

Developing ways towards climate smart agriculture together

Experiences of project Climate Change and Countryside



Seminário final Tejo Vivo

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Climate Change and Countryside –project

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MTT Agrifood Research Finland





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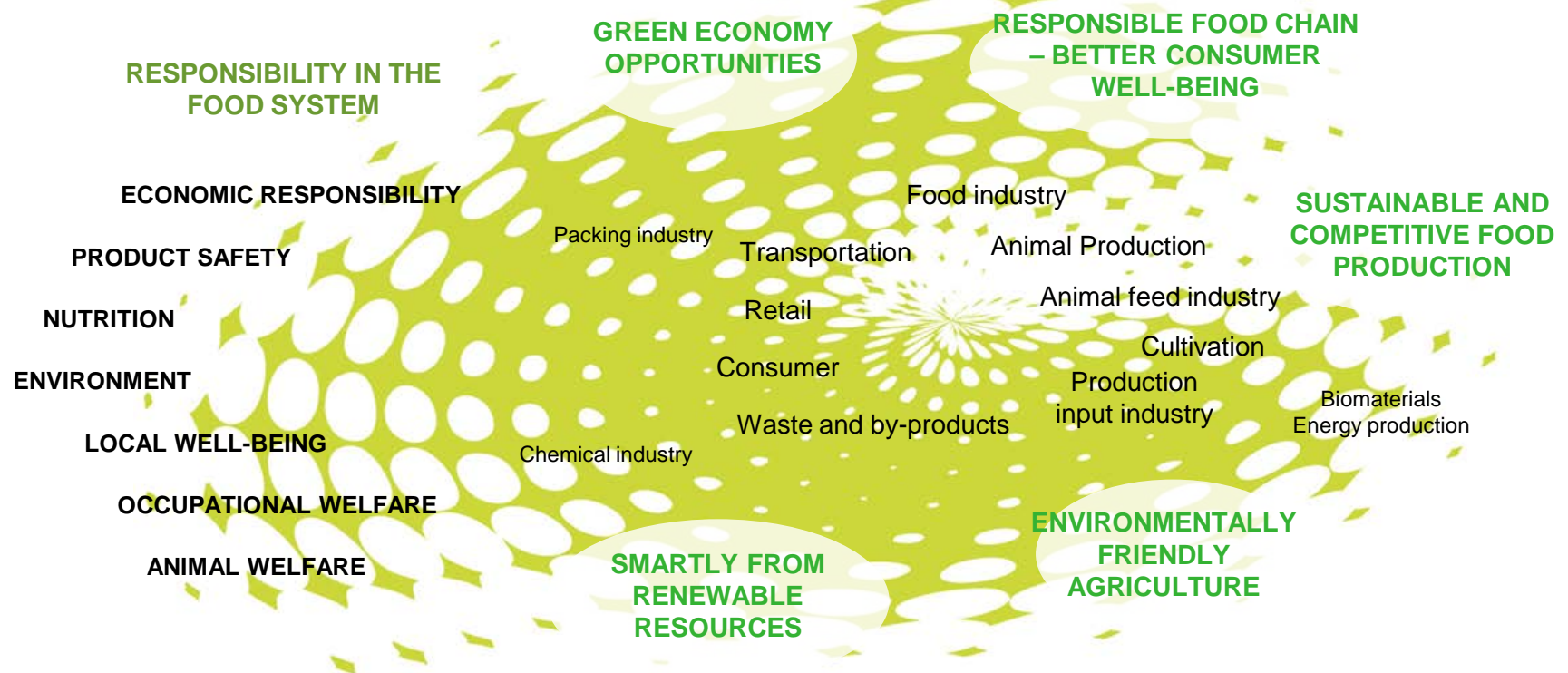


Photos: MTT archive



MTT Agrifood Research Finland

- leading research institute developing sustainability and competitiveness of the food system
- operating under the Ministry of Agriculture and Forestry
- has operations in 15 locations around Finland
- employs about 750 persons
- MTT Agrifood Research Finland, the Finnish Forest Research Institute, the Finnish Game and Fisheries Research Institute and the statistical services of the Information Centre of the Ministry of Agriculture and Forestry are to be merged under a new entity called *Natural Resources Institute Finland (Luke)* as of 1 January 2015
- www.mtt.fi/english



- Solutions for customers in five research areas
- Expert in responsible food production and consumption and in food nutrition



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Climate Change and Countryside –project

Aims:

- provides practical information about climate change for farmers and makes it closer to everyday life of Finnish farmers
- creates **discussion forums**
- **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**
- run by MTT Agrifood Research Finland
- operating 4/2011-9/2014
- communication/awareness raising project, research part continuing until 2015

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Climate Change and Countryside –project

Concrete actions:

- **survey** on information needs of farmers and rural stakeholders
- **12 workshops** all over Finland
- **website:** www.ilmase.fi
- helps **networking** of people (over 500 persons on email-list)
- producing **6 information sheets** on different themes linked to climate change, e.g.
 - presenting concrete actions that farmers can do on their farms in favour of mitigating or adapting to climate change
 - farm-scale renewable energy solutions
 - more sustainable animal husbandry
- producing **articles** to farmers' professional magazines
- shares information on climate change in **events** for farmers

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Proactive adaptation and potential to mitigate climate change in the countryside



- Climate change mitigation and adaptation are increasingly important for the future of farming and rural development. Climate change is **among key drivers of transformation** (IPCC 2014).
- **Rural areas play an important part** in planning mitigation and proactive adaptation actions.
- Climate change appears through many kinds of changes: **not just through the changes in weather conditions** (e.g. droughts or floods) but also through **changes in policy and prices of energy and inputs**.
- Successful climate change adaptation demands not only case-specific, **practical adaptation measures, but also building long-term adaptive capacity** of farms to operate well under increasing uncertainty, be it weather changes or altered demand of food, feed or other bio-based products (Reidsma et al 2010).
- Successful mitigation actions need to be economically feasible to be implemented by actors.
- Social impacts in the countryside such as well-being and liveliness, vulnerability and fairness in required adaptation actions important as well (Sairinen et al. 2010).



Photo: Karoliina Rimhanen



Survey on information needs of farmers and rural stakeholders on climate change mitigation and adaptation actions



- conducted in 2011
- n= 342, respondents from whole Finland
- 55 % of respondents thought, that climate change will affect their actions in near future, 34 % disagreed, 11 % did not have an opinion (Mäkinen Hanna, 2012)



Photo: Esa Melametsä



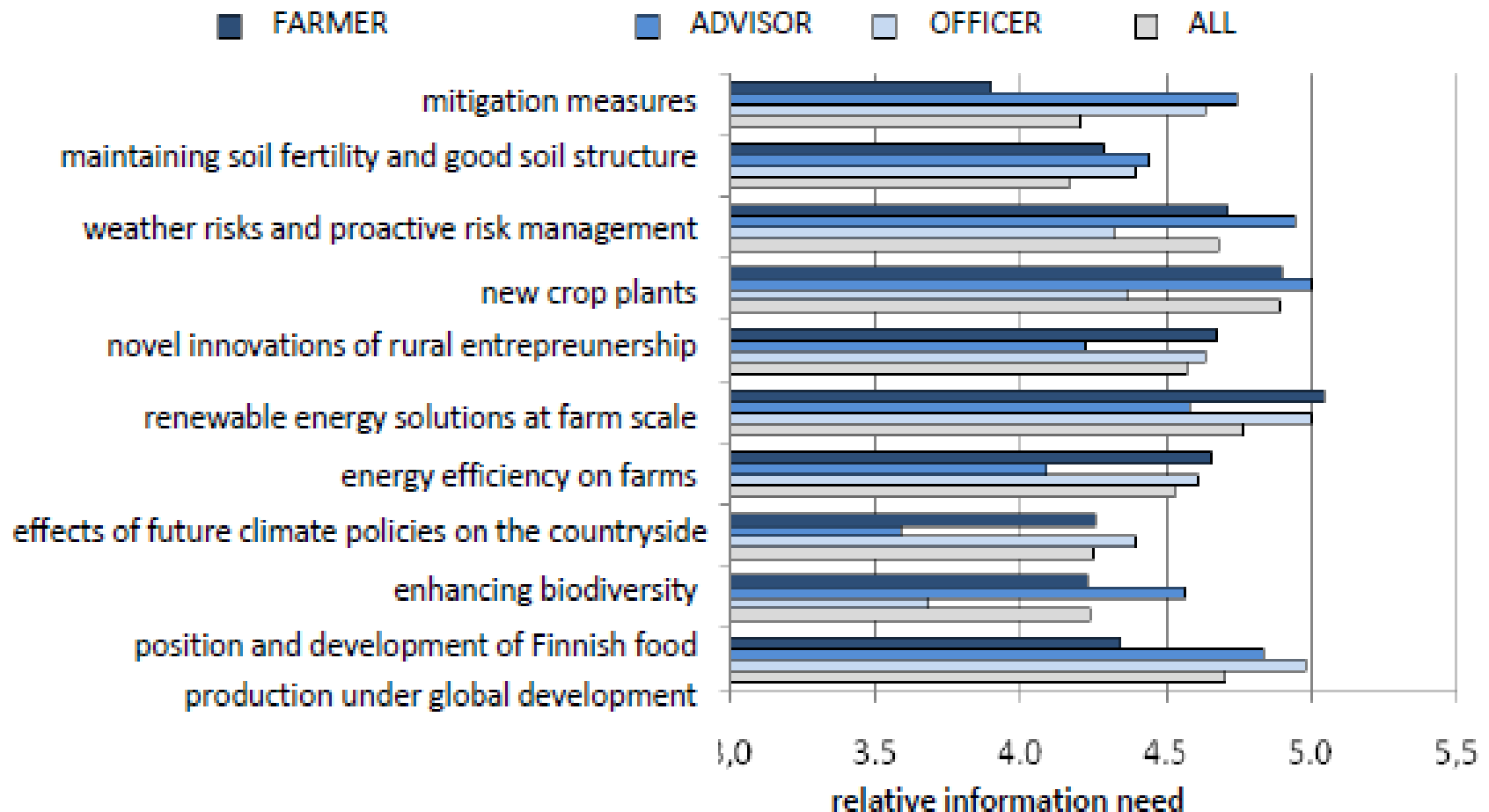
Photo: Juuso Joona



Photo: Sari Himanen



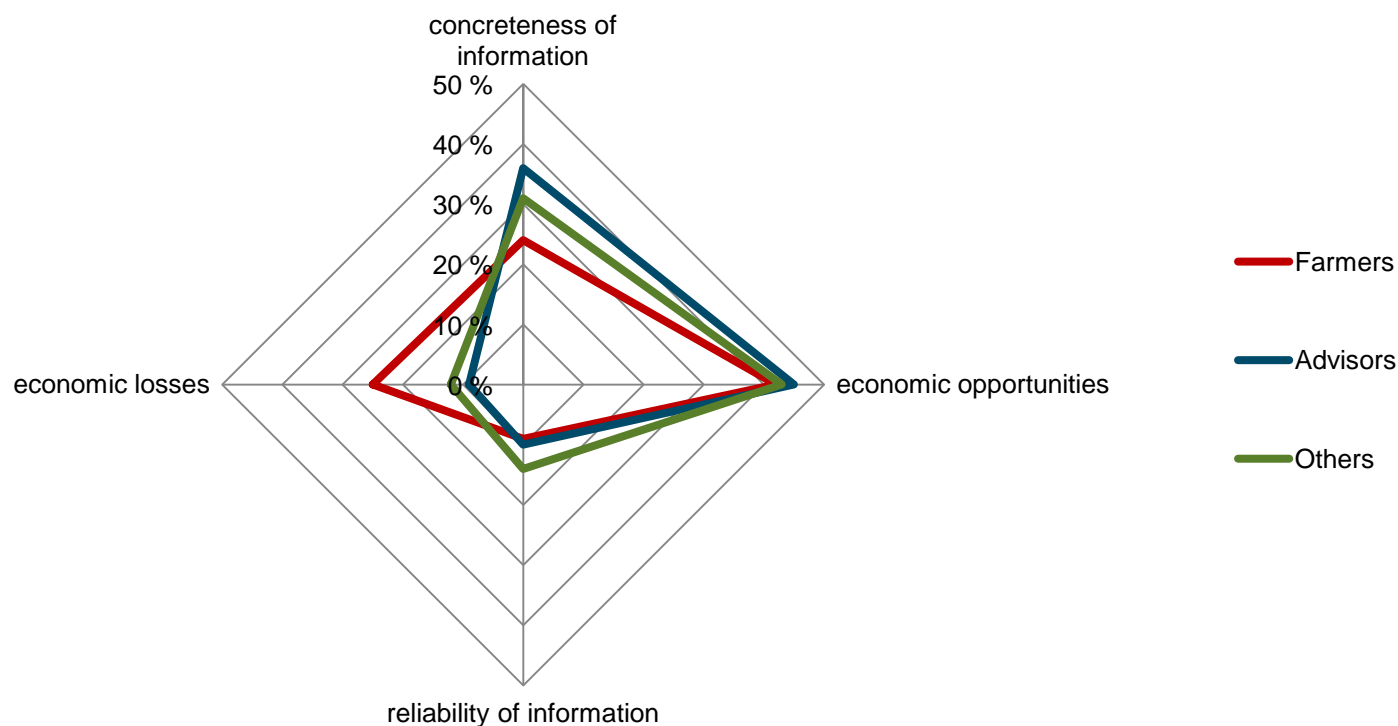
Survey results: main information needs of farmers on climate change



(Mäkinen Hanna, 2012)



Perceptions of rural stakeholders on opportunities and barriers for climate change preparedness



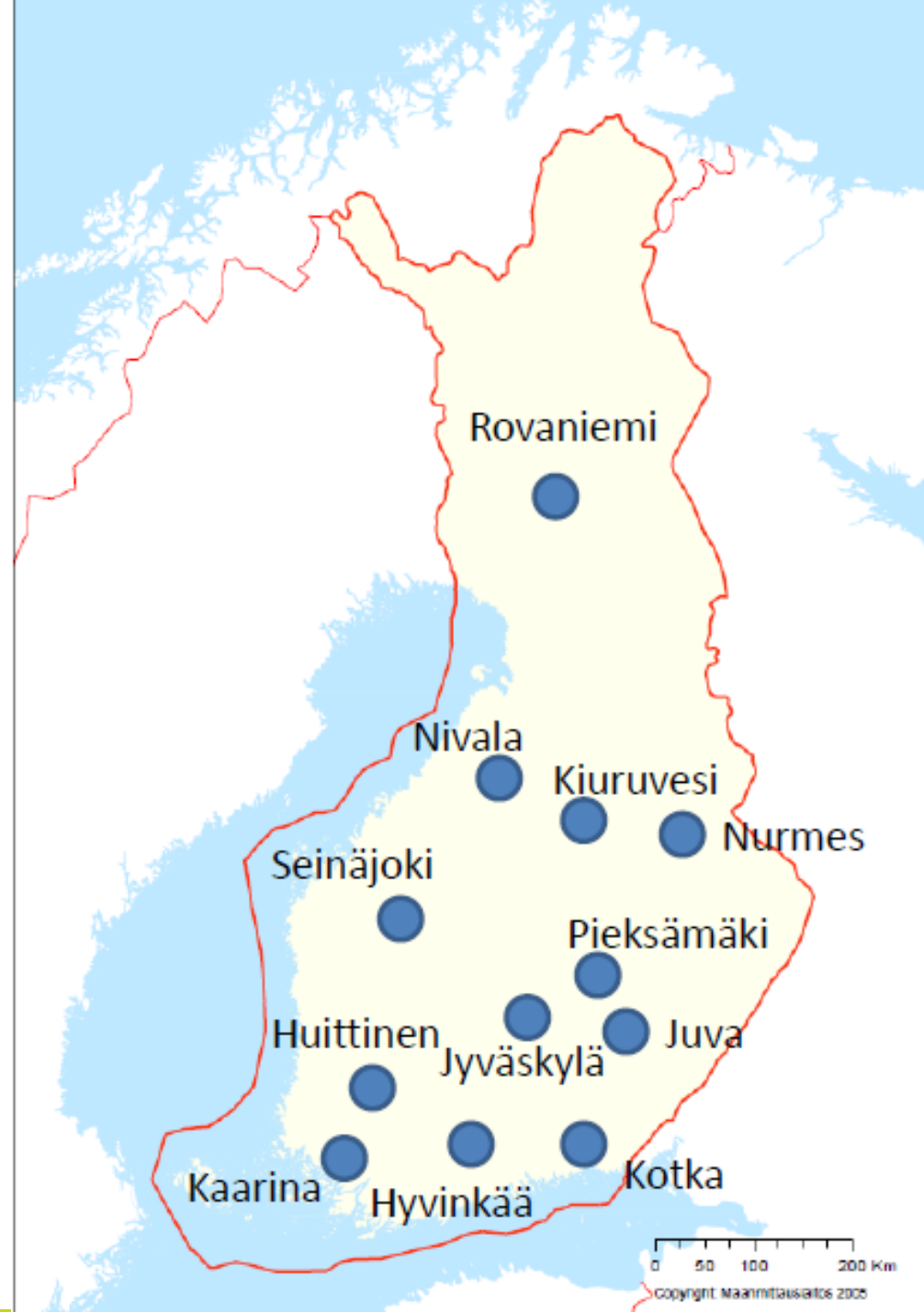
(Mäkinen Hanna, 2012)

Workshops

- 12 workshops around Finland during years 2012-2014
- Altogether ca. 270 participants
- 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"



Photos: Karoliina Rimhanen



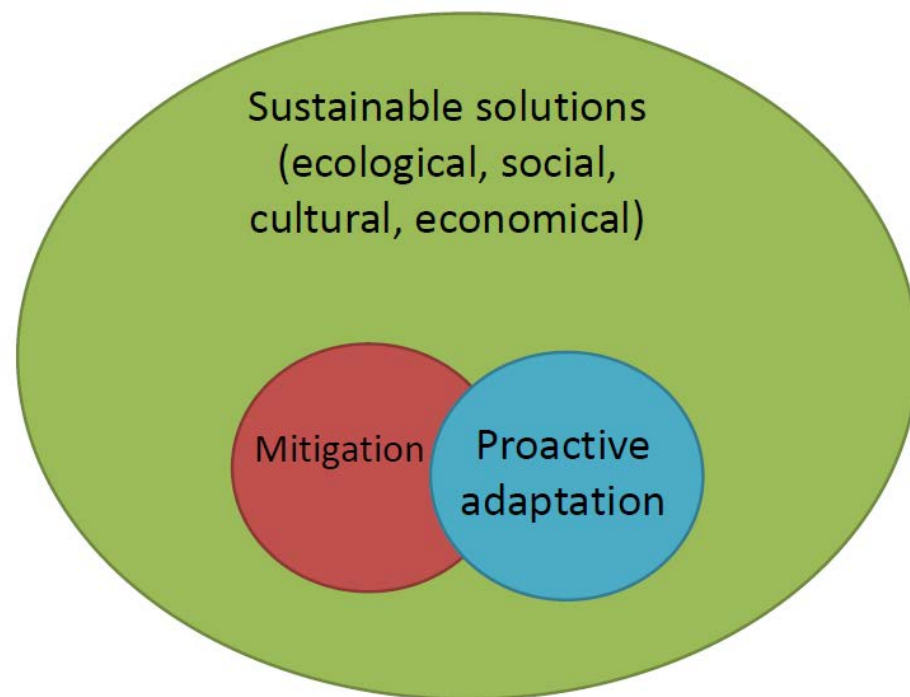
Workshops: themes

- 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
- Increasing soil carbon
- 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
- Farm-scale photovoltaics and wind power solutions
- Energy saving and cost savings
- Impacts of climate change on forests
- Etc...





Photos: Karoliina Rimhanen





Perceptions on strengths and opportunities supporting climate change preparedness on farms



- 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
- **Well-functioning, sound, society**
- **Renewable natural resources**
- 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 mean to encourage new, young farmers

Photos:
MTT archive





Perceptions on weaknesses and threats for climate change preparedness on farms



- Lack of or **difficulties in cooperation** between farms
- **Farmers feeling of inferiority**, experiences that farmers' work is not appreciated
- Experiences that **specialities of the Finnish countryside** are not always taken into account in Finnish agricultural and climate policy
- **Uncertain profitability** development and lack of capital for investments
- **Aging of rural population**
- **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 1/3

- Pioneer farmers with climate-smart solutions exist and they are willing to share their experiences
- Wide-spread willingness to learning by doing 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
 - Farmers are keen to play an important part in planning mitigation and proactive adaptation actions to face climate change, but practical information about effective and economic practices is needed
 - Actions need to be feasible to differential regional conditions



Photo: Karoliina Rimhanen



Key messages from workshops 2/3

- Climate work can be thought of as part of developing one's own farm in a climate smart way
 - 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
- 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

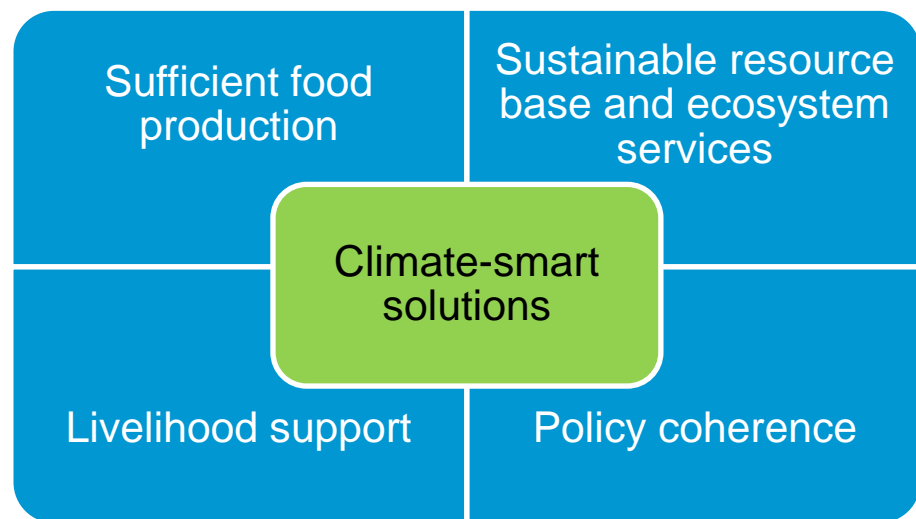


Workshop in Nurmes 28.11.2013, visit to Kuittila farm with 160 dairy cows, farm can produce by farm scale CHP all the heat and electricity it consumes.
Photo: Karoliina Rimhanen



Key messages from workshops 3/3

- **Fairness** in possible future emission reduction regulations affecting farmers are seen important, as well as taking into consideration regional contexts
- **Wish for own active Finnish policies**, not just following EU's rules
- Much interest for politics and economy of climate change impacts - but the **timescale** when information about these changes is available and when they need to be implemented is far too short
- Research-based information to build awareness raising and discussion on their feasibility, examples of good practices, collaboration and discussion forums with colleagues were considered to be **important means for building climate change preparedness** at rural areas
- Participatory research important in such issues as finding practically feasible solutions for future climate-smart agriculture



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Thank you!

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