

How to find pathways towards climate-smart agriculture -Views of farmers, educators and advisers in Finland

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- Climate Change and Countryside –project
- Workshops on climate change related themes
- Workshop participants' perceptions on enabling and obstructing factors for climate change mitigation and adaptation on farms in Finland
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Photo: Karoliina Rimhanen

Agriculture has different roles related to climate change

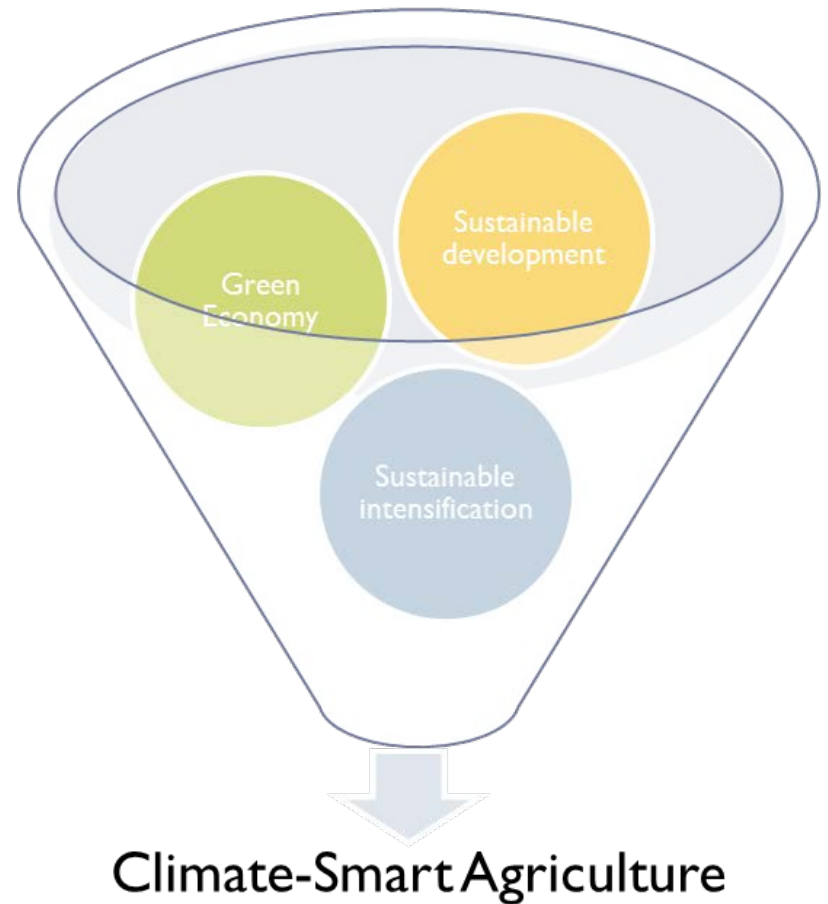
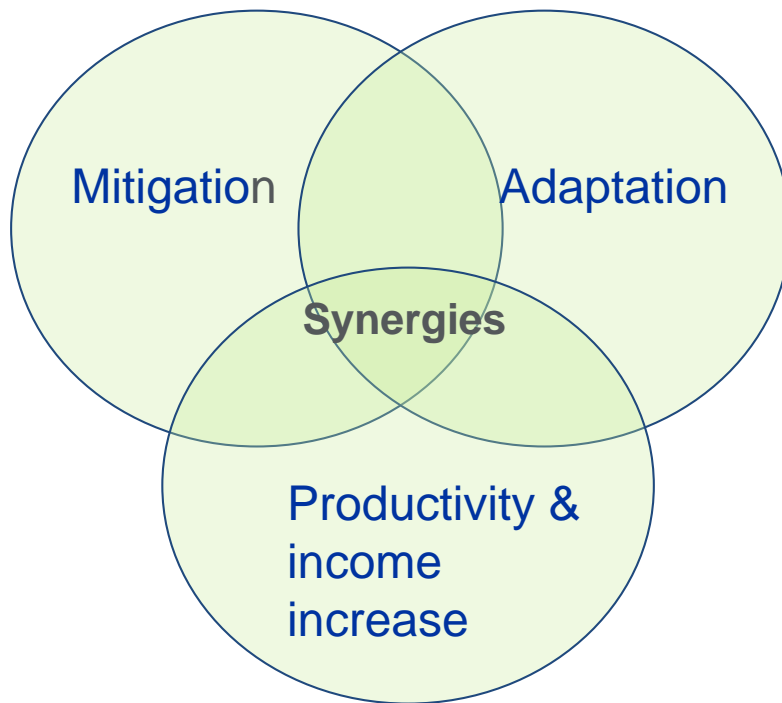
- Victim of effects, vulnerability -> need for adaptation
- Causes greenhouse gas emissions - > need for mitigation
- Climate savior, creates soil carbon sinks and has possibilities to produce renewable energy

Ollikainen et al. 2014

Photo: Marketta Rinne / Luke archive



Climate Smart Agriculture



Climate Smart Agriculture

“Climate-smart agriculture (CSA) is an approach for transforming and reorienting agricultural systems to support food security under the new realities of climate change. -- Threats can be reduced by increasing the adaptive capacity of farmers as well as increasing resilience and resource use efficiency in agricultural production systems.”

Lipper et al. 2014



Photos: Sari Himanen, Juuso Joonas, Luke archive

Climate change as wicked problem

- **Wicked problems**
 - high complexity, uncertainty and divergence
 - series of interlinked problems and they have many stakeholders
- **Solving of wicked problems needs**
 - social learning, which is based on the idea that knowledge is composed by sharing and doing with others and knowledge has contextual character, it is depended on situation, time and place
 - not only knowledge and technical solutions but also future-oriented strategic thinking skills, skills to cope with uncertainties and building of adaptive capacity



Collins & Ison 2009, Folke et al. 2010, Head 2008

Climate Change and Countryside -project Ilmastomuutos ja maaseutu (ILMASE) -hanke

Aims:

- provides practical information about climate change for farmers and makes proactive adaptation to and means for mitigation of climate change more concrete and closer to everyday life of Finnish farmers
- creates **discussion forums** on potential effects of climate change and how to prepare for them on rural areas, especially in agriculture
- **creates a network** of farmers, advisors and teachers, rural developers, decision makers and researchers interested in climate change issues
- **identifies information needs and research gaps** for implying mitigation and proactive adaptation to climate change in Finland
- run by MTT Agrifood Research Finland. The funding comes from the Rural Development Programme for Mainland Finland and is allocated by The Centre for Economic Development, Transport and the Environment (ELY Centre) of Häme.
- Operating 4/2011-9/2014

ILMASE
ILMASTONMUUTOS JA MAASEUTU



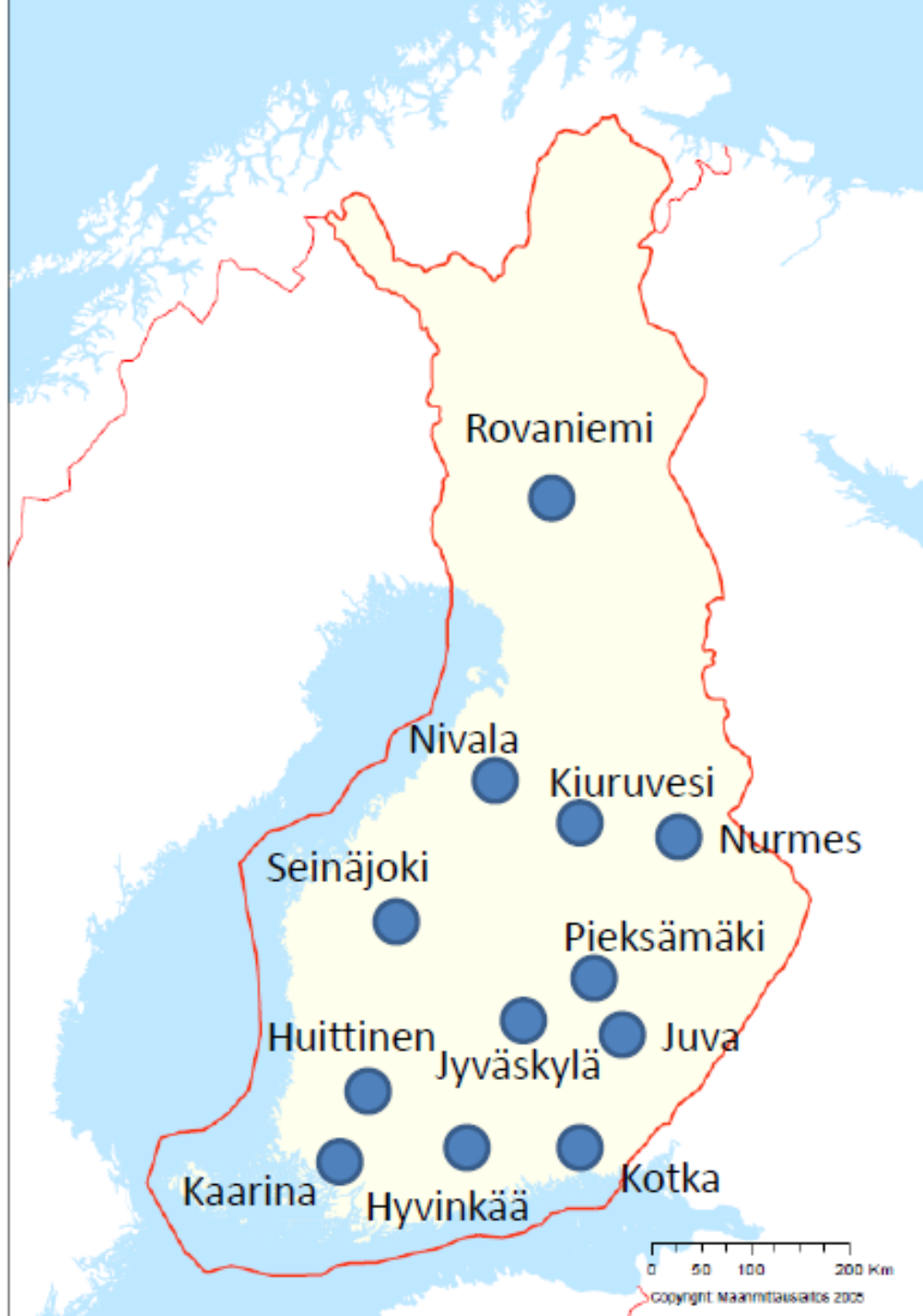
www.ilmase.fi

Workshops

- 12 workshops around Finland during years 2012-2014
- Altogether app. 300 participants, of which 120 farmers
- Workshop length: 7 hours each

Aims:

- Provide information about climate change related themes, which are important for the region
- Discuss and gather views of participants on the specified themes



Workshops: outline and methods used

- Expert presentations by researchers, rural developers, farming advisors and forerunner farmers to provide information
- Facilitated **group discussion** using "me-we-us" method
- Question 1. what strengths and opportunities as well as weaknesses and threats do you see in climate change preparedness
- Question 2: how could these strengths and opportunities be supported for and by whom, and how could the weaknesses be diminished and threats transformed into opportunities
- "applied SWOT-analysis"



Photo: Karoliina Rimhanen

Workshops: themes

- based on the information needs in different regions according to the survey
- covering mitigation and proactive adaptation
- > aiming for climate-smart solutions

Examples of the themes:

- Extreme weather events
- Better soil structure brings many advances in changing climate
- Catch crops to prevent nutrient run-off
- Legumes as feed and fertilisers and their advantages for farm profitability
- Efficient use of manure
- New plant diseases and pests
- Diversification as a means for risk management
- Biogas production – advantages and obstacles
- Energy saving and cost savings
- Impacts of climate change on forests
- Etc...



Pictures: Ville Heimala



Photos: Karoliina Rimhanen



Enabling factors for climate change mitigation and adaptation on farms in Finland

- Farmers' **willingness to experiment novel means, good expertise, strong entrepreneurship and willingness for cooperation**
- **Useful cooperation between farmers and advisors** -> good way to get new methods into practise
- **Stable and well-functioning, sound, society**
- **Plenty of renewable natural resources:** renewable energy, clean water, air and soil
- **Farmers are familiar with**
 - **long-term thinking**, which climate solutions demand, farmers thinking through generations
 - **local solutions thinking**, problem-based learning and finding solutions for problems on own farm is everyday work, not waiting that someone else solves questions globally
- **Farmers find climate solutions as motivating factors:**
 - Eg. crop rotation and enhancing biodiversity on fields are seen to be based on honouring field and soil (which is traditionally seen as the most important basis for whole agriculture)
 - Producing renewable energy is seen also as a means to encourage new, young farmers; the next generation is interested in continuing farming when they get opportunities to produce also energy in addition to cereals or livestock

Obstructing factors for climate change mitigation and adaptation on farms in Finland

- **Uncertain profitability** development and **lack of capital for investments**
- Lack of or **difficulties in cooperation** between farms
- **Farmers feeling of inferiority**, experiences that **farmers' work is not appreciated** in the society in the long term (this downsizes trust for a positive future as well as willingness to prepare for future)
- Experiences that **specialities of the Finnish countryside are not always taken into account in Finnish agricultural and climate policy** (eg. the shortness of growing season, long distances, very strict interpretations for rules in Finland, many countries in EU are seen to have farmer-friendlier interpretations of the same rules)
- **Aging of rural population** (proactive preparation for future is not priority, if no young people around)
- **Dispersed and concentrated location of cereal and domestic animal farms** (problems for nutrient recycling)
- **Workload** especially on animal farms huge -> climate change discussion is seen as exhausting or frustrating extra work
- **"Bureaucracy"**, is seen as a threat for sense of farming -> hopes that climate work wouldn't increase bureaucracy
- **Jumping policies: inconsistent** agricultural, energy, climate and CAP-policies cause frustration and also fear that farming is becoming unprofitable

Conclusions:

Key messages from workshops 1/2

- Pioneer farmers with climate-smart solutions, and wide-spread willingness to learning by doing exists among Finnish farmers
- Key questions in preparation for future: time, profitability, useful cooperation, appreciation of farm work and appreciation of domestic food in the society
- Lack of practical means and knowledge is a problem
 - Scientific information is sometimes seen too complicated and abstract
 - Researchers need to develop communication practices and capability to find solutions for practical questions
- Farmers are keen to play an important part in planning mitigation and proactive adaptation actions to face climate change, but information about effective and economic practices is needed



Photo: Karoliina Rimhanen

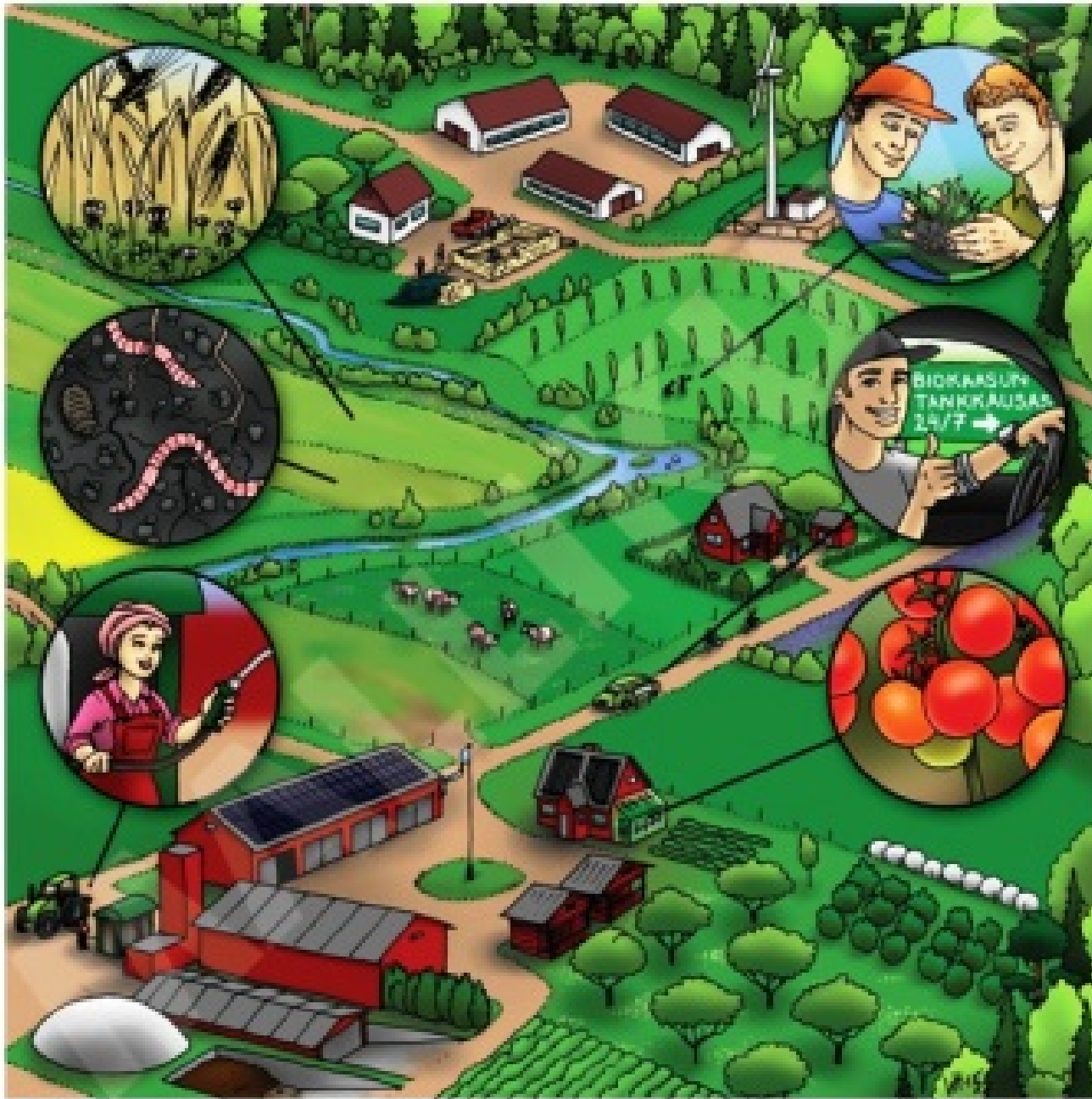
Key messages from workshops 2/2

- Climate work can be thought of as part of developing one's own farm in a climate smart way
 - Involve actions which farmers would benefit from doing any case, proactively or unconsciously
 - Climate work on rural areas is part of everyday work and life, not a separate issue to deal with, instead it is part of continuing development
 - Climate change preparedness is one more argument for putting effort to developing your farm
 - > what you do, do it well and sustainably!
- Farmers are surprised how the **familiar managements** that they already know from other contexts can also support **climate work**, such as
 - taking care of soil fertility
 - increasing soil organic matter
 - taking care of soil structure
 - enhancing biodiversity on fields
 - establishing co-operation between plant production and animal husbandry farms
 - learning from other farmers experiences
 - ensuring yields by utilising high quality research and knowhow
 - > mitigation or proactive adaptation
 - does not always need large scale investments
 - > familiar from organic farming



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Thank you!

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