



Participatory Assessment of Climate and Disaster Risks (PACDR)

Rural communities reveal agroecological practices as a solution to climate change

INTRODUCTION

Agroecology is often mentioned as a solution for both mitigation and adaptation to climate change. No other sector is more challenged by changing climate patterns, extreme weather events and resulting catastrophes than the food production sector.

Bread for all has developed the so called "PACDR" tool that allows communities of smallholder farmers to identify climate change related risks and integrate adaptation measures into existing development projects. In most cases, adaptation needs identified by community members during the PACDR workshop are in line with agroecological principles and practices.

The tool has been developed and continuously improved since 2008 and has been applied in 25 rural community projects in countries of the Global South suffering from climate change. More than 670 rural community members, most of them smallholder farmers, participated in one of these workshops. In addition, around 600 members of local NGOs in southern countries received training to apply the tool in their projects.

To identify divergent needs, women and men conduct the modules separately and subsequently present their results to each other. The tool can be used freely and is available in eight languages on our website: <https://brot fuer alle.ch/thema/landwirtschaft-und-klima/klima/>



Agriculture under dry conditions (Senegal)

AGROECOLOGY, CLIMATE CHANGE AND DISASTER RISK

As widely discussed, agroecological practices can reduce the impact of climate change and the risk of disasters:

- Through improved soil quality and structure water infiltration rate is increased and short term runoff reduced. Consequently, floods during heavy precipitation are alleviated and more water can be retained;
- Maximized soil cover, a cornerstone of agroecology, reduces erosion, evaporation and reduces extreme heat;
- Many agroecological practices work with high crop diversity, this can increase resilience in case one crop fails;
- Agroecological methods can contribute to mitigation of climate change. For example, through increasing soil carbon sequestration, reduction of fossil inputs as well as emissions of greenhouse gases like N₂O.

The results of the PACDR analyses revealed that often global heating is overlaid with local hydrological and climatic changes due to overexploitation of local resources. In many cases, this is a result from a tragedy of the commons. As these can only be solved through collective action, a participatory approach seems promising to ensure ownership and to launch the discussion within the communities.



PACDR workshop: Women identifying the main climatic, natural or human-made hazards



Module 1: Project and Context

Consultation of project description, area description, field visit, interviews with local community members.



Module 2: Climate Change and other Hazards

Identification of past, present and predicted climate changes and human-made hazards in the project area. Identification of main climatic, natural or human-made hazards in the project area. Methods: hazard map, seasonal calendar.



Module 3: Vulnerability and Capacity Analysis

Identification of the impacts of climate, natural and man-made hazards on people and their livelihoods in the project area. Identification of coping strategies and their effectiveness and sustainability. Methods: vulnerability matrix, coping strategies matrix.



Module 4: Adaptation Strategies

Identification of adaptation strategies to minimize the vulnerability of livelihood resources and strengthen the adaptive capacities. Identification of barriers and obstacles to implement coping strategies. Methods: group discussion, prioritization.



Module 5 (optional): Project's Mitigation Capacities

Module 6: Project Revision

Matrix to summarize results of modules, identify relevant intervention areas and activities as well as potential partners and supporters, evaluate feasibility.

RESULTS

The 25 analyses conducted clearly show that communities have already developed various ways to cope with climate change. These coping strategies can be used as a basis for improved adaptation strategies. These are often community led instead of family led, proactive instead of reactive and more sustainable (they can be repeated year after year).

The adaptation strategies mentioned mostly by communities include: Needs for training on specific agricultural activities (e.g. composting, natural fertilization, cultivation of new crops), common management of pastures, change to more locally adapted crops (and animals), drought tolerant varieties/species, afforestation, diversification, long-term community planning - including consultation of experts and other stakeholders, weather stations and weather warnings.

The participants valued the methodical mix of the PACDR tool. The communities felt in charge of the exercise results. It is crucial that the workshop facilitators are culturally sensitive, experienced with participatory rural appraisal methods as well as with smallholder agriculture. Frequently, communities realize for the first time how climate change threatens their main livelihood resources and that it needs long-term strategies to adapt to the changing situation and increase of hazards and weather extremes.

Results also showed the added value of considering gender: Modules two and three are usually conducted separately with women's and men's groups. Afterwards, the groups share the results with each other. Results usually vary due to different gender realities - making this transparent is valuable in itself. In addition, gender-based results can feed into gender-sensitive adaptation strategies.



Participants of follow-up project in Senegal: Finding adaptation solutions as a community

CONCLUSION

The tool to date has been used in rural areas of the global South. However, it was also tested on a Swiss farm. This test showed that the tool can be applied just as well in the context of agricultural systems in the global North. We strongly recommend that farmers and other stakeholders related with agroecological systems consider the actual and anticipated climate changes of the area, and take this into consideration in their endeavors. A tool such as PACDR can help to do so in a systematic and participatory way with local farmers so that they are the «owners» of the interventions and activities.

We clearly see that climate change adaptation measures are often in line with agroecology principles and methods. Just as agroecology should include climate change scenarios, there is a need for advocacy so that climate policies take into account the potentials of agroecology for both mitigation and adaptation.