

# Sustainability and the dairy supply chain in the 21<sup>st</sup> century

**IDF World Dairy  
Summit**  
Auckland, NZ  
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**Hans Jöhr**



# Agenda

**Milk: what is it all about?**

**Context**

**Our vision on sustainable dairy farming**

**Nestlé fresh milk sourcing reality**

**Sustainable agriculture**

**Conclusions**

# Milk: What is it all about?

Milk is the essence of life. It is our first food and a very flexible and tasty ingredient that can be transformed into different end products.



## Core values of Milk

- **Wholesome, goodness and naturalness**
  - Products that deliver healthy pleasure through great taste and visual appeal.
- **Dependable nutrition**

Quality and safety to ensure products that are especially developed for specific health needs for specific targets.

- **Everyday wellbeing**

Products that can be consumed daily and reflect today's desire for a balanced lifestyle which includes happiness and wellbeing.



# Sustainability and the dairy supply chain in the 21st century

## Consumer focus!

The dairy supply chain has to meet the requirements of consumers

- Environmental aspects
- Social aspects
- Economical aspects

Consumer needs and requirements are very diverse, therefore, the dairy supply chain has to adopt to local demand.

# Enhanced milks for emerging consumers: International rollout



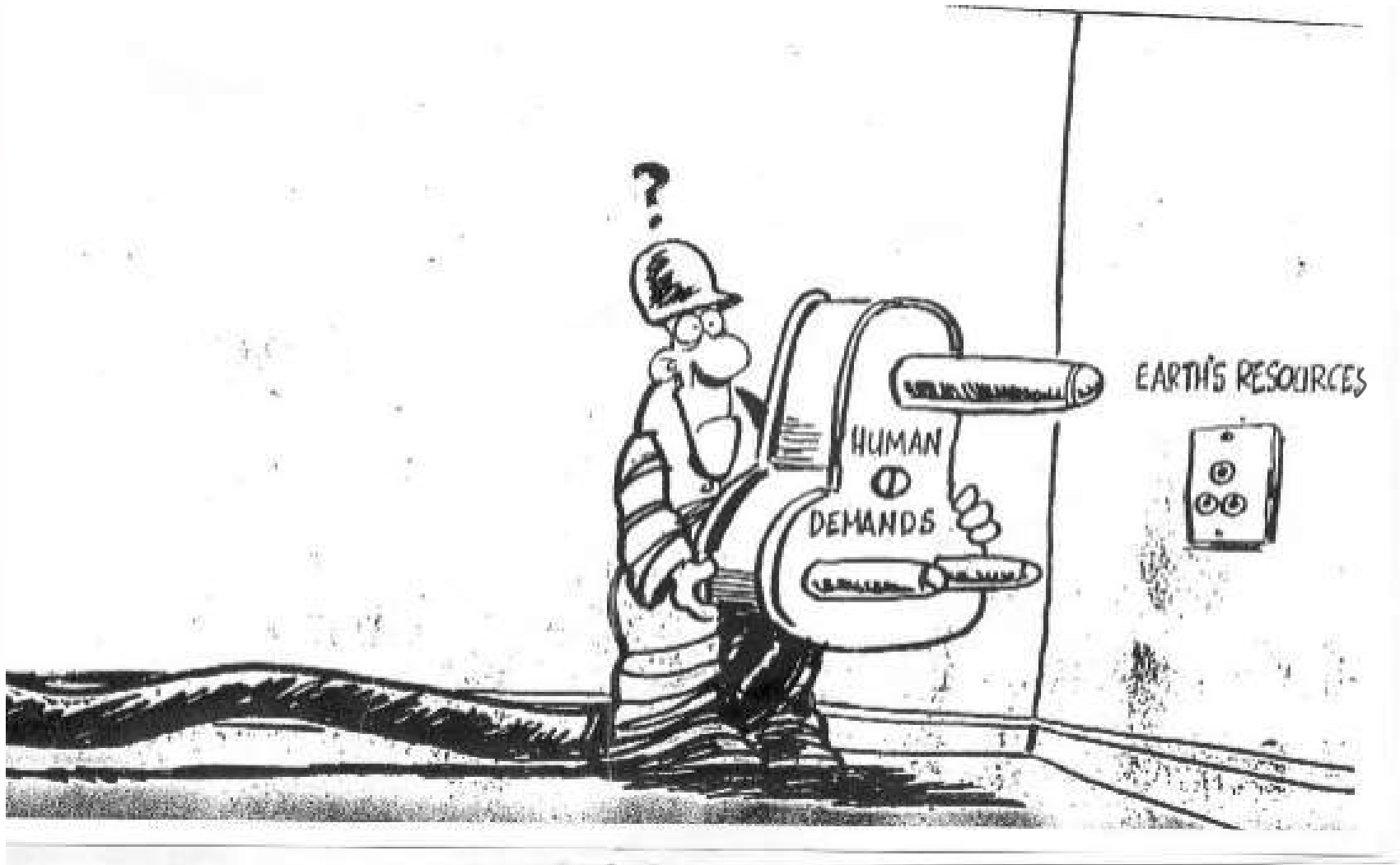
# Example: The use of fortified, affordable, milk products to deliver nutrients to large populations



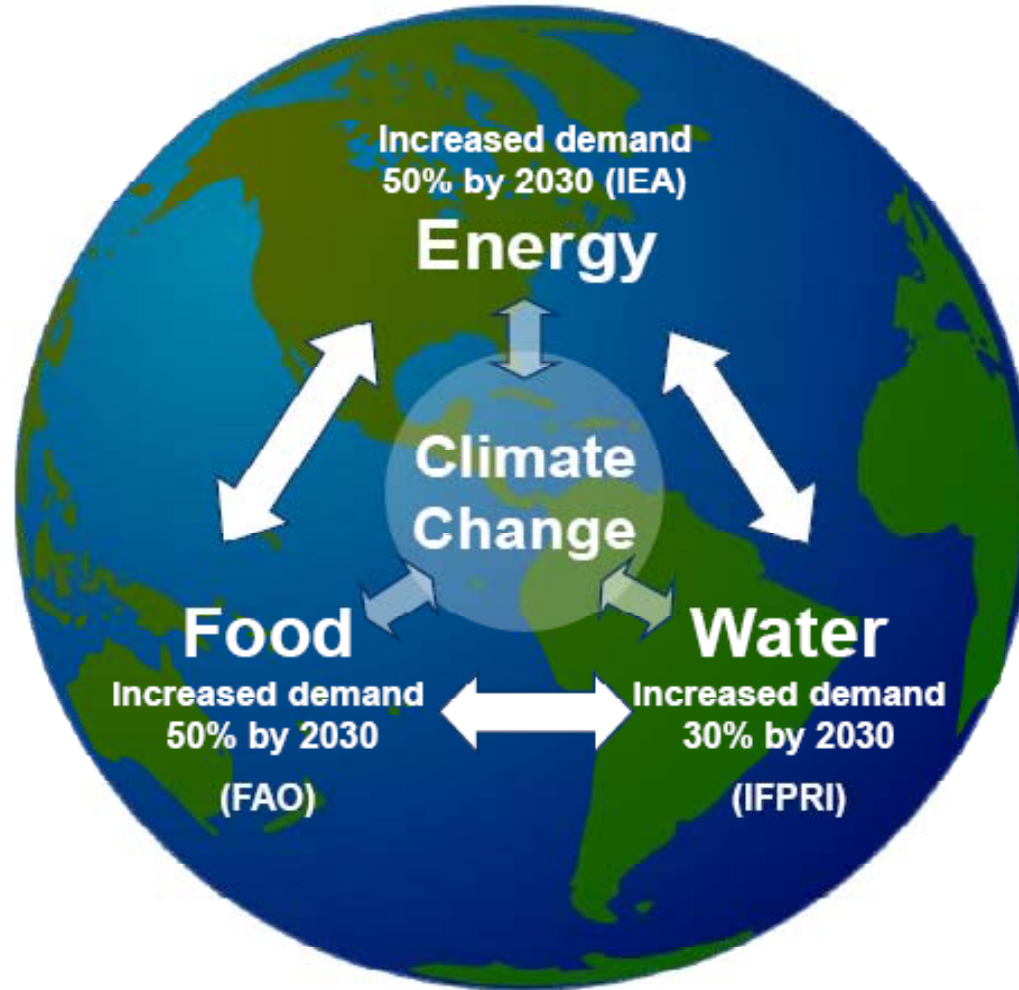
*“Food fortification has the dual advantage of being able to deliver nutrients to large segments of the population, without requiring radical changes in food consumption patterns”*

From: *Guidelines on food fortification with micronutrients, WHO/FAO, 2006.*

# Future supply of agricultural materials



# 2030: World heading for a Perfect Storm?





# Major Opportunities to feed 9+ bi people

Technical support to increase dairy farm productivity and profitability (example: México)



1990 = 70 lts/day ave



2009 = 450 lts/day ave



# Major Threats to feed 9+ bi people (1/2)

## ***Negative policy interventions***

- Trade policies (e.g. import.-export restrictions),
- Subsidies,
- Bio fuels,
- Lack of rural infrastructure,
- Schooling and extension services



THE WALL STREET JOURNAL.

**Russian Export Ban  
Raises Global Food Fears**

***Wheat rises 8.3% as Putin  
extends move to year-end  
(6 August 2010)***

## ***Soil fertility***

- Healthy soils are a prerequisite for productivity,
- Land degradation became a global problem largely related to non sustainable agricultural production methods.



**B B C**

**First detailed digital soil  
map of sub-Saharan Africa  
is to be created.**

***Best current African soil map  
has a resolution of 10km  
(13 January 2009)***

# Major Threats to feed 9+ bi people (2/2)

## **Water Management**

- Use,
  - Waste,
  - Pollution and
  - Recycling,
- where highest threats on Irrigation from non recharging underground aquifers.



### **Punjab imposes tube-well ban on 300 villages**

***Villages of Sangrur, Moga Ludhiana districts are among the “over exploited areas” of ground water extraction***

**14 July 2010**

## **Energy pricing**

- Cheap energy made the last green revolution possible,
- Changes in energy pricing impact agricultural production cost and will lead to higher food prices.

**⇒ Energy availability and pricing (fossil fuel) is the single most uncertainty in the world's food system.**

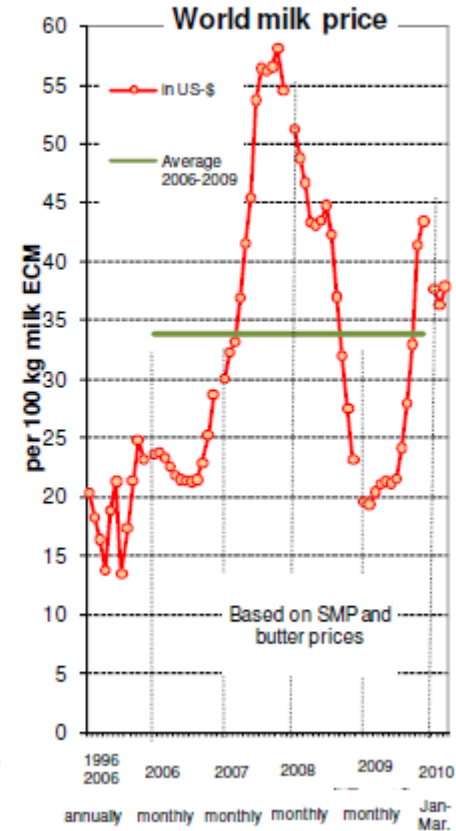
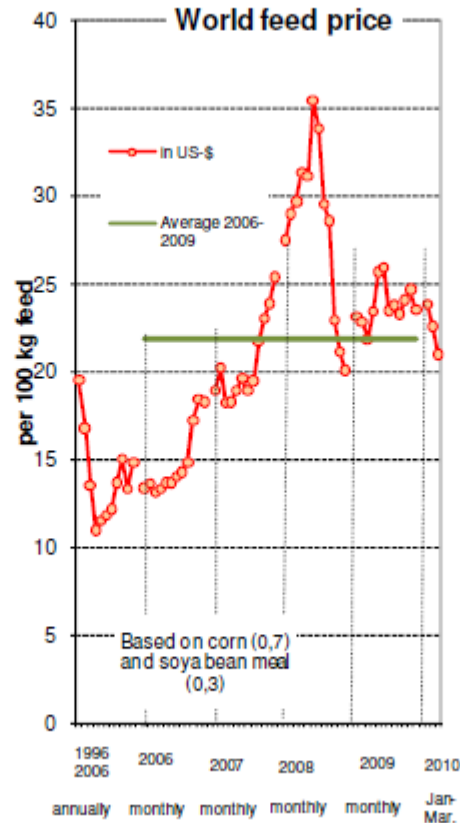
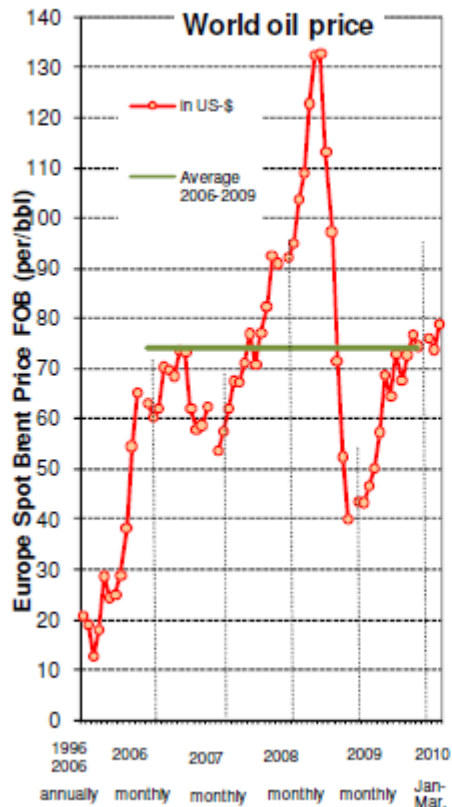


### **South Africa: Food Prices Rise Due to Frost, Input Costs**

***Poor weather and higher input costs have lifted food prices for greenhouse tomatoes by up to 205 % !*** 13 August 2010

# Uncertainty: Price for consumers and cost for farmers

## World market price developments



Source: IFCN

# Our vision on sustainable dairy farming



Ecological

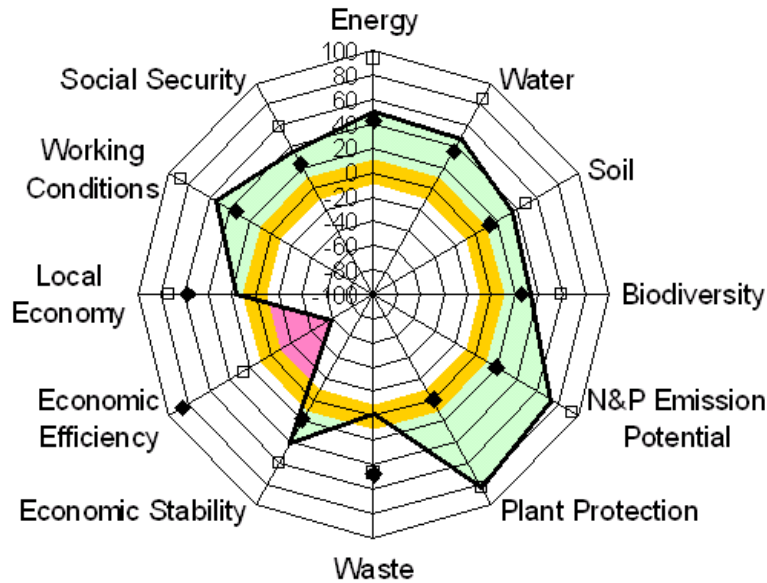


Social

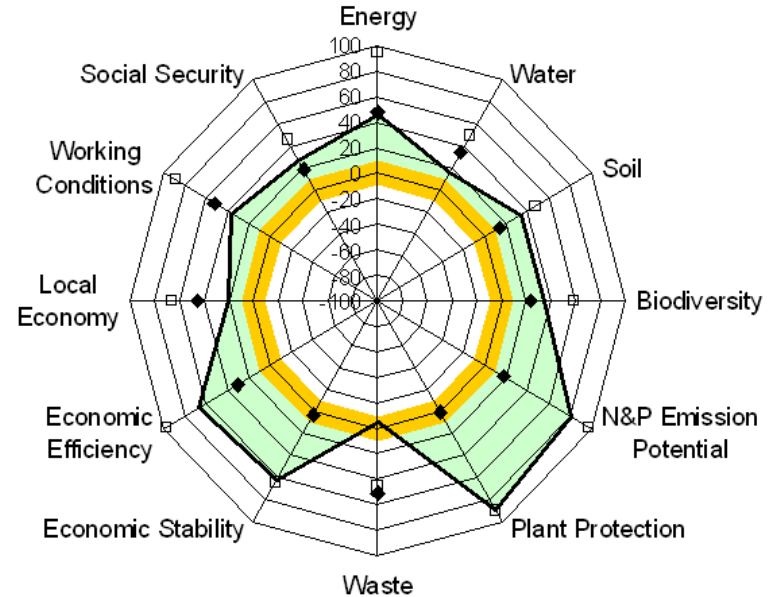


Economical

# How to measure sustainability and improve it?



Current



Future



**RISE: Response – Inducing Sustainability Evaluation**  
 Sustainable dairy production system: **ecological, social and economical**

University of Applied Sciences  
 Swiss College of Agriculture SHL

# Mexico: Extension services for different size of farms and ways of milking cows



- Good milking practices
- Artificial insemination courses
- Silages and forages usage

18 agricultural coordinators  
> 4,000 farmers trained in 2009



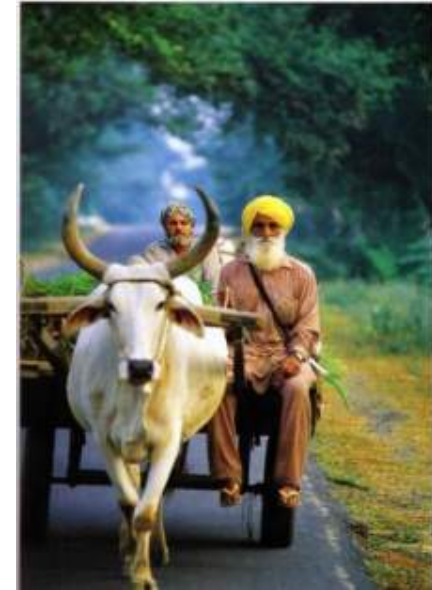
# India : Milk Trade In Moga / Punjab

1962

- Nestlé Moga dairy factory started
- 4'600 farmers
- 20'000 tons milk / year
- 3 milk routes

2009

- 82'846 farmers
- 307'000 tons milk / year
- 30 milk routes
- Over 2000 villages





# Ensuring food safety & quality: Farm Assurance Manual of Nestlé Chile



Objective: Optimize farming practices  
Eliminate any quality risk at farm production  
Optimize production cost at farm  
Improve resource management

Method:  
Implement farm assurance manual  
Set up a "Best-in-Class Repository" for dairy farming

Results:  
First farm assurance manual in the Spanish-speaking world  
Ministry of Agriculture and Nestlé jointly introduced the manual to the public  
Chilean dairy farming becomes highly professional



# Ensuring supply: Support growth of milk production in Pakistan



Objective: Accelerated increase of milk intake in line with business requirements

- Business is growing by >10% annually and relies on processing of fresh milk

Method: Farmer assistance

- Specific support for the development of progressive farms
- Continuous extension of decentralized collection (>2000 village cooling centres)
- Lady Extension Teams to reach rural women

Results:

- Quantity increased from 60'000 tons in 1994 to 500'000 tons in 2009
- Nestlé injects > \$ 200 Mio annually into the rural economy



# Our “Sustainable Agriculture Initiative Nestlé”



**LAND**



**WATER**



**ENERGY**



**CLIMATE**



**PEOPLE**

To ensure supply we have to smarter use natural resources by

- ***Not wasting***
- ***Not polluting***
- ***Not destroying***

and a good start is eradicating the worst and promoting better

## **Sustainable Agricultural Practices.**

Producing more food from the same area of land while reducing the environmental impacts requires what we call “**Sustainable Intensification of Agriculture**”.

# Nestlé projects lead to Creating Shared Value on many fronts...

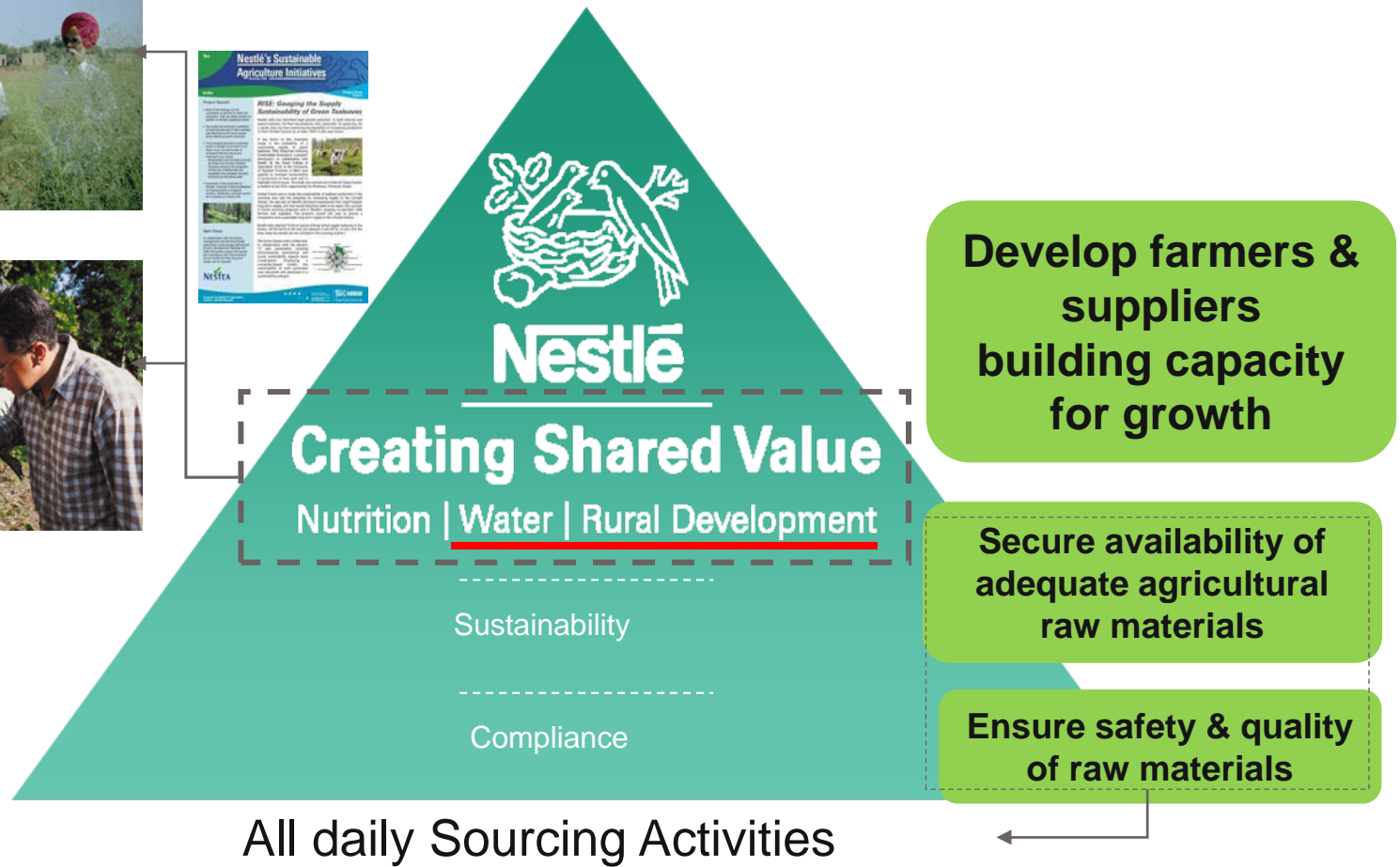
...and create value in the areas of:

- Food safety & quality assurance
- Regulatory compliance (supplier code)
- Farm income generation
- Crop and yield improvements
- Animal health issues
- Logistic support / Transport
- Water management & irrigation
- Farm management guidance
- Technical training
- Etc

➔ Rural Development & Water



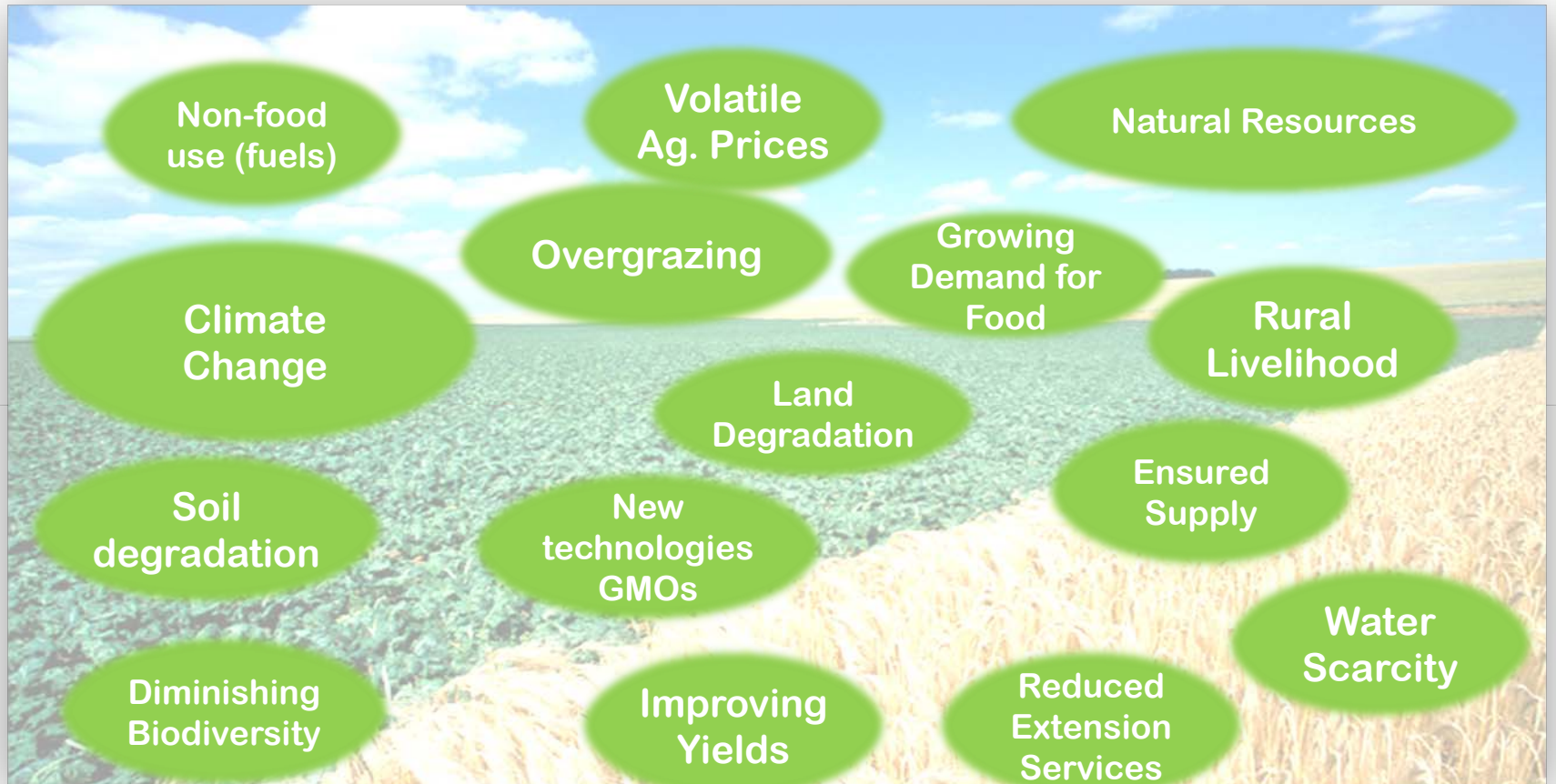
# Sourcing delivers on Creating Shared Value with our farmers and suppliers





# Why Should Agriculture be Sustainable?

Many challenges and opportunities for farmers, society & the food sector





**SAI Platform.-** Main food industry initiative supporting the development of sustainable agriculture worldwide.

- Founded in 2002 by Nestlé, Danone and Unilever
- Non-profit organization to share, at precompetitive level, knowledge and initiatives to support sustainable agriculture practices involving the different stakeholders of the food chain.
- 25 members, (sales of US\$ 300 billion), which actively share the same view on sustainable agriculture seen as a "productive, competitive and efficient way to produce agricultural products, while at the same time protecting and improving the natural environment and social/economic conditions of local communities".

# SAI Platform Members



AGROTERRA



The Coca-Cola Company



DANONE



Heineken

Kellogg's



Lamb Weston



NOVUS



PEPSICO

Sara Lee



Affiliate  
Members







Example:



## The Working Group Dairy

Chair: Sarah Patterson



Vice-Chair: Didier Moreau



Members:



- Early warning (Livestock Long Shadow)
- Align response (global GHG inventory, 2008)
- Be a partner for others (FAO, IDF)
- Lead change (Signatories Group)
- Show action/improvement (Green paper)



# Principles & Practices for Sustainable Dairy Production

- Develop principles and practices for Sustainable Dairy Production covering economical, ecological and social aspects
- Alignment with IDF and FAO guidelines
- Member companies to field test
- Next step: To prepare key indicator and measurables





# Livestock's long shadow report

- Prepare industry response to FAO livestock's long shadow report
- Active participation in preparing updated version of FAO report
- In the new report dairy GHG emission contribution strongly revised (global dairy contributes with 3.0 to 5.1% of the global GHG emissions).

livestock's long shadow  
environmental issues and options





# Development of GHG emissions life cycle assessment standards

- Comparison of 27 methods and studies to estimate GHG emissions levels at farm level.
- Develop common methodology for life cycle assessment on GHG emissions.
- Lobby approach with IDF, FAO, ISO, PAS2050, etc.



# The Global Dairy Agenda for Action

- During IDF World Dairy Summit in Berlin 2009, signing of Declaration by SAI Platform, IDF, GDP, IFAP, EDA, FEPALE, ESADA.
- Promote Best Practices within the Global Dairy Sector.





# Green Paper

- Collection of actions and commitments to improve Sustainable dairy production
- Currently over 300 projects documented and available on the internet site.

## Green Paper

*Online catalogue of initiatives*

[Search through the Green Paper](#)

[Submit your Case Study](#)

The global dairy industry is committed to providing consumers with the nutritious dairy products they want, in a way that is economically viable, environmentally sound and socially responsible. Accordingly the industry has a shared commitment to address the challenge to reduce greenhouse gas emissions.

A 'Green Paper' has been created to provide evidence of the industry's commitment. The Green Paper catalogues online initiatives illustrating the continuous improvements already made and in progress along the whole of the dairy supply chain.

The Green Paper has **307 initiatives** catalogued under **six primary areas**:

- [Emission reductions](#)
- [Energy efficiency](#)
- [Transport efficiency](#)
- [Reduction in loss of milk and milk products](#)
- [Resource efficiency](#) and
- [Life cycle analysis and Management](#)

# Conclusions

## ***Focus on consumer:***

- *Trade is necessary to cover consumer needs: Requires right policy framework and standardized specifications and quality norms*
- *Ensure access and affordability of nutrients to large segments of the population.*

***Environment:*** *To continuously reduce environmental impact – use of assessment tools (RISE tool) and good dairy practices (SAI Dairy).*

***Sustainable intensification of dairy farming:*** *R&D, technical support, extension services (different roles for private and public stakeholders).*

# Thank you!

