

Farmers' perceptions on climate change: Information needs and barriers for implying mitigation and proactive adaptation

Hanna Mäkinen, Karoliina Rimhanen & Sari J. Himanen

MTT Agrifood Research Finland, Lönnrotinkatu 5, 50100 Mikkeli, Finland, firstname.lastname@mtt.fi



Introduction

Building resilience and adaptive capacity of agriculture are essential in preparing for the direct and indirect changes brought about by proceeding climate change. The actual mitigation and adaptation actions are dependent on farmers' knowledge. The aim of this study was to examine the regional information needs among farmers and rural stakeholders in various aspects of climate change within Finland and explain their perceptions of the opportunities and challenges of taking the knowledge into practice.

Materials and Methods

The data was collected through a Internet questionnaire (n=342). Cross tabulation was used to assess regional differences. Qualitative analysis gathered views on whether climate change will affect farmer actions in the near future and barriers and incentives for proactive preparing towards climate change.

Results and Discussion

Information needs varied by region (Figure 1). 84 % of the farmers and rural stakeholders requested more information on economic changes influenced by climate change and 71 % of renewable energy. The most interesting sub-themes are presented in Figure 2. Information on adaptation was considered more interesting and acute than knowledge of mitigation. 55 % of the farmers and rural stakeholders believed that climate change will affect their activities in the near future.

The respondents estimated that climate change brings both opportunities and risks for agriculture and they believed that the role of energy efficiency and renewable energy increases. Complexity of current climate change communication and economic barriers may hinder both mitigation and proactive adaptation at the farm level (Figure 3).

Conclusions

Practical, regional and production line -specific information about climate change adaptation and mitigation options are needed, but these should involve evaluation of effects on farm profitability. Poor economy and failed communication about climate change hinder putting knowledge into practice. Policy support is important in order for farmers to take action towards mitigation and adaptation.

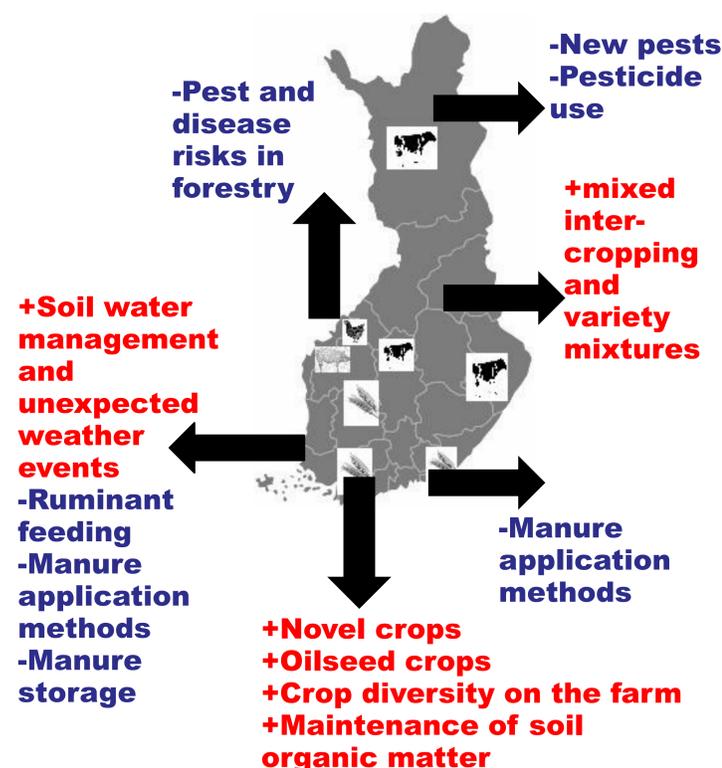


Figure 1 Regional differences in climate-related information needs ($P < 0.05$).

+ = more information
- = less information

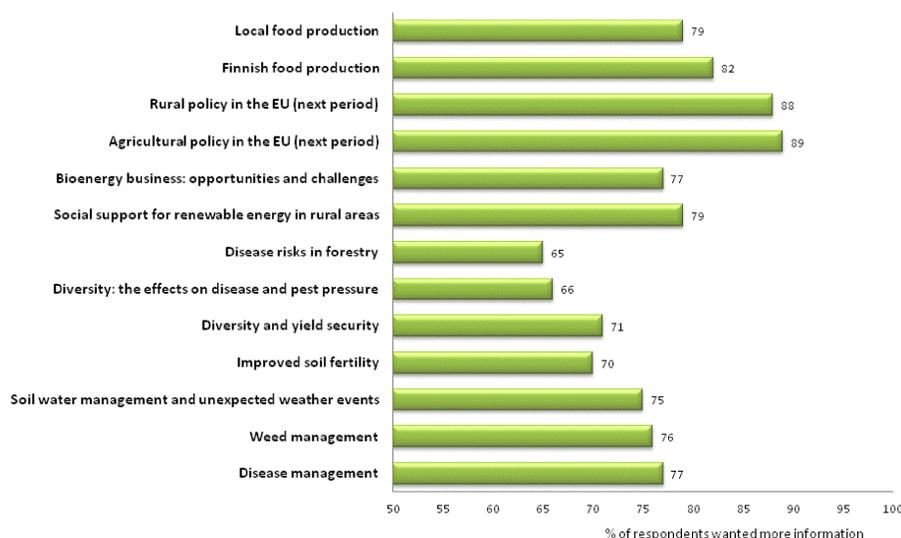


Figure 2 The most highlighted sub-themes for climate-related information needs among Finnish farmers.

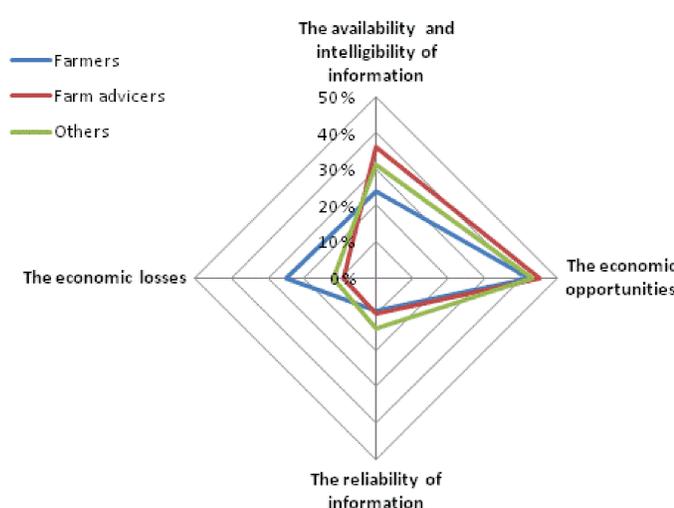


Figure 3 Farmers and rural stakeholders' opinions on barriers and incentives for proactive preparing towards climate change.