Sustainable Development through Organic Land Reclamation

Okahandja, August 8th 2013

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Soil & More International

Soil & More's Vision and Activities

- Compost
- Footprinting
  - Soil (carbon)
  - CO_2
  - Water
  - Sustainability
  - IT-Solutions
- Carbon Credits through sustainable farming

Large Scale

...small scale

On-site awareness raising on climate change and implementation CO_2-footprinting in cooperation with Fairtrade, Marks & Spencer, Rainforest Alliance

FAIRTRADE

IFOAM
INTERNATIONAL FEDERATION OF ORGANIC AGRICULTURE MOVEMENTS

demeter

RAINFOREST ALLIANCE CERTIFIED

YOUR M&S

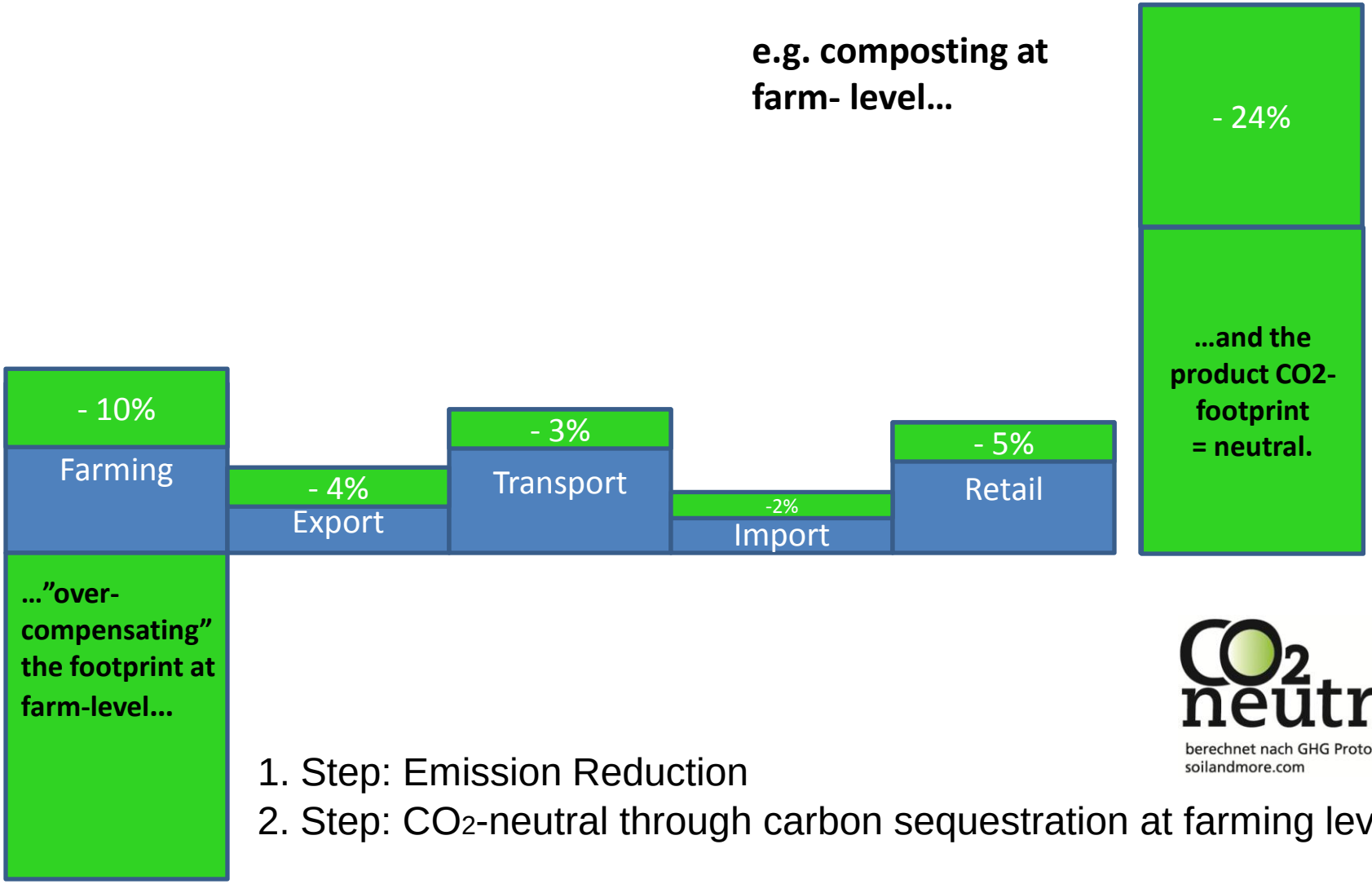
Ritter SPORT

TESCO

HiPP

Dole

Footprinting and the benefits of organic farming



CO2 neutral
berechnet nach GHG Protocol
soilandmore.com

1. Step: Emission Reduction
2. Step: CO_2-neutral through carbon sequestration at farming level

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Partners and Customers

& more

- Soil & More's Development Partners
  - Mexico
  - South Africa
  - India
  - Egypt

Mexico



Water Hyacinths represent a major environmental threat in Mexico and are used as the main input material



Small-scale compost operation at Lake Patzcuaro and "Baseline-Treatment" of water hyacinths

South Africa



Green waste collection and processing through Soil & More in Cape Town, South Africa



Compost production and screening at Soil & More's facility

India



Deteriorating tea gardens in Darjeeling, India. 40% yield drops due to water stress and soil fertility loss as a result of decreasing soil organic matter and structure as above ground pruning material hardly decomposes because of a lack of microbial activity.



Training for small-scale growers to use biomass for composting, to be ready in 8 weeks.

Egypt



Compost facilities of Soil & More Egypt close to Belbeis



Processing equipment: Tractor-pulled turner and final product screening



Compost application: Land reclamation project in Sinai in March 2008 and July 2009

Case Study Egypt, Sekem

The multidimensional benefits of desert reclamation

Egypt: Facts

- Egypt will suffer the most from climate change after Bangladesh
- Population growth (United Nations, 2009)
  - 1960: 27.7 Mio.
  - 2005: 77.1 Mio.
- Agricultural area increase (FAO Statistics Division, 2009)
  - 1960: 2,568,000 Hectares
  - 2005: 3,523,000 Hectares
- Agricultural land per person
  - 1960: 923 m^2/person
  - 2005: 456 m^2/person

Sekem – An initiative for Sustainable Development

- The challenge
  - Food security
    - Arable land
    - Sustainable soil fertility
    - Water efficiency
    - Climate change
  - Human development
    - Education
    - R&D
    - Social empowerment

Dr. Ibrahim Abouleish realized the solutions provided by sustainable farming methods and started Sekem in 1977

SEKEM GROUP

Business as usual is not an option

The prevailing agricultural system did not succeed in providing food security and decreasing poverty. Rather, it accelerated environmental degradation and exacerbated water scarcity.

Benefits of organic agriculture in Egypt

- Organic Agriculture makes farms and people more resilient to climate change, mainly due to its water efficiency, resilience to extreme weather events and lower risk of complete crop failure.
- This is very important to Egypt, a country considered among the most climate change effected countries, and according to the united nations Egypt could be water scarce by 2025.
- Organic farming systems at least for Egypt will be more economically sustainable by year 2020, as shown in the 100% Organic Egypt study done for 7 strategic crops.
- Organic Agriculture builds up soil instead of fostering land degradation and therefore contributes to global Food security.

Organic and sustainable development

an economic necessity

A Study for Egyptian Agricultural Competitiveness Centre

by Soil & More

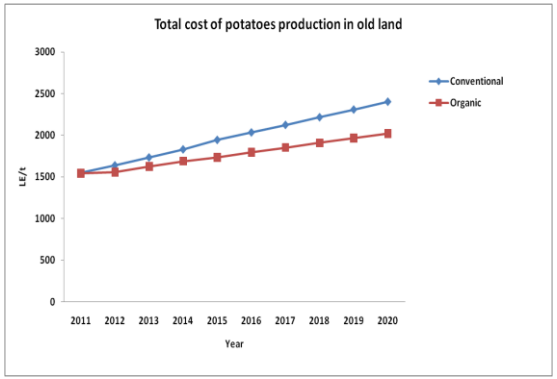
Objective of the study

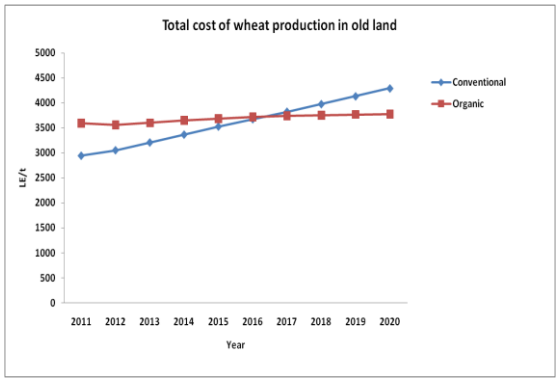
Development of a farming level model to assess today's and future economics of organic and bio-dynamic farming systems taking into consideration the externalities and related costs such as water consumption and pollution, fertilizer use, greenhouse gas emissions, carbon sequestration and energy.

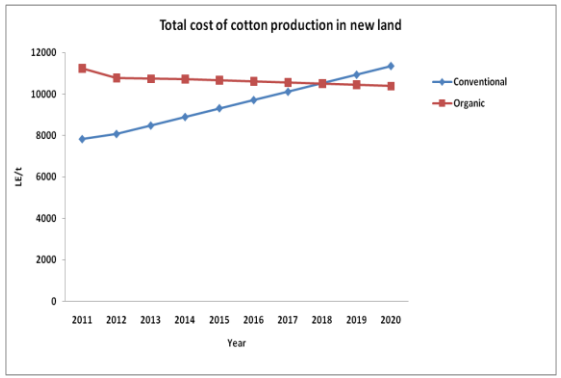
Approach, Assumptions & Tools

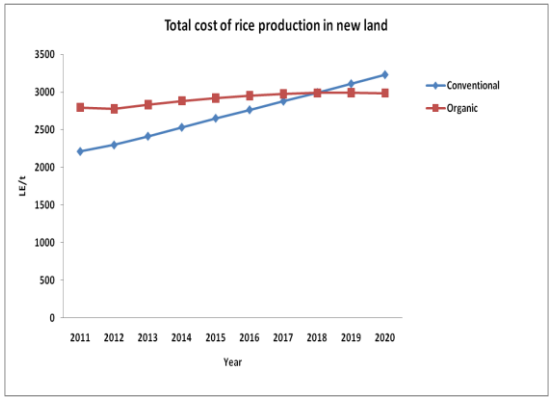
- Products: corn, cotton, sugar beet, sugar cane, potatoes, rice, wheat
- Land types: Old land (Clay soil), New land (Sandy soil)
- Irrigation types: Flood (old land), Drip and Sprinkler (new land)
- Tools:
  - Carbon assessment: Cool Farm Tool
  - Water assessment: Water Footprint Network: Blue and Green Water footprint, ClimWat, CropWat
  - Economic modeling: FAO, Worldbank

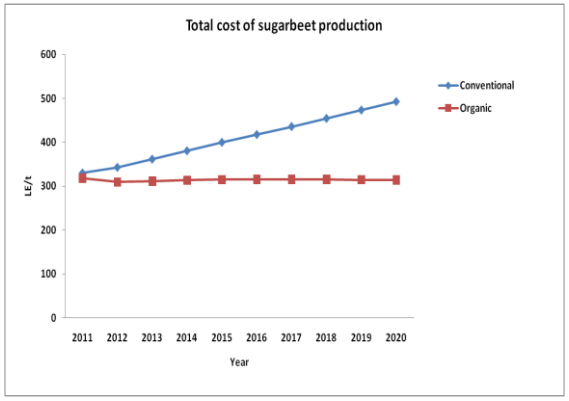
Results

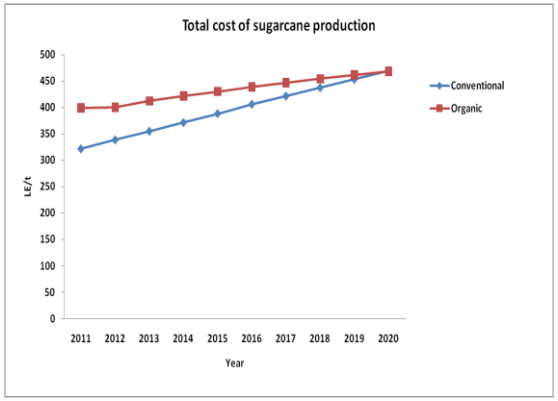

Total cost of potatoes production in old land
LE/t
Year
Conventional
Organic


Total cost of wheat production in old land
LE/t
Year
Conventional
Organic

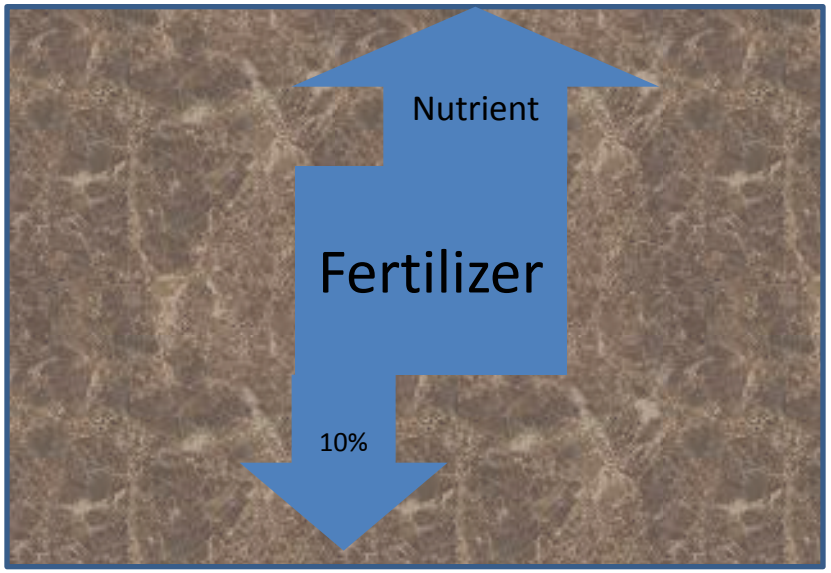

Total cost of cotton production in new land
LE/t
Year
Conventional
Organic

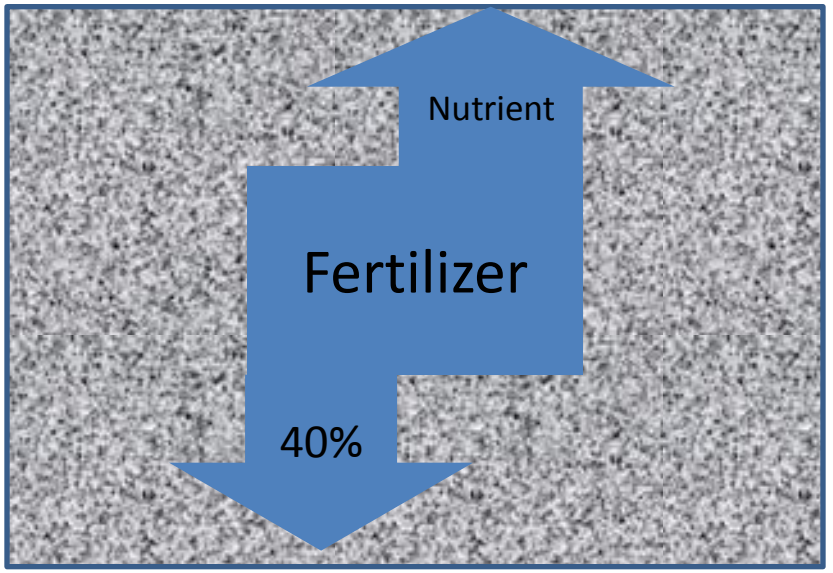

Total cost of rice production in new land
LE/t
Year
Conventional
Organic


Total cost of sugarbeet production
LE/t
Year
Conventional
Organic


Total cost of sugarcane production
LE/t
Year
Conventional
Organic

Example: soil/compost





Everything else is too expensive

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STARBUCKS COFFEE™

Ritter SPORT

WAL★MART

Unilever

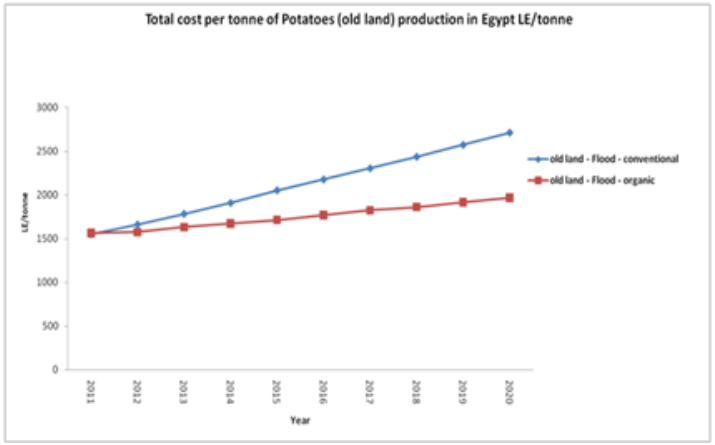
PEPSICO INTERNATIONAL

Tropicana QUAKER

BAYER Bayer CropScience

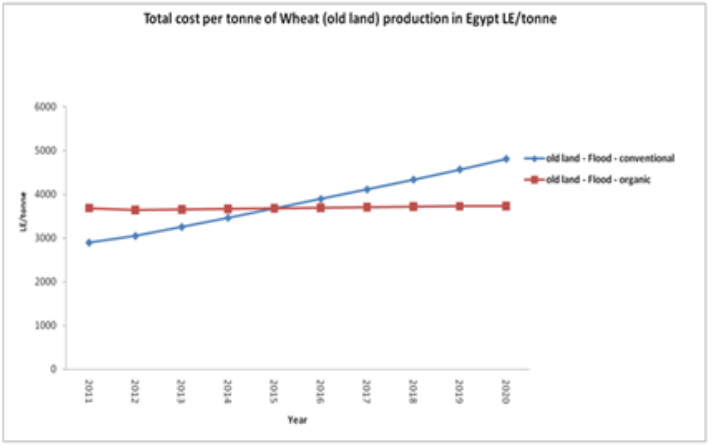
Potato Production Cost

blue = conventional; red = organic



Wheat Production Cost

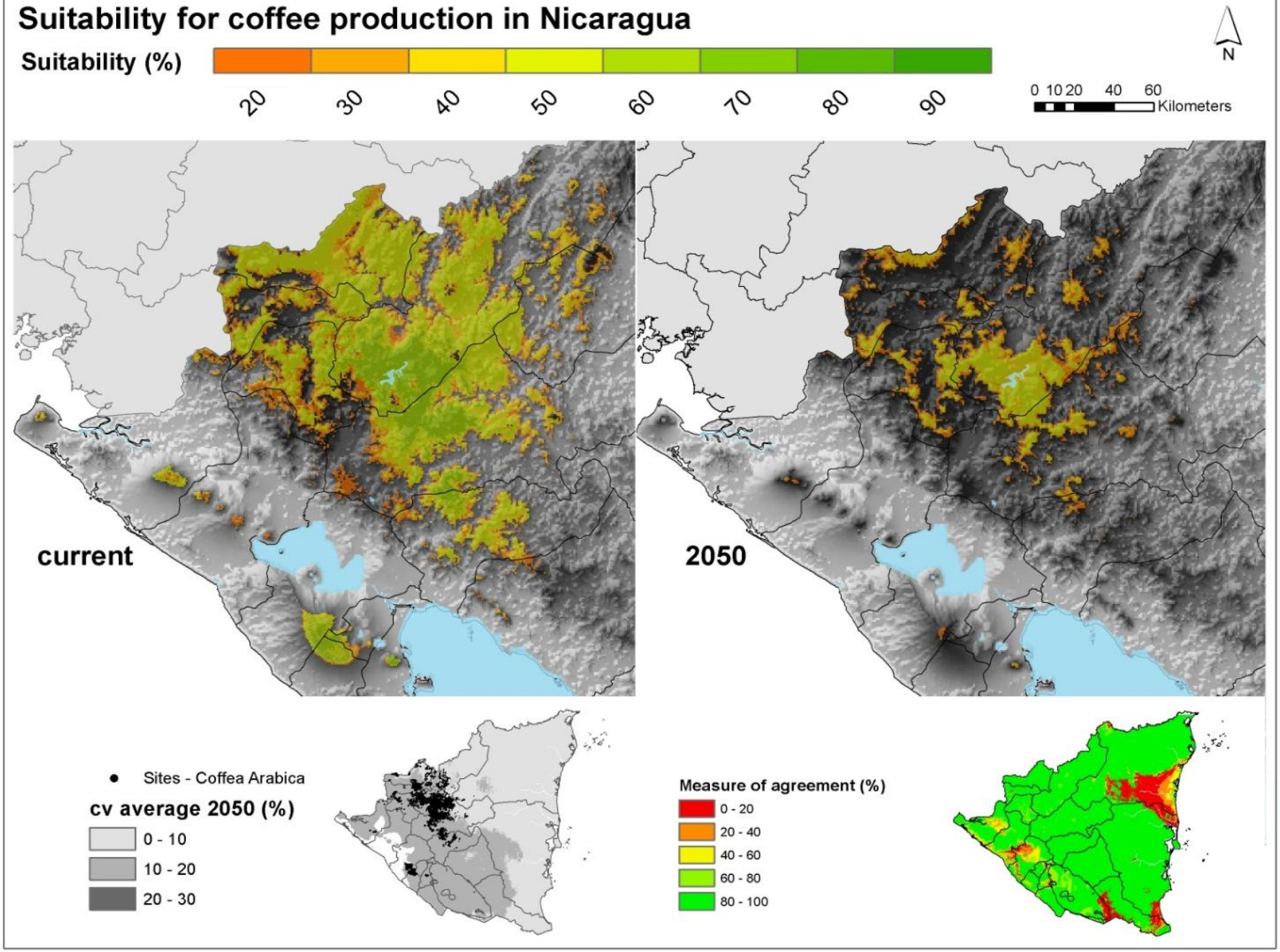
blue = conventional; red = organic



Sustainable Food Lab:

"If there is one common denominator that drives farming economics, it is **Soil Organic Matter!"**

Suitability for coffee production in Nicaragua



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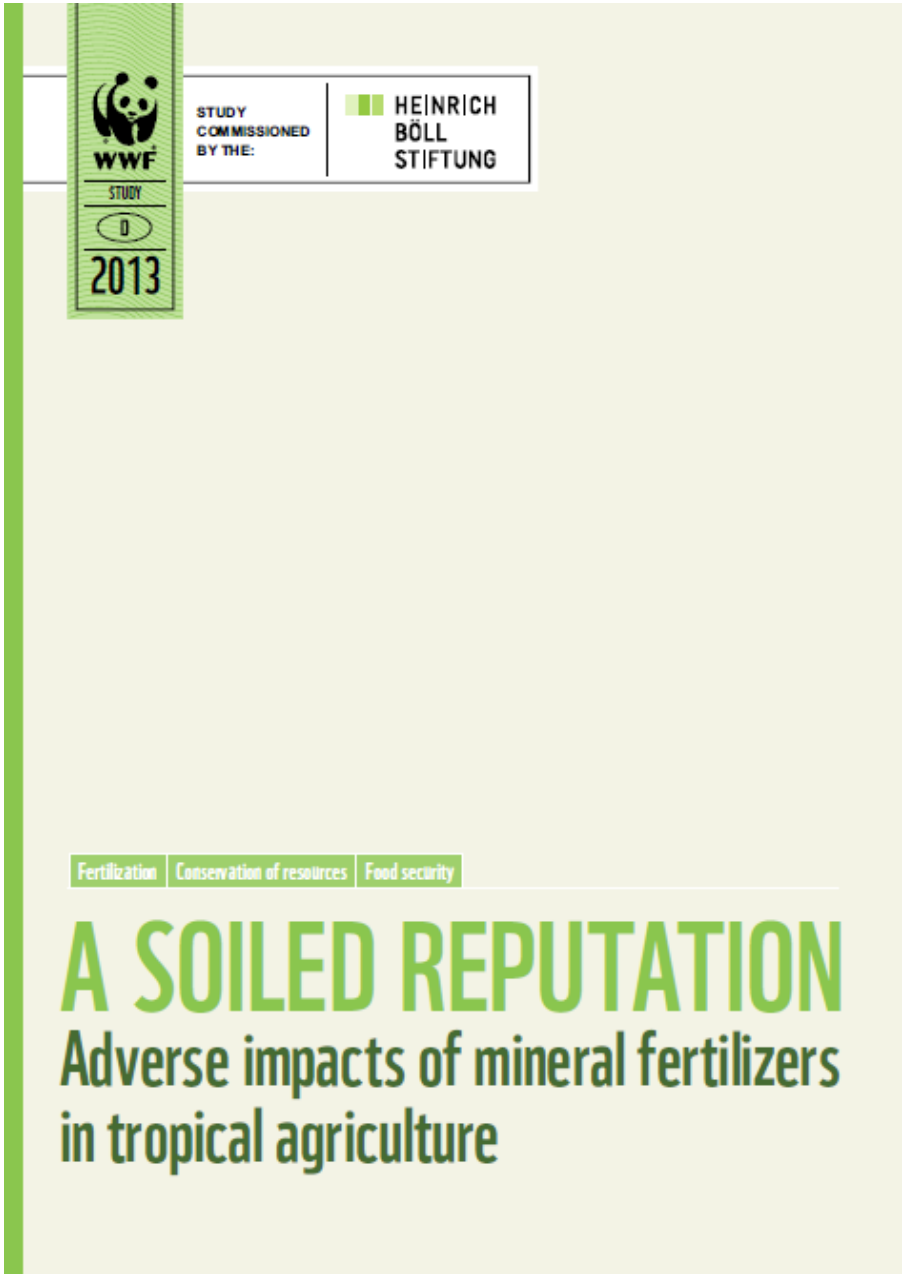
"Fertilization means nurturing a living soil"



http://www.boell.de/downloads/WWF_Mineralduenger_englisch_WEB.pdf

- In 5-10 years we will only offer products from sustainable production...

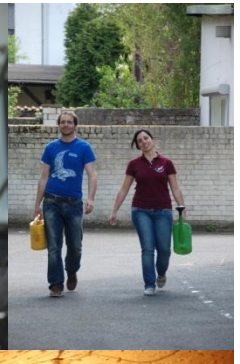
  ... because they will be significantly cheaper than conventional products.
- We hired 400 soil scientists to manage the worlds biggest challenges: soil, water, biodiversity.
- Therefore we invest 1 billion US$ to train ½ million small-farmers in Africa.

Daniel Hazman, Manager Sustainability at Walmart. Portland, June 30th 2011



Planning activities – City/School-gardens – Having fun





Re-connecting to food, which is about life, so it's something great!

It’s about:

- Soil fertility
- Cyclic farming systems
- Restoring landscapes
- Developing vs using
- Socio economic aspects
- Fair trade
- Equal distribution of wealth
- ....
- Rediscover culture in AgriCULTURE

  It’s not just a sector of industry, it’s the backbone of our society

Soil & More International

Thank You

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