Improving agroecological productivity

• The problem: agroecological yields are low—by almost half of conventional yields in arable production

• Global population set to rise to 9.6 billion—increasing amount of food is important but systems are even more important. There is enough food globally to feed 10 million now but still problems with hunger—815 million hungry.

• Minimal R&D has been spent on improving agroecological yields through ecological intensification

• Resilience also important and should be balanced against yield gains.

• Productivity can be improved by increasing total yield, but also looking at overall farm system efficiency—layering outputs, reducing inputs and recycling waste.
Key areas R&D is needed

- Whole farm systems approaches
- Animal feed systems to reduce grain-safely feeding waste to pigs and chickens, pasture fed dairy
- Improving organic arable yields
- Blight resistant potatoes
- Agroforestry/Silviculture
- Soil improvement systems particularly improving on farm nutrient cycling
- Legume rotations and intercropping
- Mixed farming systems
- Reducing nitrous oxide release- looking at tillage systems
- Carbon sequestration
- Integrated Pest Management
Supply chain innovations important

- Direct sales models combined with lowering input costs and waste recycling can improve farm viability
- Fair supply chains improve farm productivity
- Improved sales models can also integrate the community-improving public health
Knowledge transfer

• Guidance booklets and advisory linked to payments
• Demonstration farms
• Farmer to farmer networks
• Public money for research and development of systems approaches—can be co-developed with farmers to we all learn as we go
• A flexible new small farm productivity scheme
• Events such as Farm Hacks, Alternatives in dairy working groups, and the ORFC!