PROMOTING CLIMATE RESILIENT AGRICULTURE FOR SUSTAINABLE LIVELIHOODS

THE NEED FOR CLIMATE RESILIENCE

Climate related hazards have a big impact on the lives of people, especially the poor. Extremely heavy rainfall or hardly any rain at all, rise in temperatures, sudden hailstorms and frequency of droughts, floods and storms are expected to increase further. The impacts are felt severely, especially in developing countries, with less food and water security as well as loss of livelihoods. Survival becomes a real struggle. Promoting climate resilient agriculture in areas affected by climate change is needed to safeguard food security and a decent income for rural communities.

In the coming decades, climate change is expected to further exacerbate the risks of disasters. More frequent and intense storms and floods and long-lasting droughts can erode existing community coping capacities to prepare for, respond to and recover from successive hazard events. The hazard events often have a direct impact on people's agricultural production (crop farming, livestock keeping) and livelihood security. For example, pastoralists in the Horn of Africa lose their cattle, farmers in Bangladesh suffer from diminished agricultural production, and in Central America the arable land is affected by erosion. Other adverse impacts of climate change, such as reduced economic development and public health, degraded ecosystems, migration and conflict will increase the vulnerability of communities, especially in areas that are disaster-prone and fragile already now.

Therefore it is essential that farmers and (agro-) pastoralists are enabled to apply agricultural practices that make them more resilient to climate change. Also improved agricultural policies are crucial to promote climate resilient agriculture. As stated in the FAO report The State of Food and Agriculture 2016 “Climate change is already affecting agriculture and food security. Without urgent action, millions more people will be at risk of hunger and poverty.”

CORDAID'S CLIMATE RESILIENT AGRICULTURE PROGRAMS

CORDAID has been working since many years on strengthening community resilience in developing countries, through implementing projects, building capacities of civil society and government agencies, and being involved in policy dialogues at local and global level. From 2011-2015 Cordaid implemented 240 resilience projects in 14 countries, training about 2,000 community committees and targeting 2.5 million people. This includes projects to improve people’s food and livelihood security. From practise we see a strong relation between disaster risk reduction, food & livelihood security,
climate change adaptation and ecosystem management and restoration. Thus to enhance the resilience of rural communities, next to a focus on improved production a people- and nature-centered approach is needed. Climate Resilient Agriculture takes into account social, economic and environmental aspects in agricultural production. This approach is a good way forward to link resilience, food security and climate change adaptation.

CLIMATE RESILIENT AGRICULTURE

Climate Resilient Agriculture can be defined as ‘agriculture that reduces poverty and hunger in the face of climate change, improving the resources it depends on for future generations.’ (Christian Aid, Time for Climate Justice 2015). Climate Resilient Agriculture wants to transform the current systems, and has a wider perspective than increased production only. It supports food production systems at local, regional and global level that are socially, economically and environmentally sustainable. Climate Smart Agriculture is defined as "an approach that guides actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate". It aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions, where possible (FAO website, 2016). Main criticism on the concept of Climate Smart Agriculture is that it also includes large-scale, high external input food production, without properly accounting for social and environmental aspects, such as inclusion of small-scale producers and an ecosystem management focus.

CORDAID’S PROJECT EXAMPLES ON CLIMATE RESILIENT AGRICULTURE

Local climate knowledge incorporated in country-scale development planning in Guatemala

Prolonged heatwaves caused losses in the production of maize and beans in Zacapa and Chiquimula areas in Guatemala. Due to the immense drought community’s experienced economic losses and had to change their traditional livelihood strategies. An integrated approach of disaster risk reduction, climate change adaptation and ecosystem management & restoration was used to make communities more resilient to the root causes of disasters caused by natural hazards. By doing risk assessments, creating risk maps, developing contingency plans, implementing water risk reduction projects, planting thousands of trees as part of reforestation, and initiating new micro projects, eleven communities are now capable to respond to the risk posed by natural disasters, climate change and damaged eco-systems. These positive results were not only obtained at local level. Also at national level authorities were able to start a constructive dialogue with the Executive Secretariat of the National Coordination for the Disaster Reduction (SECONRED), the National Council of Protected Areas (CONAP), and the Ministry of environment and Natural Resources (MARN). Resulting from this dialogue the Ministry of Environment has made climate change and CMDRR part of the obligatory school topics and eight different municipalities have agreed to contribute 20 percent of their funds to micro projects to strengthen disaster resilience including climate adaptation.

Eco Uganda: Restoring local food- and ecosystems

The Ugandan economy and the welfare of the population are inextricably linked to the natural environment and are therefore highly vulnerable to climate change. Drought, conflict, floods, animal and human diseases are the most common hazards in Nakapiripirit district in Karamoja region, north-east Uganda. The cyclic extreme weather and other hazards affect the crop production and pastures, and thereby have a negative impact on the communities’ living conditions. From 2011 until 2014, the Ecological Christian Organization (ECO) Uganda together with Cordaid implemented a climate-proof disaster risk reduction project.

ECO Uganda supported nine rural agro-pastoralist communities with various risk mitigation and adaptation measures. They were guided through a participatory disaster risk assessment and planning process and implemented disaster risk reduction plans, including early warning systems (preparedness). A total of 6,000 people were trained in resilience activities for natural resource management and climate adaptation. They learned how to grow native trees, made small orchards, developed small-scale irrigation systems, planted drought-resistant crops and vegetables and diversified their income sources, for example by keeping bees and rearing goats. In addition, they improved their water harvesting practices and participated in savings and credit groups. In this integrated approach, involvement of local and national governments is key. In this program, structural communication infrastructures were built. A network of community organizations was set up, to jointly and directly interact with national and regional authorities. At the same time, there was political and institutional support for the local and national government to integrate disaster risk reduction, climate change adaptation and ecosystem management in their existing plans, programs and policies.
Using Disaster Risk Reduction to improve agriculture in Indonesia

Climate change places increasing risks on agricultural production in Indonesia. The Magelang district in Central Java, which depends on agriculture, is hampered by a severe decrease in rainfall and prolonged dry seasons. The changing rainfall patterns destroy agricultural production, food employment, food trade and food supply. As a consequence, food prices are rising, and farmers have experienced a substantial loss of income. In responding to these challenges, Cordaid has supported the creation of a community-led water distribution and irrigation network, trained communities in the maintenance of the distribution network, and assisted them in creating stronger livelihood strategies that are more resilient to the risk of drought. As a result, farmers were able to make water available for agricultural and household needs, which makes them more resilient to climate change. In addition, they increased their agricultural productivity and produced a surplus that enabled them to improve their food consumption; their food security increased in the short term and in the longer term.

On the island of Timor, Cordaid is working with farmers who struggle with drought, on securing their water supply. They now use an approach to water management that entails Recharging, Retaining and Reusing rain water. This ‘3R’ method, which involves constructing dams and water holes in the river and planting trees along the river banks, provides farmers with sufficient water for domestic and agricultural use during the dry season. It also enables them to collect water effectively during rainy season. This makes them more resilient to climate related hazards.

Technical innovation: Previous experience of Cordaid and local partners has shown that within disaster-prone areas, there is room for new technical innovations to improve agricultural production. This can include improved water catchment for irrigation; smallholder farming techniques that give higher yields; locally available faster-maturing and/or drought-tolerant crops to increase produce; improved access to weather forecast information. Also in drought-prone areas, solar-powered surface and borehole water pumps can be used, to improve access to water for irrigation and for human consumption and livestock.

PROMOTING CLIMATE RESILIENT AGRICULTURE

Cordaid’s experience with working on Climate Resilient Agriculture shows that it results in sustainable food production and improved food security and income for small-scale farmers and agro-pastoralists in disaster-prone areas. It made agricultural producers more resilient to climate related hazards and it contributed to restoring degraded natural resources. We base this on our Community Managed Disaster Risk Reduction and our Partners for Resilience programs.

To continue and expand the work and the good results on climate resilient agriculture, more political and financial support is needed. This can be done by including the climate resilient agriculture approach in government policies and practices, and by provision of further financial support from donor agencies. This needs to be supported by knowledge development and peer-to-peer learning regarding climate resilient agriculture best practices.

Climate Resilient Agriculture initiatives need to be sustained, increased and improved, to face the current challenges of food insecurity, environmental (soil, water) degradation and climate change.

Therefor Cordaid calls for the following elements to be included in Agricultural and Climate Change Adaptation policies and practices:

- Put small-scale producers central in the debate on climate & agriculture, and empower them to work on climate resilient agriculture and thus improve their livelihoods;
- Connect disciplines, and thus promote coherence / consistency between agricultural and climate change (adaptation & mitigation) policies, research, financial investments and programs;
- Collaboration between different stakeholders (farmer organisations, CSO’s, NGO’s, governments, private sector, research centres, funding agencies): combine strengths and work in partnerships to further promote climate resilient agriculture;
- Expand the focus and integrate climate information and ecosystem management & restoration to reduce disaster risks and support climate resilient food production systems;
- Gather evidence / best practices and expand knowledge on how best to practice and to promote climate resilient agriculture.
- Make part of the climate finance available for climate resilient agriculture, as a way to improve food security and work on climate adaptation & mitigation in developing countries. This finance should be available at both national and local level, for both governments and civil society organisations (community / farmer organisations and supporting NGO’s).

By further supporting Climate Resilient Agriculture, a contribution can be made by the different stakeholders to obtain the Sustainable Development Goals, in particularly SDG 2 (food security) and SDG 13 (climate action); it also contributes to SDG 1 (poverty reduction), SDG 11 (resilient communities) and SDG 15 (protect ecosystems). Furthermore continuing efforts in Climate Resilient Agriculture contribute to the implementation of the UNISDR Sendai Framework for Disaster Risk Reduction, the UNFCCC Paris Agreement, and the New Urban Agenda.
The above Resilient Livelihoods process management is used to also implement Cordaid’s Climate Resilient Agriculture projects, as part of our Resilient Communities program.

Cordaid works in alliances with other public and private organizations to build climate resilient agriculture in humanitarian and development settings. Cordaid is member of the Catholic development network CIDSE, the Catholic humanitarian network CARITAS Internationalis, and of the Partners for Resilience (PfR) Alliance¹.

1. The Partners for Resilience (PfR) Alliance is an alliance between the Netherlands Red Cross, Red Cross Climate Centre, Cordaid, CARE Netherlands and Wetlands International. This alliance is a strategic partner of the Dutch Ministry of Foreign Affairs. In 2016 - 2020 the partnership will focus on policy dialogue for integrating disaster risk reduction, climate change adaptation and ecosystem management in international, national and community level policies, investments and programs, in 10 selected countries in Central America, Africa and Asia.