RESILIENCE GOOD PRACTICE

Natural Resources and Environment Management

Water resources development and management

Developing water sources to enhance equitable access to water resources for pastoral communities

Introduction

Livestock is the main source of livelihood in drought prone and agro-pastoral Karamoja sub-region. Securing access to water is therefore critical for livestock rearing. Livestock access water from varied sources such as boreholes, windmills, ponds, valley tanks, dams and seasonal rivers.

The predominant source of water, particularly for human consumption, is the borehole. Access to safe water stands at 68 percent of the population. Even then, water supply coverage by village is 44 percent meaning that most villages in the sub-region do not have a water source.[1] This indicates an uneven distribution of water sources across the sub-region and consequently, a high level of inequity in access to water.[2]

Water scarcity is a major constraint to livestock production in Karamoja, especially during the six-month dry season which runs from October to March. During this period, access to water for livestock is a challenge as most seasonal water sources dry up.[3]

[1] *MWE, 2017a. Performance and Plans for Karamoja Region (2016- 2021). Kampala.*
[2] *MWE, 2017b. Uganda Water Supply Atlas. Kampala*
[3] *Aklilu, Y., 2016. Livestock in Karamoja: A Review of Recent Literature. Karamoja Resilience. Support Unit, USAID/ Uganda, Kampala.*

Location

Karamoja sub-region

Stakeholders

Agro-pastoral communities

Ministry of Water and Environment

Karamoja Affairs, Office of the Prime Minister

Ministry of Water and Environment (MWE)

District Local Governments

During these stress periods, some herders use river-bed sand dugout wells in major rivers to water livestock. Dams store sufficient water throughout the dry season but their distribution is limited, thereby restricting livestock access to water.[4]

Water sources in Karamoja can be harnessed and put to multiple uses to support activities. These include brick making, aquaculture and small-scale irrigation for vegetable growing. This would support diversification of livelihoods which is a tenet of resilience building.

Securing equitable access to water is therefore important to enhance the resilience of dryland production systems and agro-pastoral communities. This can be done by constructing multi-purpose dams, valley tanks and wind-powered watering systems in various locations to ensure water availability for pastoral communities.

Methodological approach

- Feasibility studies for sites for multi-purpose dams, hydrological siting of boreholes, wind-powered watering systems
- Construction of the water sources with community engagement and participation
- Establishment of a management structure in the communities which will be responsible for the maintenance and operations of the infrastructure i.e. Water User Committees (WUS)
- Building the capacity of WUS to manage the water facilities
- Handover built water sources to the communities

Result

- Pastoralists can easily access water for their livestock particularly during the 4-6-month dry season.
- Access to water for human consumption increased from 43 percent in 2011 to 68 percent in 2016.
- Women grow vegetables by drip irrigation using water from the multi-purpose dams.

Impact

- Improved water infrastructure has reduced the time needed to access water for livestock, which is good for livestock productivity.
- Improved household income from sale of vegetables by women.
- Improved household food and nutrition security from consumption of vegetables particularly during the dry season when vegetables are typically difficult to access.
- Reduced livestock mortality due to inadequate water/ dehydration.

Innovation and success factors

- Appropriately siting the water sources to ensure water availability throughout the year.
- Engagement with the communities and establishment of community water use committees responsible for collecting contributions for maintenance of the sources.
- Cooperation with Ministry of Agriculture, Animal Industry and Fisheries and NGOs to train communities on how to use the infrastructure for crop irrigation which enables both women and men to benefit from the water sources.

Constraints

- Poor operation and maintenance by communities which may result in build-up of silt which make the dams shallow and thus they dry up sooner, shortening the period for which they were planned to be available.
- Vandalism, including the removal of pipes, metals, and other installations which may render some water sources inoperative.

Sustainability and replicability

It depends on:

- Ensuring community participation in siting of water sources to meet the needs of pastoralists and the women.
- Training communities on basic maintenance and operation of water sources
- Involvement of local government institutions e.g. works, production and community services departments.
- The provision of water using a mix of methods (i.e. valley tanks, dams, wind-powered systems, etc.) is being replicated across Karamoja[5] and the cattle corridor.

Additional information

- Ministry of Water and Environment http://mwe.go.ug/
- District Local Governments

[4] *Mugerwa, S., A. Stephen, and A. Egeru. 2014. Status of Livestock Water Sources in Karamoja Sub-region, Uganda. Journal of Resources and Environment 4 (1): 58–66.*

[5] *MWE, 2017. Performance and Plans for Karamoja Region (2016-2021). Kampala*

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