

# **The Karamoja Syndrome: Transdisciplinary Systems Research Informing Policy and Advocacy**

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## **ACKNOWLEDGEMENTS**

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## **ABSTRACT**

In the framework of the ‘Karamoja campaign’ coordinated by ACTED, an exploratory research process was carried out with students from the universities of Lüneburg, Bordeaux, Groningen and Prague. The goal was to establish a systemic, transdisciplinary diagnosis of the contemporary development situation among pastoralist communities of Karamoja (North Eastern Uganda).

To reach a transdisciplinary level of systems research, within the limited time and means of our project, we followed the “syndrome approach” (Syndromansatz) that was developed in 1993 by the German Advisory Council on Global Change (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WBGU), and then further developed by the Potsdam Institute for Climate Impact Research (PIK). The approach uncovers local and global structures of unsustainable developments, identifying functional patterns (or “clinical pictures”) of interaction between humans and nature.

Regarding Karamoja, the approach allowed us to bring together the insights from ecological, demographic, economic, political, cultural, technological, gender and other research perspectives. We took inspiration from the existing “syndrome approach” and also tailored its focus to the research questions of humanitarian and development studies, in consultation with the NGO ACTED. Among the many studied ‘symptoms’ are: climate change and desertification, loss of herding mobility, cattle raiding, different development processes (e.g. in terms of education or access to water) and various coping mechanisms among communities...

The paper presents the results of the Syndrome Approach as carried out with the students of Leuphana University Lueneburg, and unveils the specific characteristics of a “Karamoja Syndrome”. The potential relevance of this syndrome for other semi-arid pastoral areas, as well as its policy and advocacy implications, will also be discussed.

## **A Transdisciplinary Approach to the Complexity of Humanitarian Crises and Unsustainable Development**

### ***The Syndrome Approach***

The issues of unsustainable development at the root of humanitarian crises, reveal interwoven networks of processes across different domains: The economy, social organization, psychology, cultural dimensions, demography, technologies, and the natural environment. If one only treats the local and partial symptoms of crises one at a time, looking at one domain at a time and remaining focused on events, one will not manage to go very far in terms of proper and effective long-term solutions and will rather worsen the long term roots of the crises and/or add new elements of unsustainability at the structural level.

“As a consequence, any recommendations for actions based on such studies [the studies of single issues or single domains, e.g. climate change, land use, poverty reduction] might be useless, sub-optimal or even counter-productive with respect to other problems. [...] Against this background, the scientific community is confronted with new challenges. Traditional disciplinary approaches analysing individual facts or processes are no longer sufficient. Two particular challenges emerge:

i) the need for integrating knowledge from various scientific disciplines and

ii) the necessity to produce action-oriented knowledge to cope with, mitigate, or counteract global change and its negative effects” (Lüdecke, Petschel-Held & Schnellhuber 2004).

Developed in 1993 by the German Advisory Council on Global Change (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WBGU), and then further developed by the Potsdam Institute for Climate Impact Research (PIK), the syndrome approach (*Syndromansatz*) identifies “clinical pictures” of interaction between humans and nature, uncovering the structures of unsustainable development in a region through specific key processes (vicious circles) forming a network of interrelations between symptoms identified at several levels of reality.

The syndrome approach classifies symptoms loosely into a matrix of nine spheres, four of which constitute the natural environment (atmosphere, hydrosphere, i.e. water, pedosphere, i.e. the land/soil and biosphere, i.e. all the living organisms) and five of which constitute human societies (population, economy, social organization, psycho-social sphere, i.e. also culture, and technologies & science).

In medicine, a diagnosis is not an end in itself but only a means for identifying the most appropriate therapy in order to restore the patient’s health. Similarly, the syndrome approach is not so-called “neutral science”, it is action-oriented and it is prescriptive. The syndrome approach places its greatest focus in identifying the relationships between change patterns and then the key points where the vicious circles of syndromes can be broken.

#### ***From the Sahel Syndrome to the Karamoja Syndrome***

The German Advisory Council on Global Change identified sixteen different types of syndromes that, although they are based on specific regions in the world, show general structural features applicable to many other regional situations. Among them is the “Sahel Syndrome”: This syndrome describes the overuse of agriculturally marginal land by impoverished population, where a vicious circle is installed in between the impoverishment of the population and the overexploitation of the land. For our case study, i.e. the semi-pastoralists of Karamoja, this syndrome was considered as possibly relevant and further explored, inquiring how far it would enlighten the long-term crisis of Karamoja.

The Sahel syndrome highlights a specific spiral of unsustainability: “poverty-induced resource overuse, resource degradation and yield losses create a spiral of non-sustainable development. This mechanism may be reinforced by land divisions due to population growth and inheritance, and by displacement of people. Increase in poverty and land degradation often end in hun-

ger, migration, or violence” (Lüdecke, Petschel-Held and Schnellhuber 2004). The coping strategies of the affected people contribute to this downward spiral.

The Sahel syndrome comes with typical forms of symptoms such as the degradation of soil (e.g. erosion, salinization, etc.), desertification (broadening of deserts), loss of biodiversity and change of regional climate.

The Sahel syndrome, as common in the syndrome approach, can best be visualized synthetically in the form of a ‘network of inter-relations’ (figure 1 on page 147 shows the central network of inter-relations, and figure 2 on page 148 offers more details).

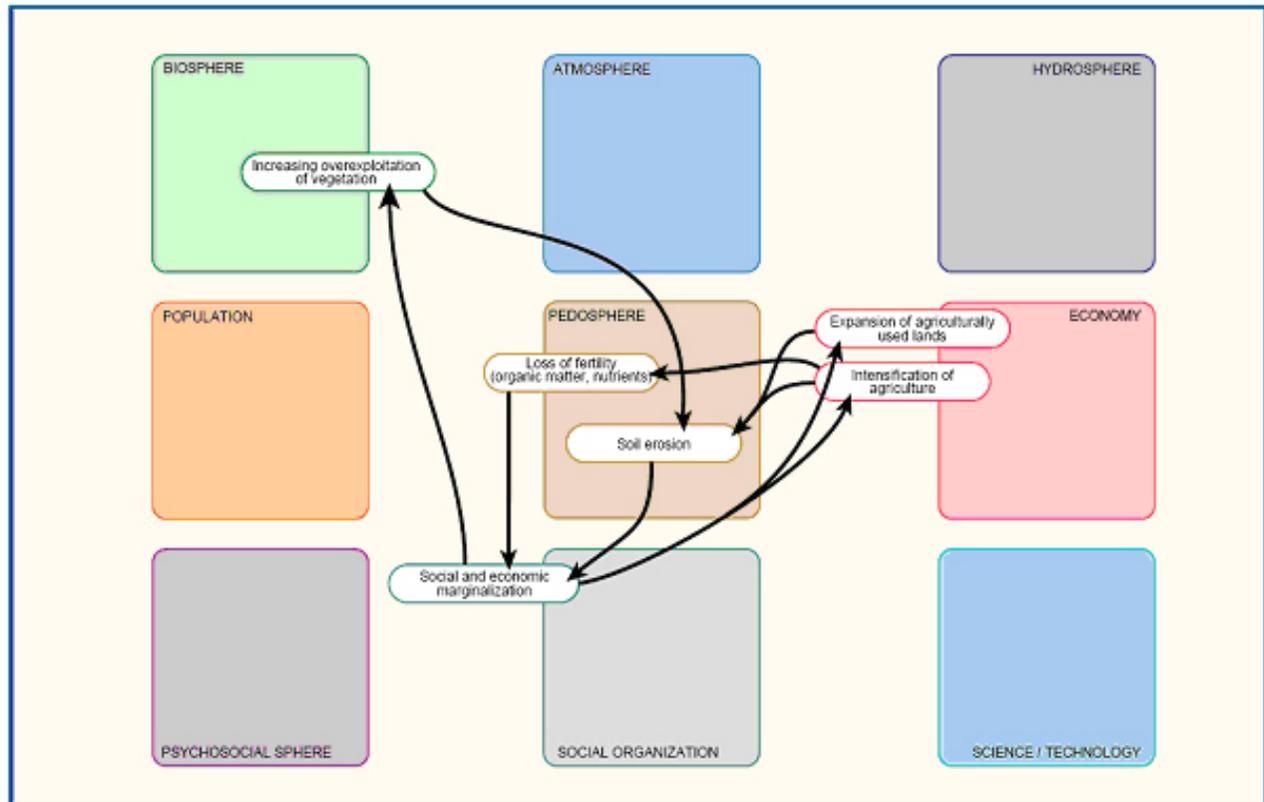
How far is the Sahel syndrome applicable to Karamoja? “For a syndrome to be diagnosed in a specified region, the respective non-sustainable development path must be observable. Such a path is characterised by a particular combination of trends [...] for example a simultaneous increase of rural poverty, land degradation, and agricultural activities in case of the Sahel Syndrome. These trends can be detected by appropriate indicators” (Lüdecke, Petschel-Held & Schnellhuber 2004).

Our exploration of the Karamoja case showed that the Sahel syndrome, although partly relevant to the case of Karamoja, does not suffice to account for the trends observed in the region. Most strikingly, the specificities of pastoralism and semi-pastoralism (together with agriculture) on semi-arid lands as well as the specificities of a cattle economy, with trends related to the phenomenon of cattle raiding, have to be taken into account.

Our work thus consisted in an exploratory research with the aim to design a specific Karamoja syndrome, which might also be relevant to crises among other pastoral and semi-pastoral societies. This syndrome shall highlight the specific contemporary trends characterizing unsustainable development in this semi-pastoral society of East Africa.

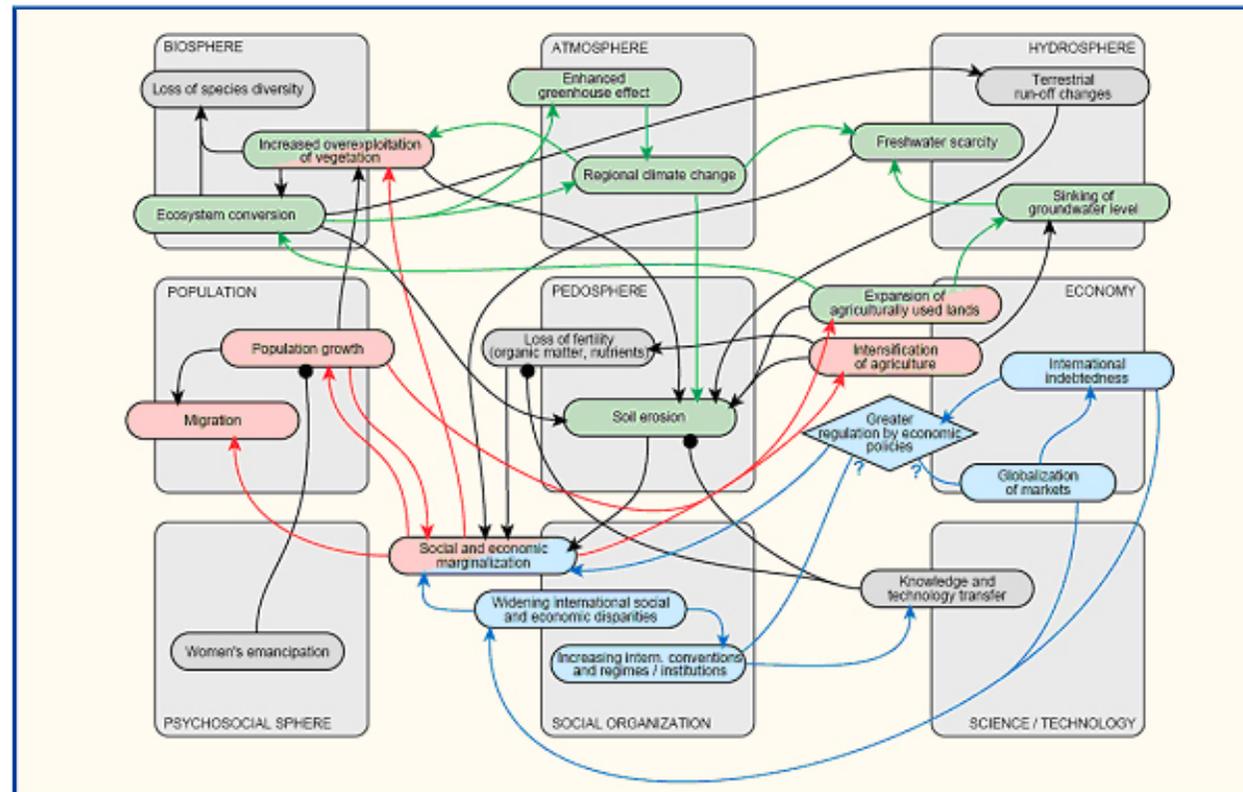
The resulting Karamoja syndrome constitutes only an exploratory research, and does not pretend to achieve the level of a full-fledged syndrome research. This exploration was carried out with limited means and within a very limited time-frame (April to November 2008) by a group of students at the Leuphana University Lüneburg. This research work was carried out as a preparation for the realization of an advocacy paper by students from four European universities as part of the Karamoja awareness raising campaign co-organized with the French NGO ACTED (see [www.karamoja.eu](http://www.karamoja.eu)).

Chapter 2 introduced the reader to the case of the Karamoja region, following the typology of the nine spheres of the syndrome approach (atmosphere, hydrosphere, pedosphere, biosphere, population, economy, social



**Figure 1**  
 Central mechanism of the *Sahel Syndrome* (vicious circle).  
 Source: WBGU





**Figure 2**  
 Syndrome-specific network of interrelations of the *Sahel Syndrome*. The three sub-networks from which the complexes of issues are derived are marked red, green and blue.  
 Source: WBGU



organization, psychosocial sphere – including culture, and the sphere of sciences and technologies).

In this article, the basic structure of the Karamoja Syndrome will first be outlined, and its main network of inter-relationships will be drawn out.

The second part of the article will present in more details a selection of 20 specific symptoms constituting the Karamoja Syndrome.

## **The Karamoja Syndrome**

### ***The Basic Structure of the Syndrome***

The following paragraphs provide a description of the basic structural network of relationships in the Karamoja syndrome. However, the linear language of written text cannot replace the synthetic language that is necessary to comprehend complex systems. This is why we encourage readers to take the time to look closely at the graphic rendition of the network (figure 3 on page 151).

The **loss of pastoral mobility**, i.e. the limitation of movement patterns to grazing areas, plays a central role in the Karamoja syndrome. Pastoral mobility is threatened by several developments, including the **sedentarization** of populations, the development of **agriculture** over an increasing proportion of the land, the aggravation and **commercialization of cattle raiding** which threatens all forms of mobility in the region, and the ill-advised drilling of **boreholes** for access to water, which modifies movement patterns and fixes grazing on specific locations. The loss of pastoral mobility is also related to a **loss of indigenous knowledge**, more specifically an ecologically precious knowledge that allowed for the regeneration of natural resources. As a consequence, the loss of pastoral mobility results in **overgrazing** over the limited amount of grazing areas available.

**Overgrazing** contributes to a **reduction of ground cover**, i.e. a decimation of vegetation. But the reduction of ground cover also takes the form of deforestation, caused most especially by the increased **selling of firewood** and charcoal by impoverished communities. This phenomenon, which basically follows **population growth**, is further increased because of **food insecurity** (as firewood selling offers an alternative source of income).

**Food insecurity** is increasing, not only as a function of **population growth** on a semi-arid land with limited resources, but also as a result of the aggravation and **commercialization of cattle raiding** (first of all for the communities which are direct victims of raids). Related to the former, the **increase in socio-economic disparities** in Karamoja also contributes to food insecurity (as traditional forms of social security and solidarity are eroding).

Food insecurity, in terms of insecurity of access to water, establishes itself in the long-term as a consequence of the **sinking of the groundwater table**, which came about as a consequence of a multiplication of **boreholes** drilling (i.e. ill-advised development infrastructure) and not only a consequence of the population growth. The sinking of the groundwater table is aggravated by **deforestation** and by **climate change**.

Food insecurity is also caused by the loss of fertility and **erosion of soils**. Soil erosion in Karamoja not only results from the already mentioned **fire-wood selling** and **overgrazing** (through deforestation and the **reduction of ground cover**), but also from **agricultural overexploitation**. An inconsiderate extension of agricultural land use in Karamoja will further aggravate this phenomenon. **Climate change** also accelerates the process of erosion. Soil erosion also contributes to the geography of **socio-economic disparities** across Karamoja.

A **loss of biodiversity** results from the combined effects of soil erosion and reduction of ground-cover/deforestation, with as long-term consequence the **loss of indigenous knowledge** associated to the extinguished species. The loss of indigenous knowledge is also aggravated by the **sedentarization** process and by the **destabilization of Karamojong sociocultural structures**.

The **sociocultural structures** in Karamoja are destabilized as a result of **increasing socio-economic disparities** and of accelerated **population growth** (with an increase in the relative size of the younger age cohorts). This destabilization does not only threaten **indigenous knowledge**: it also reinforces socio-economic disparities and facilitates the aggravation and **commercialization of cattle raiding** (as social control over raiding youngsters is weakened).

**Sedentarization** in Karamoja, fueled by an accelerating **population growth**, not only directly threatens **indigenous knowledge** as well as **pastoral mobility**, but also indirectly worsens the prospects for pastoral mobility because sedentarization fosters erosion and the further expansion and intensification of **agricultural** uses of the land.

Overall, the basic structural features of the Karamoja syndrome reveal a complex cycle of unsustainable development whereby ecological degradation (ultimately leading to desertification) on the one hand, and the destitution of social institutions and aggravation of raids and conflicts on the other hand, reinforce each other via the deterioration of livelihoods and the reinforcement of unsustainable livelihood mixes such as inappropriate agricultural practices, a loss of pastoral mobility resulting in overgrazing and alternative livelihoods (such as firewood selling) with devastating environmental consequences.

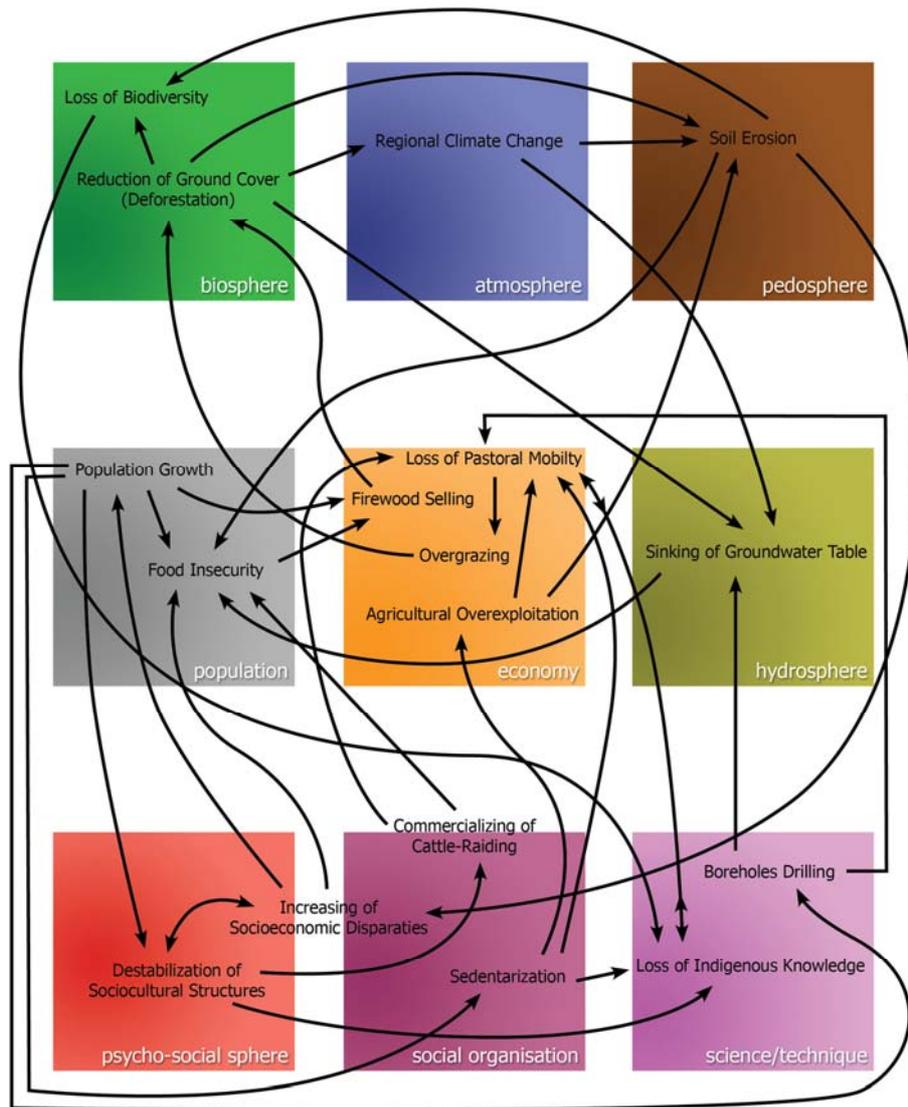
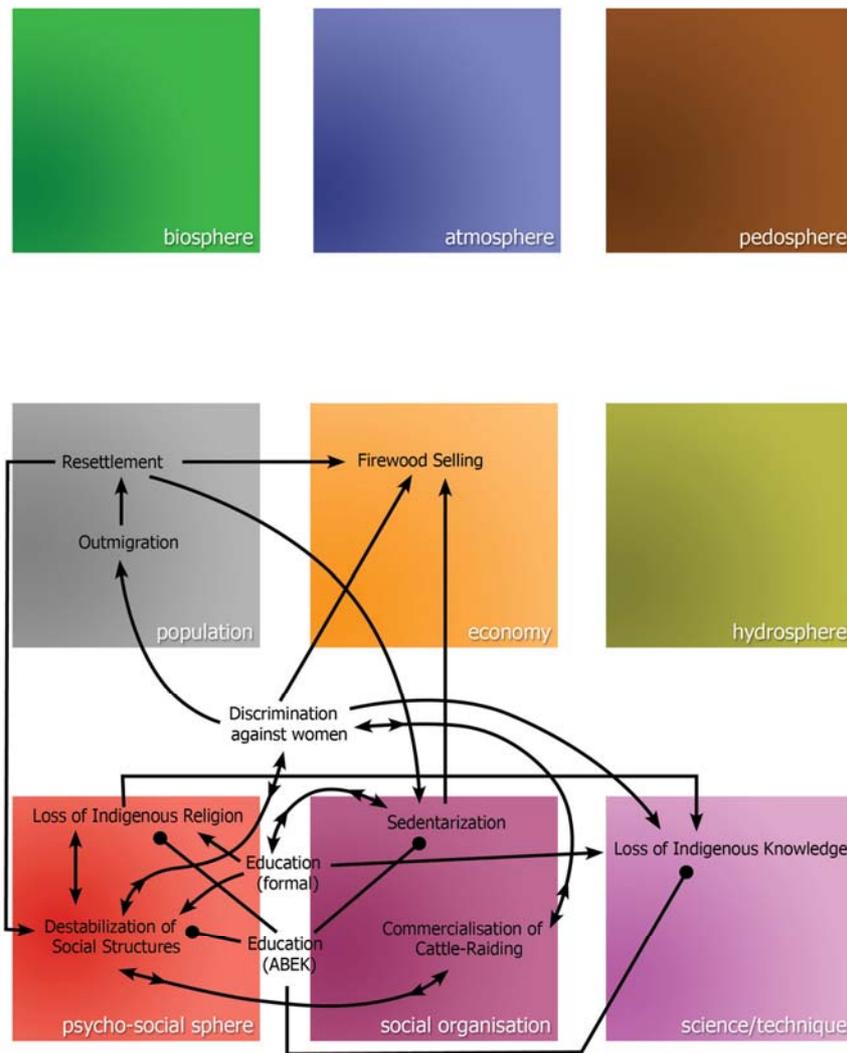


Figure 3

**Focus on Sociocultural Changes**

The basic structural network of relationships described above and in figure 3, gives an overview of the central cycle of unsustainable development in Karamoja. However, because it has to be synthetic, it also misses out on a number of factors that highlight further dimensions of the syndrome. In the following paragraphs, the attention will be focused on some more socio-cultural dimensions of the Karamoja syndrome (see figure 4 on page 152).



**Figure 4**

Especially enlightening at the sociocultural level is the issue of education. One cannot speak of “the role of education” in the syndrome in general terms. Different types of education, with different systemic consequences, have to be distinguished.

**Formal education**, especially when provided in boarding schools and following the national Ugandan program (UPE schools, i.e. Universal Primary Education), contributes to the Karamoja syndrome because it aggravates several factors of the overall unsustainable development of the region:

It reinforces **sedentarization** processes, leads to a **loss of indigenous knowledge**, contributes to a **loss of indigenous religion** and even reinforces the **destabilization of sociocultural structures**, as the socialization of youngsters at these schools is not harmonized with the sociocultural values and imperatives of (semi-)pastoralism.

However, formal education may represent an opportunity to access alternative livelihoods for pastoral drop-outs, and to facilitate in the long-term the provision of vital services (e.g. trained Karamojong medical doctors).

**Alternative models of education** can be imagined that would not reinforce sedentarization (mobile schools or at least not boarding schools but morning/evening schools for very small contingents of pupils), not harm indigenous knowledge but complement it (with e.g. vocational training) and even reinforce it (with adapted programs also involving the local holders of indigenous knowledge), and that would not contribute to a loss of indigenous religion and a destabilization of sociocultural structures. The experience of the ABEK schools partly corresponds to such an alternative model (morning/evening schools, in Manyattas, with relatively adapted programs), but would still need to be improved in the perspective of the needs of (semi-)pastoral societies and with an eye on the Karamoja syndrome.

The other important dimension to highlight here is the increasing **discrimination against women**: The **destabilization of sociocultural structures** (that formerly granted social status to women in Karamojong societies) together with the aggravation and **commercialization of cattle raiding** (with women among the first victims of raid, and women losing a traditional mediating role), have contributed greatly to the worsening of living conditions for women.

A result of the increasing discrimination against women in Karamoja is their **outmigration** to urban centers in the rest of the country, where in most cases they do not find better living conditions but are further discriminated against (for being women and for being Karamojong), before being forcefully resettled in camps in Karamoja. The **resettlement** camps are located most often on inappropriate locations and badly managed so that their inhabitants (the 'resettled' women) are further marginalized, impoverished, suffering from **food insecurity** and resorting to coping strategies (i.e. alternative livelihoods) that are causing further environmental destruction in Karamoja (most typically, **firewood selling**). What's more, in the resettlement camps, the Karamojong **sociocultural structures** are not only destabilized, but almost completely wiped out.

### *Focus on Political Processes*

The Karamojong face **political marginalization** within the Ugandan nation. While politicians on the national level, share common prejudice against them, there is a lack of lobbying for the interest of Karamoja near the Ugandan Government. This leads to several problems:

The region suffers from a **lack of investments** and national programs (e.g. on infrastructure) and existing programs do not focus on the promotion of the pastoral economy. Furthermore, international actors are not encouraged to install programs in Karamoja but in other regions of Uganda. Due to a lack of understanding of the need for mobility of semi-pastoralists, politicians also approve further **privatization of land**.

The Ugandan Government introduced a **formal system of political participation** (the “local councils” – LCs) that does not take into account the traditional elders community – i.e. they installed parallel authorities. The lack of inclusion of traditional elders authority in the political organization of the LCs, structurally accentuates the **destabilization of sociocultural structures**. This transformation indirectly leads to an increase of **armed cattle raiding** and of arms trade which has been a major issue of policies on Karamoja for the past decades.

Summing up, one can observe that the Karamojong face marginalization in two respects: actively – they cannot participate adequately in decision-making processes, and passively – they do not profit from national benefits to the same degree as other Ugandan citizens (taking into consideration that development needs in Karamoja are not the same as in the rest of the country).

### *Focus on Historical Background*

To understand the roots of the Karamoja syndrome, it is necessary to take into account the colonial origins of the mismanagement of the region. In general, it is the colonial (British) rulers who started the vicious cycle of mismatches between (semi-)pastoral communities and ill-advised policies and reforms ignoring the specificities of the region and of its semi-pastoral land management.

Across the twentieth century, the vegetation of Karamoja deteriorated, with e.g. savannas turning into thickets, as a result of a disruption of the ecological balance of Karamojong land management, brought about by colonial interventions: In the 1920’s the **drawing of boundaries** of ‘counties’ (carried out by the occupying forces during the wet season) completely ignored the realities of transhumance, resulted in a dramatic **loss of pastoral mobility** and **overgrazing**, initiating the vicious cycle of natural resources degrad-

ation... The colonial authorities responded inadequately, **prohibiting bush burning**, resulting in **loss of soil fertility** and in a **proliferation of animal diseases**.

Also, water development schemes (with e.g. drilling of **boreholes** and construction of large-scale and/or wrongly located dams) accelerated **over-grazing**, spreading the overuse of natural resources in the *ere* zones (traditionally associated to wet season grazing).

Facing the rapid degradation of the vegetation in Karamoja and **deforestation/reduction of ground cover**, the British and then the Ugandan post-independence authorities enforced **destocking** and **cattle-markets** policies that largely failed to address the ecological crisis, because they were not properly thought-out in accordance with the own coping and crisis **insurance strategies** of pastoralists (i.e. aiming at insurance through herd size maintenance).

Overall, the colonial and early independence governments' concerns with static land management 'science', ignorant of the dynamics of semi-pastoralist land management, and their inability to adapt their good intentions to the specific ecological-cultural context of Karamoja, first generated, and then failed to halt, the rapid ecological deterioration of the region's vegetation cover across the 20<sup>th</sup> century, resulting nowadays in a severe weakening of the overall ecosystem, a threat to the sustainability of Karamojong **socio-cultural structures** and to mere survival.

Unfortunately, the contemporary state administration seems to have not yet fully learned from the failures of policies implemented across the 20<sup>th</sup> century, in the historical background of the contemporary Karamoja syndrome.

### **Selected Symptoms in the Karamoja Syndrome**

The following pages provide a database of selected symptoms of the Karamoja syndrome, presented one by one. Out of the nearly 40 symptoms explored during the project seminar, the following 20 symptoms have been selected, which are, in their order of appearance in the following pages:

- Loss of biodiversity (biosphere)
- Exploitation of natural renewable resources (biosphere)
- Sinking of groundwater table (hydrosphere)
- Climate change (atmosphere)
- Soil erosion (pedosphere)
- Loss of fertility (*as a short boxed text* – pedosphere)
- Overgrazing (economy)
- Agricultural overexploitation (economy)

- Population growth (population)
- Insecurity of food supply (population)
- Sedentarization (social organization)
- Loss of traditional religion (psychosocial-culture)
- Loss of indigenous knowledge (science and technology)
- Destabilization of sociocultural structures (psychosocial-culture)
- Discrimination against women (psychosocial-culture)
- Out-migration (population)
- Education: Formal boarding schools (psychosocial-culture)
- Education: Pastoral-friendly schools – Alternative Basic Education for Karamoja (ABEK) (psychosocial-culture)
- Increasing socio-economic disparities/inequality (social organization)
- Commercialisation of cattle raiding (social organization/economy)

This selection aims to give an overview of the most significant and insightful symptoms we explored, giving more depth and nuances to the synthetic syndrome structure as presented above.

#### Structure of Symptoms Pages:

Although a common structure is given to all symptom pages, the writing styles of the different symptoms differ slightly, given that the original versions of the symptoms pages were written by different students.

The common structure is the following: First, the symptom is presented and shortly described. Thereafter, some indicators are suggested (quantitative and/or qualitative) which can help to evaluate the degree of evolution of the symptom in Karamoja over the years. The different relationships of the said symptom to other symptoms are then presented (ordered according to the ‘spheres’ where they best fit). The relationships paragraph is generally the most important one, as it contributes to build the knowledge base for an understanding of the ‘patterns that connect’, i.e. of the transversal relationships between the different symptoms. Optionally, the symptom may include a discussion of the symptom’s role in the overall Karamoja syndrome, and a number of open questions and/or further critical reflections on the symptom’s significance.

### **Loss of Biodiversity**

(based on a first version by Anna-Theresa Leitenberger)

#### Definition and Description of the Symptom

Loss of biodiversity describes the decrease in the number of different species and the variety of genetic material, i.e. plants and animals, and landscapes over time due to changes of the environment, related to human impact.

Indicators (data)

- Decreasing number of species: In the last year there have been some attempts to gather data about biodiversity in Karamoja. For example, in the dry mountain forests of Karamoja, there are several endemic species only to be found there.
- Size of populations: The indicator gives information about the number of individuals within one species.
- Quantity and quality of habitats: Measured is size, location, accessibility, characteristics of habitats.

Cause Effect Relationships with other Symptoms*Biosphere*

- Deforestation: The cutting down of forests decreases the extent of the habitat for animals. A major number of different species has to share less hectares of habitat and compete for increasingly limited resources.

*Pedosphere*

- Overgrazing: Overgrazed areas lack a ground cover which normally protects the ground from soil erosion and provides habitat and aliment for different species.
- Desertification: Areas affected by soil erosion mostly end up as areas characterized by desertification. The degraded ground is no longer of any use for animals.

*Population*

- Malnutrition and hunger crises: The loss of biodiversity will bring a loss of resilience to shocks such as climate change and will destabilize food security, as the entire ecosystem will be structurally destabilized by the loss of biodiversity, and tilting towards collapse.

Open Questions, 'Pros' and 'Cons' of the Symptom

The loss of biodiversity has been halted to a great extent in 'protected areas'. Outside protected areas it is ongoing. However, one shall also note that some forms of biodiversity, especially concerning the variety of livestock breeds, have been enhanced by pastoralists. And some species have been endangered or extinguished for a large extent by external agents, such as ivory traders in the 19<sup>th</sup> and beginning of 20<sup>th</sup> centuries, and not only by the Karamojong themselves.

Loss of biodiversity may not seem to be such an enormous problem compared to several other symptoms described in the syndrome base. But since diversity in general is a critical insurance factor in changing circumstances enabling evolutionary adaptation, it has to be considered as a priority.

Most articles referred to a book [Arinaitwe, H., D. Pomeroy & H. Tushabe (eds.), 2000. The State of Uganda's Biodiversity 2000. National Biodiversity Data Bank, Makerere University Institute of Environment and Natural Resources, Kampala] which I [Anna-Theresa Leitenberger] did not get hold of. There is also a database – The National Biodiversity Data Bank (NBDB), which was not accessible during our research.

Much of the data was collected through rapid biodiversity assessment based on indigenous knowledge since that is the fastest way to gain some data. Scientifically reliable data is yet to be collected.

## **Exploitation of Natural Renewable Resources**

(based on a first version by Maren Lawendel, Susann Aland)

### Definition and description of symptom

Renewable resources are resources which do not diminish with their consumption because of their (fast) regeneration in natural processes. The “over-exploitation of natural renewable resources” means the intensive utilization of these resources without enough time for them to regenerate. In Karamoja, this phenomenon is linked to the rising demand for (fire)wood, medicinal plants, water and agricultural land by a growing population. This trend is accompanied by an increasing privatisation of land in the region as a result of the Ugandan government policy (which aims to promote agriculture and the exploitation of non-renewable resources).

### Indicators (data)

- The extent of forest affected by deforestation in hectares/year
- The extent of different forms of ground cover, in hectares
- The conversion between different forms of ground cover (e.g. savannas turning into thickets), in hectares/year

### Cause Effect Relationships with other Symptoms

#### *Atmosphere*

- Global climate change: Climate change leads to longer periods of droughts with a negative impact on groundwater table and on vegetation.
- The extending deforestation caused by the need for (fire)wood influences regional climatic conditions (towards more arid conditions).

#### *Pedosphere*

- Increase in soil erosion: Because of deforestation, a sinking groundwater table and intensive land utilization, parts of the Karamoja region turned into steppe without protective plant cover for the soil. The top soil is left

vulnerable to winds and heavy rainfall during the rainy period (when the soil is too dry to absorb the water and is washed away).

- Reduction of soil fertility: Soil fertility can be linked to soil erosion when fertile land is taken away by wind and rainfall and is no longer available for the cultivation of the land.

#### *Population*

- Sedentarization and subsequent overpopulation in certain areas due to rapid population growth, lead to overexploitation of natural renewable resources.
- Malnutrition: Malnutrition as a result of food insecurity increases the danger of diseases that lead to a higher exploitation of medicinal plants by the Karamojong. The insecurity of food supply has contributed to the weakening of indigenous resource management practices.

#### *Economy*

- Insecurity of food supply: Because of a reduced possibility of cultivation and herding, the pastoralists are forced to find other sources of nutrition, e.g. they collect natural renewable resources like (fire)wood and charcoal for sale in urban centres in order to earn money for buying food. This is the main form of petty employment: the more people sell firewood, the more the prices drop, while the prices for food increase. As the money is not sufficient, the pastoralists tend to consume seeds that were kept for planting as well as wild fruits as a substitute.

#### Role in the Overall Syndrome

Natural renewable resources are the very basics of a pastoral livelihood and are essential for human and animal existence. Once the overexploitation of one resource starts, a vicious circle is set free with tremendous consequences for food supply and quality of the land. This makes clear that the symptom “exploitation of natural renewable resources” – as connected with a range of other major symptoms – has a very high importance within the overall syndrome.

### **Sinking of Groundwater Table**

(based on a first version by Sandra Thielisch, Judith Adeniyi)

#### Definition and Description of the Symptom

The phenomenon of groundwater ‘disappearing’ into the depth of the ground is called sinking of the groundwater table. The sinking of the groundwater table can be influenced by different components which affect the water balance of an area. The water balance of a place, whether it is an agricultural field, watershed, or continent, can be determined by calculating the input,

output, and storage changes of water at the Earth's surface. Different components are:

- 1) Precipitation: how the water is supplied to the surface (rain, snow, etc).
- 2) Evapotranspiration: the amount of water delivered to the air from evaporation and transpiration and is not related directly to human intervention.
- 3) Water consumption (output) for human needs (potable water, agriculture, domestic and industrial purposes).

In Karamoja, intensive cultivation and an extended dry-season furthered by regional climate change are some of the serious catalysts of sinking groundwater and increasing water scarcity.

#### Indicators (data)

- Amount of water withdrawn per year: With a growing population more water is needed both as potable water but also for cultivation to satisfy the need for aliments.
- Water management: Over the past century, a great number of water boreholes have been dug in Karamoja which led to a dramatic lowering of the ground water table.
- The depth of boreholes to withdraw water.
- Number of people suffering from water scarcity.

#### Cause Effect Relationships with other Symptoms

##### *Biosphere*

- Loss of biodiversity: A sinking groundwater table aggravates water scarcity for plants and animals. The roots of the plants are no longer able to reach water. Animals either suffer from the changing habitat conditions when plant diversity decreases or from the lack of water sources.

##### *Population*

- Water scarcity is a major form of insecurity for human populations, i.e. a health risk and of course a life risk. It aggravates the symptoms of food insecurity and of malnutrition.

## **Climate Change**

(based on a first version by Sarah Wagner, Henning Jacob)

#### Definition and Description of the Symptom

Regional climate change means that the climate in a specific area changes with impact on vegetation, animals and human beings (e.g. a semi-arid area becomes arid). There are a lot of factors that can impact a regional climate

but in the majority of cases, it can be linked to human activities (e.g. emission of greenhouse gases). Even if the regional climate change is taking place locally, the change is mostly caused by some action somewhere else in the world. Regional climate change has to be seen in a global perspective.

The climate in the Karamoja region is very harsh: long and periodic droughts, low annual rainfall and increasing temperature. For the past decades, Karamoja has been in the process of changing from a semi-arid area into an arid area.

#### Indicators (data)

- Frequency of droughts: Since the early 1990's the frequency of droughts rose from formerly every ten years to every two or three years nowadays.
- Annual rainfall
- Number of poor harvests per year

#### Cause Effect Relationships with other Symptoms

##### *Biosphere*

- Loss of biodiversity: Dry ground is not very fertile: This impacts regional botanical diversity and further contributed to the decline of quality of life for both animals and human beings.

##### *Hydrosphere*

- Sinking of groundwater table: Caused by highly frequent and long enduring droughts and impedes the access to potable water.

##### *Pedosphere*

- Soil erosion: Prolonged aridity causes dry ground and erosion through wind and heavy rainfall which leads again to the loss of fertility of the ground.

##### *Population*

- Malnutrition and food insecurity: Long enduring droughts cause poor harvests.

##### *Economy*

- Commercial cattle raiding: Because of poor harvests, commercial cattle raiding has become a supplementary source of income. The stolen cattle are sold to buy food items in return.

#### Role in the Overall Syndrome

Through climate change, Karamoja got into a vicious circle. The Karamojong can not get out of the circle on their own because many factors that

push the regional climate change in Karamoja do not have their origins in this region. A global rethinking is required to get the problem under control.

### **Soil Erosion**

(based on a first version by Sally Ollech)

#### Definition and Description of the Symptom

Erosion is a degradation of the soil: Soil erosion lowers the mulch by wind and water, especially rainfall. The dimension depends on soil composition, relief, climate and vegetation as well as on the human impacts.

Erosion takes place in a linear or in a laminar manner – streaming waters or glaciers cause linear erosion while wind, surf and rainfall cause laminar erosion. There are different types of soil erosion depending on the cause. In semi-arid areas the aeolian erosion (wind erosion) is the most significant. The aeolian erosion depends on wind activity. Wind can erode, transport and deposit materials, above all in areas with little vegetation like the semi-arid Karamoja region. Particularly, wind works in an erosive way if it carries along fine-grained materials like dust and sand. The fluvial erosion (water erosion) depends on water as a catalyst. Concerning the rainy season, in some areas one can remark that soil erosion is caused by rainfall.

The semi-arid areas, including Karamoja, are severely affected by both – wind and water erosion.

#### Indicators (data)

- Deposition of soil at field boundaries
- Increasing depth of channels and gullies
- Decreasing soil horizon thickness
- Decreasing soil organic matter content
- Dune formation

#### Cause Effect Relationships with other Symptoms

Soil erosion can be seen as an important factor in environmental degradation. Proceeding soil erosion includes the reduction of the humus layer and leads to desertification. The Karamoja region is mostly semi-arid with low annual rainfall. Characteristics are thereby periodic and extended droughts, which privilege the process of soil erosion. The rainfall is seasonal. The rainy season lasts from April to August but the rainfall is neither continuous nor reliable: in some areas there is nearly no rainfall; in others too much rainfall. Both cases are problematic and contribute to soil erosion. Too much rain leads to erosion by water; with too little rainfall the erosion depends on drought soil and wind.

A certain scale of erosion is natural and belongs to the ecosystem but excessive erosion influenced by human generated problems seriously endangers the entire ecosystem, for example with the absolute loss of soil and the beginning of desertification.

In summary one can say that erosion is a natural process but is often increased by human activities such as land use. Many human activities remove vegetation from an area, making the soil easily eroded.

#### *Biosphere*

- Deforestation: Cutting down trees leads to loss of the ground cover which normally protects the soil from wind and heavy rainfall. The selling of wood as an income source has become more important in recent years, turning deforestation into a major factor of soil erosion.
- Slash-and-burn: The traditional bush-burning of the Karamojong as fertilizer of the soil became more intensive with the decreasing of grazing land as a result of the loss of mobility.
- Reduction of natural vegetation covers: there are two main reasons. Firstly, the agricultural overuse of semi-arid areas, which are not fertile through the whole year. Thereby the soil structure as well as plant roots get disturbed. Secondly, the climate change which seems to intensify extremes, i.e. droughts as well as rainfalls, with an enormous erosive power. Besides climate change may lead to shifts in land use that could reinforce soil erosion. Especially hillside situations are at risk for landslips.
- Loss of biodiversity: The proportion of xerophytic species increases while the number of other species declines which leads to a sparse vegetation.

#### *Atmosphere*

- Climate change: climate change in Karamoja leads to the intensification of droughts, which increases the aridity of the soil, thereby increasing soil erosion.

#### *Pedosphere*

- Loss of fertility: Soil erosion contributes to a reduction of the humus layer.

#### *Population*

- Population growth: The rapid increase of human population density and the increasing cattle population (even if it has increased at a slower rate than the human population) put pressure on the land. There are several areas (e.g. watering points) affected by over utilization.

*Economy*

- Conversion of the ecosystem: This means the conversion of natural to strong anthropogenic ecosystems, for example forest to acre, grazing land to plantations as well as natural rivers to canals. As this conversion of the ecosystem proceeds further, soil erosion follows.
- Expansion of intensive agriculture: The intensive agricultural use of land in semi-arid areas is not sustainable. The overuse of soil leads to desertification with ecological effects such as soil erosion, decimation of tree population (and ultimately dune formation in the future) as well as socio-economic effects, e.g. droughts, famine, conflicts and migration.
- Loss of mobility for pastoral herding: Because the Karamojong are no longer able to follow their traditional movement patterns, having to stay at one place, they overexploit the available grazing areas. The overexploited land becomes more susceptible to soil erosion because the vegetation, which acts as a protection, is overexploited beyond its regenerative capacity. With an increasingly sedentary lifestyle – forced by the loss of mobility through boundaries, acquisition of land, insecurity – the areas do not have time to recover after the intensive use of the available pasture and water.
- Insurance strategies through cattle herd size growth: Some people see the increase of soil erosion as a result of the growing size of the cattle herds because the herds overexploit the pasture (Traditionally, a sizeable cattle herd is considered by pastoralists as an insurance strategy against livestock losses in periods of severe drought).
- Development of alternatives to herd-size as insurance: The loss of the animals due to cattle raids leads to the development of other livelihood strategies that often include an extension of the exploitation of natural resources (e.g. firewood selling) and thereby contributes to further soil erosion.

*Social Organisation*

- Social and economic marginalization: Soil erosion has a cumulative impact because the conditions of livelihood become more and more difficult.

Role in the Overall Syndrome

Soil erosion has many cause-effect relationships with other symptoms, including with symptoms in some of the other eight spheres.

The National Environment Management Authority of Uganda (NEMA) cites a Master thesis from 1991 as the only available estimate of the economic impact of land degradation. However this thesis pointed out that soil erosion is a major contribution to the economic impact of land degradation,

which results in an estimated loss of 4 to 12 percent of the national GNP of Uganda.

Already in 1995 the National Environmental Action Plan for Uganda (NEAP) published by the Ministry of Natural Resources stated that most of Uganda has been affected by erosion. Soil erosion is a significant part of the desertification process, which is already pronounced in some districts of Karamoja. Above all these dry land districts of livestock production, where cattle grazing takes place, are facing desertification. Desertification can be defined as a process of creeping ruin of the regenerability of arid and semi-arid ecosystems by a land use, which is not adapted to the natural conditions. Soil, vegetation, water balance and for this reason the microclimate as well, are highly affected and as a result desert conditions are spreading.

#### Open Questions, 'Pros' and 'Cons' of the Symptom

Careful attention should be given regarding the prejudice of some sedentary people against nomadic tribes and their non-sedentary lifestyles. The sedentary population group argues that nomadic people are responsible for the increasing soil erosion in semi-arid areas because their herds overgraze the land and ruin the tree population. Such misconceptions have been repeatedly refuted by experts (e.g. Ibrahim 1982) but are continuing to plague relationships between sedentary and nomadic populations (not only in Karamoja but worldwide).

One should point out that the non-sedentary lifestyle of the pastoralists is the most sustainable way of life in semi-arid areas like the Karamoja region. However, the pastoralists have problems to preserve the traditional patterns of movement because of borders, current livelihood insecurity, settlements, fencing of new private ground and other restrictions to their mobility. This leads to unsustainable overgrazing processes and overexploitation of natural resources and of the soil.

Knowledge and technological transfer could prevent soil erosion, for example through improved land use practices with e.g. terrace building or tree planting.

#### ***Loss of Fertility***

Fertility means the nutrient content of the ground. Depending on how much organic and inorganic material the ground contains, one can define a nutrient-rich or nutrient-poor soil. The material serves living things as aliments. In farming, the nutrient content of the soil can be raised by the use of a fertilizer to increase harvest.

Loss of fertility means the degradation of a soil, from nutrient-rich to nutrient-poor. This phenomenon is the result of soil erosion, intensive cultivation, climate change, water scarcity, overgrazing. All these aspects are somehow connected to each other.

## **Overgrazing**

(based on a first version by Johannes Dahmke, Anna-Theresa Leitenberger)

### Definition and Description of the Symptom

Overgrazing relates to the use of pastures beyond their regenerative ability, through unsustainable livestock management. Overgrazing "is the removal of tissue from a living plant, to the extent that the tissue removed exceeds the ability of the plant to replace it, within a growing season" (IPCC 1996). It requires evidence of harm in order to be distinguished from grazing.

The loss of pastures due to overgrazing narrows suitable space for land use, at times when land use needs are increasing, thereby contributing to a vicious cycle of overexploitation and degradation of soils and ecosystems.

### Indicators (data)

- Number of livestock: Number of livestock refers to the number of cattle per land unit. The number of cattle is increasing, though maybe at a slower rate than human population. Observers disagree about this indicator in Karamoja. According to some, there used to be a sustainable pasture management system with greater numbers of cattle per land unit than official numbers today, but the reduction of mobility has led to a smaller carrying capacity of the land. Others rather argue that there have never been as many cattle as there are today, in Karamoja, but that the problem is the high concentration of cattle in restricted areas. In any case, the mere "number of livestock" is too crude an indicator: It must be contextualized with the degree of mobility and flexibility in land uses: Intelligent mobile grazing patterns allow a greater carrying capacity of the land.
- Quantity and quality of ground cover: Describes location, size, plant cover of an area. In 1998 the State of Environment Report estimated Uganda's loss of its 21% of grassland to be 9% per annum with an increasing tendency especially in the northeast, i.e. Karamoja. In Kotido district about 75% of the land is subjected to soil erosion mainly caused by overgrazing, in Moroto district about 60%. Moroto is also facing desertification.
- Potential land for human/animal use (in hectares).

### Cause Effect Relationships with other Symptoms

#### *Biosphere*

- Loss of biodiversity: The changes in habitat conditions by overgrazing make it easier for non-native plants to spread with the result of driving local trees and plants out.

*Atmosphere*

- Climate change: Global climate change amplifies drought periods in the semi-arid and arid landscapes and reduces the size of grazing areas even more. Since the early 1990's the frequency of droughts rose from formerly every ten years to every two or three years nowadays.

*Pedosphere*

- Reduction of ground cover occurs as a consequence of overgrazing.

*Population*

- Population growth: Because of the population growth in Karamoja there are more cattle needed even though the land might already be near (or beyond) its maximum sustainable use (the issue of the exact carrying capacity of the land is however very controversial among experts); the Karamojong depend on cattle for their diet, for dowry and as merchandise in some contemporary cases (e.g. commercial raiding).

*Economy*

- Loss of pastures: The possibility for pastoralists to move across wide distances is constricted by insecurity because of raids and other violent conflicts, but also because of nature protection areas or agricultural land uses. Better surveillance of the borders with Sudan and Kenya by the government would lead to the loss of traditional grazing patterns and force the people to further overuse the land to which they have regular access. However, the reduction of mobility is less of an issue at international borders where pastoralists can still move relatively freely, than at internal borders such as the border with Teso, which the Karamojong cannot cross anymore.
- Drilling of boreholes: Since boreholes were dug in Karamoja, pastoralists have not seen the need to move far away from their home camps, and thereby lose their sustainable movement patterns. The water is not regenerated and its intensive use causes a sinking of the groundwater level.
- Food insecurity: Degraded soil as a result of overgrazing, is of no more use for cultivation or pasture.

*Technology and Science*

- Modern veterinarian improvements: Nowadays, in Karamoja it is possible to handle more cattle, notwithstanding the soil's carrying capacity (i.e. technological development may overstretch the natural resource base and should be considered with caution).

Role in the Overall Syndrome

Overgrazing plays a key role in environmental issues as a major cause of land deterioration. Summed up, overgrazing harms natural ground cover be-

yond its recovery ability, therefore ground cover diminishes, which results in erosion, loss of the ground's water saving potential and opens the way to desertification. It has to be noticed however that the erosion and desertification process in Karamoja already started in the 1930s before overgrazing was observed.

### **Agricultural Overexploitation**

(based on a first version by Sandra Thielisch)

#### Definition and Description of the Symptom

Agricultural overexploitation means the use of the soil without consideration of its limits in terms of agricultural potential and time of regeneration. The agricultural potential of a soil, on the mid and long term, depends mostly on the climatic conditions of one area and on the resilience of its biosphere (cf. biodiversity), allowing a lasting soil fertility.

In Karamoja, the main ecological limitation is the inadequate and unreliable rainfall, so that good arable land is limited. Because of these circumstances, agricultural activities of the pastoralists always have been characterised by crop failure. But there are also regions which have higher agricultural potential such as the bases around mountains and fertile western plains (e.g. Iriri, Apeitolim).

#### Indicators (data)

- Amount of land put under crops: In Moroto district, the amount increased from 21,414 hectares in the year 1982/83 till 243,492 hectares in the year 1992/93.
- Number of pastoral households moving into exclusive crop cultivation (e.g. new settlements are said to have emerged in several areas of Pokot especially those areas which have very high agricultural potential).

### **Population Growth**

(based on a first version by Sarah Wagner)

#### Definition and Description of the Symptom

Population growth means the growing number of people in one area. Population growth is measured as the difference between birth rate and death rate, to which one has to add the difference between immigration and emigration numbers.

For the past 200 years, the world has had to face an explosion in population growth rate and with it, humanity must face the growing problem of limited natural resources.

#### Indicators (data)

- Growth rate of a population: Change of the number of individuals in a population “per unit of time”. For example the Pokot growth is 2,4% per annum with a fertility rate of 4,7.
- Census data may not be very reliable, especially in Karamoja: recent census data has been in the middle of a controversy (cf. Knighton 2005). When census data is unreliable, other, indirect indicators might be sought.

#### Cause effect Relations with other Symptoms

##### *Biosphere*

- Deforestation: More wood is needed to build houses, fences, to cook or for trade (as an alternative income source in order to purchase grains), etc. Population growth logically increases demand for wood.

##### *Pedosphere*

- Overgrazing: Increasing stock numbers in Karamoja, pushed by demographic growth, and combined with restricted mobility options, lead to a long-term reduction of biomass production caused by the overuse of grazing areas and agricultural ground.
- Soil erosion: The overuse of grazing areas and agricultural overexploitation, following growing food demand, cause biosphere degradation (reduction of ground cover), loss of soil fertility and erosion.

##### *Population*

- Outmigration: Because of food insecurity people move to cities in order to find work/a better future.

##### *Economy*

- Food and water insecurity: Because of the growing population, the supply of resources in Karamoja is getting more and more insecure, impeded by different factors like droughts, intensive water use and the loss of mobility due to diverse restrictions.
- Intensification of cattle trade: Increasing stock numbers (following demographic growth) intensify the commercial exchange of livestock with neighbouring communities and/or the national economy.
- Intensification of agriculture: The increasing demand for food leads to a pressure towards more agricultural production, especially when combined with the discourses and influence of external actors advocating the extension and intensification of agricultural exploitation.

*Social Organisation*

- Conflicts with neighbouring communities and governmental institutions: The loss of mobility through administratively defined boundaries enforced by the state, combined with the fact of a growing population, leads to conflicts about land use.

*Technology and Science*

- Improved health care accelerates population growth.

Open Questions, 'Pros' and 'Cons' of the Symptom*Some Arguments about the Growing Population in Karamoja*

- Infertility is seen as the greatest misfortune. People, no matter if man or woman, will become outsiders if judged as 'barren'.
- Women often have more children in order to produce more workforce, sons which would improve their access to land and which will be an insurance for their future. Children also provide a chance that a woman may expand her networks of communication and political access in the community. The relation between a mother and her sons is often of far more importance to her political and economic power than that between herself and her husband.
- In the past, the influence and power of a clan was measured by the size of its members; this political imperative facilitated population growth. However, nowadays, the importance of clans in Karamojong society has receded.

Role in the Overall Syndrome

All of these indicators and facts lead to a kind of vicious cycle: higher population pressures and intra-familial land disputes developed. According to some commentators, nowadays people in Karamoja are more concentrated at a level of nuclear family units and perception of social responsibilities have become more heavily associated with the nuclear family rather than extended families. But on the other hand control over resources has not been relocated to the nuclear family and still involves wider kin groups, creating additional societal pressures.

**Insecurity of Food Supply**

(based on a first version by Sinja Rathje)

Definition and Discription of the Symptom

For most Karamojong food security is determined by access to grains and animal proteins. Animal protein is available from own herds and access is determined by gender, generation and location (i.e. manyatta or kraal).

Grains are available either from own production or from the markets and access is determined by harvest yields, access to market centres, and access to goods or cash to buy grains with. These goods are derived mainly through natural resource exploitation and cash is earned through casual labour and remittances.

#### Indicators (data)

- Number of milking cows
- Number of malnourished people
- Harvest outcome per year

#### Cause Effect Relationships with other Symptoms

##### *Pedosphere*

- Sinking of ground water table: Water is vital for plants, animals and people. Because of droughts and intensive water use for cultivation and the high demand of drinking water due to the growing population, water gets rare.

##### *Population*

- Outmigration: Hunger crises increase the number of migrants to bigger cities like Kampala.

##### *Economy*

- Commercialization of cattle raiding: Food insecurity indirectly leads to a commercialization of cattle raiding whereby people are trying to achieve an assured food supply.
- Loss of mobility: Restricted mobility due to introduced district boundaries hinders the Karamojong from leading their cattle to good pastures. Cattle starve and get vulnerable to diseases and droughts, thus they no longer constitute an assured food supply.

##### *Social Organisation*

- Involvement of NGOs: They distribute food, especially during hunger crises. Their presence is a consequence of chronic food insecurity, but food aid does not solve the symptom (it only mitigates its manifestations).

##### *Technology and Science*

- Growth of veterinary services: They improve livestock health and thereby its output (e.g. litres of milk), thereby contributing to alleviate food insecurity.

Role in the Overall Syndrome

The insecurity of food supply is a core problem of the Karamojong. Finding a solution that insures sustainable food supply would lead to a profound improvement of the life situation of the Karamojong.

Open Questions, ‘Pros’ and ‘Cons’ of the Symptom

Since the early 1940’s relief food was distributed among the Pokot and since then plays a vital role not only during famines. It has become a major duty of Pokot politicians to get food aid to their constituencies, highlighting the structural dependency of the region on external food aid.

Open Question: Food Aid saves uncountable lives, mitigating food insecurity on the short term and preventing large-scales famines (as occurred e.g. in 1980). However, is the dependence on food aid inhibiting the development of more sustainable, structural responses to food insecurity?

**Sedentarization**

(based on a first version by Jana Lüdemann)

Definition and Description of Symptom

The symptom “sedentarization” describes the tendency of some pastoralists to adopt a sedentary (and purportedly ‘modern’) lifestyle or to assume at least some of its characteristics. This does not only mean only the “sedentarisation” itself – as the act of getting settled – but also developing the same ways of thinking as “sedentary societies”.

In Karamoja, sedentarization and the sedentary ‘lifestyle’ have often been forced upon (semi-)pastoralists.

Pastoralists are nowadays in frequent contact with sedentary lifestyles, e.g. when they sell products or cattle to merchants or when they are forced to migrate to cities. As these contacts become more and more frequent, due to droughts, famines, commercialized raids, etc. (themselves related to the destabilization of Karamoja by the ‘sedentary lifestyles’ of colonialists in the first half of the 20<sup>th</sup> century), so does the influence of these ‘modern’ sedentary lifestyles on ‘traditional’ Karamojong lifestyles further increase.

Indicators (data)

- Number of newly found settlements (especially around trading centres and in zones newly dedicated to agriculture)

### Cause Effect Relationships with other Symptoms

#### *Hydrosphere*

- Sinking of the groundwater table: In a semi-arid area, permanent settlements that depend upon groundwater for their daily water supply, easily overuse the water, i.e. they take more water than naturally flows back. If people settle down and therefore drill water at continuously the same spot, the groundwater table sinks.

#### *Pedosphere*

- Overgrazing: If pastoralists stop following their mobile grazing patterns because of sedentarization, overgrazing of that settlement area is a frequent danger, because they do not or cannot cut down herd sizes to a number adequate for the grazing land available. With increased farming – i.e. vegetables and crops – in addition, the foundation is laid for erosion and loss of fertility.

#### *Population*

- Urbanisation inside Karamoja: On the one hand, sedentarization is directly linked to the growth of urban areas. On the other hand, increasing urbanisation leads to more frequent contacts between pastoralists and the modern sedentary lifestyles of the cities. Supposedly, these contacts foster the growth of modern sedentary lifestyles among the Karamojong.

#### *Economy*

- Decline of customary land: Today, as more and more land is claimed by the state to be sold to farmers, it becomes increasingly difficult for the pastoralists to find enough unfenced grazing areas. Therefore the loss of mobility for pastoralist herding has been a forceful reason for some pastoralists to also settle down and either become small-scale farmers, or in most cases be exploited as workers on big-scale farms.
- Development of boreholes: Those boreholes, intended to simply provide water for the cattle (and people) in times and areas of extreme drought, have become an incentive for pastoralist to settle down next to them in order to have a secure supply of water.

#### *Social Organisation*

- Growing involvement of NGOs and of government officers: NGOs provide food, offer health care and build schools and so they encourage pastoralists who need urgent support and others to stay or settle down in or near a city. More important though is the influence of the NGOs and of government simply through the presence of their staff from a different (sedentary) cultural background.

*Psychosocial Sphere*

- Destabilization of sociocultural structures: Adopting a new lifestyle necessarily implies at least a partial loss of one's own former lifestyle. For example, if the assumed ubiquitous wisdom and knowledge of the elders are challenged through the introduction of 'modern' sedentary lifestyles, which they know little about, then their authority declines. This loss of authority is but one of the aspects of a destabilization of sociocultural structures to which sedentarization is contributing.

Open Questions, 'Pros' and 'Cons' of the Symptom*Questions*

Robert Blench (2001) writes: "The fact that nomads are often unwilling to settle suggests (particularly given the role of opportunism and adaptability in the decision-making process) that it is generally deleterious, except after some near-starvation critical point. Adverse conditions generally encourage pastoralists to wander more and further afield. If it were beneficial for pastoralists to settle, this is what they would do and until such time as this, the rationality of nomadism is evident." If this is correct, then there would be no voluntary processes of sedentarisation among the Karamojong, that pastoralism is the most sustainable lifestyle in the harsh environment in which they live.

*Pros*

The growth of 'modern' sedentary lifestyles is a very important movement because it gradually influences and changes all cultural and social traditions. It is also very important to know about the extent of sedentarization processes because until today, pastoralism distinguishes Karamoja from other crisis regions in Africa. In order to find a "solution" for that crisis, it is important to know whether the adaptation to sedentary lifestyles has already eroded the lifestyle of pastoralism in some cases or areas.

*Cons*

The symptom of 'sedentarization' should not be lumped together as the symptom of the introduction of 'modernity' in Karamoja. This symptom should not be mistaken with another form of 'modernity', i.e. the adoption of new ('modern') technologies: Technology is indeed another issue. Pastoralists may very well discriminate which technologies will benefit their (semi-) pastoral lifestyles, and which will not.

Modernity, in the context of the current symptom, should rather be understood as the access to the 'sedentary' comfort of industrialized societies, which introduces a real innovation and dramatic sociocultural changes in contrast to the Karamojong lifestyle.

## **Loss of Traditional Religion**

(based on a first version by Susanna Andrick)

### Definition and Description of Symptom

The traditional religion of the Karamojong is the belief in Akujũ. It is a monotheistic belief in one creator God. The Karamojong believe in spirits and many places are associated with local gods or spirits. Religious specialists such as diviners, seers, experts in witchcraft and fire-makers play an important role in Karamojong society. Whenever Akujũ is angered, a sacrifice needs to be made in order to restore peace and prosperity to the society.

Traditional religion in Karamoja is totally integrated into the social structures and lifestyle of the Karamojong. Religion is not a mere belief but a way of life in itself. The religious dimension of Karamojong society cannot be demarcated as a separate social sphere/system.

The decline of traditional religion is evoked by many factors and results in the destabilization of traditional sociocultural structures, ceremonies and shared beliefs. This influences the Karamojong society to a great extent.

### Indicators (data)

- Symbols and signs of western lifestyle infiltrate Karamojong society
- The ceremonies are not performed as they were in the past
- The beliefs change
- The elders and the religious leaders do not play such important roles anymore

### Cause Effect Relationships with other Symptoms

Climate change, the sinking groundwater table, increasing soil erosion and loss of fertility, population growth, the loss of mobility for pastoral herding and the increase of cattle raiding all lead to growing difficulties in the pastoral lives of the Karamojong. They have to strive against the growing insecurity of food supply, poverty and insecurity. On the one hand, the worsening circumstances could contribute to the decline of traditional religion, especially if Christianity overshadows the belief in Akujũ (who can be considered as 'angry against' and/or 'turning his back on' Karamoja). On the other hand, the problems could lead to a stronger faith, making the Karamojong rely on Akujũ even more. Therefore these symptoms do not have a large influence on an eventual decrease of traditional religion.

Since the Karamojong believe that poverty, hunger, sickness, insecurity etc. are the result of Akujũ's anger they might not be completely open to the realities of climate change. Instead, they could interpret the droughts as Akujũ's anger. Thinking about a possible positive result of a declining trad-

itional religion (under the condition that Christian religions would also decline in parallel), it could contribute to a growing awareness of climate change and lead to an increasing sense of civic responsibility for the ecology (but it would also deteriorate the people's sense of spiritual responsibility for the Karamojan land).

However, the indigenous knowledge of the Karamojong, which is crucial in order to fight droughts, is closely linked to traditional religion. The decline of traditional religion would bring about a loss of indigenous knowledge that would weaken Karamoja's resilience against climate change.

#### *Population*

- Out-migration leads to a growing influence of the western and sedentarized lifestyle. Due to e.g. poverty, many Karamojong move to the cities or work there for a season and return to Karamoja with their new lifestyle. In the urban areas, given the dramatic hold of Christian churches on social life in urban centers, they are more likely to be influenced by the growing Christian religion and the western and sedentarized lifestyle that may lead to the decline of the traditional religion. Out-migration also contributes indirectly to urbanisation inside Karamoja that also may weaken, or at least transform traditional religion (nb: Conversion to Christianity already does take place inside Karamoja, but without precluding a continued practice of the traditional religion in parallel to the new faith).

#### *Social Organisation*

- The growing involvement of the Ugandan army also results in the growing contact with Christians that could on the one hand lead to the decline of the traditional religion, but on the other hand this growing contact could also intensify the traditional beliefs as the UPDF is not welcome. Since the UPDF violated human rights and conducted forceful disarmament leaving communities defenceless, many Karamojong do not trust the members of the UPDF. This mistrust might contribute to a growing mistrust against Christianity in general and to a reinforcement of traditional religion.
- The decline of elders' authority and the crisis of the generation sets may also be partly resulting from (as well as contributing to) a declining traditional religion. Within the belief system of the Karamojong, the elders have a high reputation and also a great responsibility. The whole social system is based on the concept of the generation sets that are legitimated through their religious importance. People with religious roles such as diviners or seers also gradually lose their status in society, which results in an instable structure. While the young Karamojong strive for more responsibility, the elders do not want to give up their positions in such

times of destabilization, and this also stems from the insecurity that seems to indicate Akujũ's anger and prevents a change of generation sets. If the traditional religion was strengthened, the traditional sociocultural structures would be revived and the Karamojong society would profit from this to a large extent. (nb: This relationship concerns the "psycho-social/culture" sphere at least as much as it concerns the sphere of "social organization".)

- The growing involvement of the NGOs (not to mention the obvious, i.e. Christian missionaries) also contributes to a more frequent contact with Christians that could again either strengthen or weaken the traditional religion. If the relationships with the members of NGOs are positive and the Karamojong regard them as helpful, their view of Christians would also be positive. But if the members of NGOs force anything on the Karamojong or make them feel like an 'underdeveloped' people (which is unfortunately still part of the thinking schemes of western countries), their view on Christians would suffer from this.

#### *Psychosocial and Cultural Sphere*

- The growth of the Christian influence: As mentioned all along, the growth of the Christian influence can have a direct impact on the decline of the traditional religion. If many Karamojong converted to Christianity, the traditional religion would be weakened. At the moment, many Karamojong combine their traditional beliefs with the Christian beliefs, which results in a relative decrease of traditional religion, but prevents its collapse. As Christian missionaries have been working in Uganda and even the president's wife is a born-again Christian, the Christian influence has grown notably.
- The growth of sedentary modern lifestyles and the eventual emancipation of women both contribute to the decline of the traditional religion as already mentioned before. These symptoms question the traditional social structures and traditional beliefs, as they uplift the western lifestyle (and eventually gender equality).
- Education: On the one hand, the development of formal boarding schools discriminates against traditional religion and contributes to the decline of the traditional religion. On the other hand, the development of pastoral-friendly schools does not harm the traditional religion and belief system. The ABEK-schools respect the Karamojong beliefs and their socio-cultural structures, and therefore contributes to preventing the loss of the traditional religion.

#### *Technology and Science*

- The strengthening of indigenous knowledge also includes the knowledge stemming from Karamojong religion, which clarifies, why the defence of

indigenous knowledge also results in a strengthening of the traditional religion.

To sum up, there are many factors that contribute to the decline of the traditional religion, but there are also some factors that counter this development. In order to strengthen traditional religion, the increasing development of modern lifestyles and the influence of Christianity should be counter-balanced or corrected. Pastoral-friendly schools should be strengthened and indigenous knowledge should be passed on to the younger generations. If the traditional religion is revived, the generational crisis could also be resolved and the sociocultural structures would be stabilised.

#### Role in the Overall Syndrome

The loss of the traditional religion influences the Karamojong society at its very root. Therefore, it plays an important role in the overall syndrome, even though it does not have as many consequences as other symptoms.

These traditions serve to unite the Karamojong society and without them, the generation sets are bound to collide against each other. This demonstrates the importance of one shared faith.

#### Open Questions, 'Pros' and 'Cons' of the Symptom

- How many Karamojong have become Christians over all and what does this imply concerning their belief in Akujû?
- Would a Christian shared faith, or a syncretism of Christian and Karamojong religions, also resolve the generational conflicts?

### **Loss of Indigenous Knowledge**

(based on a first version by Mathias Becker)

#### Definition and Description of Symptom

“Indigenous Knowledge can be broadly defined as the knowledge that an indigenous (local) community accumulates over generations of living in a particular environment. This definition encompasses all forms of knowledge – technologies, know-how, skills, practices and beliefs – that enable the community to achieve stable livelihoods in their environment.” (UNEP).

Indigenous societies possess an often-unique body of cultural and environmental knowledge, referring to matured long-standing traditions and practices of certain regional, indigenous, or local communities. Traditional knowledge also encompasses the wisdom, knowledge, and teachings of these communities. In many cases, traditional knowledge has been orally passed for generations from person to person. Some forms of traditional knowledge

are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are often expressed through different means.

Indigenous peoples in general and indigenous women in particular have rich traditional knowledge systems (ecosystem management and technologies, medicinal plants, local crops) that are increasingly attracting the attention of commercial interests, yet they rarely get a share of the benefits. In recent years, awareness has risen about the benefits of revitalizing traditional knowledge systems and blending them with modern knowledge and technology in a broad range of areas: soil and water conservation, crop and livestock husbandry, participatory research, handicrafts and even traditional medical practices. These activities boost the productivity and enhance the resilience of indigenous communities. Besides, the simple fact that their own knowledge systems were the starting point enhances their self-esteem. Blending indigenous and modern technologies enhances the ecological sustainability of the region (IFAD 2003).

*One Example for the Importance of Indigenous Knowledge:*

Ethnoveterinary knowledge is the indigenous veterinary knowledge or traditional techniques, practices and medicines for livestock that have been passed over verbally. Most practices are based on the use of plants.

“Local medicines are important for a number of reasons in Karamoja:

- They treat a range of various livestock diseases and other abnormalities, including some that have no ‘modern’ medicine treatment.
- They are cheap and available to every pastoralist (vs. ‘modern’ medicines).
- They can be used locally without much [exogenous] instruction (vs. orthodox medicines).
- They can easily be planted near the homestead.
- They grow naturally.
- They are monetarily costless.
- They are safe; overdoses and toxicity are practically unheard of (Gradé and Longok 2000).

Indicators (data)

- To measure the effectiveness of the ethnoveterinary medicine: One possible indicator for the strength of indigenous knowledge is to measure the effectiveness of ethnoveterinary medicine, as some researchers have started doing in Karamoja. They have come to the conclusion that “The Karamojong are some of the best field diagnosticians that the authors have met, at times surpassing even those whom have been trained at the University level. We continue to encourage the livestock community by

facilitating the sharing of knowledge and the techno-blending of knowledge, both old and new, local and exotic, traditional and orthodox in order to have healthier animals and people and ultimately to build up respect and peace in Karamoja” (Gradé and Longok 2000).

- Quality/quantity of indigenous healing methods.
- The knowledge about moving patterns.
- The age pyramid in Karamoja (since old people have more experience and hold specific knowledge kept by specific elders).
- The dependency on medicine from the outside.

#### Cause Effect Relationships with other Symptoms

##### *Biosphere*

- The loss of biodiversity in indigenous peoples’ lands and territories undoubtedly leads to the loss of traditional knowledge, sustainability, and the loss of traditional practices. Many environmental effects remain for extended periods of time and may even become permanent. The wildlife habitat, for example, may be degraded through the loss of wetlands, lakes, and vegetation. The degradation of landscape quality, including increased soil erosion, may lead to a more permanent loss of biological productivity in areas which are more vulnerable.
- Losing the knowledge of traditional moving patterns for cattle may lead to overgrazing of certain zones.

##### *Economy*

- Food Supply: Revitalizing and strengthening the traditional knowledge (moving patterns, veterinary knowledge, etc.) will help prevent insecurity of food supply.

##### *Social Organisation*

- The decline of elders’ authority and other sociocultural structures contributes to the ongoing decline of traditional knowledge. Rituals are not carried out when there are no elders in authority overseeing these rituals. Strengthening indigenous knowledge therefore also strengthens the role of traditional sociocultural structures.

##### *Psychosocial and Cultural Sphere*

- Formal Education: Colonial and post-colonial governments imposed various policies that sought to change the pastoral way of life. Education was for many Karamojong one of these policies with little or no relevance for the nomadic people in the region. Formal education (Universal Primary Education – UPE) in Uganda does not cover relevant issues for pastoralists. On the contrary, children going to such schools are being criticized or mocked by other Karamojong because they do not know how

to take care of cattle or other vital things one needs to know in a (semi-)nomadic context. In formal schools young Karamojong learn things about a different culture in a foreign language (English). Some teachers of formal schools (being themselves educated Karamojong) in Karamoja refer to the traditional pastoralists as “backward” – denying their traditional culture, lifestyle, traditions and knowledge. The resulting mistrust for formal education among (semi-)nomads is no surprise. Elders and parents fear that formal education will spoil their children and not only make them ignorant of indigenous knowledge, but also lead them away from their traditional values and lifestyle.

- Pastoral friendly schools: In order to maintain the traditional knowledge, curricula in schools should be geared towards helping children to gain knowledge about and pride in themselves as pastoralists (this could be further implemented in pastoral-friendly schools).

#### Role in the Overall Syndrome

Indigenous knowledge can be seen as the basis for sustainable life in Karamoja, and thus should be strengthened. To successfully survive in drylands, pastoralists require high levels of social and individual expertise. Indigenous peoples in general have an intimate knowledge of the rich resources in the territories they inhabit, but a lack of (legal) control over them. Awareness is rising about the need to compensate indigenous peoples for their ‘stewardship’ role, and to assist them in exploiting their resources in a sustainable way. Long-accumulated knowledge allows for sustainable adaptations to local environmental conditions – especially in the harsh conditions of drylands such as Karamoja.

Furthermore, indigenous peoples are proud of their diversity, their languages and knowledge systems. In fact, in some cases, these unique cultural assets may also help raise their standards of living. Over millennia, for example, many indigenous cultures have come to understand the importance of shifting cultivation, recognizing plants with healing powers and the sustainable harvesting of food, fodder and fuel wood from forests. Revitalizing this knowledge helps to improve food security, raise household incomes and foster self-esteem. To respect and strengthen the traditional knowledge of the Karamojong is therefore one of the keys in order to allow them to carry on their (semi-)nomadic lifestyle as a sustainable way of life.

## **Destabilization of Sociocultural Structures**

(based on a first version by Mathias Becker, Sarah Wagner)

### Definition and Description of Symptom

The destabilization of sociocultural structures is for a great part constituted of a decline of elders' authority. The following symptom analysis will thus focus on this aspect.

One major dimension of the destabilization of elders' authority is the crisis of generation-sets: In the Karamojong society there can be only two generation-sets: the elders (senior generation-set) and the uninitiated younger men (junior generation-set). Initiation marks the passage to adulthood for Karamojong men (into the junior generation-set) and is therefore an event of high importance. As there is no set timeframe for the passing of power from the senior to the junior generation-set and the elders have not yet passed power, the number and frustration of 'younger' men grows steadily. This may lead to upsurge in raiding and heightened tensions among the generations. Instability is being increased through this problem. The uninitiated men are challenging the power of the elders and the therefore declining authority of the elders may result in a "vacuum" of power, which also contributes to increasing loss of livelihoods and more poverty.

Furthermore, as a man cannot be in the same generation-set as his father and many fathers are still in the junior generation-set, or even themselves still uninitiated, there are a growing number of young males who are not being initiated.

As long as the authority of the elders is respected, management and distribution of food supplies are more centralized and communal. Mostly the elders are also key players in working towards peace, but the government has often sidelined them. The establishment of the local council (LC) system as a parallel authority structure undermines the traditional authority of the elders.

Besides, some groups (e.g. the Bokora and the Matheniko) are relatively shifting away from the pastoral way of life, relying more on the exploitation of natural resources (e.g. the sale of firewood and charcoal) and increased agriculture.

### Indicators

- One quantitative indicator might be an increasing number of young males who have not yet been initiated because their fathers have not yet taken over power from the elders.

- In some localities the uninitiated males are taking liberties for example by prematurely wearing the decorations of their generation-set that has not yet been opened.
- Furthermore the increase of raiding by these uninitiated men is also an indicator for this symptom as raiding is the only way for them to improve their standing in the community.
- Some rituals fall into abeyance for lack of elders whose numbers keeps decreasing.

#### Cause Effect Relationships with other Symptoms

##### *Economy*

- Increase of cattle raiding: The uninitiated young males are getting frustrated which may lead to upsurge in cattle raiding, banditry and heightened tensions among the generations. Instability is being increased through this problem.
- Food security/Security in general: The authority of the elders influences food security. Communities where elders are still in authority have a more centralized and communal management of food supplies. Elders often give orders to save portions of food for future periods of pronounced hardships. This intervening in food management is only possible where the authority of the elders is still existent. A strong position of the elders may also help to limit cattle raiding and to disarm communities. They might also convince parents in their communities to send their children to school.

##### *Social Organisation*

- Marginalisation: The men of the junior generation-set are challenging the power of the elders and the therefore declining authority of the elders may result in a “vacuum” of power which also leads to increasing loss of livelihoods, more poverty and marginalisation.
- Decline of indigenous knowledge: The destabilization of sociocultural structures and especially the decline of the role of the elders also contribute to the ongoing decline of indigenous knowledge.

#### Role in the Overall Syndrome

The passing of power should take place in times of peace and prosperity, which has not been the case in recent years. So one might argue that this pattern is not just a symptom of unsustainability (as it contributes to intensify tensions) but also an after-effect of unsustainability (as the crisis prevents the passing of power).

### Open Questions, 'Pros' and 'Cons' of the Symptom

As the Tufts report "Angering Akuju" states, this pattern leading to tension and crisis between the generations is not a new one. The elders are always reluctant to pass on power (the last passing of power took place between 1956 and 1958). Why is it so hard to pass the power to a new generation? Do the elders, once they passed on power, completely lose their standing in the Karamojong society?

### **Discrimination against Women**

(based on a first version by Dorothee Meinhardt)

#### Definition

Discrimination against women means to bereave them in certain ways of their rights to fulfil their lives the way they want to or to give them an inferior position compared to the male position in a given society. Discrimination takes place, when the social relationship between the two sexes is disturbed.

Semi-nomadic pastoralist groups, characterized by a very specific social structure, inhabit the Karamoja region. Regarding gender-related issues, their culture is based upon a detailed division of labour. This, however, should not lead to the ethnocentric conclusion that a pastoralist culture is traditionally discriminating women – quite the opposite. The traditional division of labour is a way to clearly define and consolidate "men's" and "women's things", as the Karamojong put it, thus putting women in a very powerful position.

As Dorothy Hodgson puts it, gender can be defined as: "The mutually constitutive symbolic and material relations of power between and among men and women" (Hodgson 2000, p.5). Keeping this definition in mind, gender roles and relations are dynamic, historical, and produced through the actions and ideas of men and women, in interaction with local and trans-local processes and structures.

The introduction of land titling, registration, and the privatization of land under colonialism and after independence was a setback for women, leaving women in a state of even greater insecurity with poorer prospects for accessing land, and hence, obtaining a livelihood. The demise of the authority of the clans and local elders has made women's land rights even more precarious. Customary land tenure systems were eroded and transformed in ways that were disadvantageous for women. This leads to an increasing discrimination of women in pastoralist societies.

### Indicators (Discussion of)

The definition of gender by Dorothy Hodgson mentioned above means, concerning Karamoja, that gender roles are primarily defined by the harsh climatic conditions and the pastoralist system of ideas, structures and lifestyle emerging from it. Gender varies by time and place, and is crosscut and mediated by other relationships of power and ideology, based on age, race, ethnicity, class, (eventually religion) and nation.

Because women are thought to care more for the welfare of their children than of their livestock, cattle belong to men and women depend on men as economic providers. Like all such myths, they function basically because certain aspects of pastoralist life (such as that women care for children) are intertwined with particular ideological assertions (that cattle belong to men). The borders between myth (and ideology) and reality are conveniently blurred.

There are four important features of the myth of the patriarchal pastoralist (Hodgson 2000, p.4), which serve as a legitimization for the discrimination of women:

- Economic: Men own and control cattle, and they play the primary role in livestock production.
- Political: Pastoralist societies are gerontocracies, whereby elder men dominate the prestigious political sphere in which they make decisions and settle disputes. Pastoral women, in turn, are relegated to the less important domestic sphere.
- Social: Pastoralists are patrilineal and patrilocal. As the heads of their homesteads, lineages and clans, men serve as the key nodes of social interaction and influence.
- Cultural: For all of the above reasons, pastoralist men see themselves and are seen by others as the real pastoralists, denigrating not only women's roles and responsibilities but also their identity as pastoralists.

All four myths together depict societies in which men dominate virtually every domain of life: They control economic resources, dominate political decision-making, manage social networks, and guide cultural production and representation. From this perspective, pastoral women seem economically peripheral, politically subordinate, and socially and culturally marginal to their communities. Assessing their status should therefore be relatively straightforward and simple.

This, however, is a very uncritical and generalizing view of pastoralist culture after colonialism. Far from being so simple, pastoralist gendering is very complex. Of course, there are women's things and men's things, but this does not, however, link pastoralist women with inferiority. One example

for this is the fact that each adult woman usually has her own tent, hut or home in pastoralist cultures. She controls all property and possessions kept in there, she nurtures and nourishes her children in this home. These women-centred households are the dominant units of production, consumption and distribution, and are therefore central to pastoralist cultures. Children are valued to a high extent, and thus, a woman who has given birth is also valued highly in a traditional Karamojong group. A man will marry her, even though her children are not his, as the children will pass on to his lineage as soon as the woman is married, increasing his wealth. Being able to bear children is a holy and highly worshipped ability of women.

Another factor: The mobility of men and herds which is central to successful pastoralist production in areas of extreme ecological and climatic variance and uncertainty is premised on the capacity of women to stay in one place for long periods and fend for themselves.

Another very handy example of the interrelation and interdependence of men and women's roles in pastoralist societies is the "marriage with cattle".

Women play a pivotal role in the pastoralist way of life, assuming diverse responsibilities with regard to the livestock, the land and the household. In the course of their daily tasks, they have developed an intimate knowledge of natural resource management, which they put into practice for the benefit of both their communities and the environment. However, their knowledge and capabilities have not been fully recognized, and they are often excluded from the decision-making process.

#### Cause Effect Relationships with other Symptoms

##### *Atmosphere / Hydrosphere*

- Climate change: Collecting of firewood and water takes substantially longer, with fewer functioning boreholes due to less rainfall and a lower groundwater table, leading to more walking time for women.

##### *Pedosphere*

- Drought, erosion and desertification reduce women's access to productive assets such as land and diminish women's ability to care properly for their families: Drought and desertification threaten the livelihoods of more than 1 billion people in 110 countries, but men and women do not share the burden equally or in the same ways. As desertification takes hold in dry land areas, women's already limited access to productive assets such as land, water and livestock decreases, further straining their ability to care for their families and manage natural resources.
- As soil fertility dwindles and crop and livestock productivity decline, men are forced to leave their communities in search for employment.

Women are left to assume traditionally male responsibilities without the same access to community services, decision-making power and financial, technical and other resources. In fact, women living in dry lands tend to rank among the poorest of the world's poor people (cf. Lennart Båge, President of IFAD).

#### *Population*

- Out-migration, urbanisation: Women who cannot make a living from their traditional way of life (due to droughts, erosion, etc.) are forced to look for employment in cities, which leads to out-migration, prostitution, further socio-political changes and marginalization.

#### *Economy*

- As the pressures on pastoralist communities have increased, making traditional livelihood systems more difficult to maintain, so too has the need to try and diversify away from sole reliance on livestock. Traditionally marginalized from decision-making processes and development opportunities, particularly women have struggled to move beyond day-to-day survival and the fulfilling of short-term needs to longer-term sustainability.

#### *Social Organisation*

- Decline of traditional structures: Women always used to play an important role as mediators for peace-building. If this role is endangered, the entire social structure suffers from it, leading e.g. to sustained cattle raiding, arm trading, etc.

#### Open Questions

The role of women in the pastoralist clusters cuts often both ways. One example: Women often stimulate their male community members to do cattle raids in order to increase their social ranking and their wealth. On the other hand, women are the mediators if the shedding of blood cannot be stopped. They play an important role as advisors for the elders (decision-makers). They also interfere and try to cool down a particularly precarious situation by themselves by discussing, singing or reciting poems. What would happen to the entire cattle raiding issue if the emancipation of women could be improved, if they were given back their traditional power?

### **Out-migration**

(based on a first version by Liv Pedersen)

#### Definition

There are two different types of out-migration in Karamoja. One possibility is that young people out-migrate for casual or seasonal labour with regular

return to their communities during the year. There is an exchange of information, cash and food between labour migrants and their families when they work in neighbouring regions.

The other option is that, mostly women and children leave their Manyattas and the agricultural and pastoralist structures, by necessity, voluntarily or encouraged by the elders of their community. They move to big towns, like Kampala or Jinja, because of survival issues. There, they are searching for labour, mostly in the informal sector.

#### Indicators

- The number of Karamojong who arrive in Kampala per year.
- The Number of Karamojong living in big cities like Kampala.
- The number of Karamojong ‘resettled’ from Kampala to Karamoja.
- The number of Karamojong street children arrested by the Kampala city authorities per year.

#### Cause Effect Relationships

##### *Population*

- Growing city population / Urbanisation: The out-migration can be described as a snowball effect – if one family member leaves, the others will follow. The increasing growth of the city population and its high concentration causes a lot of problems for example with hygiene and availability of labour and resources.

##### *Economy*

- Poor harvests: Climate change intensifies the dry season in Karamoja and causes multi-year droughts. Normally, the rainfall contributes to crop diversity, which is important to guarantee food security. The Feinstein International Centre found out that crop failure is one of the several reasons for out-migration. In addition to the changing climate conditions, insecurity in the region causes a high concentration of cattle together with intensified use of the soil. Soil use for herding and cultivation turns to be totally nutrient-poor when soil erosion takes away the fertile layer. Since a purely livestock-based livelihood cannot be adopted by all communities, cultivation becomes more and more important so that crop failures are even harder to compensate. As a result, out-migration is the last resort option.

##### *Social Organisation*

- Insecurity and loss of livestock: The intensification of armed cattle raiding since the 70`s threatens the food and human security in Karamoja. Tribal relations broke down which had been an important aspect for pastoral living, and more recently, communities from the same tribe even

began to raid each other. The uneven disarmament of tribes during the disarmament initiatives of the government in 2001–2002 and 2006–2008 had the consequence that communities who were not given any protection from the UPDF became vulnerable and were left open to attacks. The most vulnerable households have no other option left than out-migration.

#### *Psychosocial and Cultural Sphere*

- Changes in social system and culture: Accordingly to the fact that mostly women and children are leaving their Manyattas, the dissemination of roles in the social system of the Karamojong are changing. Household and cultivation, normally done by women and children, is now becoming also male work additionally to their traditional task of watching the herds. The community members, who are leaving to settle down in bigger towns, have to assimilate to non-pastoral living. Thereby they cannot pass on their traditions and indigenous knowledge to following generations, so pastoral culture declines.

#### Role in the Overall Syndrome

Out-migration plays an important role in the overall syndrome: For the Karamojong, the out-migration of family members is often the only way to finance the pastoral lifestyle of the community, so that even mothers may send away their child with a relative or an unknown person. When the community is hit by a crisis like a crop failure because of drought or loss of cattle because of disease or raid, remittances from family members living outside Karamoja may be the only way to compensate for the damages. But life in the big cities is hard and because of the snowball effect more people are expected coming to towns and trading centres. There, pastoralists have to live on the streets because they earn little money in the informal sector and are not prepared and educated so as to find better employment. Violence and exploitation, which above all children have to cope with, are just two of the various problems, which crop up when there is an explosive growth of the city population. But not only the Karamojong have to face these changes: The migration of thousands of people to find a job in the urban centres is also an important issue for the Ugandan government and its policies.

### **Education: Formal Boarding Schools**

(based on a first version by Sally Ollech)

#### Definition and Description of Symptom

The present system of formal education in Uganda has a structure of seven years of primary education, six years of secondary education (subdivided into four years of lower secondary and two years of upper secondary school),

and three to five years of university studies. In colonial times the British school education was established in Uganda. The British colonial government introduced a western orientated school education that was mainly accessible for the white upper class and for the children of chiefs. This shows that already in the beginning the educational system had a very hierarchical structure and was highly selective. In 1962 Uganda became independent and since then, the formal school system has been adapted and expanded. However it basically follows the British system of education.

As a result of this hierarchical structure many Ugandans remained illiterate. Against this background, President Yoweri Kaguta Museveni launched a policy of Universal Primary Education (UPE) in 1996. This program included free education for a maximum of four children from each family provided by the government. These conditions have now changed because President Museveni declared in 2002 that 'all children of school-going age should benefit from Universal Primary Education (UPE)'. In addition nowadays there are various adult learning programs and early childcare programs.

*(Remark: although education is said to be free, in practice the families of Karamojong children who attend UPE schools, have to pay school fees which are relatively expensive for them.)*

#### Indicators (data)

Indicators to evaluate education levels from a western point of view can be seen in:

- Literacy rate (national average/Uganda)
- Literacy rate in Karamoja
- Gross enrolment rate
- Number of pupils who complete primary and do reach secondary school
- Number of pupils who finish secondary school

According to a paper by the Foreign Agricultural Service of the U.S. Department of Agriculture (FAS 2004) Karamoja has the worst social indicators of any region in Uganda: literacy as well as the enrolment rates are three to four times below national averages. The report says that out of the population aged 15 and over, only 6.8% have completed primary school.

According to the Human Development Report 2007/08 a few figures about literacy and enrolment in Uganda in general:

- Adult literacy rate (% aged 15 and older), 1985–1995: 56.1%
- Adult literacy rate (% aged 15 and older), 1995–2005: 66.8%
- Youth literacy rate (% aged 15-24), 1985–1995: 69.8%
- Youth literacy rate (% aged 15-24), 1995–2005: 76.6%

- Combined gross enrolment ratio for primary, secondary and tertiary education (%): 63,0% (National or UNESCO Institute for Statistics estimate)
- Net primary enrolment rate (%): no data
- Net secondary enrolment rate (%), 2005: 15% (National or UNESCO Institute for Statistics estimate)
- Children reaching grade 5 (% of grade 1 students), 1991: 36%
- Children reaching grade 5 (% of grade 1 students), 2004: 49% (National or UNESCO Institute for Statistics estimate)
- Tertiary students in science, engineering, manufacturing and construction % of tertiary students), 1999–2005: 10%

In most of the conflict-affected districts the key education indicators remain below the national average. According to the Consolidated Appeal for Uganda 2008 published by OCHA (United Nations Office for the Coordination of Humanitarian Affairs) the Karamoja region has the lowest indicators by far: the primary school enrolment rates in Karamoja are under 50 per cent in most districts, while female primary school enrolment is just 35 per cent across the region. Moreover, there is an acute shortage of professional teachers in the region: only 2 per cent of all teachers in Karamoja are graduates. The degree of literacy across the northern districts of Karamoja ranges from a high of 40 per cent in Abim district to a low of only 6 per cent in Kaabong. At 12 per cent and 15 per cent respectively, literacy rates in Kotido and Moroto districts are also well below the national average.

#### Cause Effect Relationships with other Symptoms

In the following, possible impacts on and side effects of the formal education will be pointed out.

#### *Population*

- Urbanisation: The formal boarding schools support a sedentary lifestyle of the younger generation, which may lead to a distancing of the children from the traditional lifestyle, thereby supporting the process of urbanisation in the long term.
- Younger population/Decline of elders' authority (and other traditional structures): The western orientated formal school system influences the students, which may lead to a conflict between the traditional elders and the younger generation.

#### *Economy*

- Development of alternatives to herd size as insurance: The formal school system offers new, western orientated sources of income, which can be seen as alternatives to traditional livestock herding.

*Psychosocial and Cultural Sphere*

- Development of pastoral-friendly schools: The Alternative Basic Education for Karamoja (ABEK) aims to provide elementary education with relevant content for pastoralist children between 6 and 18 years (Early Childhood Development and Education program (ECDE) currently in planning). However ABEK is not designed to replace formal education but to transfer children into primary schools (so far only 10% of ABEK-pupils continued into primary schools).
- Growth of Christian influence: The formal boarding school depending on the measures taken by the colonial and post-colonial governments may contribute to the growth of Christian influence.
- The decline of traditional religion: If one could say that the formal school system strengthens the Christian influence it seems to be possible that the attendance at a formal school may lead to a decline of traditional religion, above all within the younger generation, but this needs to be investigated closely.
- Growth of sedentary, modern lifestyles: The school attendance at a formal school can easily lead to a more sedentary lifestyle of the following generations.
- Loss of pastoral indigenous knowledge: In some reports it is mentioned that children who visited the formal schools forget the traditional way of life and were no longer good at pastoral tasks like for example herding.
- Emancipation of women: The girl's enrolment rate is slightly higher than the enrolment rate of boys. The reason is the reliance on child work, where boys often are responsible for herding. The traditional main task for girls is to care about their younger siblings. Early childcare programs that are developed in many cases nowadays give girls the chance to attend school. However student retention, especially of girls, is still a major problem. Access to education may support the emancipation of women through the younger generation from a western perspective, but formal school education may not always lead to emancipation in the Karamojong society.

Role in the Overall Syndrome

Education in general seems to be very important within the psychosocial and cultural spheres because it can be seen as the basis for further development of the region. All the same formal boarding schools can be evaluated in a critical way. The detailed evaluation or discussion of the challenges within the concept of formal education can be found in the next paragraphs but the most critical point is the discrepancy between the curriculum of formal schools and pastoral needs. Often the curriculum is based on western values and needs; the same can be said for their indicators, with which one pretends to measure the level of education.

UNESCO leads the 'Education for all' movement (EVA). Two of the EFA-aims are primary education for all children and the reduction of gender discrepancy. These aims are consistent with the Millennium Development Goals of the United Nations and show the general importance of the education issue.

Besides the formal boarding schools, including various adult learning programs and early childcare programs, the Ugandan educational system also includes pastoral-friendly schools (e.g. ABEK).

### Open Questions, 'Pros' and 'Cons' of the Symptom

#### *Challenges for the Concept of Formal Education in the Pastoralist Context*

With reference to a study about Educational Services and Nomadic Groups in East Africa (Djibouti, Eritrea, Ethiopia, Kenya, Tanzania and Uganda) one can point out the challenges of formal education in the context of pastoralism (Carr-Hill 2006). Six country teams were formed, coordinated by UNICEF country offices, for collecting information in the field from both sides: providers of education as well as nomadic groups.

If you look through the challenges of formal education it turns out that many of them can be seen in a negative way as problems, but there are positive aspects. One should not distinguish in positive or negative effects because the evaluation is not simple – it depends on the perspective. Instead of positive or negative effects one can point out four different sections:

- Policies and Provision of Education
- Demand and Expectations of the nomad population
- The question of Participation
- The general Access to education

#### *Policies and Provision of Formal Education*

- The discrepancy between the curriculum of formal schools and pastoral needs seems to be the main issue. Often the curriculum is based on the western values and needs.
- Formal schools have retained the colonial authority structure.
- Formal schools may provide opportunities for income generation outside the pastoral economy but children might lose the opportunity to specialise within the pastoral context.
- Besides, some teachers are unfamiliar with pastoral lifestyle or the local language and are not motivated by working in the poor and rural Karamoja region.
- It is hard to find teachers willing to teach in the Karamoja region (hard life and poor salaries result in low motivation).
- Poor facilities (rooms, textbooks etc.).

- Child feeding programs offered at school (provided by the World Food Program) are expected by most of the Karamojong. School meals are declared as a major pull factor for attendance in primary school. In conclusion one can assume that the enrolment rate increases but the dependency on this service increases as well and may create a kind of ‘dependency syndrome’, which would not be sustainable.

#### *Demands and Expectations of the Nomad Population*

- The demands and the expectations of the nomad population vary and are difficult to determine because during interviews the answers often depend on the style of the questions asked.
- In any case parents’ and elders’ attitude towards the necessity of formal education has a great impact on the enrolment rate and the attendance at school. Some of them see the education of their children as insurance for the future to offer new job opportunities and new income sources. While others do not see any benefit because of the discrepancy between the curriculum of formal schools and pastoral needs; they even mock the Karamojong who were sent to school and weren’t able to hold on to the traditional lifestyle.

#### *The Question of Participation*

- On the one hand, the question of participation is connected with the reliance on the child work force: the families need the help of their children; for example boys are traditionally required to herd cattle, while girls marry early and have to take care of younger siblings as well as contributing to domestic chores and agricultural work.
- On the other hand, the pastoralists’ own informal, oral learning strategies are not valued enough in the formal school context and that may lead to less participation or understanding of the educational programs.
- Hardships reduce participation in schools (drought, insecurity etc.).
- Some practices of state officials to force Karamojong children into school are counter-productive. It leads to a distrust of the pastoral population against the state and the military. Besides this strategy stands in contradiction to Uganda’s Children’s Act, “which states that children have a right to live with and be cared for by their families” and it also goes against the Convention on the Rights of the Child, which Uganda signed.

#### *The General Access to Education*

- The access to education mainly depends on the following three influencing factors: financial barriers, reachability and the non-sedentary lifestyle.
- Financial barriers mean the inability to pay fees or to buy school-uniforms.

- Reachability: often the distance to the next school is too great; above all in areas with a small density of population it is difficult to provide access to school for everybody.
- The non-sedentary lifestyle shows the difficulty of a continuous access as well as a continuous school attendance if the schools are stationary or located at one place.

### **Education: Pastoral-friendly Schools – Alternative Basic Education for Karamoja (ABEK)**

(based on a first version by Mathias Becker)

#### Definition and Description of Symptom

In contrast to the rest of Uganda, in Karamoja the imported western model of schooling doesn't have a strong foothold. One main reason is that most parents consider that formal schooling is largely irrelevant to their lifestyle. Hence they don't send their children to school.

The Karamojong rejected the existing formal education system for various reasons; important factors impeding participation in education were the necessity of children to participate in the household chores, and education being looked upon as not being relevant to the survival needs of the community.

The Alternative Basic Education for Karamoja (ABEK) program is a non-formal education programme. It was created by the Government of Uganda (GoU) and the NGO Save the Children in close consultation with UNICEF, the World Food Program and other development partners between 1996 and 1998 in order to bring literacy to children who are not in formal schools. The specific basic educational needs of the children from the Karamojong communities were identified through discussion and agreement reached during pre-project activities. The ABEK programme was launched in 1999. It seeks to provide elementary education for pastoralist children between 6 and 18 years and is based on a curriculum designed to suit the nomadic lifestyle of the Karamojong and respect their cultural values. It is characterized by:

- The flexibility of timetables, allowing children to help in the household while attending schools.
- A curriculum that is appropriate and relevant for the local context.
- Community participation at all stages of the program.
- The use of local resources to implement the program.
- The use of local facilitators selected by the community to teach the lessons.
- Learning centres being placed in and close to the communities.

The children are taught in their manyattas at their convenience. The timetable is flexible and adjusted to the daily rhythm in the communities. The lessons take place in the early morning and late in the afternoon. Therefore, children who are responsible for younger siblings can bring them to class; boys can keep their herds close to the centre and look after them before and/or in-between lessons. In the time-gap between the morning and evening lessons, the children can help at home. Thus, it is giving the children plenty of daytime to support their families with herding and other duties.

The tailored curriculum, which is appropriate and relevant for the local context, is set to include: livestock education; crop production; environment management; community development; home management; rights and obligations; peace and security; human health; sex education and HIV / Aids.

The Karamojong see ABEK as their own initiative, and the participating communities are the driving force behind the project. This is very important for the success of the ABEK project because it is said to depend on the participation of the Karamojong.

#### Indicators

- Rollout statistics of ABEK (or other pastoral-friendly schools) in Karamoja
- Number of students transitioned to formal secondary schools
- A further indicator might also be the literacy rate in Karamoja

#### Role in the Overall Syndrome

Education in general is a very important aspect within the psychosocial and cultural sphere and can be seen as the basis for further development of the region. The pastoral-friendly schools (e.g. ABEK) complete the formal educational system of Uganda and lead to a better participation and integration of the Karamojong in education.

#### Open Questions, ‘Pros’ and ‘Cons’ of the Symptom

Like any other form of education, alternative basic education programme components involved teacher training, texts and learning materials, community development, supervision and monitoring, management, classrooms and land, instructors’ salaries, and initial and start up costs.

However the long-term goals of the ABEK-program still need clarification: Is the ABEK-system a temporary bridging program for children in remote and marginalized communities in order to transfer them to the formal school, or could the ABEK-system be an alternative model of education for Karamoja? Up to now ABEK is not designed to replace formal education but to transition children into Primary schools. The ABEK program has been seen as a success in providing an access to basic education, but it is also

meant to develop a desire to join the formal schooling. So far, formal schooling remains the only way to reach income-generating opportunities (and social status outside Karamoja). Hence non-formal schools are meant to be a precursor to the formal school system. This means that the ABEK program aims to become functional for the formal education system but not for recipient society. Thus, non-formal schooling must be carefully organized and their potential links with the formal system established, otherwise they – the non-formal and the formal schooling – become hostile.

However, given the limitations and perverse effects of formal education in Karamoja which (as the ‘formal education’ symptom articulated) contributes to the ‘Karamoja syndrome’ of unsustainable development, a major opportunity for sustainable development is lost when the ABEK school is only considered as a bridge to formal UPE schools. The potential lessons of ABEK for the construction of a Karamoja-relevant, pastoral-friendly education system are thereby lost, and with them one of the most promising prospects for breaking the vicious cycles of unsustainable development in Karamoja. A more appropriate approach would be to further expand the scope of pastoral-friendly education, adapting also the UPE schools in order to provide a balanced educational offer combining pastoral-relevant knowledge and skills as well as skills and knowledge relevant for alternative livelihoods.

### **Increasing Socio-economic Disparities/Inequality**

(based on a first version by Jenny Wehrstedt, Margaretha Kühneweg, Maren Lawendel, Susann Aland)

#### Definition and Description of Symptom

The symptom ‘increasing socio-economic disparities/inequality’ addresses the development of inequalities between the different Karamojong tribes. There always were differences in wealth between the different tribes in Karamoja, but the fundamental developments in the 1970’s (especially the changes in raiding patterns and the development in arms use) have contributed to a more and more unequal share of cattle, access to grazing grounds and possibilities for mobility. This led to profound changes in Karamojong culture, tradition and livelihood, which will be examined in more detail.

It is important to point out that ‘wealth’ should not be looked at out of a western understanding, which is measured as part of the Millennium Development Goal (MDG) (‘1\$ a day’ for example). Rather we have to adapt to the Karamojong understanding of being wealthy, which the number of cattle a tribe owns expresses most properly. This leads to mainly all other securities of livelihood, which define the wealth of a tribe.

The decrease of pastoral 'richness' is connected with increasing socio-economic disparities. Pastoral 'richness' means possessing a large livestock and having access to grazing land. The livestock plays a central role in pastoralism due to its importance for nutrition (especially blood and milk), wealth for social respect and social relations in general (e.g. exchange of cattle, cattle raiding, dowry).

### Indicators

- Size of the livestock: The livestock is the centre of the pastoral way of life. This indicator derives from the clan's food security. The availability of food lies at the core of people's survival and is therefore the most important aspect of livelihood. In this relationship the most important and overall indicator is the size of the herd. The more cattle they have, the wealthier is the clan. Cattle secure enough nutrition, can more easily be used for trade in times of drought, secure successful marriages, etc. The decrease of herd sizes can be seen as the major indicator for a decrease of pastoral 'richness'.
- Rising jeopardy for the loss of social respect: Furthermore, the livestock is a sign of social status, which varies with the size of the herds, e.g. for men who are about to marry, cattle are the dowry to be delivered to the family of the bride. Another characteristic of pastoralism, involving the livestock, is the practice of cattle raiding. The participation in raids aims at increasing the reputation of oneself and the family. Considering this role of cattle, a decreasing herd size means social marginalisation.
- The access to markets: Another indicator of wealth which leads to stability or growth of food security is the access to markets. Markets are necessary for trade, labour and nutrition complement. Cattle are used for trading in order to get e.g. agricultural products. Without the opportunity to change cattle for agricultural products as a completion of the food, the danger of malnutrition increases also in this respect. Communities who live nearer to urban areas with markets have shorter distances to cover, so they are the first to be able to sell, they don't have to pass through dangerous areas and they have easier and faster access to health and education services. Markets are especially necessary in bad times, in which there is only little food available. People can go there and buy food in exchange of charcoal, wood or cattle. Households having access to one or more sources of income that are not derived from livestock production help ensure the food security.
- The balance between animal husbandry and agricultural production is critical to maintaining food security. Diversity in different food sources allows a better and more secure provision of food. Communities that rely too much on agriculture for example are worst hit by droughts.

- Increasing danger of malnutrition: The animals, mainly their blood and milk, are an important basis for the nutrition of the people, especially for the weak and ill. The decrease of herd sizes leads to a limited supply of proteins, causing a higher danger of infections.
- The possibility of following traditional movement patterns is another indicator. Due to raids and the related violence and the existence of certain ‘no-go areas’, the Karamojong are limited in their mobility. They might not be able to follow their traditional grazing patterns. Communities who live in safer areas or have stock-associates who help in bad times are better off and less endangered in their food security.
- The authority of elders contributes to the continued existence of the traditional Karamojong culture. It has been found out that groups which include their elders into in the day-to-day aspects of community life can better keep up their livelihoods.

The following aspects are all part of livelihood strategies which help sustain livelihoods in times of hazards. If they are applied successfully in terms of risk management they can be taken as indicators, because they are an important contribution to the survival of a clan:

- Reduction of productive risks (terracing, special pasturing)
- Diversification of productive strategies
- Movement and/or fragmentation of land holdings
- Social networks
- Storage technology
- Pastoral diet
- Herd accumulation and mobility
- Animal diversity and health

#### Cause-effect Relationships with other Symptoms

Hazards, which can contribute to ever growing disparities in general:

- Demographic growth out-pacing resources
- Degradation of resources as a consequence of over-exploitation (desertification)
- Changes in access to and command over resources as a consequence of increasing stratification and more exclusive formulation of property rights (entitlement decline)
- Short-term climatic changes (usually droughts)
- Livestock epidemics
- Violent conflicts interrupting production and exchange

In more detail and related to the different symptoms within the spheres:

*Biosphere*

- The exploitation of natural renewable resources is another important aspect in relation to the survival of livestock and people alike. There are relationships to several other symptoms which concern environmental aspects, like e.g. overgrazing certain zones, expansion of intensive agriculture. The reason is that the marginalization of the Karamojong communities forces them to exploit their direct environment to a higher degree.

*Atmosphere*

- Climate change might lead to more frequent and more intensive droughts, which threaten the basis of the pastoralist livelihood system – their livestock. The global climate change affects the semi-arid region of Karamoja in various ways. Expanding droughts and shortage of rainfall result in reduced diversification and less pasture for the herds of the pastoralists. This tendency has tremendous consequences for the size of the livestock. On the one hand, in times of extreme droughts pastoralists use to kill a bull as a ritual, praying for rain. On the other hand, due to insufficient nutrition, the animals get more and more vulnerable to diseases and their mortality rate rises. Some tribes even tend to slaughter weak animals to prevent death of starvation. Consequently, the reproduction of the livestock decreases as well. These problems endanger the pastoralists' basis of nutrition and therefore also their health, depending on blood and milk of the animals. As an effect, herders are forced to earn money to be able to buy food as an addition to their own limited agricultural products. In urban centres of the region they have to do low-income jobs such as charcoaling, beer-brewing or selling firewood, which reduces their time for the livestock and for their traditional way of life in general. The pastoralists' natural surroundings suffer from the rising exploitation of renewable resources, e.g. by selling firewood. Pastoralists tend to migrate to urban centres more often without return.

*Population*

- Out-migration: Due to their impoverishment, individuals from Karamojong communities decide to leave the marginalized region where they used to live. However it is difficult to integrate in another Ugandan region when coming from the marginalized Karamoja; it is often stated by migrants that the Karamojong are seen as backward even by the Ugandan politicians – in such a climate it is very difficult to successfully out-migrate.
- Population growth: Because of the growing population and an accordingly increasing number of livestock, the tribes get more and more into rivalry for land with one another. More livestock on less grazing land means

more pressure on natural resources (even though the exact carrying capacity of the land is an unknown factor).

#### *Economy*

- Increase of cattle raiding: The most important cause-effect relationship is with raiding. Those tribes who were victims of severe raiding belong now to the poorest Karamojong. Especially the Pian and the Bokora were not able to recover from the cattle loss. They are forced to turn to other livelihood strategies, which might alter their social identity permanently (e.g. out-migration, discrimination, etc.). Due to the resulting impoverishment, some Karamojong could be forced to intensify their attempts to recover cattle by raiding.
- The development of arms trade and unsustainable disarmament strategies affect the intensity of raiding and therefore the security of livelihoods.
- Loss of mobility for pastoral herding: Because of marginalization of the Karamojong communities on the one hand and new regional borders on the other hand, they can no more move to the extent they used to do.

#### *Social Organization*

- Privatisation of common land/decline of customary land (vs. private): According to the traditional lifestyle, the land is used collectively. For centuries, this has been possible, because diseases and traditional cattle raiding kept up the natural balance between human beings, animals and nature. But nowadays the traditional culture gets more and more out of control under the influence of modernity and globalisation; e.g. the rising privatisation of common land limits the migration routes of the tribes, causing higher competition among them. By privatising, the Ugandan government aims at expanding agriculture and forcing sedentarization of the pastoralists. Connected with these aims is the reduction of the herds, which shows the gap between the traditional importance of the livestock and commercial interests (e.g. commercial livestock ranching). The increasing poverty of the pastoralists even makes it necessary to sell out the most important basis of their livelihood: livestock and land. In the last decades all these aspects discussed above led to tremendously increasing dependence on external support (e.g. food-aid programmes).

#### *Psychosocial and Cultural Sphere*

- The decline of traditional culture threatens the fundamental basis for the pastoralist way of life. The less knowledge is passed unto the following generation, the less people can adapt to their environment. The diminishing authority of the elder also leads to more insecurity.
- Growth of sedentary modern lifestyles – insecurity leads to new patterns of settlement: Insecurity in Karamoja and especially for the pastoral livelihood, is influenced by climatic aspects, increasing arms trade, gener-

ational conflicts within the tribes and competition between the tribes. The increasing insecurity forces families to live together in bigger communities, also concentrating herds, which results in a higher danger of infection for animals as well as for human beings. More infections increase the need for medicinal plants. In the long run, this also leads to a higher exploitation of the natural renewable resources and insecurity of food supply. Furthermore, more frequent and also more aggressive cattle raids are the result of these insecure conditions. One strategy to defend against raiders is the burning of grass, which limits the grazing land.

- Education – if accepted by communities and pastoral-friendly (see the symptom pages on education) – can lead to expanded knowledge and therefore contribute to animal health, agriculture, deployment of drought-resistant crops, alternative livelihoods, etc., counterbalancing the marginalization of communities. But there are also negative attributions to education such as disintegration of families, child out-migration and discrimination by state and civilians.

#### Roll in the Overall Syndrome

This symptom is a result of many other symptoms. If the other symptoms changed, with which the ‘increasing socio-economic disparities/inequality’-symptom stands in relation, the growth of disparities would probably halt.

However the marginalization of the Karamojong doesn’t seem to be accidental. Marginalization could be seen as a strategy (on the part of sedentary groups) to restrict the development of power of the (semi-)nomadic peoples. For the moment, the Karamojong do not have a lobby within the national and international context, which is strong enough to fight for their interests.

#### Open Questions, ‘Pros’ and ‘Cons’ of the Symptom

One open question could be: Is food-aid really a sustainable type of support, or do these programmes delay economic reorientation and further economic differentiation in specialised pastoral economies?

### **Commercialisation of Cattle Raiding**

(based on a first version by Christina Kahmann, Sarah Schneider, Nathalie Tanbourgi)

#### Definition and Description of Symptom

Cattle raiding changed from a traditional cultural ritual into an often more commercialized practice. When cattle used to be retained by the raiders, they now tend to be sold as soon as they get stolen, in order to provide food, cash or weapons. Some of the raiders use the money they ‘earned’ to establish a

business, but many of the people who actually buy the cattle on the market, pay the youth with alcohol.

Even some powerful people from the government or regarded local individuals seem to have realized that profit can be made out of the cattle raiding. They are said to buy guns in order to provide them to the youth ready to raid the cattle for them, so they can sell them. This is a major problem for the government, when they try to control weapon flows and establish disarmament, if some corrupt state officers actually contribute to the weapon flow.

The commercialisation of cattle raiding is connected with an increase of cattle raiding: Traditionally, cattle raiding was considered as a cultural practice, carried out for demonstrating manhood, or forming alliances with other families. In other cases the raided cattle were used for bride price, and to redistribute wealth and food in times of needs. Seers, elders, warriors and the women discussed the decision about a raid. The seers would tell which animal would be best to sacrifice for a good raid, which way to go raiding and come back and what animals the warriors would find in the other communities' herds. Then the seers would tell the elders what they think is the best for the warriors and their raid so the elders could plan everything and the woman would prepare proper food for the warriors and motivate them. Actually the whole community had an important role in planning and preceding a raid. There was a number of rules and taboos, controlled and sanctioned by the elders. The battle itself, carried out with spears, took most often place outside the Manyattas by the warriors dressed up in their full battle attire. It was common (in the first half of the 20<sup>th</sup> century) to forewarn the targeted community in advance by even telling on which day the warriors would come. So the woman and children had the opportunity to stay away from the battle and the attacked community could defend themselves and their cattle. So the number of killed persons was incredibly low by that time.

Influenced by a number of factors, the practice of cattle raiding changed. The increase of access to weapons and the competition for resources as a consequence of prolonged droughts, are playing a fundamental role, besides the permanent marginalisation and discrimination on the part of the government.

The quantity of raids increased and often they got more violent. Nowadays there are no forewarnings anymore – the warriors attack secretly. They even attack woman and children, inside the manyattas, commit rapes and steal utensils. Also the motivations often shifted to commercial interests. Where raiding for cattle meant a few days without food insecurity, before it means now money and new weapons.

Today, a differentiation is increasingly being made between ‘thefts’ and ‘raids’. Thefts are carried out by a small group of men, are more frequent and less organized than larger raids, and the number of cattle stolen is also smaller, but the degree of violence (and the theft of other items, e.g. utensils) is higher. By comparison to (traditional) ‘raids’, ‘theft’ tends to be more readily rejected and denounced by Karamojong communities as a bad thing for Karamoja.

### Indicators

- The amount of raided cows shows the level of the present amount of cattle raids. On the one hand countable at the regional livestock markets, where a big number of stolen cows is getting sold, on the other hand asking the communities about their lost cattle.
- Sold cattle (instead of retained by the raider).
- Groups of raiders tend to be smaller (because they have to share the money and to not be traced that easily).
- Firearms are used instead of spears therefore the raids have changed in brutality.
- The amount of injured and dead people by attacks is an indicator for increasing and commercialised cattle raids (higher life loss). There are no more prohibitions of the use of force during the raids and women and children, who are trying to hide or flee, are being shot.
- No more announcements for the raids.
- No more traditional blessing or singing for the raiders.
- Raiders now target unarmed shepherds or herdsmen who are keeping the cattle.

### Cause Effect Relationships with other Symptoms

#### *Economy*

- The development of arm trade leads to an increase of weapons in the region. Prior to the start of disarmament in 2000, almost every adult male had a weapon in public (an estimated 40 000 to 100 000 weapons in the region), so raids could be done by nearly all of them, working together in small groups. With the increase of weapons it made it easier to get the cattle, also from a long distance, and the raiding increased a lot according to this factor.
- Development of cow markets: The more cattle are raided, the more the trade at the market grows, which developed as a good and fast opportunity to get money. The development of cow markets makes it easier to sell the raided cattle quickly. Also nobody knows to which market the stolen cow has been sold and nobody asks where the cow comes from.

- Increasing socio-economic disparities/inequality: The inequity in livestock ownership, and insurance strategies through cattle herd size growth increase. When there is more cattle raiding, the inequity in livestock ownership is growing. Raids can shift a household or community into deep poverty, because cattle are such an important good for them to cope with stress; without cattle they have no insurance for their families. With the inequity in livestock ownership people get forced into raiding for cattle because of course people deprived of cattle want to reconstitute their herd.
- Settlement of regional conflicts: The growing spontaneity and brutality of raids leads to a climate of fear and revenge attacks. Regional conflicts between different groups are growing and conflicts settlements are more difficult to reach.
- Loss of mobility for pastoral herding: The mobility of herding is getting limited, because the high amount of raids leads to an insecure environment; the pastoralists do not go too far from their Manyattas. The reduced access to grazing land is a problem for the health of livestock as well as for the pastoral richness (e.g. the number of cattle, milk and blood) and for the environment (overgrazing, soil erosion).

#### *Social Organization*

- Decline of elders' authority (and traditional structures): Traditional structures are changing because the former rules of raiding are not in the hands of the elders and the decision of the whole family anymore. Instead raiding is getting more individualised (for personal gain) and underpinned by commercial motives. The youth is more independent, their individual identity is growing, and the traditional collective identity is weakened.
- Increasing insecurity: Travelling without armed protection becomes more and more dangerous.

#### Role in the Overall Syndrome

The increase of cattle raids plays an important role in the economy because without the raiding for cattle the people would not get cash for weapons. Without the raiding they sometimes would not have any food or cattle's milk and blood to drink. There is no other way to get cattle, than from other tribes. And of course other tribes will not give their cattle away voluntarily. Cattle are the way to wealth for the tribes, so the higher the herd sizes, the less problems of food insecurity they have. But raiding for cattle also generates a vicious cycle of raids and counter-raids by spoliated herdsmen.

To sum it up it seems in some cases, that the raiding is the easiest and sometimes only apparent solution to get out of a dire economic situation; and thus raiding will dwindle when the food security situation will get better.

### **The Karamoja Syndrome and Advocacy**

A syndrome approach aims not only to synthesise a transdisciplinary overview of a situation of unsustainable development, and is not only descriptive and analytic, but also aims to prepare the ground for action-oriented research. As all systems approaches, the syndrome approach is projective rather than supposedly 'objective'.

However, unlike more elaborated versions of syndrome analysis, the exploration of the Karamoja Syndrome aims neither to demonstrate strong empirical evidence nor to draw final results, but it does claim to point at relevant insights for policy and advocacy. Therefore, the syndrome approach is the basis on which our students (at the Karamoja awareness raising campaign across Europe) have elaborated an "advocacy paper" for Karamoja, that was presented to the European Commission and to the United Nations on January 23<sup>rd</sup> 2009 in Brussels, and further disseminated to other European, UN, international and non-governmental organizations as well as to Ugandan governmental and non-governmental organizations..

Besides, the 'Karamoja Syndrome' holds relevance most likely beyond Karamoja, with regards to other pastoral and semi-pastoral communities across East Africa and other regions of the world. Unlike the "Sahel Syndrome", the "Karamoja Syndrome" indeed addresses dynamics of contemporary unsustainable development (and historical roots thereof) which are specific to pastoral and semi-pastoral societies. The authors of the present article are thus encouraging researchers to further explore, refine and compare the 'Karamoja Syndrome' in the contexts of other pastoral societies across the world.

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