

# THE DESTRUCTIVE NATURE OF BOREHOLE WATER EXTRACTION TECHNOLOGY IN PASTORAL AREAS OF THE HORN AFRICAN REGION

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## 1. Pastoralism defined

The term “pastoralism” is defined as a model of production where livestock makes up to 50 percent or more of economic portfolio of a pastoral household. “Nomadic pastoralism” on the other hand is defined as a model of production where over 80 percent of household income is generated through regular movement of livestock patrimony across a well-defined wet and dry season grazing areas.

## 2. The integrated nature of traditional resource management practice

Based on the African traditional resource management approaches, water was fully integrated into the overall governance of socio-economic affairs of a particular society. The traditional resource management governance system perceives water as one component out of a wide range of socio-economic needs of a given African society. As a result, the use, management and control of water resources is fully incorporated into a wide range of resource management approaches including conflict resolutions.

The traditional resource management systems of pastoral societies in Horn of Africa is deep-rooted in social, cultural, economic, environmental and practical knowledge which has been adopted based on harsh environment of arid and semi-arid conditions they live in, and nomadic lifestyle they built, happens to be the best and only way of surviving in the hostile they live in. The nomadic lifestyle is based on a complex calculation, which takes into consideration external and internal factors that affect various aspects of their lives, and integrate past experiences with the present and future needs.

Pastoral mobility is not purely based on locating and going after water and green pasture for themselves and their livestock wealth, but reflect appropriate coping mechanism against the ethnic hostilities and natural calamities. In absence of outside intervention and imposition of alien practices, the traditional nomadic societies tend to live in harmony with the natural environment. Lessons learnt from past experience however suggest that development actors failed to understand this reality. As a result, their interventions in the past decades impoverished pastoral societies through systemic disintegration of each and every element of local capacity.

## 3. Boreholes deprive pastoralist's livelihood

Given their permanent nature, boreholes often invite permanent settlements which interrupt the traditional livestock mobility and seasonal grazing systems and undermine the natural environment which provide basis for sustainable livelihoods of pastoral societies in the Horn African region. The following represent a brief overview of negative effects associated with boreholes and the resulting settlements.

- Technical complication:

In connection with technical sophistication of boreholes and specific techniques and skills required in order to operate and maintain it, which

does not exist in pastoral areas, make it not qualified for mobile pastoral societies. This is particularly true given the lack of technical assistance and community capacity building in the process of installing and operating boreholes in remote areas.

- Boreholes change the traditional grazing patterns:

There existed in the past clearly defined wet and dry grazing areas strictly respected by pastoral societies. Not anymore as a result of settlement, livestock population is permanently kept in relatively small all weather grazing areas, with little or no time given grazing lands to rest.

- Boreholes restrict pastoral mobility:

Pastoral resource management dynamics predominantly based on permanent mobility and pervasive adaptations represent important strategies aimed at meeting livestock requirements. More importantly, the aim of pastoral mobility was to allow a period of rest and growth during the wet season for dry season pasture and vice-versa, which maintains and sometimes increases vegetation biomass. Continued loss of grazing lands to settlements and the resulting over utilization of limited grazing lands has contributed to loss of vegetation cover and massive water and soil erosions in the concerned region. Reduced access to pasture has also negatively affected livestock productivity in terms of meat and milk.

- Boreholes deplete the natural environment:

Increased settlements resulting from boreholes water points interrupt traditional movement of pastoralists often determined by intensity and distribution of seasonal rains and deny access of pastoralists to communal grazing lands. Overgrazing of livestock concentration sites and massive destruction of vegetation cover and top soils due to continued utilization of limited areas of grazing lands takes place. Land productivity deteriorate. Frequency of recurrent droughts is increased. The relevant natural environment is devastated over time and space. As a result, a large number of affected pastoralists are displaced for an indefinite period of time.

- Boreholes are financial burden on local pastoralists:

High costs associated with operation and maintenance (O&M) of boreholes coupled with low market prices as a result of loss of weight of live animals due to acute shortage of sufficient pasture and drinking water, payment for borehole water become a financial burden on pastoral societies during prolonged dry seasons and wide spread periodic droughts. Spread of borehole water supply systems in pastoral areas has therefore caused unprecedented destitution and continued displacement of pastoralists almost everywhere in the entire region.

- Boreholes settlements encourage migration of young pastoralists to towns and cities:

Under normal circumstances, pastoralists export surplus commodities to nearby urban and pre-urban settlements. With the spread of boreholes in pastoral areas and influx of young pastoralists to permanent settlements, surplus production system of pastoral societies was gradually reduced into a deficit. On top of the above said factors, shortage of pastoral labor force negatively affected pastoral production systems in the concerned region.

## **ARGOW**

The African Reference Group on Water (ARGOW) has been founded at the beginning of 2003 in Nairobi (Kenya) as part of the East African preparation of the 3<sup>rd</sup> World Water Forum of Kyoto (Japan). ARGOW is a continental platform which mobilizes and links together African expertise and knowledge on issues related to water and natural resources management at the different categories and levels of the African societies, governments, non-governmental bodies and community-based organizations and institutions.

The African Reference Group on Water (ARGOW) is a platform of civil society experts, concerned development actors and activists. Its main aim is to develop an African agenda for water development and management, and to engage in advocacy initiatives that will promote this aim.

### **Alternatives and way forward**

The traditional resource management systems of pastoral societies in Horn of Africa is deep-rooted in social, cultural, economic, environmental and practical knowledge which has been adopted based on harsh arid and semi-arid conditions they live in. The nomadic lifestyle is based on complex calculation, which takes into consideration external and internal factors that affect various aspects of their lives, and integrate past experiences with the present and future needs.

For over a period of centuries, African societies have been governing themselves and managing their resources in a sustainable manner. Depending on the nature of the environment they live in and deal with, each African society have developed wealth of knowledge, know-how, techniques and skills in relation to management of their resource in a specific context.

Through the Eastern African Water Working Group (EAWWG), ARGOW undertook a series of dialogues, assessments and documentation of effective traditional management practices and systems which ensure ownership, entitlement and utilization of communal resources including water, pasture and land, which are translated in a series of leaflet on 'social contracts on water'. This is a part of a wider strategy to engage with relevant government ministries or departments and donor agencies to recognize and abide by local communities mandate on issues relating to water utilization, development and management.