

The ADAPTS approach in practice:

VIETNAM

The Huong River basin area in Central Vietnam is already heavily impacted by natural disasters which are projected to occur with increasing frequency and intensity due to climate change. The issue is on the political agenda and local stakeholders are also aware of the issue. However, little knowledge exists on the exact consequences of projected changes and on how to respond to it.

ADAPTS works in Vietnam with a local NGO, the Centre for Social Research and Development (CSR D). CSR D collected information on vulnerabilities, existing coping mechanisms and adaptation priorities of local people. With this information, and in communication with communities, researchers and relevant local and regional governmental authorities, an action plan was designed to protect the communities against the effects of climatic changes.

Local action

A specific measure from the action plan, the planting of mangroves, is already being implemented. Mangroves serve as a buffer against floods, prevent erosion and provide other beneficial functions such as a habitat for several species. The mangroves are looked after by the local Veteran Association. Additionally, activities on flood proofing of houses are carried out.

Successes

The pilot activities of ADAPTS have attracted attention from various national and international organisations. CSR D also was asked to draft part of the Provincial Action Plan on Climate Change Adaptation, which is developed within the framework of the National Target Program on Climate Change.

This proved a unique opportunity to integrate the findings on local vulnerabilities and adaptation priorities into provincial policies and local planning. The ADAPTS case in Vietnam shows that findings from a bottom-up process can contribute to provincial policies on climate change adaptation.

ETHIOPIA

The Borana zone in southern Ethiopia has a typical semi arid savannah landscape. Most of the 960.000 inhabitants are active in dry land farming, herding livestock based on traditional pastoralist systems. Projections for the coming century for the Borana zone are that temperature will rise with approximately three degrees, rain is expected to become more variable and droughts will occur more frequently.

In Ethiopia we aim to increase the resilience of communities to climate change through improving water availability in the region, by introducing sand dams and other rain water harvesting systems. We assessed the effectiveness and sustainability of this measure under current and future circumstances in the zone, and how they can be included in the tradition of pastoralist communities.

Local action

Several sand dams have been constructed by Action for Development (AfD) in two areas of the Borana zone, in a joint activity between ADAPTS and the RAIN foundation. The hydrologic and socio-economic impacts have been evaluated under the ADAPTS project. The sand dams successfully store water. The experiences are shared with other NGOs and governmental institutions to stimulate replication in other regions.

Successes

Sand dams are successful and the potential role of sand dams in the management of the area is being explored. Meetings have been organised at the national level with government officials showing interest in these local scale activities. Also several other Ethiopian NGOs have been trained to construct sand dams in their regions. For resilience, the government recognises that local interventions, such as sand dams, are a promising addition to the more conventional water resources, like deep groundwater. It is a strong example of a small scale community based measure that can help reducing the negative impacts of climate change.

PERU

The Ocoña river basin lies in the South-western Andes of Peru, covering an area of 16,322 km² and extending from sea level to 6,445 m above sea level. Most of the 70.000 people live in poverty. A one degree temperature rise has caused accelerated retreat of the glaciers. Precipitation in the wet months has decreased significantly. This project aims to assess how climate change will influence the regional hydrological system and to propose measures to reduce the negative impacts on the population and the ecosystems.

Local action

The effectiveness of several adaptation measures is being evaluated, including the storage of water in highland wetlands (bofedales), storing water in small scale reservoirs, improvements in irrigation practices (drip irrigation), the introduction of drought resistant crops and the potential effect

of the preservation of native forests on groundwater storage. Also the knowledge that is developed on climate change, vulnerabilities and adaptive possibilities is used to strengthen the so called consultation tables, used to structure interactions between stakeholder groups in the basin.

Successes

The retreat of the Coropuna glacier is monitored in conjunction with the National Institute of Glaciology. Parallel, local partner AEDES studies the perception of local households on their vulnerability to climate change and maps socioeconomic effects of climate change on the major ecosystems. The project works together with villagers in protecting the forest of Polylepis trees. Together with the District 4 micro-dams in the headwaters of the Ocoña Basin have been constructed.

ADAPTS is also active with projects in two other countries, one in Botswana (with the SADC) and one in Brazil (with Vitae Civilis).



COLOPHON

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Project partners

IVM - Institute for Environmental Studies, The Netherlands | Both ENDS, The Netherlands | ACACIA Water, The Netherlands
AEDES - Asociación Especializada para el Desarrollo Sostenible, Peru | Ministry of Environment, Peru | Development Institute, Ghana
Water Resources Commission, Ghana | Action for Development, Ethiopia | Borana Zone Water Office, Ethiopia | CSR D - Centre for Social Research and Development, Vietnam | Southern African Development Community, Botswana | Vitae Civilis, Brazil

ADAPTS

Enabling communities in developing countries to effectively respond to the consequences of climate change in the water sector

ADAPTS – empowering local communities

Climate change is increasing the severity, duration and frequency of extreme events. It causes gradual changes in temperature and rain patterns, threatening water availability and food security. The poor are particularly vulnerable to these changes as both water availability and water quality directly determine the potential for food production and ecosystem sustainability, and thus their livelihoods. ADAPTS empowers communities to increase their resilience and play a key role in decision-making on adequate adaptation strategies.

The overall goal of ADAPTS is to increase developing countries' adaptive capacities by achieving the inclusion of climate change and adaptation considerations in water policies, local planning and investment decisions.

Linking practice to policies

Key in the ADAPTS approach is the inclusion of local knowledge and action in knowledge development, and in policy discussions on climate proofing water management.

People, government institutions and civil society organisations operating at the local level are the main groups experiencing the on the ground impacts of climate change, and some have already started developing adaptive responses. Thus, local actors are not only a stakeholder group that should participate in policy discussions out of their own interest, but are essential to these dialogues because of their relevant knowledge on local impacts and potential responses.

Linking science to experience

ADAPTS explicitly links scientific climate change information to empirical knowledge and on-going local (adaptation) activities, which both strengthens the value and applicability of the scientific information and empowers the local actors.

Scientific information is important for climate proofing local actions, for effective replication of adaptation measures in other areas, and to enhance the credibility of findings. This way, local knowledge and action are more easily accepted in national and international policy discussions on water management and climate change.



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The ADAPTS approach to adaptation to climate change is an approach that builds on the needs, priorities and actions of local people and their communities. ADAPTS works in different contexts and makes adaptation to climate change in water management practical and sustainable.

ADAPTS enables developing countries to effectively respond to the consequences of climate change in the water sector.

Poor urban and rural communities are especially vulnerable to climatic variations and climate change. They witness not only the gradual changes in temperature and rainfall, but also the devastating effects of weather related extreme events. Together with pressures from increasing populations and non sustainable use, this makes water a more vulnerable resource threatening the livelihoods of the poor.

ADAPTS cooperates with local communities, civil society organisations, local and national governments, scientific institutes and the private sector. It proves that adaption is already taking place at the local level. ADAPTS combines local and global knowledge in the area of water management and empowers vulnerable communities in designing and implementing cost effective and sustainable adaptation measures and in dialogues with local and national governments to ensure the inclusion of their knowledge and visions in the development of climate proof water policies and investments. It offers an alternative to top down approaches.

The ADAPTS approach is currently being implemented in six river basins around the world: in Ethiopia, Ghana, Peru, Botswana, Brazil and Vietnam.

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IVM Institute for Environmental Studies



Both ENDS Environment and Development Service

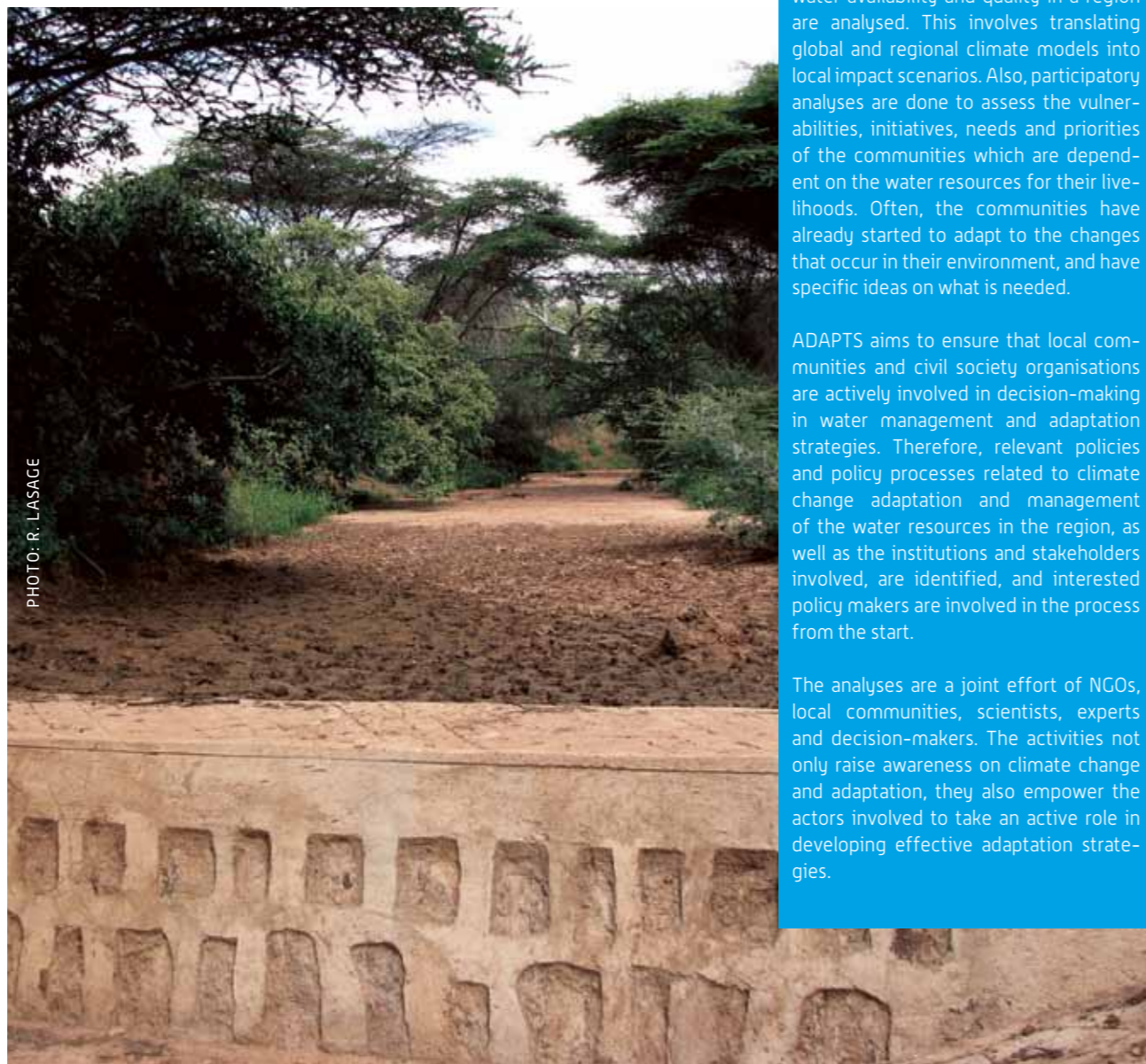


PHOTO: R. LASAGE

THE ADAPTS APPROACH

ADAPTS provides a practical, bottom-up approach to adaptation in the context of water management, which has the potential to be replicated in other regions or countries. The ADAPTS approach combines knowledge development, local action and dialogue.

KNOWLEDGE DEVELOPMENT

The ADAPTS approach starts with gathering information on vulnerabilities of communities and the environment under current and future circumstances, identifying existing local initiatives to adapt to climate change, and analysing the institutional and policy context. The expected impacts of long term developments in the region (including climate change, population growth, hydrology, economic growth, and changes in land use) on the water availability and quality in a region are analysed. This involves translating global and regional climate models into local impact scenarios. Also, participatory analyses are done to assess the vulnerabilities, initiatives, needs and priorities of the communities which are dependent on the water resources for their livelihoods. Often, the communities have already started to adapt to the changes that occur in their environment, and have specific ideas on what is needed.

ADAPTS aims to ensure that local communities and civil society organisations are actively involved in decision-making in water management and adaptation strategies. Therefore, relevant policies and policy processes related to climate change adaptation and management of the water resources in the region, as well as the institutions and stakeholders involved, are identified, and interested policy makers are involved in the process from the start.

The analyses are a joint effort of NGOs, local communities, scientists, experts and decision-makers. The activities not only raise awareness on climate change and adaptation, they also empower the actors involved to take an active role in developing effective adaptation strategies.

LOCAL ACTION

ADAPTS supports successful or promising adaptation measures, which are implemented by local organisations, to increase communities' resilience and to ensure that local knowledge and visions are included in basin and national policy processes.

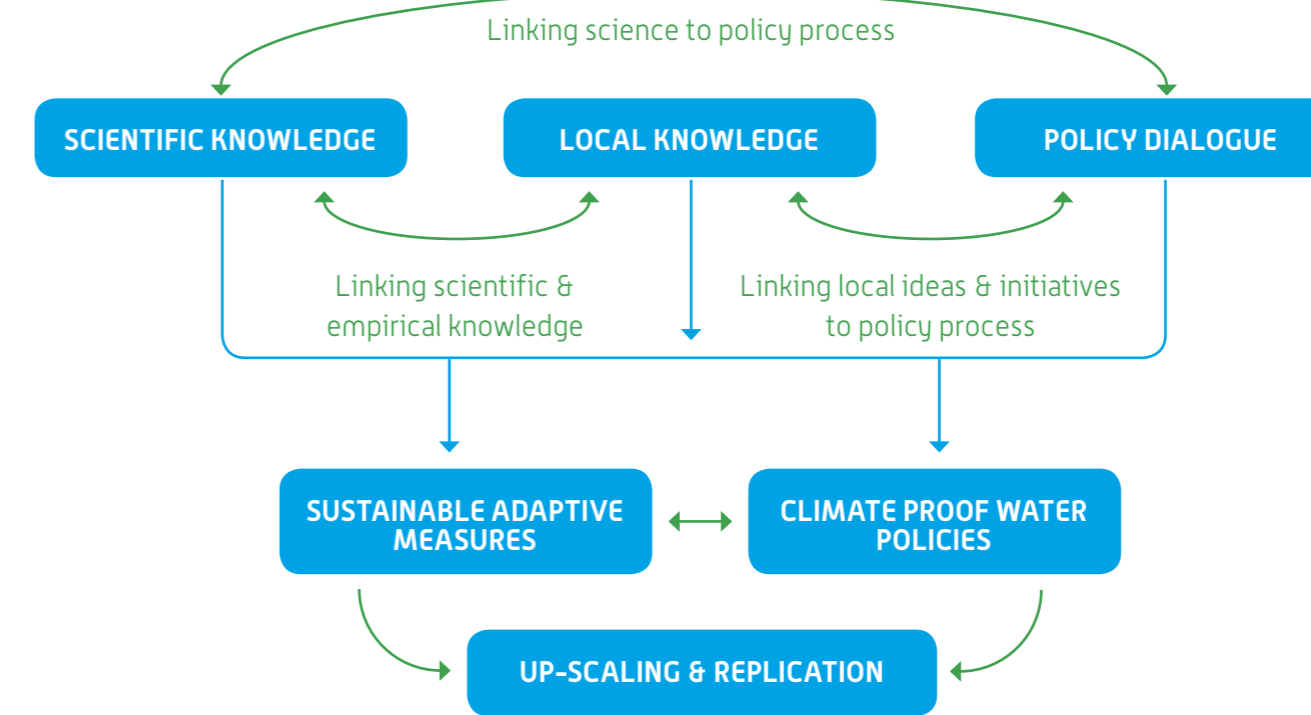
The impacts of current or planned adaptation measures on the physical, social and economic systems are assessed in field studies. A first assessment of costs and benefits of the measures are also included in this analysis. The field information is important input for a more in-depth evaluation of the potential of the measure, as well as for strategy development to help local communities cope with climate change impacts. In the assessment of the sustainability of local measures under a changing climate, local knowledge is thus linked to knowledge on a global level.

Through replication, ADAPTS also introduces promising adaptive approaches and measures to larger geographical areas.

DIALOGUE

ADAPTS ultimately aims to ensure that the potential and effectiveness of local actions and measures are recognised at higher policy levels, and that local actors are actively involved in the design and implementation of policies and plans related to water management and climate change.

ADAPTS therefore supports the development of platforms for dialogues on issues of sustainable water management and adaptation to climate change. The dialogues allow for sharing information between civil society, researchers and



governments, and facilitate trust and ownership building. The activities aim for the integration of climate change and adaptation considerations in policy and planning processes at higher policy levels, and for the creation of an enabling environment for local actions.

ADAPTS also contributes to the international policy discussions on implementing and financing of adaptation, by providing a practical approach to adaptation in the context of water management, and concrete examples of adaptation.



PHOTO: DEVELOPMENT INSTITUTE

The ADAPTS approach in practice: GHANA



The Dayi River basin lies in the southeast sub-tropical Ghana. This rural area has 144,000 inhabitants on approximately 1200 km². The main economic activities are rain-fed subsistence farming and some cash crop farming. The average annual rainfall decreased from 1700 mm/year in 1975 to 1400 mm/year at present. The decrease in the amount and reliability in rainfall has had a negative impact on the traditional rain-fed agricultural practices. Precipitation is likely to decrease over the next 40 years and temperature is expected to rise by 2.5-3.0 °C.

The aim of ADAPTS in Ghana is to implement successful farmer initiatives in sustainable small-scale irrigated agriculture to cope with the decrease in reliability of rainfall, and to ensure the climate proofing of the basin's water management plan.

Local action

Together with ADAPTS partner Development Institute, communities in the Dayi basin have developed adaptation measures to adapt agricultural practices to climatic changes. The measures include the establishment of buffer areas along the riverbanks; the transition from rain fed agriculture to irrigation agriculture, the introduction of drought resistant crops and agro-forestry as a new economic activity. The farmers receive training in irrigated agriculture, as sprinkler irrigation schemes are created in cooperation with these farmer groups.

Successes

Ghana is currently in the process of designing management plans for its river basins. The River basin Management Plans in Ghana are the responsibility of the governmental Water Resources Commission (WRC), which has been actively involved in ADAPTS from the start. As a direct result of the ADAPTS programme, for the first time climate change scenarios are now taken into account in the Dayi River Basin Management Plan. Also for the first time, the Dayi Basin Board includes farmers associations, chiefs, 'queen mothers' (female chiefs) and other water users who will be responsible for decision making with regards to the management of the water resources and adaptation measures.