Barriers to Implementation of Climate Change Adaptation Measures - The Case of Madagascar’s Agricultural Sector

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Introduction

- Climate change adaptation can foster sustainable development and take countermeasures against deteriorating living conditions (Adger et al., 2003; Masson-Delmotte et al., 2018).
- Implementation of adaptation measures is a rather unexplored project phase with many barriers (Moser and Ekstrom, 2010).
- Madagascar is highly vulnerable to the impacts of climate change and one of the poorest countries in the world (Eckstein et al., 2018; UNDP, 2018).
- It has a high risk for extreme weather events, increasing temperatures and decreasing precipitation (World Bank Group, 2011; Zaoharimalala Rabefitia, 2008).
- 75% of Malagasy are employed in agricultural sector which is highly impacted due to its dependence on natural resources (Adger et al., 2003; MID et BNGRC, 2013).

Which barriers to the implementation of climate change adaptation measures exist in Madagascar’s agricultural sector and how to overcome them?

Methods

- Qualitative questionnaire to diagnose barriers to implementation of six chosen adaptation measures in the agricultural sector.
- Distributed to mayors, development agents and land planning agents, technicians in different regional government levels,
- 48 questionnaires collected in two regions of Madagascar,
- Seven semi-structured expert interviews to gain further information about main barriers to implementation of adaptation projects and to obtain an inside perspective on project implementation,
- Experts were employees of non-governmental organizations and development agencies.

Results: Questionnaires

![Fig. 3: Main barriers to implementation of six chosen adaptation options in the agricultural sector according to questionnaire respondents](image)

- Respondents lack the capacities to convince stakeholders of the benefits of adaptation,
- Most barriers are recently created (contemporary) and in control of the respondents (proximate),
- Proposed solutions to overcome barriers are clearly remote, shifting responsibilities to external institutions.

![Fig. 4: Matrix classification of most stated barriers to implementation in questionnaires](image)

Results: Expert interviews

![Fig. 5: Matrix classification of most stated barriers to implementation in expert interviews](image)

- Experts see a need to transfer responsibility and improve subsistence of beneficiaries,
- Strategic approaches of interviewed projects impede bottom-up approaches.

![Fig. 6: Discrepancy between international policy perspectives and local needs](image)

Recommendations

- Climate change adaptation is a living and iterative process
- Participatory approaches and creating responsibility for implementation offer a foundation for long-term integration of adaptation measures.
- Socio-cultural understanding as prerequisite for implementation in a regional or local setting.
- Implementation barriers should be increasingly considered in project planning.
- The existing discrepancy between top-down and bottom-up approaches in the interviewed adaptation projects in Madagascar has high potential to impede implementation processes.
- A common framework for detecting barriers to implementation can facilitate the analysis for and elaboration of possible solutions to overcome them.

Conclusion

References:


Delmotte et al., 2018), “Climate change adaptation can foster sustainable development and take countermeasures against deteriorating living conditions (Adger et al., 2003; MID et BNGRC, 2013).”


Le Changement Climatique à Madagascar,” World Bank Group (2018), “‘Adaptation to climate change in the developing world”, Washington, DC.

MID et BNGRC, 2013), “Implementation of adaptation measures is a rather unexplored project phase with many barriers (Moser and Ekstrom, 2010),”

Experts were employees of non-governmental organizations and development agencies.

- Implementation barriers should be increasingly considered in project planning and management.
- The existing discrepancy between top-down and bottom-up approaches in the interviewed adaptation projects in Madagascar has high potential to impede implementation processes.
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