Tools for Increasing Resilience at Watershed level with a focus on Institutional Change Processes

Introduction

In the period 2011-2013 the EU funded SEARCH project applied combinations of tools to increase social, agricultural and ecological resilience in the face of climate change and other drivers of change in Morocco, Egypt, Palestine, Jordan and Lebanon. The lessons learned and experiences obtained have been brought together in a Guiding Toolkit for Increasing Climate Change Resilience.

The innovative aspect of this toolkit is threefold. Firstly, it makes the concept of resilience more concrete by looking into four integrated themes: diversity, infrastructure, self-organization and learning. Secondly, it recognizes in all aspects that climate change is just one among many factors that especially cause stress on societies in least developed regions. Last but not least, the toolkit provides practical tools for using the theoretical concept of 'resilience' to integrate climate change adaptation not only in national strategies but also in the strategies and plans at local and watershed levels.

The toolkit demonstrates the flows of activities under each practical step for developing resilience and how the different steps are linked to deliver an overall integrated plan and its implementation. It was prepared to support all those involved in the design of resilience initiatives in the sectors of Agriculture, Water and Natural Resource Management by providing step-by-step guidance.

The toolkit is designed for the use in planning and dialogue within and between local, intermediate and national levels. However, elements of the toolkit are appropriate for use in stand-alone activities within a single municipality, district, governorate, or region.

International Union for Conservation of Nature - Regional Office for West Asia

The Challenge

Climate change is affecting the livelihoods of people all over the world, but the economically and socially least developed groups of the society are the most vulnerable to climate change impacts. Strengthening the resilience of vulnerable groups should be at the heart of policies and plans to address the impacts of climate change.

The essential quality of resilience is the capacity of societies and ecosystems to withstand shocks and rebuild when necessary. Poor people and less-developed countries require the capacity for transformation to move out of poverty towards prosperity, that can be sustained under dynamic climate and global change processes. Resilience consistent with poverty reduction is thus the capacity to cope with shocks and stresses and to sustain transformations needed to reduce poverty under global change, including climate change.

There is a need to provide better climate change policy and planning in an integrated, transparent and participatory manner at different levels and to improve climate change governance for a well-functioning, healthy society at large. A key element in well targeted and effective climate adaptation planning is the representation of all relevant stakeholders, at horizontal and vertical levels, throughout the whole process of setting up and implementing adaptation strategies.

There is a gap between these ambitious ideas and realities on the ground. On the one hand there are national climate change adaptation policies, generally described in a theoretical way; there are also other sectoral policies for e.g. water, agriculture, forestry, fisheries. Then there is the ground level where farmers and other rural people try to adapt to climate change and other changes that put stress on their livelihood.

In between these levels much can be done to increase the resilience of communities, governorates and watersheds. But tools to do so are in development and not well-established.

The SEARCH project "Social, Ecological & Agricultural Resilience in the Face of Climate Change" obtained good practical examples on how to strengthen resilience through learning and piloting practices with the full participation of all the relevant stakeholders. These stakeholders included policy makers, government practitioners, civil society, environmental groups, women and citizens in the five participating countries. The experiences gained have resulted in a toolkit that allows for the lessons learned to be replicated in other geographical areas.

Toolkit application

The overall setup of the toolkit, which means both the process and the tools and methodologies applied, should be used to develop resilience plans at whatever intended spatial scale. The user of the toolkit should firstly try to understand its process and functionality and adjust it to the local conditions. Then the user should decide on what relevant tools to use for conducting further analysis and planning activities. Selection of the tools to be used depends on many aspects, such as: (a) type of information (most) needed, (b) available expertise and capacity to implement the tool correctly and analyse the results, (c) costs, (d) time requirements, (e) and requirements with respect to human resources and training.

In short, the toolkit can be used to:

- Conduct stakeholder analysis and gather data on views and perceptions of local communities,
- Identify causes and effects of climate change impacts,
- Assess vulnerabilities and resilience of social, agricultural and ecological systems,
- Prioritize adaption options and develop climate resilient plans,
- Provide a solid knowledge base for decision making,
- Link theory with practice, research with application.

The main tools applied by the project in the different countries and their relevance to the SEARCH Resilience Framework introduced below can be found in detail in the toolkit.

Climate change tools for use in participatory planning processes

One concrete challenge for strengthening resilience is how to factor in the processes and assemble the tools and methodologies that are needed to mobilise such frameworks like the one adopted by SEARCH. For this purpose, SEARCH also adopted the Participatory Planning Cycle (PPC) by modifying the six steps of the management cycle and the respective sub-steps with a view towards producing more resilient strategies at local and national levels and also at watershed level. This resulted in the following six steps: (a) resilience vision, (b) resilience assessment, (c) resilience strategies, (d) planning, (e) implementation, and (f) reflection (See figure 1).

Figure 1: The Participatory Planning Cycle (PPC) for the SEARCH Resilience Framework

SEARCH Resilience Framework

The approach used in the project is based on a 'Resilience Framework'. After extensive stakeholder consultation, the following definition of resilience was adopted by the project: "A watershed system's capacity to absorb, manage, and adapt to social and health, agricultural, and ecological changes (or stressors) while still maintaining its essential structure, feedbacks, and functionality."

The logic for choosing the watershed as the geographic unit for developing resilience adaptation plans is that it is important to clearly limit the area or areas of intervention. River (sub-)basins are very suitable for that, because water is essential for the ecology and economy.

SEARCH Resilience Framework as seen in figure 2 below is explained in full in chapter 3 of the toolkit.

From planning for adaptation to planning for watershed management

In the SEARCH project the impacts of climate change on agro-ecological systems in the selected pilot sites in the participating countries were analysed. Plans to adapt the availability of water to changed climatological circumstances are only effective when they look at the watershed and the interlinkages that exist within the given watershed as a whole, taking into consideration surface water and groundwater interactions.

Hence the logic for choosing the watershed as the geographic unit for developing resilience under SEARCH. Watersheds are also a closer reflection of real systems. They are often complex social-ecological systems that reflect natural behaviour, responses and feedbacks under various stressors, including natural stresses (e.g. climate change) as well as human stresses.

Effective watershed management including the planning and implementation of climate adaptation strategies and plans requires the involvement of all stakeholders. In line with the application of SEARCH Resilience Framework and the design of climate adaptation measures, integrated water resources management or IWRM needs to be based on applying the participatory planning cycle and on the involvement of all relevant stakeholders.

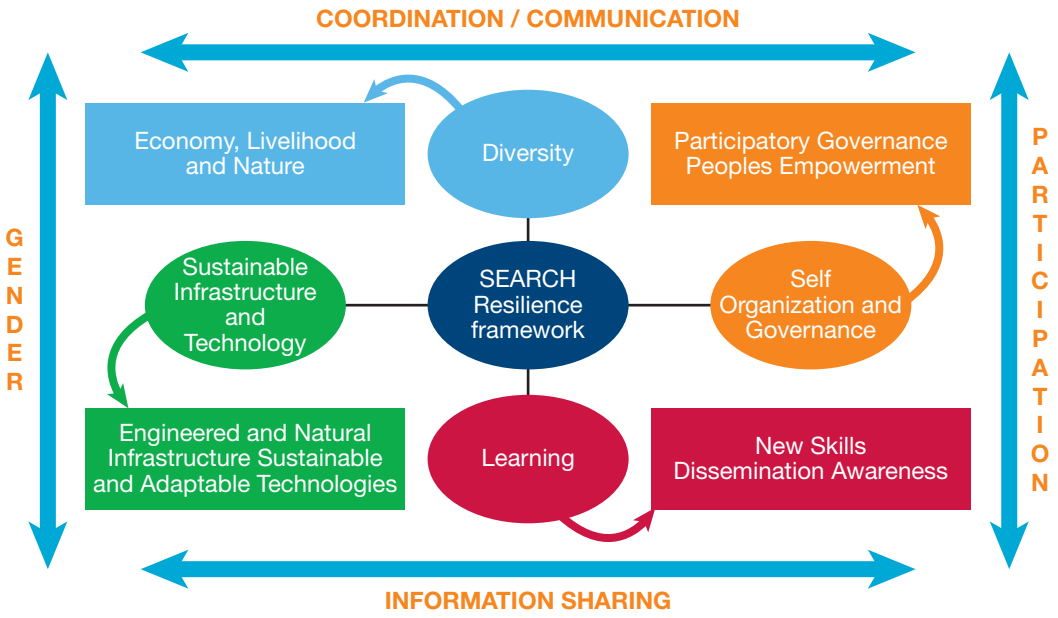
The difference between watershed management planning and traditional climate change adaptation planning is that water management requires a higher level of integration as it requires the integration of social, economic and environmental concerns.

Institutional Change at the heart of the Resilience Framework

The application of the Resilience Framework as described above including the planning and implementation of the selected adaptation plans requires a strong and accountable governance structure. One of the most challenging factors in setting up a transparent and accountable governance structure is the fact that borders of administrative units are not formed along the borders of watersheds or river (sub-) basins which are the area of intervention for the design of adaptation measures and the activities to strengthen resilience.

Governance is not synonymous with government. It is instead a complex process that considers multi-level participation beyond the state, where decision making includes not only public institutions, but also the private sector, civil society and society in general.

Figure 2: SEARCH Resilience Framework



Good governance frameworks refer to new processes and methods of governing and changed conditions of ordered rule on which the actions and inactions of all parties concerned are transparent and accountable. Good governance embraces the relationships between governments and societies, including laws, regulations, institutions, and formal and informal interactions which affect the ways in which governance systems function, stressing the importance of involving more voices, responsibilities, transparency and accountability of formal and informal organizations associated in any process.

Since watersheds are the main planning unit in the SEARCH project, governance of watersheds is crucial for increasing resilience and increasing adaptive capacity. To arrive at good watershed governance the establishment of a basin or watershed committee is not sufficient if such a committee is not tightly embedded in national legislative and institutional frameworks. According to the "Water Governance Facility" (UNDP/SIWI: http://www.watergovernance.org/whatiswate governance) water governance is defined by the political, social, economic and administrative systems that are in place, and which directly or indirectly affect the use, development and management of water resources and the delivery of water service delivery at different levels of society. Importantly, the water sector is a part of broader social, political and economic developments and is thus also affected by decisions outside of the water sector.

Water governance addresses among other things:

1. Principles such as equity and efficiency in water resource and services allocation and distribution, water administration based on catchments, the need for integrated water management approaches and the need to balance water use between socio-economic activities and ecosystems.
2. The formulation, establishment and implementation of water policies, legislation and institutions.
3. Clarification of the roles of government, civil society and the private sector and their responsibilities regarding ownership, management and administration of water resources and services, for example:
    - Inter-sectoral dialogue and co-ordination
    - Stakeholder participation and conflict resolution
    - Water rights and permits
    - The role of women in water management
    - Water quantity and quality standards
    - Bureaucratic obstacles and corruption
    - Price regulation and subsidies
    - Tax incentives and credits.

Given the important tasks and roles of water governance organizations the ability to work with stakeholders in planning and decision making is crucial for its success and acceptance as demonstrated by SEARCH. Clear sharing of responsibilities between national, regional and local institutions, including watershed organisations is another key factor for sustainable water resources management. How societies choose to govern their water resources and services has profound impacts on people's livelihood opportunities and sustainable development of water resources. Access to water is, for many people, a matter of daily survival or of breaking the vicious circle of poverty. Improving water governance will thus provide one cornerstone to alleviate poverty.

Remaining challenges for water management

Experiences from the SEARCH project have shown that responsibilities for water management in the participating countries are often unclear and scattered across many institutions. The establishment of a watershed committee or basin committee does not automatically solve the problems related to the dispersed responsibilities at regional level with respect to water management. Establishment of such an organisation should be based on clear regulatory and institutional changes and should be embedded in the organisational and administrative set up at regional or national level.

The conclusion from one watershed committee which was established during the course of the project is: *Despite the establishment of the Watershed Association, their role and management structure is still limited. However, personal initiatives from the farmers and the inhabitants have shown much development and improvement towards the watershed management.*

One of the conclusions from the pilot areas clearly depicts the current situation: *As a result of several factors, including administrative, physical and man-made, it was noticed that there is a clear difference between the actual roles played by some stakeholders on the ground and the role that is desired or required by them. This imbalance between the actual role and what is required from some stakeholders has resulted in weak management of the watershed.*

Also the policy recommendations from other project watersheds touched upon the need for "higher level regulatory and informative institutions": *We believe that this combination of immediate community-based intervention that sets up a sustainable adaptation plan for climate change at the local level supplemented by higher-level regulatory and informative institutions, is the best way to ensure that the impacts of climate change are diminished. This policy works to solve the problem in the short-term with community based work while also ensuring the sustainability of local adaptation plans with regulatory bodies. This will make sure that the country can stop negative impacts of climate change as rapidly as possible while also creating a strong foundation for protection against climate change in the future.*

One important aspect of governance is accountability which was highlighted in all watersheds: *The notion of "Accountability" is the sense of taking responsibility for one's own behaviour, at the same time being able to account for the effects of such behavior to others (Laban, 1994). It has to be emphasized that accountability, just as other measures for natural resource management, has to be defined at all levels from local farmers and target groups up to national governments and donor agencies. Accountability is also important when assessing the degree that local people in communities (groups and individuals) are willing and able to take ownership for the management of their local natural environment.*

Conclusions and Recommendations

During the implementation of the SEARCH project the experts involved formulated several lessons learned, which were integrated in the toolkit. Some of these deserve more emphasis:

- Climate change is not the only problem local vulnerable people are facing. Lack of resilience of local communities is mostly caused by a mixture of several factors and problems, like climate change, environmental degradation, poor infrastructure, overpopulation and poverty.
- Self-organization and governance are in the heart of the SEARCH resilience framework to allow for well-functioning stakeholder involvement. The 'rules of the game' for building more resilience should be adaptive, i.e. changeable over time, according to changing needs of stakeholders. The principle of accountability lies at the heart of genuine partnership and participation in climate change adaptation. Accountability should be primarily toward those who are vulnerable to climate change impacts and affected by them.
- Ensuring effective stakeholder dialogue requires good and transparent facilitation by well-trained facilitation teams. The team requires time, skill and perseverance to build relationships with stakeholders, to increase awareness and to overcome resistance to change.
- It is crucial to engage leaders to support and communicate the process. For example, the minister of water resources, the head of the water authority, and leaders of businesses and non-governmental organizations can play a critical role in defining and communicating the set of core values that will guide adaptation and catalyze the process.
- There is a need to pay special attention to capacity building. Resilience is a relatively new issue for the climate change and water sector. Generally, there is a lack of awareness throughout the sector and the general public of the concept and its application. Success in applying resilience building approaches therefore depends greatly on the initial determination to 'get started'. In this regard, raising awareness about the conditions of vulnerability and the best interests of the community is critical. Gaps in capacities need to be identified and addressed early on and a capacity building strategy should be developed.
- Scaling up of success stories remains a challenge. To build climate resilience at the country or basin level, policy makers must figure out how to integrate success stories from local level project implementation into more strategic planning instruments at broader scales.
- Adaptation is also a tool to catalyze innovation. National adaptation coalitions can play a key role in catalyzing innovation as well. They can create opportunities for innovation and develop into an effective network of innovators working for climate change adaptation. Encouraging innovative, entrepreneurial behavior could be a main task of the coalitions.
- Clarifying the responsibilities for water management at basin level is essential for addressing the challenges that climate change pose to water systems and water management.

Reference:

Laban, P., 1994. Accountability, an indispensable condition for sustainable natural resource management. In: Proceedings International Symposium on System-oriented Research in Agriculture and Rural Development. CIRADSAR, Montpellier.

To learn more about the different tools used, please examine the "Guiding Toolkit for Increasing Climate Change Resilience"

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