

The Impact of Water Conflicts on Pastoral Livelihoods

The Case of Wajir District in Kenya

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Acronyms

ASALs	-	Arid and semi-arid lands
<i>Gu</i>	-	Long-rains season of April to May
<i>Hagaar</i>	-	Cold and windy season in June and July
HIV	-	Human immunodeficiency virus
AIDS	-	Acquired immunodeficiency syndrome
IDS	-	Institute for Development Studies
IISD	-	International Institute for Sustainable Development
<i>Jilaal</i>	-	Dry and windy season of January to March
NGO	-	Non-governmental organization
WASDA	-	Wajir South Development Association
WUA	-	Water Users Association

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Executive summary

Conflicts over water are not new to pastoralists' communities. Traditionally, the various pastoral communities and clans conducted raids and counter raids as an organized and governed survival mechanism, especially during periods of severe drought. Once conflicts occurred, there were socially defined and acceptable ways of negotiating or fighting. But of late, the use of modern weaponry and a growing lack of respect for the traditional rules have greatly increased the intensity, fatality and extent of these conflicts.

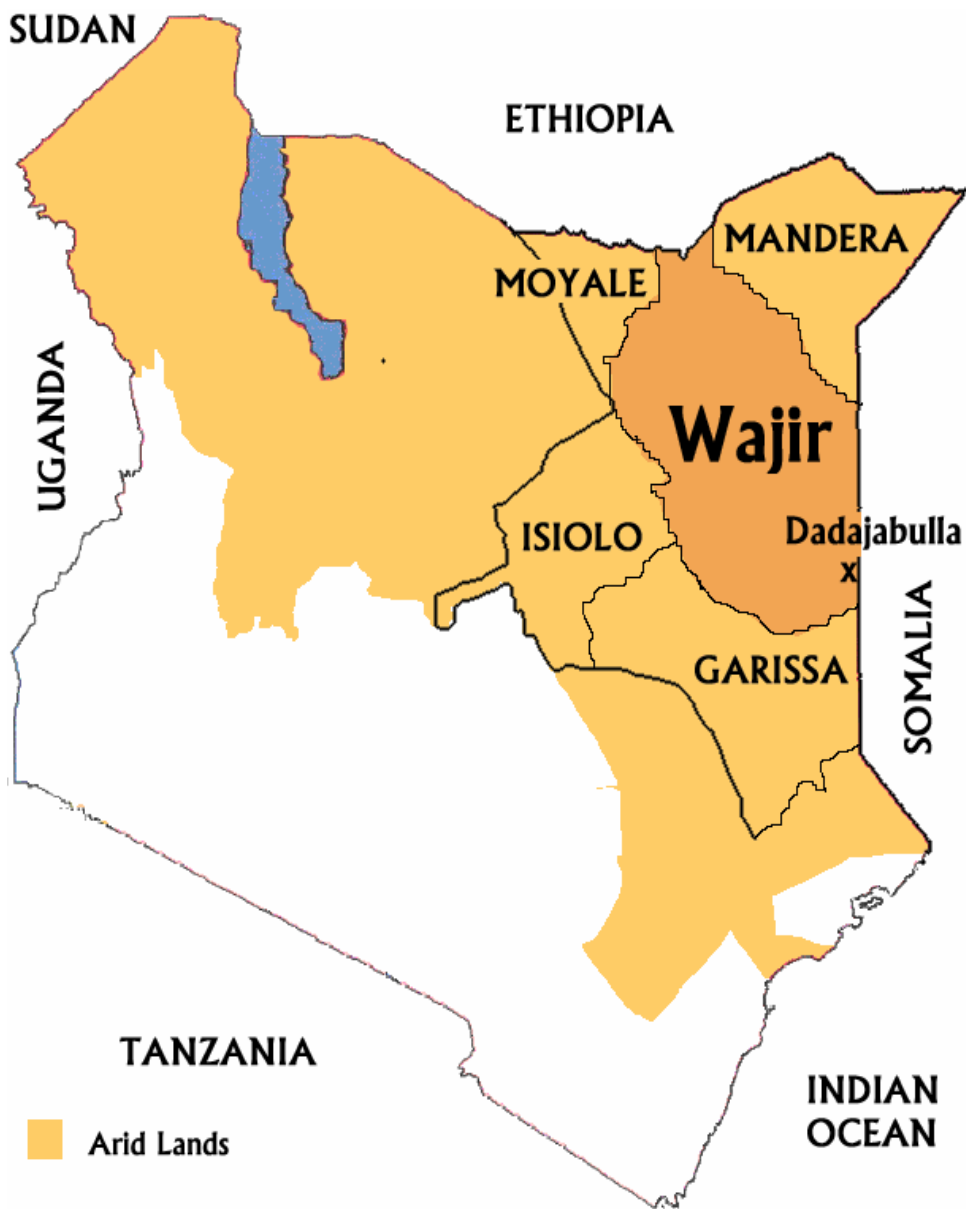
The resulting situation requires urgent attention and management, as the underlying causes of these conflicts have become more complex and multi-dimensional, ranging from socio-economic, cultural to environmental factors. The situation has resulted in high poverty levels, reduced livelihoods of local populations and continues to increase the likelihood of insecurity and instability at the local, national and regional levels. The sad side of these conflicts is that most of the victims are civilians; mainly women and children.

This report describes and analyzes relationships between natural resource-based conflicts and pastoral livelihoods in Wajir District, Kenya. The main question that the research set out to answer is “what livelihood opportunities are lost to people when they spend their time and resources managing water-related conflicts?” To answer the research question, the study aimed to understand the socio-economic characteristics of the study area; governance of water resources; water-related conflicts and their management; and to analyze relationships between the limited water resources, arising conflicts and their impact on the people's assets and capabilities to earn a livelihood.

The study findings confirm the assumption that water is a critical resource that determines success of pastoralism as a way of life in arid and semi-arid lands (ASALs). Availability of water determines where people and livestock settle in during the different months of any given year. During the dry season, all the temporary water sources dry up so that people rely solely on boreholes. Over-concentration of pastoralists in a few areas leads to competition for the limited water, resulting in conflicts. The conflicts have a negative impact as valuable resources are diverted to its management at the expense of provision for basic needs. The impact of conflicts at the household level is felt in terms of reduced access to food (69 per cent); interruptions in education (61 per cent); health care services (59 per cent); and trade (63 per cent). Reduction in the number of livestock through raids (66 per cent); loss of life and property; lack of water; degeneration of social relationships; forced migration of families and livestock; negative psychological and social impact of death; closure of the borehole; and intensified insecurity leading to reduced outdoor activities; among others—these are serious implications to a people already experiencing figures below the national average in basics like health, education and nutrition.

All is not lost. The study findings indicate that local people long for peace, as demonstrated through the amount of time and resources spent on the prevention and management of arising conflicts. Development of the following supportive sectors will assist in sustainable water resource management and reducing conflict: development of infrastructure; capacity-building of intermediate institutions to in turn strengthen community-based organizations; setting up of effective drought monitoring and early warning systems; recognizing the important role of ASALs and especially pastoralism to the national economy, and supporting the same through enactment of relevant policy and legislation; and initiating programs aimed at harmonizing traditional and modern systems for managing resources and conflicts.

Map of Kenya indicating location of Wajir District



Introduction

This report describes and analyzes relationships between natural resource-based conflicts and pastoral livelihoods in Wajir District, Kenya. The objective is to contribute to the understanding of the root causes of conflicts in arid and semi-arid lands, attempts made by local people, the government and other development agencies to manage the conflicts; resources required to sustain a conflict at the expense of other immediate needs within households; and the impact of conflicts on the people's assets and capabilities to sustain pastoralism as a means to earn a livelihood.

Wajir District lies in the northeastern part of Kenya, a water-scarce region with an unreliable annual rainfall of between 200 and 300 mm. The District covers an area of 56,000 sq km, with a population of between 300,000 and 350,000 people. Due to the arid conditions of the District, nomadic pastoralism is the most feasible and reliable source of livelihood for the local people. They keep cattle, goats, sheep, camels and donkeys; and grow annual crops along drainage lines and swamps. Water is rare in Wajir, except for the seasonal Ewaso Ng'iro River that forms the boundary between Wajir and Garissa Districts. Other available sources of water are boreholes, shallow wells, pans and dams. Since livestock depend on water for survival, its availability determines where people and livestock are found at different months of any given year.

People of Somali origin from the Ajuran, Degodia and Ogaden clans mainly inhabit Wajir District. Traditionally, most of the people identify with their clans, whose elders govern access and use of watering points and other shared resources. Sharing of the common and limited water implies competition and conflicts. This has affected the productivity of livestock, hence the people's livelihood. It is necessary to understand how water-related conflicts undermine the livelihoods of pastoral people, especially in a district that depends on livestock products for subsistence and cash income.

Data for this report was obtained from primary and secondary sources. The main question that the study set out to answer is "what livelihood opportunities are lost to people when they spend their time and resources managing water-related conflicts?" The question is based on the assumption that water is an important natural resource in the maintenance of pastoral livelihoods; and conflicts are bound to occur as a result of sharing the limited water resources by many users. The district was purposely selected because it is the largest district in the arid and semi-arid lands, and is one of the most sparsely populated and least developed areas of Kenya. The District is thus a fair representation of Kenya's pastoral areas dependent on livestock, yet faced with water resource-based conflicts. The findings can be generalized to other districts within the same agro-ecological zone, with a similar social-cultural make-up.

The size and area covered by the district and the population of the district necessitated the use of sampling in the research process. Primary data collection was done at Dadajabulla location, situated within a dry season grazing area that also acts as the main water source during the dry season. The area is bound to experience more water-related conflicts as many pastoralists gather there during the dry season to water their livestock. Primary data was collected using a structured questionnaire administered through face-to-face interviews with a sample of 100 household heads.

Context

Pastoralists are livestock herders found throughout Africa's arid regions, where they constitute between 12 and 16 per cent of the total population. East Africa has the largest variety and number of pastoral societies. Pastoralists occupy over 70 per cent of the Kenyan land and 50 per cent of Ethiopia, Somalia, Sudan, Tanzania and Uganda. In most of these countries, pastoralists are minorities as they lead a different way of life in terms of culture, values and language. Their lifestyles are considered incompatible with those of the majority of the population from where those who govern originate (Bonfiglioli and Watson, 1992). This partly explains why views and needs of pastoralists are rarely taken into consideration in national planning.

Though considered low in crop production, arid and semi-arid lands are vitally important in Kenya. ASALs cover 80 per cent of Kenya's total area of 592,000 sq km. They support approximately 25 per cent of the country's human population and over 50 per cent of the country's livestock. The livestock industry contributes approximately 10 per cent to the Gross Domestic Product (GDP). The current livestock population in the district is about 260,000 cattle; 280,000 camels; 265,000 sheep; and 130,000 goats, depending on 35 operational boreholes (WASDA, 2002:2). This implies that there are more users of the limited water and, as such, chances of conflicts over access and use are very high. The fact that 80 per cent of Kenya's land area is ASAL, with pastoralism as the most suited land use activity, calls for a study to find out how the limited water resource is shared, resulting conflicts and the impact of the conflicts on people's livelihoods, and, subsequently, suggestions for the most practical way to manage the conflicts.

Wajir District is one of the most sparsely populated and least developed areas of Kenya (Wajir District Development Plan, 1997–2001). The District borders the Republic of Somalia to the east, Ethiopia to the north, the districts of Garissa to the south, Isiolo to the southwest, Marsabit to the west, Moyale to the northwest and Mandera to the northeast. The district is 100 per cent ASAL with an average annual rainfall of just 280 mm. The district is categorized as trust land, with rangelands suitable for pastoralism, and with small parts suitable for annual crop production. Scarcity of water in terms of quality and quantity is a major bottleneck in the development of the district, as water plays a critical role in development through provision for domestic, industrial and agricultural needs for which there is no substitute. Therefore, availability of water largely determines the presence of human activity.

The District is divided into 13 divisions and four zones that also form the four constituencies characterized by clan settlements: Wajir East is largely settled by the Degodia; West by the Ajuran; North and South by the Ogaden. The fourth clan is the Corner tribe, which is a combination of other smaller tribes who make up less than 10 per cent of the population of the District. Historically, there have been disputes between these clans in relation to water and other pastoral resources. Among the Somali community, clans play a very important role in the social, cultural, economic and political life of its members.

The community is patriarchal. Female-headed households occur only under special circumstances like divorce, death or husbands in employment away from home. Traditionally it is men who go out to fight. The large number of male-headed households implies that decisions made on access to water and management of arising conflicts will be inclined towards male needs. As a result, any efforts made at curbing violent water resource-based conflicts will need to start with men; not forgetting that male decisions and actions are bound to impact on the ability of women (wives, sisters and mothers) as providers of food, socio-economic relations and health care for their families.

The majority of the people in the district live below the poverty line of less than a dollar a day. Of the total population, 96 per cent lack access to safe drinking water, 80 per cent are not literate and only

skilled in nomadic livestock production, and 89 per cent lack access to health care services. The district has a life expectancy of 50.6 years.

Traditionally, the people of Wajir had no boreholes, which meant that during the dry season, they moved close to traditional permanent water points. At other times, especially in severe droughts, they migrated to rivers that are in Garissa and Mandera districts, or crossed over to Somalia to access the Juba River. Currently, the frequency of movement by pastoralists is determined by a number of factors including drought, insecurity, size of household, alternative sources of income and size of livestock herds. When the need arises, people move towards traditionally specified and known routes to avoid meeting with strangers or enemies. During the wet season, movement is to natural water sources like pans, ponds and seasonal rivers accessed free of charge. In the dry season, they move closer to boreholes. But to use water from the borehole, they have to pay and follow established rules and regulations.

The district has been hit by a number of catastrophes with devastating effects. Examples are the 1964–1967 secession attempt aimed at incorporating northeastern Kenya into the Republic of Somalia. The war impacted on pastoralism through a government restriction limiting pastoralists' families to within 14 kms of towns as one way of monitoring their movements. A series of droughts have hit Wajir district from time to time. The droughts of 1984 to 1992 resulted in massive livestock deaths, impoverishments and displacement of large numbers of people. The worst drought was that of 1991–1992 which was compounded with an influx of pastoralist refugees from Ethiopia and Somalia. This resulted in more conflicts as the refugees came in with their livestock leading to more users and uses of a very limited water resource. The result was more loss of livestock, leaving thousands of people without their main source of livelihood.

Pastoralism as a livelihood

Pastoralism is a production strategy in which people raise herd animals as a means to earn a livelihood, often in ASALs. Pastoralism relies on the availability of water, pastures and labour to thrive—with water as the determining factor. The inadequate rainfall limits crop-farming activities so that the people are left with pastoralism or nomadic pastoralism as the most feasible and consistent viable livelihood. Pastoralism develops to get the most out of the opportunity provided by a surfeit of water and other resources in good seasons, and accepts losses in low seasons. They realize this by increasing livestock numbers in good seasons to maximize available resources and carry over enough healthy stock to provide for subsistence during the dry seasons.

Pastoralism is also a highly flexible system. According to Umar (1994), the practice has evolved over time as the most efficient means of exploiting transient water under ecologically marginal conditions, and prevailing technological and economic situations. The pastoral resource-use pattern is characterized by risk-spreading and flexible mechanisms, such as mobility, communal land ownership, large and diverse herd sizes, and herd separation and splitting. The mixture of livestock is a system to manage risk. Small stock like goats and sheep, although more vulnerable to disease when compared with large stock, are cash buffers, for they have a high reproduction rate and they lactate during dry periods. Goats and camels can survive longer dry periods than cattle and sheep. The composition of livestock per family is determined by factors like personal preferences, ecological conditions, family size and available labour.

Pastoral production is mostly subsistence based and aimed at providing a regular supply of food in the form of milk, meat and blood for household members. Pastoralists also trade in livestock, hides and skins, and milk, for other food products or for cash income to purchase grains, pay for education, health care and other services. Production is usually organized within household units consisting of a

male livestock-owner, his wife/wives, children and other dependants. Research has shown that the number of livestock kept is to satisfy the pastoralists' subsistence needs. A reference family of 6.5 persons would require nine lactating cows for sustenance. Taking into account the low calving rate, the need for male cattle and the necessary presence of young stock in a reproductive herd, an average pastoral family would therefore require a total herd of at least 60 animals. In the dry seasons when lactating cows are fewer and milk yields are lower, a family of five adult equivalents would need as many as 593 animals. Adding on to this minimum number for subsistence is male herds, young immature stock, and old stock for social ceremonial functions, and herds to cover any future normal crisis like drought (Lane, 1996:11).

Livestock possession is a central element of one's social, economic and religious life. Without livestock, one is lost, as one will not have social status, power and cannot support a family. Animals form an integral part of social life and ideological values that guarantee the survival of individuals and the continuity of institutions. To pastoralists therefore, livestock are insurance as they provide social links through bride price, inheritance and as ritual objects. Livestock are a means of subsistence and prestige goods that enable individuals to establish social relations with other members of society. At the same time, the animals enable individuals to establish and achieve mystic, but not irrational linkage with the supernatural. The social but non-market transactions using animals enable pastoralists to attain food and social security, social reproduction and reduce risks (Umar, 1994). Livestock being a provider of basic needs, pastoralists have developed a special attachment that outsiders find hard to comprehend.

Attempts made to develop ASALs and pastoralism

The pace for development in the ASALs was set during the pre-colonial times and inherited by the government of independent Kenya. In the 1950s, pastoralism was losing its hold in the economic, social and political system that was dominated by the needs of export agriculture. Support was mainly to agriculturally high potential areas. Pastoralists having less to offer the state, especially in terms of resources for the export market, meant that they had less political influence in government. This resulted in the assumption that pastoral communities are unwilling and unable to modernize.

Unfortunately, the generation of policies and strategies for the development ASALs was influenced by existing assumptions, myths, pre-conceived ideas and generalizations. Most of the literature depicts pastoralists as primitive, violent and hostile towards change. They have an emotional attachment to their livestock, lack rules and regulations to manage their resources, they are attached to the traditional way of life and they lack in national loyalty because of their cross border movements (Hendrickson, *et al.*, 1998). These generalizations made up part of the discourse on African pastoralism. The result was that the concept of pastoralism passed on over the years is deprived of history.

Part of the impact of the misconceptions is that government mistrusts pastoralists and their lifestyle. They perceive them as lacking in national loyalty and politically unreliable, difficulty to control because of their cross border movement, hence a threat to national unity. These stereotypes on pastoralists tend to separate the people's actions from their environment. Development planners also borrowed from Hardin's (1968) theory of the "tragedy of the commons." While trying to understand how resources like water and pastures were held and used by many people, Hardin failed to understand the complexities and social institutions, rules and regulations involved in the whole system. As a result, he reached a conclusion that common property resources are "unmanaged, open-access no-man's-land, inevitably doomed to degradation, as each individual withdrew more of the resource than would be optimal from the perspective of the users as a whole" (Hardin, 1968:3).

Hardin's argument had a powerful influence on development agents in promoting policies in favour of individualization, privatization and government appropriation and management of common property

natural resources. In doing so, they failed to realize that these resources were in reality shared private property, carefully managed by local communities through internally coherent rules and regulations on access and use.

The general assumption of the modernization approach adapted by the government at independence in 1963 was that the state was to function as the motor of development. The state was also to serve as the central means by which to fulfill social aspirations and bring about positive change. This perception resulted in policies that put emphasis on changing the pastoralists themselves, rather than the circumstances that surround their existence. The policies to encourage pastoral production were aimed at sedentary livestock production, a system not suited to the ASAL climatic and ecological context. The result was more threats to pastoralism and invasion of pastoral areas by people from outside, resulting in conflicts over ownership and use of pastoral resources.

A good example of a top-down government driven project was the 1970 Kenya Livestock Development Project, a replication of a range management model developed in America and Australia for their dry lands. The project proposed a beef stratification policy where the rangelands in the north of Kenya were managed as grazing blocks to produce immature stock that would be fattened in the southern dry lands of Narok and Kajiado that were wetter. However, the project failed basically because the local people were not involved in its design and implementation.

Shifting international policies and poor economic growth at the global level saw a reduction in government provision of services, and the introduction of cost sharing in education, health, water supply and veterinary services. It also resulted in the impromptu hand-over of boreholes to communities. Once again, these changes were made with little consultation or explanation to the recipient communities. The communities' interpretation of the events was that the government had abandoned them, resulting in aggressive behaviour towards government.

Events in the 1990s, like the withdrawal of government from the provision of basic needs and services; conflict spill-over from collapse of government in Somalia; the 1991–1992 severe drought, and clan tension resulting from the introduction of multi-parties in Kenya in 1992; put pressure on pastoralism as a source of livelihood. In Wajir, the government changed common property by effecting clan boundaries and grazing blocks. This policy ignored the fact that pastoralism survives on frequent movements to take advantage of the ecological variability and possibility of uncertainty, which they overcome through livestock mobility and flexibility. Once these realities are ignored, misunderstandings and conflicts occur.

The combined effect of development efforts during the colonial and post-colonial periods was weakened internal management and leadership capabilities of pastoral societies. This in turn resulted in the disruption of the ecological balance of pastoral areas, accelerated deterioration of natural resources, conflicts over available resources, thus rendering pastoralists more vulnerable to famine and conflicts.

Governance of water resources and arising conflicts

In the ASALs, water is limited both in terms of quality and quantity. Long periods of scarcity of water imply that the communities have evolved mechanisms of managing the little water that is available so as to provide for their needs. The pastoralists apply rules, regulations and penalties as one way to achieve sustainable water management in the midst of scarcity. Access to water is controlled by group membership so that unauthorized use may be met with persuasion, force or legal action. Non-members are only allowed access after making substantial payments or agreements.

Traditionally, the clan had structures that provided the basic framework for accessing water and other natural resources. Access was clearly understood to be part of reciprocal agreements, where the digging, use and maintenance of wells were governed by an elaborate system of customary rules. The traditional systems combined a degree of private and communal well digging, use and maintenance. Most clans regulated the ownership of resources in relation to the clan's ability to claim and maintain effective occupation. Common practice was that large dams and wells were not owned by any group and had no permanent rules that regulated their use. But clans or communities owned and regulated access and use of small dams, pans and shallow wells.

Relatively, and in some cases for good reasons, the water points are few. Nevertheless, the total number of water points varies with seasons, so is the distances covered to access water. Distance covered during the rainy season is an average of 8.2 km to access pans, dams and seasonal rivers. Whilst during the dry season, they cover an average of 19 km, mainly to the borehole. The people avoid using the borehole during the wet season as one way of saving on costs, or more important, they respect the borehole as the only source of water in the dry season, and therefore exploit seasonal water sources, available at this time. In addition, the distance covered to watering points is determined by where one's family has chosen to settle. Some of those who cover long distances, for example 40 km explained that they prefer the particular water point, as their relatives use it as well. Others indicated that their "enemies" use the water point near them; they prefer to travel far as one way to avoid conflicts—meeting the enemies is a sure way of starting new conflicts or reviving old ones.

After the government handed over the boreholes to the community with little orientation on how to manage them, borehole management became a problem because the communities were not used to managing such modern watering points with its associated technologies. Consequently, OXFAM-GB introduced the concept of community management through Water User Associations (WUAs). The WUAs were made up of livestock owners from the various households and villages. Members of the Association were meant to discuss and generate rules and regulations to govern access and use of available water, especially from the borehole. The Water Users Association and Borehole Committee were to manage, while being guided by clear rules and regulations on the management and use of watering points. Almost all the water users (91 per cent) are aware of the existence of rules and regulations governing access and use of watering points.

Whenever water in the borehole decreases, which normally happens during drought, the officials of the Water Users Association, in collaboration with the borehole managers, re-adjust the livestock drinking registers accordingly. When water is scarce, the register is changed so that each household waters their livestock once per week. This changes to once every two days depending on the availability of rainwater. The funds collected from use of water are used for maintenance of the borehole, to pay wages to the borehole operators, buy fuel, and for community projects like the construction of health centres.

The ability of people to access, control and make use of a resource like water is defined by rules and social norms of any particular society. The existence of rules and regulations implies that people value water and would like to manage it sustainably. It could also be that the community has had conflicts over water before, leading to the evolution of rules to guide users, hence avert conflicts. Without proper governance, people will use unorthodox means to access water for their livestock. This is likely to cause conflicts and also bring to surface weaknesses like lack of governing and management systems for water. But experience has shown that people abide by laws and rules as long as the resource is sufficient and there is equity. Marx and Weber (1948), in Sandole, *et al.* (1993), argue that conflicts occur whenever an individual's action is oriented intentionally toward carrying out their own will against the resistance of the other party or parties. There is a close association between resource-based conflict and power, in that conflict results when there is scarcity of resources and one individual gains

at the expense of another. Once the rules don't guarantee people access, they flout them leading to haphazard use and, eventually, conflicts.

For marginalized groups, especially among pastoral communities seeking to redress injustices or inequalities in water resource distribution, conflict becomes an inherent feature of their struggle for change. Conflict provides a justification needed for them to assert their claims. As a result, conflicts are inevitable, legitimate and even desirable depending on circumstances and views of the involved parties. What matters is how they are perceived and handled, determining their level of impact on livelihoods. In the study area the conflicts are exposed through physical fights, commotion, abuses and livestock thefts; destruction of properties, injuries and death, rape and forced migration.

The population of water users (people and livestock) in Wajir has grown over the years and the water resource continues to dwindle. The people get into violent conflicts when they are unable to access water for their livestock. Most of the respondents (71 per cent) said the water is not enough and they compete among themselves and sometimes with people from outside. The other source of conflicts is from people who gather at watering points to steal livestock or settle old scores. Most of the conflicts (85 per cent) occur during the long dry period when water becomes very scarce i.e., during the *Hagaar* (cold, windy in June to July) and *Jilaal* (Dry and windy in January to March) seasons. Limited raids occur towards the end of March as people steal livestock to fatten in the *G#* (long rains in April and May) season when livestock require little attention as resources are in abundance and within easy reach from homesteads.

Research findings point to the fact that people of Wajir prefer peaceful situations to conflict. In most cases, people only resort to fighting as a last option. Men do most of the violent fighting while women agitate for peace. To maintain peace, people within households apply a variety of mechanisms. They engage household members in time consuming activities, making them busy so that they have no time to go out to fight. They teach their families the importance of peace, forgiveness and respect for human life. Household heads deny their household members access to weapons and restrict the herders to specific places where chances of getting into conflict with others are low.

Impact of conflicts on pastoralists' livelihoods

Conflict emerges as one way in which human society adjusts in the face of scarce resources. Conflicts are complicated issues that get interwoven with other social, economic, environmental and political activities within a society. If not managed well, conflict can have a negative impact on the environment and on the assets and capabilities people require for their survival. Being that delicate, conflict management takes time and resources.

In Wajir, households are affected in a number of ways during and after conflicts. The impact is in terms of reduced access to food (69 per cent); interruptions in education (61 per cent); health care services (59 per cent); and trade (63 per cent). Reduction in the number of livestock through raids (66 per cent); loss of life and property; lack of water; degeneration of social relationships; forced migration of families and livestock; negative psychological and social impact of death; closure of the borehole; and intensified insecurity leading to reduced outdoor activities; among others—these are serious implications to a people already experiencing figures below the national average in health, education and nutrition.

Education

Conflicts affect physical access to schools and to other learning institutions. Students and teachers are unable to go to school (86 per cent) due to insecurity resulting from conflicts. In most cases, schools get closed. Teachers who come from outside the district prefer to return to their home areas whenever

there are conflicts. Older students, through requests from parents, or based on social cultural and family obligations, abandon school (69 per cent) so as to join others in “fighting the enemy.” Children are forced to drop out of school when families decide to migrate to other areas in search of physical security. Once again, disruption of school leads to low levels of education, confining more and more people to pastoralism as the only source of a livelihood.

The large number of people relying on pastoralism implies large herds of livestock kept. The herds require water, especially during dry seasons. As discussed, lack of access to water leads to competition and conflicts. Water resource-based conflicts bring a lot of suffering to many residents as revealed by 80 per cent of the respondents who said that physical insecurity means that young children are insecure and the best alternative is for them to stay home, away from school.

Health care

Water-based conflicts interfere with people’s access to health care services and facilities. Would-be providers like non-governmental organizations, religious institutions and the private sector are kept away by insecurity. At the same time, people lack income to pay for services due to lack of access to income-generating activities. Most (99 per cent) of the respondents reported that insecurity and lack of water leads to the closure of health facilities. Due to insecurity, the main NGO which provides health care services in the area, is unable to deliver medicines to service centres; and due to insecurity, people cannot travel far in search of health care.

Death and injuries

Death of an immediate family member, relative or hired labour had occurred (eight per cent) when fighting over water, while 18 per cent of the respondents had been injured at one time. Death and injuries are a cost to households, for they interfere with the flow and allocation of resources for subsistence, and have high chances of initiating new conflicts in the form of revenge.

Time taken in managing conflicts

Conflicts are complicated issues that consume time and resources. The traditional rules and regulations that held the clan together have broken down, especially with the introduction of sophisticated war weaponry, privatization, commercialization and individualization of pastoral resources like water. Arising arguments can take days to settle, and sometimes end up developing into physical fights. When there are disagreements over water, most people negotiate, while others resort to fighting. Disagreements are mainly with family members, hired labour, livestock owners and with other clan members. Almost half (48 per cent) of the respondents said it takes them up to one week; up to two weeks (10 per cent); and up to four weeks (23 per cent) to manage a conflict through negotiations. On the number of weeks taken to solve a conflict through fighting, 51 per cent said it takes them up to one week; 16 per cent up to one and half weeks; 16 per cent up to two and half weeks; six per cent up to four weeks; one per cent up to six weeks; and another one per cent up to 25 weeks.

Due to the harsh environmental realities in the ASALs, time is very important. Analysis shows that it takes an average of five weeks to negotiate out of a conflict, and if that fails, it can take another five weeks (on average) of fighting. A total of 10 weeks spent managing a conflict is too high a price for pastoralism, an activity whose success depends on availability of time and labour to cover long distances in search of water, pasture, better markets and physical security. A reduction in labour affects livestock rearing and production cycles.

Mobility of pastoralists

Most of the respondents said their family members don't move freely when conflicts are ongoing. For those whose movements are not affected (10 per cent), the reasons given ranged from the fact that they are used to such conflicts, to availability of enough security, and no threat of being killed. Those who said their movements are interfered with gave fear as the main reason. During raids and fights, people get killed or injured. Death and injuries are a cost to households, for they interfere with the flow and allocation of resources for subsistence, and have high chances of initiating new conflicts through revenge. Pastoralism thrives on mobility and involves the separation of livestock into many units to move to different places in search of resources for their survival. It also involves milking and individual animal attention to watch out for ailing ones and treat them. So if some people are withdrawn, especially in the dry season to go and fight instead of taking livestock to far away places in search of water; then livestock as the main source of milk, meat, blood and income are negatively affected. People not being able to survive on livestock, will be reduced to perpetual reliance on relief food.

Insecurity, trade and food

When conflicts arise and become violent, the majority of those who go to fight are men from the clan (74 per cent), hired labour and family members. Participation of able-bodied men at conflicts implies that at least once every year, households are deprived of energetic people and their contribution to pastoralism. This is especially critical in taking livestock out to far away watering points. The result is that women and children are forced by circumstances to take up men's responsibilities, in addition to their normal workload. In this regard, women find themselves challenged to take livestock out to far away places in search of water and other livestock resources—a big security threat to their lives. At the same time, women, children and elderly people are exposed to more insecurity, as there are no strong young men nearby to defend them in case of an attack. Insecurity confines them to homesteads, as they cannot carry out small-scale cultivation, or venture out to markets to engage in trade as an income-generating activity.

Insecurity and fear affect levels of food production at the household level due to a reduction in the quality and quantity of livestock. The livestock get stolen and there are no stable markets to rely on (96 per cent). Reduction in quality and quantity leads to hunger and increased poverty. Physical insecurity bars people from moving to marketplaces to buy and sell foodstuff and participate in other income generating commodities. Insecurity sparks a whole new cycle of poverty, limited water and conflicts.

Many people (63 per cent) find it hard to access income-generating activities because of thefts and fights at the marketplace. The closure of boreholes renders guards who are parents without payment; in turn they are unable to pay children's school fees. Eighty-nine per cent of the respondents said that due to resulting insecurity, most people (89 per cent) are confined to low-income-generating activities, as they cannot move to far-away markets for profitable business transactions.

Loss of livestock and trade

Commercialization of the pastoral economy has accentuated the role of the household as a unit of production and decision-making. The outcome is disengaging individuals from wider patterns of social and economic reciprocity, leading to new forms of social stratification. Rising inequalities among pastoral households is locking some sections of society into perpetual poverty, while the rich get better off. When the gap is too big, misunderstandings and conflicts increase. Conflicts impact on income-generating activities negatively as people experience an increase (96 per cent) in the price of products. The contributing factor is that many people feel insecure to leave home and go to marketplaces. Rampant insecurity, robbery, thefts along routes and long distances covered to reach available markets,

discourage many from participating. The few who manage to get to marketplaces, find a higher demand than they can satisfy, they take advantage and raise the price of commodities.

Insecurity also discourages long-distance traders, who in times of peace buy and transport grains and manufactured goods and other products to interiors of ASALs. On their way back, the traders buy livestock and other ASAL products to sell at far-away towns. These helps create profitable markets and information about pastoralism, ASALs and produce from there.

Chances of losing livestock in the midst of conflict are very high. A good number of respondents (39 per cent) said they have lost livestock during conflicts. The number ranged from two to 230. A reduction in livestock, even by small numbers, is critical to a people already living at the verge of poverty and malnutrition. Loss of livestock is a sure way to create conflicts, as those affected will try their best to get more livestock from someone else, and the cycle of conflict will continue.

Insecurity and access to water

Pastoralism survives on frequent movements in response to availability of water. This demands that the migratory routes are safe. Water resource conflicts lead to physical insecurity (81 per cent), which in turn impacts negatively on access to grazing and watering points. Other people (79 per cent) are forced by circumstances to move to drier but secure areas (nine per cent). Over-concentration of people and livestock in small areas will lead to eruption of more conflicts as people start to compete and fight over the limited water resources, creating more insecurity in the previously secure areas. But the research findings show that due to conflicts at nearby watering points, more than half (58 per cent) of the people are forced to migrate or move their livestock to boreholes in the neighbourhood.

Forced migration leads to more conflicts as those from warring parties can meet and revive old conflicts while in foreign land. Over 95 per cent of the respondents reported that they fear going to watering points in times of conflicts. The reason given is that since the fights are over water, watering points experience frequent fights, making the places insecure both for people and livestock. The result is sometimes damage to the borehole, which makes it inefficient, resulting in restrictions on the number of days when water can be accessed, and subsequently more and intense conflicts over water.

The borehole is closed (99 per cent) when fights break out. This becomes another source of conflict in that most fights occur during the dry season when water is limited. In the dry season, boreholes are the only source of water for the pastoralists. Closure of the borehole means that people have to trek far in search of water, yet, such movement is constrained by the fact that able-bodied men, are the same ones involved in the fights. Families end up losing more livestock, a fact that will force them to steal from others if they are to meet their basic needs. Thieves have also learned to hide, attack and steal livestock at watering points. Most water-related conflicts start with individuals at watering points and spread upwards to households, villages and clans. At the clan level, the conflict is normally interpreted as one between clans, when the real cause is competition over access to water. Consequently, many people are drawn into or join conflicts that they don't fully understand. This results in a vicious cycle of more conflict and increasingly limited water resources.

Conclusions and Recommendations

Conflict is a collective activity. It takes more than one to cause and resolve a conflict. Respondents gave the following suggestions as mechanisms through which to tackle water-related conflicts: capacity building of local peace groups; awareness creation on the importance of local people's participation in development activities; equitable resource sharing; construction of more boreholes; adoption of negotiation as a conflict management strategy; deployment of more security personnel in the area;

participation of local people at peace conferences; use of Somali traditional law to manage water resource-based conflicts; and the provision of information and public education activities through the mass media.

The study has brought to the fore a number of lessons to be shared at the local, national and international levels.

Lessons learned

- Any sustainable pastoral development program needs to be based on the particular people's history, culture, environment, economic and political realities.
- There is a need for extensive discussions aimed at harmonizing modern and traditional practices of pastoralism, such as resource and conflict management methods. This will help do away with some of the prevailing contradictions that lead to conflicts.
- There is a need to involve local people when designing development interventions as development cannot be defined from outside and imported for implementation.
- Conflicts are not limited to areas of origin; rather, they have a spiral effect to other stakeholders in the natural resource sector.
- There is need for the government and other development agencies to focus on ASALs and pastoralism as one way of helping them out of the perpetual conflicts and poverty in which they live. This can be through tapping and storing rainwater and making it accessible along migratory routes during the long dry periods.
- Before more boreholes are sunk in ASALs there should be environmental impact assessments. More boreholes can encourage large concentrations of people over long periods of time, leading to land and resource degradation.
- Settling of pastoral communities through provision of permanent watering points is not a way out of water resource-based conflicts. The reason being that the fragile environments where pastoralists live demand that they move frequently for the resources to recover and avoid permanent degradation.
- There is a need to identify profitable markets where pastoralists can sell their livestock and livestock products. This will encourage them to cut down on any extra numbers.
- There is a need to involve pastoralists in the policy-making process so as to generate relevant and practical policies
- Education should be extended to more children as one way of reducing the large numbers of people dependent solely on pastoralism. Education equips one to choose from among available alternatives.

The study findings confirm the assumption that water is a critical resource that determines success of pastoralism as a way of life in arid and semi arid lands. Availability of water determines where people and livestock settle in during the different months of any given year. Over-concentration of pastoralists in a few areas leads to competition for the limited water, resulting in conflicts. The conflicts in turn consume time and resources earmarked for other development activities. The conclusion from the research is that conflicts over water have a negative impact on pastoral livelihoods. To develop the pastoral sector, hence the local people's livelihoods, demands consultations and collaboration among local people, government and other development agencies.

Ideas for future research

The above recommendations can be realized through further field research in relation to the following issues:

- ❖ Relationships between nomadic pastoralism as a livelihood, HIV/AIDS and proliferation of small arms and light weapons.
- ❖ Views and perspectives of children, the youth and women on challenges to pastoralism as a livelihood.
- ❖ A review of ongoing initiatives towards the harmonization of traditional and modern resource and conflict management strategies.
- ❖ Ongoing disarmament of communities living along international boundaries.
- ❖ Causes and impact of conflicts between pastoralists and cultivators.

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