General Lessons from Livelihood Adaption to Climate Change Project

Disaster risk reduction & climate change adaptation in agriculture go hand in hand

The experiences of the recent past and current living conditions and natural hazard threats is what prevails in peoples' memory, thus making present disaster risks and climate variability the best entry points for community level interventions, awareness raising and advocacy towards climate change issues. Climate variability and extreme events are perceived as the first felt impacts of CC. DRR activities are considered a first line of defence against CC but also as a first step to initiate local processes to act upon CC and mobilize communities and farmers. The integration of DRR and CCA into common operational frameworks at the local level is crucial to initiate long term processes. In order to address the integrated aspects of DRR and CCA there is no need to set up separate institutional structures within sectoral line agencies such as Ministry of Agriculture and Department of Agricultural Extension (DAE). DRR and CCA can at this moment be addressed in an integrated way, though it must be clearly stated that DRR is not equivalent to CCA.

Climate change adaptation is a social learning process

It is not easy to anticipate exact climate impacts in the future and particularly not at local scale. Therefore, the intermediate goal of climate change adaptation should be to empower national actors and in particular communities to learn how to adapt. In doing that, we should focus on support for the decision-making and capacity building processes that shape social learning, technology transfer, innovations and development pathways. This learning process needs to explicitly address the needs of marginalized groups that are most vulnerable.

Adaptation to climate change is a location specific issue

There will be no "one fits all" solutions at local level. No blue print approach is possible. Location specific technologies and good practices are needed as well as decentralized ways of working within the framework of coherent national policies. Projects show that what is a good adaptation practice for one farmer may not be suitable for another who operates in another micro-environmental setting.

For successful adaptation clear definitions of institutional roles & responsibilities are fundamental

Adaptation is still too much an issue confined to the scientific CC community and agencies working in the environmental field. This needs to change and other sectoral ministries such as agriculture, water, health, infrastructure etc need to be more directly involved. Equally important will be to carefully integrate government and bottom-up perspectives and capacities, to establish functional vertical linkages between local and national levels and various agencies.

There is a need to revitalize and strengthen research and development links

Local knowledge and scientific know-how need to be well integrated during the identification, validation and implementation of action research and development activities.

The LACC project has created many examples of participatory working modalities in which farmers, researchers and extension officers came together for identification, validation, implementation and evaluation of the tests of suitable technologies for adaptation. Action research on farmers' field and associated learning how adaptation processes work, have been a successful learning method. Emphasis should be given on demand driven, interactive research based on mutual learning such as through farmers' field schools.

Selecting and implementing appropriate adaptation options fitting into proper setting

Climate change adaptation is a local specific process and appropriate options are needed to fit to a particular location or niche where the agro-ecological, environmental, social support and local market potential favour the establishment and promotion of the option. Whatever options and technologies are tested in any particular area, considerations of appropriateness and suitability to the agro-ecological setting, as well as of scales of replication and their impacts on the local markets have to be considered before moving from action research based testing to systematic propagation and replication There is a strong need for flexible and iterative planning cycles for local adaptation.

Institutionalizing mechanisms for technology validation, selection and dissemination

The establishment of an institutional framework through which local adaptation strategies can be reviewed, validated and integrated into the mainstream of resource management, is essential to improve the adaptive capacity of communities in general and farmers in particular. The validation and clearing house mechanism set up and tested by the project (NTIWG – National Technical Implementation Working Group) should be fine-tuned and thereafter institutionalized for the sector. The clearing house mechanism should be lead and chaired by DAE in collaboration with leading national research institutes. It is recommended that also NGOs should be involved and informed about recommendations; they should also apply the same validation criteria and whatever they recommend should undergo the same strict quality control, when they are promoting adaptation. In general, in line with their comparative advantage NGOs however should focus more on the dissemination of tested good practices rather than on generating and validating practices for their suitability in the CCA context. Institutionalizing, strengthening and promoting such clearing house mechanism would reduce the risk of possible mal-adaptations, threatening the positive outcomes of adaptation.

Strong potential for community based approaches to CCA

The community based approach to CCA is extremely promising and should be widely promoted. Communities take the lead and act while interventions are carried out at their places. In Bangladesh, communities have a remarkable history of dealing with hazards and disasters like other social events they act upon and perform. They shoulder the responsibilities of initiating, implementation, supervising and evaluating many activities and programmes within the community and beyond. Project experiences justify that the engagement with the community and thus facilitating the adaptation learning process with them can ensure adaptation, replication and sustainability. Hence communities should be taken as the right entry point for implementing climate adaptation projects and programmes where all actions and decisions are taken with them and for them.

Restore and replicate the valuable indigenous knowledge

A lot of valuable local practices and indigenous knowledge exist among the farmers, but it is necessary to assess the real value of these practices in the context of managing future risks. Until we know and find more about location specific climate impacts we should focus on *no regret options* for using available options which are very likely not to cause harm to the farmers. CCA is a new topic in the development field for the management of natural resources and livelihoods and people are still learning and trying to find out suitable technological options and practices either from the local farming communities, resource persons or from the designated research/specialized institutions/organizations.

Strengthening structured monitoring for greater quality

Regular and timely monitoring of the activities using appropriate monitoring methods and tools was found fundamental to ensure quality of the work, and for capturing and sharing the lessons from the demonstration trials carried out at farmers' fields. Based on experiences from the first project phase, a monitoring process including the methods, tools and formats for regular monitoring by the field officers was further developed by the project and used at the farmers' fields. Significant involvement of the farmers in a participatory mode during the monitoring process is very important to harvest their insights regarding the activities and to enhance the qualitative aspects of the results and outputs.

Contingency planning is highly important

As a management process contingency planning is required to analyze specific potential events or emerging situations that might threaten the farming system or society and establishes arrangements in advance to enable timely, effective and appropriate response to such events and situations. In the context of emerging and slow onsetting climate change problems, the project has been confronted with some situations that call for purposeful and well planned strategies and activities. Contingency planning is a crucial part of CCA planning and needs to be institutionalized in CCA and DRR projects. One concrete example the project faced related to the late transplantation of T. Aman in the coastal upazilas in 2009 due to the delay in rain water recession from the rice field in Dacope, Khulna and high tide water in the Bhandaria, Pirojpur. In both cases, some uncertainty of the exact transplanting date prevailed. Therefore, a contingency plan for raising and transplanting seedlings of suitable (late) varieties is essential in these situations.

Adaptation and farmers livelihood interests cannot be delinked

A clear lesson from the field operations is that farmers would not go into applying adaptation options, irrespective how good they might be for the environment and climate resilience, unless the net return from the option benefit them while applying them in his/her own farm. However, this does not mean that technologies which might not be accepted right now should be put aside for ever. They might become attractive as soon as factors or parameters of production and others like prices of inputs, water and weather and climate change over time. Thus, it is very important to properly analyze the reasons for acceptance as well as the parameters under which a potential adaptation option would become attractive to the farmers. Policy interventions later on may more actively guide and stimulate the adoption of specific adaptation practices.

Accessibility to microfinance increases replication

Promotion and replication of any technology in the rural setting is limited by the financial inability of the farmers in a country like Bangladesh. While the project is operated in a rural setting and provides support to the poor farmers as per the mandate of the project, it sometimes suffers to enhance the replication and promotion due to funding limitations. There are instances that some technological options are well accepted by the farmers but the replication of the option by the same and neighbouring farmers is not possible due to the involvement of initial and regular operational cost. A possible solution to the problem may be to link farmers with the microfinance agencies/organizations and thus facilitate the access to the fund and ensure replication and promotion of the technologies.

Availability of meteorological data usable at the ground level

One of the important ingredients for farm planning is the availability and use of meteorological data and information at the farmers' level. The project initiated a group approach in the learning and action through farmers/climate field schools where farmers use their local knowledge and information and also the updated information from the research institutes and other sources for their seasonal planning. In that way, they could mitigate impacts for a while at least and the scientific community could gain the time window urgently needed to obtain in parallel - better, and locally down-scaled predictions of CC impacts, on the basis of which we could move further and better advise farmers "how to" and "to what exactly" they should adapt in the future depending on where they live. The scientific data development and downscaling of predictions to local levels is fundamental. Accessibility and availability of the regular and updated climate/weather data with longer lead period is absolutely vital.