



TPorganics

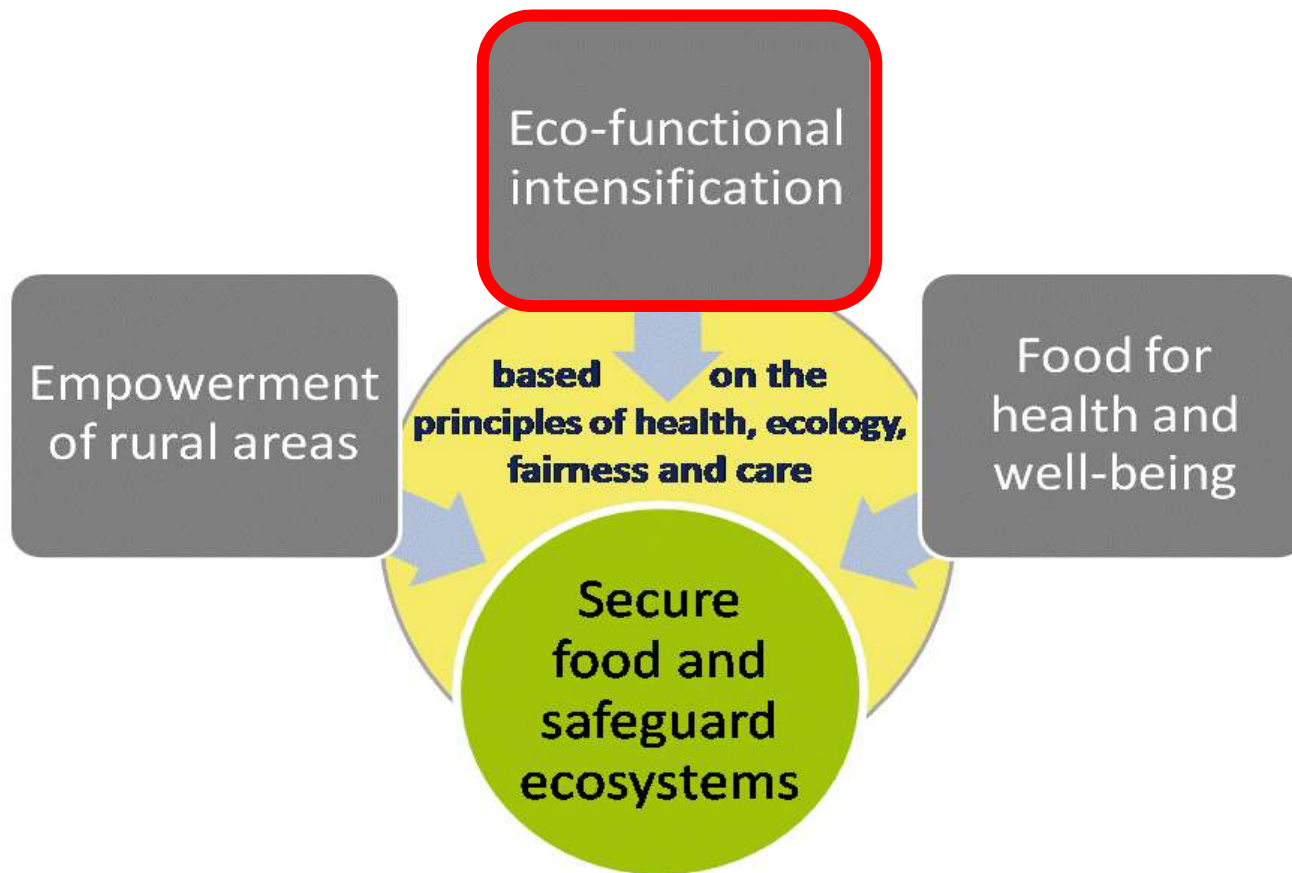
Technology Platform

Technology Platform for organic food and farming

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Trade-offs in agriculture and food production





Intensification through ecological processes?



Fotos: Eric Wyss, Lukas Pfiffner

**Build soil fertility – abate global warming –
reduce externalities – maintain productivity
– safeguard biodiversity**





Ecosystem Services Sustain Agricultural Productivity and Resilience

Ecosystem services are defined as “the benefits provided by ecosystems to humans”. Many key ecosystem services provided by biodiversity, such as nutrient cycling, pest regulation and pollination, sustain agricultural productivity. Promoting the healthy functioning of ecosystems ensures the resilience of agriculture as it intensifies to meet the stress of growing demands for food production. Climate change and other stresses have the potential to make major impacts on key functions, such as pollination and pest regulation services. Learning to strengthen the ecosystem linkages that promote resilience and to mitigate the forces that impede the ability of agro-ecosystems to deliver goods and services remains an important challenge.

Eco-functional intensification?

- **Higher degree of organization of farms, knowledge-based farming and food systems.**
- **More complex and less industrialised farming systems (e.g. agro-forestry).**
- **Improved land and resource use efficiency.**
- **Improved management of soil fertility, water, biodiversity, genetic diversity, energy and nutrients.**
- **Improved use of resilience, self-regulation and self-healing in farming systems and animal herds.**
- **Adaptation of crop and animal breeding programs to organic and low-input systems.**
- **Novel and improved therapies against pests and diseases in crop and livestock.**
- **Improved use of novel technologies like MAS, nanotechnology (?), robots, sensors an**

