Trends in Agribusiness and Food Systems
Global Challenges, Local Solutions

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Topics

Food supply challenges

From past to current....... with expected outlook : turbulent times

Where to focus on

Use of natural renewable and non-renewable resources

A practitioners' approach:
The Nestlé Roadmap on Sourcing Agricultural Materials

Practices, Processes and Human Resources

Quality Raw Materials are the very beginning of ...
Good Food, Good Life
Are we living in unusual times?

1872-2008 prices and population


Joachim von Braun, IFPRI, May 2009
Turbulent times: Commodity - Food - Price Volatility

**Oil Price**
- Europe Spot Brent Price FOB (per/bbl) in US-$ and Euro
- Jan - March 2009

**World Feed Price**
- per 100 kg feed in US-$ and Euro

**World Milk Price**
- per 100 kg milk ECM in US-$ and Euro

Source: IFCN
By 2050 it is estimated that the earth's human population will be **9.07 billion**. 62% of the people will live in Africa, Southern Asia and Eastern Asia - numerically this is the same as if all the world's current population lived just in these regions. All numbers shown here are estimates - estimates are never perfect.

Source: Worldmapper
Groceries include sugar, honey, cocoa, chocolate, tea, mate, coffee (a tea-like drink) and spices. Almost half of this category, when measured in US$, is **oils from vegetables and meats**. Net exports including commodities tend to come from more southern latitudes (2007).
62% of all territories have net grocery imports, which means that the remaining 38% meet their demands (2007). Net exports tend to come from more southern latitudes: Asia Pacific and South America. There are however anomalies such as the United States, Canada and France. Further, Southern Africa has neither large net imports, nor large net exports. The highest value of net grocery imports is to Japan. Imports to Japan are one and a half times the value of those to the second largest importer, China. Further, the population of China is ten times larger than Japan. So, per person living there, Japan imports (net) sixteen times more groceries than China.
Constraints: Land / Water / Energy

How can we double calories output by 2050, where...

• There is at most 10% more arable land available that isn't presently forested or subject to erosion or desertification - and degradation of many soils continues,

• **Water** for agriculture in some parts of the world is already today scarce,

• Most **production systems** are dependend on **heavy fossil-energy based** inputs e.g. fertilizers, chemicals, transport, cooling, packaging, etc.

....????
Productivity and efficiency increase at farm level using natural resources sustainably means to produce with no waste, no pollution and no destruction, staying competitive, meeting global food needs and offset impacts of climate change and climate policy.

Most critical topics for volume and quality growth are: Water, energy, technology (i.e. genetic potential, fertilizer, etc.), knowledge and know-how (farming practices and management)
To focus on...

LAND

WATER

ENERGY

CLIMATE

PEOPLE

...to ensure supply we have to smarter use natural resources,

- Not wasting
- Not polluting
- Not destroying

...and a good start is by erradicating the worst and promoting the best of

Agricultural Practices
Watch achievements of technical assistance to farmers: Ghana
In 2005 US$784 billion were spent on primary education around the world, when adjusted for purchasing power. The territory where the largest amount was spent is the United States; the spending was 28% of all spending in the world. In contrast, in Nigeria only 0.28% of all world spending was spent on primary education.

Source: Worldmapper
Re-vitalizing extension services (Primary Education) to disseminate better production practices and engaging in technology transfer to farmers have biggest impact on both:

- productivity, volume and quality growth &
- substantial income securing!

...Creating Shared Value – getting ensured supply...
Benefits of Adequate Roads and Extension Services

Why do road and extension services matter so much?

• Roads provide a critical link to local market towns, where most economic activity takes place (Dercon and Hoddinott, 2005)
• Half of households purchasing crop inputs do so in local market town
• Most artisanal products (especially those produced by women) tend to be sold locally

Improvements in road quality...
Increase of purchasing crop inputs by 30%, and
Increase of women selling artisanal products by 39%
Probability to link into interregional-international supply chains by 84%

Source: IFPRI
Return on Extension Services

A ERHS survey asked farmers (from selected African countries) to describe the most important activities of extension agents (2006).

Answers

- Being a **source of knowledge** about use of modern inputs (production methods), Ranked highest by 72% of farmers
- Being the source of **knowhow** about **better cultivation practices**
  Ranked highest by 46% of farmers

Many case studies on Im**provements due to extension services are available and prove** correlation of visits by extension agents and farms' productivity increase, e.g. **cocoa productivity rose almost three-fold** between 1994 and 2004 on selected project.

- **Rates of return (ROR) to extension worldwide are between 13-500% (more than research (R&D) !!!!)**

**Extension is a cost-effective tool**
Watch achievements of technical assistance: Pakistan

Lady Livestock Workers, Pakistan

Lady Livestock Workers, Rural Development

A Nestlé sponsored project helps women in rural Pakistan to become livestock workers. The programme teaches the women about getting the best milk yields possible from their cattle.

Date: 25 August 2008
Location: Farooqa, Pakistan
Duration: 00:03:17

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The Nestlé Roadmap of Sourcing Agricultural Materials

**SAIN** projects are creating value in the areas of:

- Farm income generation
- Crop and yield improvements
- Animal health issues
- Logistic support / Transport
- Water management & irrigation
- Farm management guidance
- Technical training
- Etc.

→ Rural Development and Water
Wrapping up

**Develop** farmers & suppliers  
building capacity for growth

**Secure** availability of adequate  
agricultural raw materials

**Ensure** safety & quality  
of raw materials

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**CREATE SHARED VALUE**  
Nutrition, Water  
Rural Development

**SUSTAINABILITY**  
Protect the future

**COMPLIANCE**  
Internal: Nestlé Corporate Business Principles  
External: Laws, Regulations, Codes of Conduct
Conclusions

• Matching expected food demand requires **careful use** of natural resources to start at **farm level**

• Efficient and effective resource use implies knowledge and knowhow: **Training farmers**, securing minimum skills and competences to combine technology with better practices **is a must**

• **Open food trade system** to supply consumers **compulsory**

• **Back to basics** in rural development inevitable to achieve food security, nature stewardship and social peace
Creating Shared Value and Sustainability are the most important concepts in sourcing agricultural materials at Nestlé.

The future & the knowledge are here. It's just not widely distributed and applied yet.

Thank you for your attention!