The Role of Organic Agriculture in Environmental Protection and FAO

Organic Agriculture and Climate Change

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The Role of Organic Agriculture in Environmental Protection and FAO

No agriculture without environment

But agriculture damages the environment

by contamination, resource depletion and expansion

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Protected areas < 10 %

Not enough for life support

Environment Protection in > 90 % of land?

Organic agriculture in buffer zones

Agriculture needs to contribute to the conservation of environmental resources and services

The Role of Organic Agriculture in Environmental Protection and FAO

- **Several illustrious thinkers have noticed:**
  We cannot solve a problem with the same methods and ways of thinking that caused the problem in the first place

Do we have a problem?

- Land loss (urbanization, degradation, erosion, ...
- Biodiversity loss (spec. extinction, habitat loss, ...
- Nutrient losses (in soil, food, malnutrition, ...
- Contamination (air, soil, water, food => human & ecosystem health
- Global food crisis, distribution, access, ...

- **Can OA help solve the problems? Is OA different enough?**

What is different about Organic Agriculture?

OA	IA
Preventative	Corrective
Adjusting processes	Correct with toxic chemicals
System level management	Sub-component management
Care giving, stewardship Social concerns	Exploitation

Seems different enough to be able to bring fundamental changes to agriculture and food

What is Organic Agriculture?

- **A system** to produce and modify/adapt the natural resources we need for our well-being;
- **A system approach** designed to allow the above without reducing the well-being and capacity of our earth and its components (biological environment) to support ALL life processes on earth
- Therefore it needs to be *alive* & well integrated:
  - dynamic
  - interactive
  - multi-dimensional
  - constantly changing/evolving
- OA intends to **take care of the environment**
  - A care giver not only a care taker:

What is the environment?

Classical scientific understanding:

- Components: air, water, soil (rocks and all), biological organisms (plants, animals, micro-organisms), energy
- Processes: spatial & energetic interaction (competition), social behaviour (interaction with other systems), transformation (breathing, food, death)

What is the environment?

Adding understanding from an expanded consciousness point of view:

- Environment also includes the non-visible, mental and spiritual elements of life on earth
- Interactions and influences from higher mental, spiritual and other invisible processes (macro=cosmic and micro(nano)=quantum physical wave existence of matter) and components (beings, information, thoughts)

Environment includes all life processes and elements, visible and invisible, known and unknown

What do we actually want to conserve?

Environment includes all life processes and elements, visible and invisible known and unknown

The obvious? Clean, live air, water, soil, biodiversity (plant animals, micro-organisms)

But also (considering the expanded vision):

Complete process chains for flow of clean energy and information

The ability of processes to function in and between macro (cosmic and earth) and micro world (quantum processes)

The capacity of systems and system elements to change, to adapt, to interconnect, to integrate, to self-organize

Full concept of conservation

Conservation is or should be the management of change and evolution

- Maintaining and/or improving our complete environment's intrinsic capacities
- Keeping all elements integrated
- Carefully bringing in elements of renewal that allow or help growth and evolution
- Precautionary principle

(not to confuse with the economic growth model of expansion and control)

How is Organic Agriculture doing at the classic level of conservation?

- **Air** – less CO_2 emissions and more absorption, less poisonous contamination
- **Water** – less contamination, less irrigation needs, more drought resistance
- **Soil** – more organic matter, more available nutrients, better plant health
- **Biodiversity** – UK example: 25 – 44% more birds, up to 5 times more spiders and 2x as many species, up to 5 times as many wild plants and 57% more plant species; in general: higher soil biodiversity (up to 75 000 species/$cm^{3)}$
- **Income** – OA does all the above + income

How is Organic Agriculture doing at the holistic level of conservation?

System support & integration

- Farm level good
- Landscape some, could use additional efforts
- Social only partial, needs more integration, shorter market chains, higher awareness
- Invisible & unknown parts of system

  works very much on classical science knowledge base, needs to expand practices and knowledge to permit betterfunction of invisible and unknown elements

How is Organic Agriculture doing at the holistic level of conservation?

- **Precautionary principle** good - OA emphasizes prevention, but could be encompassing more of the invisible and still less known parts
- **Renewal and evolution** - OK, but focused too exclusively on classical science models, could learn from indigenous and holistic methods, does not exclude the latter but could more actively persue their integration, particularly in research
- **All in all – fairly good:**

  Under all mentioned conservation criteria it performs better than industrial agriculture

What is FAO doing for Environment & OA?

- Environment
  - nominally considered in all programmes, but each gives different priorities
- OA - International Task Force on Harmonization and Equivalence - concluded
- Glossary of terms (five languages)
- OA country and meeting databases
- Projects for OA and with OA included

(OA market development, pollinator conservation, agro-biodiversity conservation, soil, land and water management, adaptation to climate variability, food security, poverty alleviation, impact evaluation practices, etc.

http://www.fao.org/organicag/en/

What is FAO doing for Organic Agriculture?

Organic Research Centres Alliance (ORCA) proposal

A joint effort between FAO, Tuft Univ. (USA) and FibL (CH)

> 300 global partners, open for comments

Strategic research directions: (Int. Agric. Review)

- Linking rural economies with markets
- Sustainable food security
- Improving food quality
- Mechanisms to include all stakeholders in innovations of farming systems
- Strengthen technology & knowledge dissemination and acceptance

http://www.fao.org/organicag/oa-portal/en/?no_cache=1

Fundamental elements for organic research

- Integrate existing traditional knowledge and knowledge holders in current research
- Include wider ecosystem concerns in research
- Strengthen socio-economic analyses

⇒ **Develop a transdisciplinary research culture**

http://www.fao.org/organicag/oa-portal/en/?no_cache=1

Summary

- Environment includes classic physical, biological and social parameters but also invisible, quantum and mental/spiritual realities
- **We need to conserve the capacity of eco- and agro-ecosystems and system elements to change, to adapt, to interconnect, to integrate and self-organize at all levels**
- Use precautionary principle to holistically manage for change and evolutionary capacities

Summary

- OA can make great contributions to sustainability, food security and environmental conservation, and even more so if including more holistic and new science elements
- OA and its benefits to the environment would increase with more research and political support
- FAO is directly supporting international harmonization, communication and knowledge building (ORCA, et al.)
- FAO indirectly supports OA through a wide range of its regular programmes

Message

- **YES, OA can** make a major contribution to all environment & natural resource conservation particularly in non-protected areas!!
- Activism, research and political and technical action need to be at least maintained to keep OA a viable option for farmers and to protect OA
- **You**: government, industry, researchers, trade and farmer organizations, and consumers, **have to make the necessary decisions** to make agriculture more sustainable, more organic and eventually holistic, i.e. so that

  agriculture becomes beneficial to our global environment

Thank you

For more information

http://www.fao.org/organicag/