

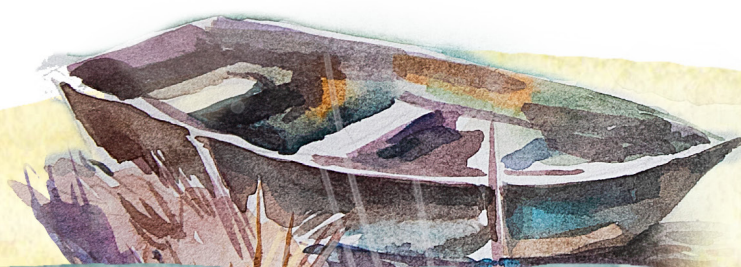
Participatory IWRM for adapting to unreliable rainfall and preventing conflicts through good governance in North Darfur, Sudan.

The Wadi El Ku catchment area, covering some 26,000 km² (slightly smaller than the size of Belgium) of the Sahel region of Darfur, Sudan, and receiving an annual average rainfall of just around 220 mm (far below the world average of 990 mm), has been subject to an amalgam of climate impacts, including highly erratic and decreasing rainfall. This climatic instability, along with a range of fragility-related factors, has led to a breakdown in rain-fed pastoral and farming livelihoods and thus decreasing social cohesion with several outbreaks of violence between herders and farmers since the 1980s

Amid this tide of upheaval, UNEP has been implementing the EU-funded **Wadi El Ku (WEK) Catchment Management Project** (2013) in Darfur, Sudan, to address not only climate change adaptation (CCA) and respond to water-related hazards such as drought, but also the social ties and relationships underpinning the long-term cooperation needed to ensure inhabitants of the region can collectively manage their natural resources and equitably distribute the resulting benefits.

To date, almost 200,000 farmers and pastoralists have benefited from the project, both materially and, perhaps more importantly, through improved social relations and conflict resolution mechanisms. A highly thorough and comprehensive participatory approach has been the key to project implementation, allowing communities of pastoralists and farmers to transparently set priorities, make their voices heard, create customized community development plans, and jointly plan for adapting to common challenges and issues that arise during project implementation.

With customized community development plans, interventions can vary a great deal across communities, but water-harvesting infrastructure like weirs, hafirs (artificially constructed water catchment basins with a circular earthen wall), and diversion channels, in addition to water yards, tend to be central to each plan, as water is the most limiting factor for rain-fed production in this harsh and dry desert climate. As a result of these combined efforts, agricultural yields and drought resilience have improved significantly, for both farmers and pastoralists, by considering integrated water resources management (IWRM) factors as part of main CCA initiatives.



But that is not all, a variety of other interventions aims at maximizing the benefits climate change communities can get from more sustainable water management, agricultural and environmental practices and the installation of water structures. For example, improved seeds and livestock breeds, pest and disease management in crops and livestock, erosion-control techniques, simple machinery and donkey ploughs, as well as firebreaks and community forests, all make up farmers and herders' climate-smart production toolkits. Additionally, encouraging community savings and loans schemes for revolving access to finance for greater resilience, bolstering producer and marketing cooperatives to share knowledge and receive better value-added prices for their products, installing meteorological stations along with SMS-text-based early warning systems to avoid all-out disasters, and using citizen science approaches for monitoring climate conditions have all contributed to project success.

Governance: A foundation for success

Of utmost importance, however, is the question of good governance, which has emerged over the years as the single most crucial factor for successful IWRM and CCA. Because government reach and related institutions have always been weak in this vast and remote corner of Sudan, local traditional institutions have been central to the management of natural resources and conflict resolution. The long-running war in Darfur, together with the central government's politicization and subversion of traditional institutions, has led to a lack of governance and distrust between ethnic groups, communities, and individuals. Optimizing for short-term benefits has become the norm and collective action impossible. Environmental degradation has inevitably resulted: where in the past only dead branches were collected, wooded areas are now being clear cut, fallowing is forgone, water and wind erosion go unchecked, and pastures are

overstocked. This environmental degradation has transformed into livelihood disintegration, laying the conditions for social tensions and conflict.

For the WEK project, seeking to halt and turn around this vicious cycle, **the foundations for good governance start in the planning process itself**, a process in which every community reaches a consensus around their respective development plans. Afterwards, representatives from several communities commence discussions to craft natural resource management plans for the larger area, weaving their individual community plans together in a cohesive and mutually beneficial fashion. In all cases, there have been overlapping claims to land, and in several instances, communities that have been at war with each other for more than a decade have agreed to participate. A strong incentive for that participation is that project interventions and support depend on the ability of the communities to resolve any outstanding conflicts. This leverage is also used to ensure women and minorities participate fully in the project planning and implementation process. As a result of this incentives-based approach, all target communities have developed a consensus regarding a shared vision and development plan for the larger area.

This experience has built **trust** between communities, and that trust is essential for their ability to solve issues and continue their path of development through collective action. Several communities have even continued with peace-building initiatives of their own, with one case leading to an official peace treaty between warring farming and pastoralist communities.

This increased trust and shared vision across communities is also decisive and, indeed, imperative when establishing permanent IWRM governance structures that can boost CCA. Every community must have representatives on an area-based Natural Resource Committee (NRC). These NRCs are then represented in the state-level Catchment Management Agency, together with all other state institutions involved in NRM.



This governance structure plays an important role in (1) coordination across government departments and between communities and technical staff, (2) advocacy for best resource-use practices amid the wider water-resource management context, (3) conflict prevention, and (4) IWRM planning across the wadi. In this context of cooperation, the governor has also issued decrees to regulate the unplanned construction of random terraces and dikes in the wadi – a practice that has increased in recent years, wreaking havoc on water access downstream and leading to extremely wasteful water consumption. Farmer and pastoralist interviews and testimony confirm that tensions and conflicts have decreased in the project target areas due to this participatory and transparent governance structure and the ensuing faith and trust in collective action it inspires.

In summary, important factors behind the success of the project include:

- A highly comprehensive and transparent participatory planning process around IWRM and CCA led by the end users, with strong government involvement and the latest science paired with community knowledge and monitoring of local conditions.
- Long-term engagement with communities, state government and research institutions has resulted in a high level of trust and impact that is difficult to achieve in short-duration projects.
- Emphasis on establishing permanent governance structures serves to build social cohesion and de-escalate conflicts over natural resources, thus creating the foundation for long-term collective action required for CCA and IWRM.

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