutions foster Sustainable AgriBusinesses in Growth Markets

Eric Salaun
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Agriculture in the future

- Agricultural development is inextricably linked to economic growth that **benefits the poor**.
- The World Bank: agriculture development is about **2 to 4 times more effective in raising incomes among the poorest** than growth from any sector.
- More than three-quarters (77%) of the increased food we will need to produce by 2030 needs to come from **increased productivity**.

Source: Farming First 2015
Agriculture in Focus...

Agriculture is at center of some of most important 21st-century issues

climate change

food availability and safety

depleting of natural resources
Challenges:

- Increasingly scarce **natural resources** (water, soil, nutrients...)
- Reduction of **food waste** will not be sufficient.
- **Increased Demand** for food and shift to meat and dairy-intensive diets.
- **Arable land** decreasing (soil erosion, urbanization).
- The rate of growth for crop yields is declining.
- **Small Scale family farms manage the majority** of the world’s agricultural land and produce most of the world’s food.
Disorganization of elements is not sustainable
Processes and elements must be organized in systematic way
A Sustainable System (Identification and description) to support Innovation in Agriculture
Agribusiness Sustainable Growth

The innovation systems approach

- Deliver the necessary **increase in output while reducing** Crop’s natural resource demands and mitigating greenhouse gas emissions.

- Biotechnology, and **information and engineering technology** to support natural resource productivity growth.

- **Harvest and Post-harvest technologies** to reduce wastes

- **Awareness, capacity building** and technical support to introduce and manage innovation

- Collection and transfer of **data**
Agribusiness Sustainable Growth: Improve Production & Reduce Wastes (Up to 50% of harvest is wasted between farm and fork)

Increase Farm’s Production Yields

- Plants Genetic Breeding and Selection
  - raise of yields by enhancing the take-up of nutrients and feed-conversion, climate/soil adaption and diseases resistance.
- Improving of crops management and production techniques
- Collection and Management of Farming Data
- Capacity building and technical support in remote areas

Reduce product’s wastes

- Innovation in crops harvest techniques
  - Reduction of harvest timeframe and more focus on better harvesting period
- Innovation in product’s post-harvest and transportation techniques
  - Specialized post-harves handling and storage techniques
Agribusiness Sustainable Growth: Optimize Inputs & Enhance Natural Resources

Reduce Chemicals Inputs

- **Innovation in fertilization techniques**
- **Innovation in plant protection techniques**
  - Use of more effective and target-focused chemical with lower impact
  - Use of application technology for *more effective use of pesticides while reducing quantity and frequency of inputs*

Reduce Use of Natural resources

- **Innovation in irrigation techniques**
  - Selection of crops and varieties compatible with water quality and availability
- **Re-use of production outputs**
Agribusiness Sustainable Growth: The Food Supply Chain

Innovative technologies in the traceability of Agri-food along the Supply Chain represent a critical factor

- To trace the Origin and the History of Agri-products
- To provide information on sustainable production
- To support food safety and security of products
- To trace all steps taken from farm to fork

Tools to support traceability of Products:

- 1D and 2D bar codes
- Products and Packaging Chips and Markers
- Blockchain