

Maladaptation in Nordic agriculture – an interactive game to support stakeholder participation and analysis

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While climate change adaptation research in the Nordic context has advanced significantly in recent years, we still lack a thorough discussion on maladaptation, i.e. unintended negative outcomes as a result of implemented adaptation measures. In order to identify and assess examples of maladaptation for the agricultural sector, we developed a novel methodology, integrating visualization, participatory methods and serious gaming. This enables research and policy analysis of trade-offs between mitigation and adaptation options, as well as between alternative adaptation options with stakeholders in the agricultural sector. Stakeholders from the agricultural sector in Sweden and Finland have been engaged in the exploration of potential maladaptive outcomes of climate adaptation measures by means of a serious game on maladaptation in Nordic agriculture, and discussed their relevance and related trade-offs. In fact, games have been used for identifying trade-offs successfully in the urban context also (Juhola et al. 2013).

The player is challenged with four different climate related challenges that are relevant to Nordic agriculture. Each challenge can be addressed by a number of adaptation measures, from which the player selects one at a time. Each adaptation measure is then leading to a potential maladaptive outcome, which the player has to decide to avoid or accept. The game further allows the individual player to compare his or her pathways and results with other players in a moderator's interface during or at the end of the game. The key feature of the game is hence the stimulation of discussions and reflections concerning adaptation measures and their potential negative outcomes, both with regard to adding knowledge about adaptation measures and their impact as well as the threshold of when an outcome is considered maladaptive, i.e. what trade-offs are made within agricultural climate adaptation.

Refs.

Juhola, S., Driscoll, P., de Suarez, J. M., & Suarez, P. (2013). Social strategy games in communicating trade-offs between mitigation and adaptation in cities. *Urban Climate*, 4, 102-116.