

Diverse views of the causes of environmental migration among pastoralists in Northern Niger

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ABSTRACT

Over the course of the last forty years, many Tuareg and WoDaaBe Fulani pastoralists in the Azawak Valley region near Abalak, Niger are pursuing a sedentary lifestyle in direct contradiction to the cultural values and adaptation mechanisms (e.g. mobility) of pastoralism. The result suggests a failure of Niger's pastoral system. This study examines the factors contributing to the migration from rural areas to urban centers, focusing particularly on environmentally related factors. Thus, this master's thesis responds to the question: What are the environmental factors that have contributed to the migration of pastoralists to cities and towns in the Azawak valley of Niger? By analyzing the life histories of former nomads, this study will illustrate the linkages between slow-onset environmental degradation and the process of migration to towns from the pastoral zone (specifically the Azawak valley) of Niger.

Research was undertaken over a period of 6 weeks from May to June 2010 in Abalak and Niamey, Niger with the participation of 15 households of former pastoralists in Niamey and Abalak and numerous experts in regional centers Tahoua and Niamey. Research methods involved a questionnaire, informal interviews, and participant observation. The questionnaire, derived from the Environmental Change and Forced Migration Scenarios [EACH-FOR] Project framework, captured case histories related to both personal livelihoods and motivations for settlement in towns. Case histories were collected from 11 men and 4 women aged 18 to 64 years old who have recently migrated to town (within the past 10 years). Interviews with non-migrants and experts provided comparison and triangulation for the study. From this study, one concludes that individuals who settled during the 2004-05 drought match the profile of an environmental migrant.

Keywords: Niger, Azawak, pastoralists, Tuareg, WoDaaBe, environmental migrants

INTRODUCTION

Political or ethnic conflict, population pressure, economic growth, and poverty have, in the past been cited as the principal reasons for migration (Suhrke 1992; Richmond 1993). Many researchers consider the environment a proximate, but not leading cause for migration (Black 2001; Bates 2002). With anthropogenic climate change and human-caused environmental degradation, the services that the environment provides such as clean, accessible water, grasses and trees that provide fodder, fuel, and protection against erosion are less available. The loss of ecosystem services affects human security, the freedom from fear, hazard impact, and want (Warner 2008), particularly where vulnerability and weak governance overlap. Such conditions are perceived to

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promote environmental migration and displacement (Dun et al 2007). Achim Steiner, Director of the United Nations Environmental Program stated, "Human migration, forced or otherwise, will undoubtedly be one of the most significant consequences of environmental degradation and climate change in decades to come" (2008).

Scientists have proven that rising temperatures cause greater evaporation, which results in increased variation in the amount and location of rainfall across the globe (IPCC 2007). According to the IPCC summary report for policymakers (2007), Africa is perceived as the most vulnerable continent due to climate variability and its predicted low adaptive capacity. In tropical and subtropical zones, there have been increasingly frequent droughts and much variation in the frequency and distribution of rainfall. Drought and desertification will likely increase in extent even for small temperature increases of 1° C to 2° C. Those living in drought areas are typically engaged in rain-fed, subsistence agriculture and necessarily reliant upon rainfall (Ezra 2001; Findley 1994). By 2020, between 75 million and 250 million people may be exposed to increased water stresses due to climate change. Warmer, drier conditions may occur throughout the Sahel, resulting in a shorter growing season and impacting agricultural production.

Slow-onset environmental change in the Continental Sahel (Niger, Burkina Faso and Mali east of 5°W) has already been widely documented (Hulme et al 1993; Nicholson et al 1993; UNEP 1992; D'amato et al 1998). Nicholson and Paulo documented that changes in rainfall began in the 1950s. Hulme (1996) assessed that there is little evidence of drying in any area on the globe except the Sahel. His conservative estimate of rainfall loss in the Sahel is 96.8 mm of rainfall per century (1 mm in annual rainfall since 1900s). Other assessments (Agnew 2000) have much higher estimates of annual decrease in rainfall (3mm to 8 mm per annum assessed from data ranging from 1961 to 1990). It is difficult to obtain rainfall data for the Sahel, however, as systems of collection are limited and calculations are unreliable (Ba et al 1995). Despite these constraints, the majority of literature stated a steady decrease in rainfall since the approximately the 1960s, followed by a slight increase in recent years (Agnew 2000; Hulme 1996; Nicholson et al 1993).

Less rainfall is a pivotal element leading to the transformation of the pastoral way of life to a sedentary existence, which is defined more by a global capitalist economy than by the local subsistence economy. Despite a significant response from international aid programs intending to ameliorate the compounding constraints, the pastoralists have been incapable of successfully reconstituting their herds after a drought (Thébaud et al 2001). Even as the pastoral lands have been increasingly degraded, pasture and water have become more scarce and limited due to encroaching farms and greater pressures on the natural resource base (Woodke 2005). The threat to human security due to conflict over water resources in the south² has limited the mobility of pastoralists, which is a key method of adaptation for herders when faced with climate extremes. Putting further pressure on already failing environmental services (elements, structures, and

² Frequently farmers will prevent herders from accessing water points to protect their own livelihoods and property.

processes provided by nature that promote and sustain human life), opportunists often enter the pastoral zone to cut grasses (to re-sell to herders when the pasture is gone in the dry season), extract fuel wood, or herd animals from Nigeria and other southern border countries during the lush rainy season, returning south of the border when the rains cease (Woodke 2008). Even with the many constraints facing pastoralists, the most significant and debilitating is the decreasing frequency and consistency of rainfall.

As a result, people such as the pastoralists of the Sahel, who have for centuries adapted to environmental extremes, are struggling to adapt. Utilizing the Environmental Change and Forced Migration Scenarios (EACH-FOR) project framework, the primary research question of this case study of pastoralists in Abalak and Niamey, Niger is: What are the environmental factors that have contributed to the migration of pastoralists to cities and towns in the Azawak of Niger? Secondary research questions include: What is the socio-economic profile of the pastoralists who have migrated to towns? Why have they migrated? And what environmental problems do they perceive as having influenced their decision to migrate? From where to where do/did they migrate? What are the circumstances under which they migrated? What were their coping mechanisms against environmental problems and how did the state contribute to these mechanisms? What new modes of survival or adaptation have former pastoralists discovered or created?

CONCEPTUAL FRAMEWORK

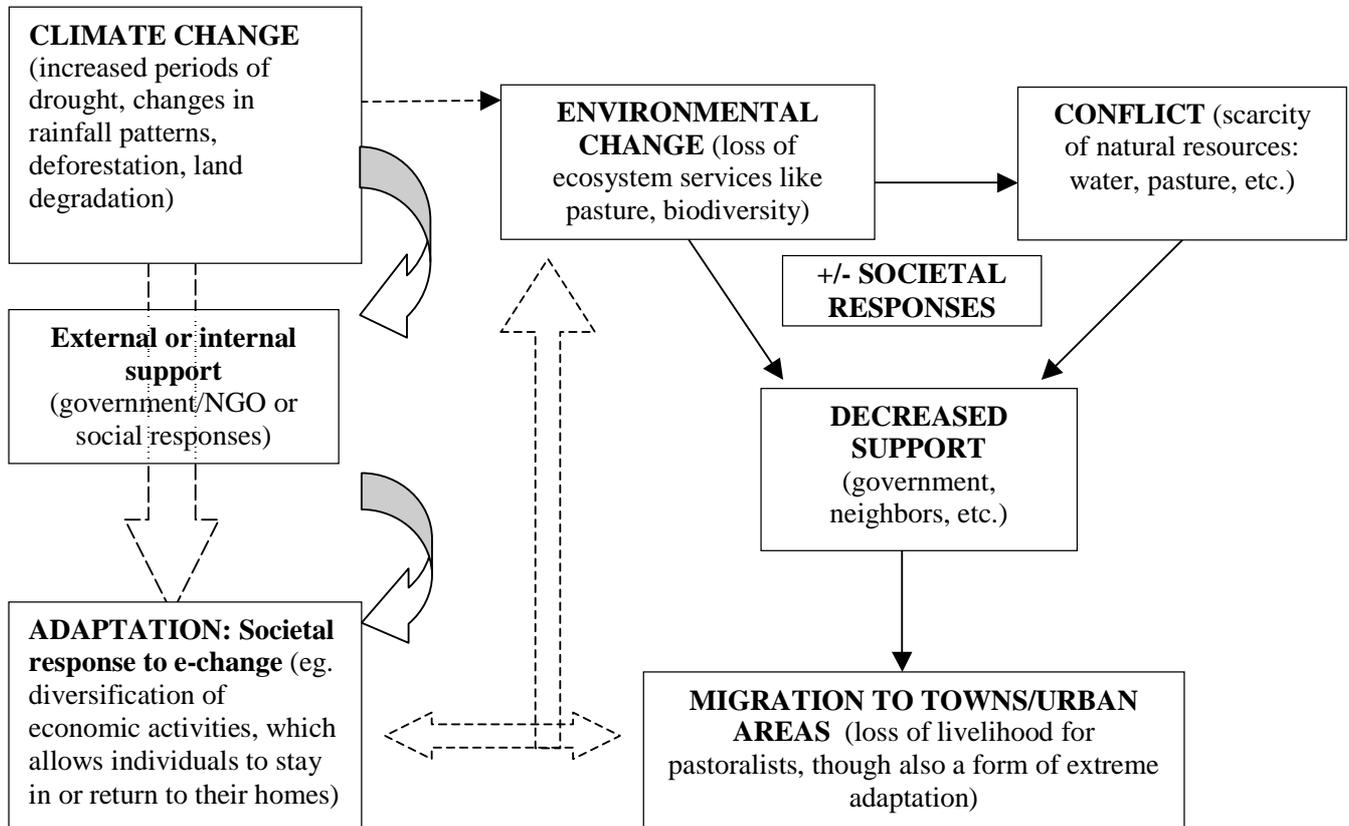
Utilizing the framework of the 2008 Environmental Change and Forced Migration Scenarios (EACH-FOR) Project, the study reveals the intricate relationships between environmental, economic, social, and political elements involved in the decisions to migrate. An environmental “signal” such as water shortages, land degradation, floods, or drought was identified in the case study area, and this signal contributes to participants’ migration. Other factors such as poverty, high population growth, and increased population density exacerbate the vulnerability, forcing individuals and communities to migrate. The impetus of this study is to further elaborate on the 2008 EACH-FOR Niger case study by examining the environmental factors contributing to rural-urban migration of the pastoralists of northern Niger.

During a 1985 speech before the United Nations Environmental Program El-Hinnawi coined the term “environmental refugees.” The debate over the use of the term “refugees” has resulted in many studies seeking a way to define people who have been displaced due to slow or rapid onset change (Warner et al 2008; Trollaldalen et al 1992; Richmond 1993; Rathgeber 2008). The terms define by Koko Warner, Olivia Dun and their research team in 2007 have been utilized for this study.

Environmental migrants (Dun et al 2007) are people who, primarily due to environmental concerns or reasons, have decided voluntarily to move from their usual place of residence. Environmental displacees (Dun et al 2007) are those who, due to either rapid or slowly deteriorating environmental conditions, are forced to leave their usual place of residence where their lives, livelihoods, and welfare have been placed at

serious risk.³ The difference between the terms is that environmental displacement is forced movement as opposed to the more deliberate environmental migration.

Figure 2.0 Factors related to migration to towns for pastoralists of Niger



NIGER: A NATION OF EXTREME VULNERABILITY

Niger is a poor, landlocked country lying between oil-giant Nigeria to its southern border and Libya and Algeria to the north. According to the UNDP's 2009 Human Development Index rating, Niger is rated last, making it the poorest country in the world. Of Niger's 14 million people, two-thirds or 63 percent are living below the poverty line, one-third or 34 percent are considered extremely poor (CIA World Factbook 2005). Niger has one of the highest population growth rates in the world (3.9 percent), which aggravates the country's resource scarcity for its burgeoning population (CIA). Even in the most fertile areas of Niger, localized agricultural production only accounts for 35 percent of a family's needs (FEWS NET). For every 1,000 births there are 115 deaths. A striking lack of health and sanitation for nearly half of the total population exacerbates the child mortality rate (World Bank 2005).

Niger is essentially a rural and agrarian economy. All but 10 percent of the country's

³This term resembles the debated term "environmental refugees (El-Hinnawi 1985)" as it includes those who may not want to depart from their residence but have no other choice due to an imposed environmental change.

population lives less than 100 miles from the greener southern border of Niger, 86 percent of the population lives in rural areas. The rate of urban growth is currently 16.3 percent (in 2001), and future projections expect the rate to increase to 30 percent by the year 2020 (UNDP 2006). Urbanization is due primarily to demographic increases and rural-urban migration. The most densely populated areas are the cities of Maradi, Dosso, Niamey, and Zinder, all of which lie along the thin southerly band of arable land.

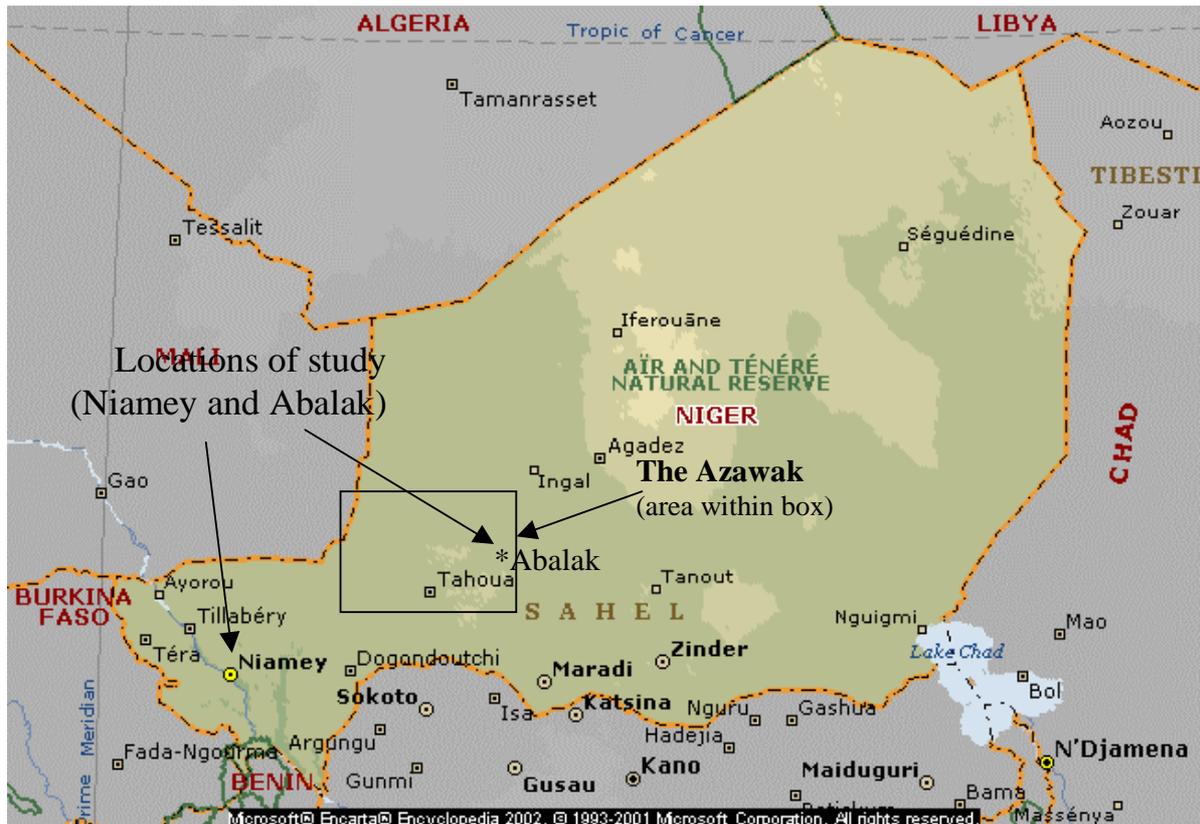


Figure 1.0 Niger Republic. The location of the study (Niamey and Abalak) and the Azawak valley (pastoral zone).

Agriculture employs nearly 80 percent of the population, generating about 40 percent of the country's GDP. The service sector makes up 41 percent of the country's GDP and 10 percent of the workforce. Mining makes up 18 percent of GDP (World Bank 2005). Primary rain-fed crop production includes millet, sorghum, cotton, and corn. Animals (sheep, goats, camels, and cattle) are the main export after mined minerals such as uranium.

Perhaps the greatest impact to the country's stability is the weather. Drought has consistently been the cause of great suffering in this Sahelian country, which is dependent upon rain for its livelihood. The "great" droughts of 1973-74 and 1984-85 held important repercussions for the economic and social lives of most Nigériens. The first great drought ('73-'74) even provoked a political regime change; most Nigériens blamed those in power for provoking the crisis (Mohamadou, A. 2004). In 2005, drought caused famine-like conditions throughout the country, with food shortages affecting

more than 3.6 million people. In the worst hit regions, the mortality rates reached 4.1 deaths per 10,000 people per day (UNDP 2005). Widespread poverty and instability due to drought in Niger induces annual cycles of poverty and food insecurity.

Diversification of activity and location among the rural population is most often the method for surviving periods of drought and the shifts in support from international and governmental aid organizations (Batterbury et al 2001). If and when the home territory cannot support a family, members of the household will seek work and income elsewhere, or, alternatively, send livestock off with hired shepherds when the household production is not sufficient to maintain both human and animal health. *Exode*, or economic migration across national borders, permits some members of the family to sustain their livelihoods at home, supported by remittances of those abroad (FEWSNET 2005). According to the World Bank, nine percent of the population or 123,687 individuals migrated abroad in 2005. The International Organization for Migration (IOM 2009) reports that Nigériens sent over \$88,000 in remittances to Niger in 2006.

Movement across national borders has been an important aspect of Nigerien identity since colonial times. It was colonial policies that first promoted large movements across national borders. Prior to colonization, Tuareg nobles controlled both human (including slave) and animal capital in northern Niger. With the abolition of slavery by the French during colonial rule, liberated slaves sought out new ways of defining themselves, the freedom of movement being one strategy (Rossi 2009). Concurrently, the colonial authority required that every ward in the state pay taxes in the new currency, serve in the military, and provide compulsory labor. To avoid abiding by these dictums, many individuals migrated to non-francophone countries such as Nigeria, as reflected in much of the migration records of both the French and British authorities (Rossi 2009).

Niger is a nation of many extremes – extreme poverty, extreme population growth, and an extreme environment. To maintain their livelihoods, people seek various solutions from economic diversification to migration to conflict. Jan Egeland, the United Nations special advisor on conflict, came to Niger in 2007 to evaluate the impact of environmental damage and climate change on the Sahel region. He assessed that, “If there is anything called extreme vulnerability, it’s what I saw in Niger” (Johnson 2008).

PASTORALISM’S RECENT DECLINE

Nomadic herders of the Sahel are falsely perceived as less vulnerable to fluctuations in rainfall due to their mobility (McLeman and Smit 2006; Henry et al 2004). The Tuareg and WoDaaBe herders living in the Azawak Valley of Niger are dependent upon rainfall and movement for their survival. During the brief two or three months of rainy season (June/July – Sept) in Niger, pastoralists easily find pasture and water, and their animals provide milk and meat for their families (Bernus 1973). Post rainy season, pastoralists cover vast expanses seeking pasture and water. External ‘push factors’ such as the colonial establishment of arbitrary national borders⁴ and the terms of trade favoring an

⁴ During colonization, French military leaders imposed penalties on nomads illegally crossing national borders. The borders, while a political tool for the French were arbitrary to the pastoralists, who were now cut off from their traditional migratory routes.

expansion of agricultural production, and 'pull factors' like development policies that favor the resettlement and integration of nomads into the commodity markets have contributed to a decline of pastoral life in Niger since colonization (Fratkin 1999, Fleuret 1986).

The Azawak Valley

The administrative department of Tchintabaraden includes part of a vast dry plain and fossilized river valley called the Azawak. The Azawak valley is 80,000 sq miles, extending westward from the city of Abalak into the Republic of Mali, with an estimated population of 500,000 people, mostly nomadic herders and their families (Kirtley 2005). The Department of Tchintabaraden covers a surface area of 20,000 square kilometers and has an estimated population of 100,000 inhabitants, and a growth rate of 3.1 percent (General Population and housing census, Government of Niger, 2001). To the south lie the departments of Tahoua and Keita; to the east is the Department of Tchirozerine, in the north is the Republic of Mali, and in the west is the Department of Filingué. The Azawak is considered the most important pastoral zone in all of Niger. Livestock counts in the Nigerien portion of Azawak are approximately 900,000 head (Department of Pastoralism in Tchintabaradène, 2007).

There are several ethnic groups sharing the vast pastoral zone of the Azawak valley. The dominant ethnic group of the Department of Abalak is the Tuareg, with smaller populations of WoDaaBe Fulani, Fulani, Arab, and Hausa peoples.⁵ The Tuareg pastoralists live in camps of approximately 50 to 150 members. The pastoral WoDaaBe Fulani typically live in camps of no more than one or two families, with extended family units interspersed every one or two miles. Family size for both groups in Abalak typically does not exceed 6 members.

Abalak is the largest urban center in the Azawak Valley. The city of Abalak possesses an important animal market, due to its strategic location along the main highway and bordering the vast Azawak plain. Abalak is 325 miles northeast of Niger's capital city, Niamey at 15.4522 N and 6.2783 E and 179 miles from Sokoto, Nigeria. Population estimates for the city range from 13,555 to 39,000, comprised primarily of former Tuareg and WoDaaBe pastoralists and their families. This disparity is due to the large numbers of itinerant herding families who exit the Azawak plains to settle in Abalak during the dry season when water is scarce. Economic opportunities for unskilled workers in Abalak are few. Those who have the means travel to neighboring countries where income supports their pastoral families. Women who are left behind are particularly vulnerable. Many former pastoralists who cannot go abroad survive through the assistance of relatives, despite the cultural shame associated with begging and dependency.

Decreasing Reliability in Rainfall

Since the 1960s, rainfall in the region has decreased by twenty-five percent (UNDP), drought and flash floods have become an expectation, and those true nomads still

⁵ This study will focus on two pastoral groups: the WoDaaBe Fulani (or WoDaaBe) and the Tuareg peoples.

subsisting with their herds in the pastoral zone are living as mere survivalists due to persistent water shortages.

Governmental and international aid organizations are daunted by the complexities met when working with pastoral groups (Thébaud et al 2001). In the decade following the great drought of '72 – '73, many blamed the pastoralists for causing the crisis by promoting overgrazing and environmental degradation in the pastoral zone. As a result of the negative discourse promulgated about the pastoralists, very little aid was sent north during the second (more disastrous) drought of 1983-84, producing famine conditions in the pastoral zone. This disaster produced great distrust of and discontent for the government amongst the pastoral groups, which ignited the first Tuareg rebellion in the 1990s. The few remaining pastoralists face increasing difficulties in finding pasture and water for their animals (Mohamadou 2008).

During the 2004-2005 drought, agriculturalists benefited from governmental alerts and food programs aimed to ease human access to food. Faced with a lack of aid programs appropriate to their needs, pastoralists lost nearly fifty percent of their livestock (Guichaoua 2008). Unlike Sahelian farmers who still possess their source of capital (land) after a drought, pastoralists can lose all of their capital (livestock) with the occurrence of drought (Woodke 2005).

Access to Land and Water Points

In 1961, Nigerien law established a boundary protecting the pastoral zone in the north from the burgeoning population of agriculturalists in the south (Batterbury 2001). Yet this law has not been enforced. High population growth rates in the agricultural zone have gradually pushed the line separating pastoral and agricultural land northward. Agriculturalists move into the pastoral zone, plant crops, and display their agricultural products as proof of "ownership" (Batterbury 2001). This practice was noted first in 1940 (Marty 1989), but has increased significantly over the past ten years up to 2005 (Woodke 2005). The result is often conflict between herders and farmers over land and water access.

In most of the pastoral zone, but especially in the Azawak, water resources are limited. With very few deep wells and much fewer boreholes, pastoralists have great difficulties watering their animals and providing drinking water for their families. In the area around Abalak, wells are often a football field deep, requiring up to 30 minutes to extract just 6 liters of water (Kirtley 2008). In the south, water points are often managed by villages and access is often illegally limited to residents.

During the growing season, pastoralists are forbidden to enter farmland with their animals. At beginning of the rains, the pastoralist communities steadily exit farmland, moving northward towards the flat plains of the Air Mountains (Bernus 1974). The herders return as the rains subside to their southerly *terroir* or traditional territory, which is typically situated near a well or other water source in the Azawak valley. The pasture remaining in the southerly *terroir* must provide fodder to animals throughout the nine-month dry season (Bernus 1974).

Lacking mobility to maintain their herds, pastoralist families are increasingly sending family abroad during the nine-month dry season to earn income. In a Tearfund report, 94 percent of pastoralist households interviewed mentioned sending someone on exodus abroad as a method of diversification (Woodke 2005). Such migration is usually temporary or seasonal in nature.

There is virtually no coordinated effort to manage the pastoral lands in Niger. Pastoralists are often forgotten in governmental development programs. With the establishment of a CDEAO trading zone, increasing numbers of transitory herders from other West African nations penetrate the Nigerien pastoral zone during the fertile rainy season and return to the south when the rains subside (Woodke 2005). The compounding pressures of increasing demographics and decreasing ecosystem services push Niger's pastoralists to a tipping point.

METHODOLOGY

The Tuareg and WoDaaBe Fulani pastoralists of the region of Tahoua present an ideal case for this research. As stalwart pastoralists, they find meaning through their relationship with nature and their livestock, while disparaging the work and lifestyle of sedentary cultures via their cultural symbols and language. A WoDaaBe man sees himself as a slave to his cattle; a Tuareg proverb refers to a house with four walls as a tomb. Agricultural work of the neighboring Hausa is "drudgery" to a WoDaaBe Fulani or "slave's work" to a Tuareg (Loftsdottir 2001, Nicolaisen 1963, Clarke 1978). Those who leave the bush and settle in the city are still considered by many to be "lost" or even, "dead." Despite these cultural aversions to sedentary life, larger numbers of pastoralists have abandoned their former nomadic lifestyle and now live in villages or towns and rely on seasonal small-scale agriculture, labor or trade to survive.

Data Collection and Analysis

The six-week field study began in May 2010 by identifying, interviewing, and recording randomly selected households of former and current pastoralists in and around Abalak and Niamey, Niger. Whenever possible, a female interpreter was used for interviews with women participants. For migrants, the questionnaire addressed migrants' former and current livelihoods, reasons contributing to their decision to migrate, and observations of environmental change. For non-migrants, the questionnaire addressed the difficulties of living in the rural area, observations of environmental change, and reasons that others (friends and relatives) in the location had migrated. The questionnaire served as a guide, but often the conversation expanded beyond its contents.

To locate recent migrants, the researcher relied on the assistance of local experts for both locations. In Abalak, the researcher and her assistant visited the new quarter of town (which, according to local experts had been established in 2005) and randomly selected the homes or tents of participants. In Niamey, the researcher visited locations where former pastoralists had either established illegal dwellings ("squatters") or were serving as guards for someone else's property. All of the participants were illiterate, so

verbal consent was requested (and received) in every case.

In total, the researcher collected and interpreted fifteen case histories from eleven men and four women aged 18 to 64 years old. Of the former pastoralists who had recently migrated to town, most had done so within the past ten years. Six participants (migrants) lived in the city of Niamey (680 km from Abalak). The remaining nine participants lived in the Abalak town or commune. Equal numbers of Tuareg and WoDaaBe households were not found, yet the ratio was equivalent to the relative numbers of each ethnic group living in the region.

Each interview was transcribed and analyzed along with the help of a research assistant who is familiar with both the topic and area of research. Each transcript was identified numerically. Based on the responses, the researcher developed a matrix of categories (type of migrant) and signals (push and pull factors contributing to the migration). The two types of migrants were environmental migrant (proactive migration) and environmental displacee (forced migration). A forced migrant exhibited responses expressing his inability to survive in the bush such that her only resort was to migrate into town. Proactive migrants expressed a high percentage of responses indicating that environmental reasons contributed directly or indirectly to their migration decision. Expert interviews with 10 participants served as verification and triangulation of the interviews.

Limitations

Due to security limitations, the researcher did not have enough interaction with participants to allow for the level of collaboration during the analysis that was originally presented in the research proposal. To compensate for this change in the verification process, the researcher both expanded the sample size by adding another site (Niamey) and consulted with local experts to verify the results.

RESULTS AND DISCUSSION

The presentation of these data reflects the nuances of each locale (Abalak, Dillafata, or Niamey), beginning with a historical overview of each place, followed by a summary of the participant responses relative to the research framework. The presentation is based on the fifteen interviews of former and current pastoralists, participant observation by the researcher, and conversations with experts, all of which took place in Abalak or Niamey, Niger. The analysis follows the EACH-FOR framework and is derived from both the expert interviews and the summarized responses.

Oral History of Abalak

Prior to the 1970s, Abalak consisted of a single well, a school, a mayor's office, and a handful of nomadic tents. Eventually, former pastoralist families settled in the town, built mud brick houses, opened small boutiques, sent their children to school, and brought demands for more services and products. Located on the busy highway (built in 1979) linking Tahoua and Agadez, Abalak is now a bustling town of around 30,000 inhabitants.

Though most individuals that settled in Abalak came with nothing, many have become engaged in commerce, transportation, and other activities. For new arrivals to the impoverished town of Abalak, finding work is extremely difficult due not only to the lack of employment, but to the intense discouragement a herder inevitably faces after having lost his way of life. Common jobs include brick making, transporting water for construction (typically by purchasing or borrowing a donkey and cart), farming, or selling items in a modest boutique (typically a mud brick structure housing a few sacks of grain, sugar, and tea). Some will also work as marabouts (healers). As a very last resort, especially for the Imazwaghen Tuareg (noble cast), some ask alms of those who have something to give. Those who succeed in finding enough capital start small businesses like modest boutiques selling household items, construction companies, or travel agencies. Growing contingents of the educated population in Abalak have founded non-governmental organizations providing development aid.

For the most part, women who have not attended school have few opportunities to work in Abalak, except for serving other households as a cook or housekeeper. This type of work is considered shameful within the pastoralist culture. As a result, women often remain within the four walls of the home, rarely moving with the same freedom that they possessed in the rural area.

While the incoming migrants have fueled the physical and economic growth of Abalak, the majority of inhabitants will speak nostalgically about the life of the pastoral area. In Abalak, living an urban life is more an obligation than a luxury (despite the benefits of electricity, etc). The pastoral way of life remains highly esteemed by the former pastoralists of the town of Abalak. "When I lived in the pastoral zone, I never had the intention of coming into town. For me, life is the bush, *la brousse*. There is nothing better than it" (Participant #10).

Many individuals in Abalak verbally and physically exhibited signs of honor and nostalgia for their former nomadic livelihoods. For example, many referred to the way of life in the pastoral area as the true 'luxury.' To a pastoralist (or former pastoralist), the vision of luxury equates to the capacity to drink the milk of one's animals. Thus, former pastoralists will often buy animals with their first earnings in town and send their animals to the family in the rural area. With the money they earn in the town, these former herders will contribute feed, water, and other items to sustain pastoral relatives, and will themselves return as often as possible to visit the rural areas.

The constituent parts of Abalak, its physical structure, social structure, governmental structure, market, and inhabitants, has grown out of the settlement of nomads that has occurred with varying degrees of swiftness since the great droughts of the 70's and 80's. If not settling in Abalak, former pastoralists crossed borders or traveled to other regional centers (Niamey or Tahoua) to find work. If those who went abroad made money, some chose to install small businesses in Abalak and began a new way of life. Some of those who earned money bought animals and returned to the rural area to take up pastoral life again.

Since these two major droughts and the resulting movements of former pastoralists from the rural area to the city, several droughts (1990, 1994, 2004-2005, and 2008-09) have provoked further movement and uprising. In 1992, the Tuareg Rebellion began as an ideological response to the government's inaction during the 1984 drought. Groups of Tuareg men took up arms primarily due to the inaction of the Nigerien government to reduce the disaster that came from the two great droughts. The National Conference of 1990, convened in collaboration with the French government in order to establish democratic practices within Niger, provided the first formal recognition of the suffering and social upheaval experienced by the pastoralists due to drought. With persistent drought during the years that followed the rebellion, and the continued neglect by the Nigerien government and international aid community, out-migration and social collapse amongst pastoralists continues, unrelenting.

Participant Responses - Abalak

The majority of individuals participating in this study arrived in Abalak less than five years ago, in the aftermath of the drought of 2004 (see Figure 4.0 for profiles of the participants). The average age of the study's participants is 46 years old. The oldest participant is 65 years old, the youngest is 30 years old (all ages were based on approximation, as the majority did not know their actual age). Family size amongst Abalak migrants was small, typically no greater than three children per family. Few of the participants had children of school age. Not a single individual interviewed in Abalak had received any formal schooling outside of the rudimentary Koranic lessons given by parents to children beneath the nomadic tent. For the majority, this was their first time living in town; their entire lives and education had been in the bush.

The majority of participants in the study were entirely reliant upon their animals for their needs (food, clothing, and shelter) during their time in the bush. Everything was purchased through sales of animals in the Abalak market. When asked to describe their former livelihood, most talked fondly of the life they had left behind in the rural area.

Figure 5.2 – Profiles of Participants who have recently settled in Abalak

Migrants (Abalak)								
Participant # ⁶	# of years in Abalak	Former Residence(s)*	Gender	Race	Group ⁷	Age	# of Children	# of Children in School
8	n/a	Tchinbouriya	F	Tuareg	former slave	60	n/a	n/a
9	<5	Aboughayya	M	Tuareg	Keltamerkiss	50	0	0
10	5	Ibazagour, Anouwala, Atarik	M	Arab	Atariknawalen	45	4	1
12	5	Adagah	M	Tuareg	Kelaghalal	33	3	0
13	10	Tagaleit, Libya	M	Tuareg	n/a	30	n/a	n/a
14	5	Ineragan	M	Tuareg	Kelaghalal	65	3	n/a
15	5	n/a	M	Tuareg	Kelaghalal	40	3	0

⁶As stated in the Data Analysis Procedures each participant is represented by a number (#1, #2, etc.)

⁷The term "group" refers to the tribe that the person associates with.

*The following list of former residences represent the area that the person considered home. In most cases this is the winter camp, where the pastoralist or his family may possess a well. Though most of the former residences listed here cannot be found on a map (and determining their location was beyond the abilities of the researcher), all are within the Azawak Valley (save Libya, which is a country north of Niger).

Our life before, there is a lot to tell. The way that I supported my family was animal husbandry. We would eat meat, drink milk, and sometimes we would sell an animal in order to buy cooking oil, millet, or tea. My life depended directly upon my animals (#15).

Formerly, there was a lot of pasture, a lot of animals and many grasses and trees. Now, there is no longer any of that. Before, each evening, I would milk the camels and take enough for all the family. Then, in the morning we would eat millet with milk. You see, because there was a lot of milk! And all of that is finished now because there isn't any more pasture. The pasture is gone because there isn't any rain (#14).

A pastoralist's education is a distinct moral and environmental training including the understanding of the flora, fauna, rainfall patterns, locations of water and pasture necessary for the survival of his family and his animals; though such knowledge cannot secure work in town. Women recited the names of dozens of medicinal herbs that are no longer available. Men listed ten different varieties of grasses that are no longer found in the rural area (based on participants' ages, it's estimated that this loss of herbaceous biodiversity has evolved over the course of the past 20 years). Herding animals and maintaining a life in the rural area requires a detailed understanding of the bush - its biodiversity, climate, water, well locations, and social structures. The pastoralist's connection to nature and his animals is strengthened by the dependent nature of the relationship.

All of the seven participants cited animal loss as the main reason that pushed them to settle in town. "If I am living in the bush without animals, what will I do... to survive" (#9)? When asked what caused the animal loss, the answers correlated directly with slow-onset environmental change.

There is no reason to come into town except that our animals are all dead and the nomadic lifestyle has changed. According to me, what is at the core of the problem that causes the loss of animals is the lack of rainfall. (#15)

Now, there isn't any grass. The animals die because there is nothing left [in the bush]... For many years now we haven't had abundant rainfall. Without sufficient rain, there will not be any grasses... This has been the case last year and also for many years; we have not received a good rain (#9).

It is the changing weather [that causes the lack of milk in animals]. People say that it is because the grass no longer has vitamins. So, it is no longer sufficient for the animals (#8).

Thus, the only choice that many pastoralists have had is to migrate to towns to seek alternative means of supporting the family. "Before, I was a herder. I had my animals. Now, my animals are not longer here [dead]. And, I sought to come into town. I

changed my way of life. That's what brought me here" (#10). This participant, like the majority in Abalak, did not migrate by choice; he moved because his way of life is dependent upon animals, and the animals were gone due to persistent drought.

Those who come from the rural area typically have never before lived and worked in a town setting. "I didn't know anything about the town before coming here... Since I was born, I have been behind⁸ the animals" (#9). An old man who settled in Abalak five years ago stated, "No one [helped me move here]. I trembled the entire way to town" (#14).

Due to the underdeveloped nature of the pastoral zone in Niger (lacking health centers, schools, roads, markets, and abundant or reliable water sources), evidence of migrants seeking access to school, health, water, or markets can be perceived as reasons aligned with globalization and development. Yet, it was difficult to identify any former pastoralists in Abalak who identified with this assumption. Rather, it seems as though most possessed an aversion to staying in town, despite the availability of services.

There is not a single reason to come into town except that our animals are all dead and nomadic life has changed... Here in town there are many people who would like to return to the bush if the environmental situation changes (#15).

If I had animals and if there was pasture, what would I do in town? If I had animals, really I would return [to the bush] (#9).

Now, if I found animals, I would not even spend the night here. I would leave directly for the bush (#10).

While some of these comments may be based on nostalgia, for other participants, an aversion to town was based more in economic difficulties and overall sense of hopelessness.

[Living in town] is a problem for me, because one has to buy everything – water, wood, food, rice, and medicine. And me, I don't have any money. Before, I didn't even know money... I don't even know what I'm doing [for a living] now. I only know it's suffering. Sometimes, I seek out the bigger businessmen in town to take and sell some of their products in order to have the commission... Sometimes, I find millet, sugar, tea, or tobacco, and sometimes even animals. I have been here for five years... even if I wanted to leave I can't because I don't have the means... and I know that everyone who comes to town from the bush has lots of problems because in the bush, we don't have to buy water and wood. So, life is more difficult in town than in the bush (#15).

Now, I make bricks. That is my life. And, if it rains, I will plant something. I don't know if it will produce or not. Anyway, last year I didn't get anything [from farming]. That's why now I make my life with the brick making (#9).

⁸ "Behind the animals" implies herding the animals towards pasture and water sources.

What was apparent in the above two statements was the tone of complacency and hopelessness that each of these men expressed when referring to their “new” life. Lacking work many former pastoralists are forced to seek assistance from relatives or friends. When asked how one gets money if there is a need, one participant responded, “I can sometimes find loans from friends” (#15).

Many former pastoralists, prior to coming into town, take up farming or manage with a very small number of animals until even there is no other choice than to move to town. When speaking about one who had moved into town with the intention of starting a new life, one participant mentioned, “He was courageous. He closed his eyes and made the move. Others, they would not even try” (#13). Even with a few goats and a small plot of marginal farmland, former herders prefer the rural area to the challenges that wait in town.

One of the seven Abalak participants made a deliberate, proactive choice to come into town. In making the choice, he presented reasons based on the deteriorating environmental conditions and possibilities of finding something to keep his family alive in town.

In the past, I was with my animals. I would take them to the well and then, afterwards, take their milk and give it to my family. We would meet all our needs with our animals. Up until the moment that the animals were finished. Before, the money from selling one goat would carry us through an entire month. Now, we couldn't survive one week on that goat... The rainfall has diminished... Before there were many different varieties of vitamin-rich grass that have now disappeared... What the animals eat now does not nourish them. This provokes illnesses for the herd... For 15 years I watched my animals only diminish... I saw that it was no longer possible to live in the bush, so I sold what remained of my animals to install my family in town and start a small business. (#12)

Thus, one could assume from this participant's statements that, due to changes in the environmental conditions, particularly the loss of biodiversity, he perceived that his livelihood was no longer sustainable in the rural area and consequentially sought an alternative (migration to town to start a small boutique).

Common changes to their former environment that were noted by former pastoralists include: water scarcity, conflict over natural resources, environmental degradation, and drought or lack of rainfall. One participant stated that living in the rural area has become more difficult. As a result, the value of animals has decreased (“the sale of one animal no longer sustains the family”). Pastoralists are discouraged about the current state of the environment.

Pastoralists are afraid of the years. They are afraid of what is happening in these years... because there is no grain, no water... they don't know if there's going to be those things in the future. I've seen someone hit someone until the head bleeds because of grass. I've seen someone kill another person over water...[Yet] they want to stay with the cows because that is their life. (#7)

When asked whether they would return were the environmental conditions to change, all of the respondents said yes, except those who were the oldest. The latter cited old age as the reason for not returning to the rural area. “No, I won’t go back [to the bush]. I will look for someone to help me here in town [ask alms of family/friends]. I don’t have the strength for the bush anymore” (#14).

When they were still living in the rural area, the majority of participants were strictly dependent upon their animals for their survival, though a few who had lost all their animals also planted crops before coming into Abalak. “People plant, but they don’t receive anything. We planted a lot [of millet] in our field, but we received nothing” (#8). This statement reflects the challenge facing traditional pastoralists in farming the very marginal lands of the pastoral zone. Though more and more frequently exploited for farming, is not suitable for agriculture, nor is it legal to plant in this zone (*Code Rural 1961*). Nearly all of the participants implied that their lives in the rural area are dependent upon the presence of animals, without which, they have no choice other than to plant or migrate to town. As said in the Tuareg language, Tamashek: *Amman imman, ehare tamidourt* (water is life, having animals is living).

Six out of seven participants indicated that diminishing supplies of milk had significantly affected their livelihoods in the rural area. “We used to have an abundance of milk, then there was less and less” (#9). The number of cows necessary to produce enough milk to sustain the family has increased over the past twenty years (see Chart 4.1). According to participants, the average number of cows necessary to live in the rural area (on their milk) used to be one. On average, this has increased to seven cows needed to sustain one’s household. Also, the milk that the cows are giving lacks fat and tastes different than before, according to two participants. As a result, families must go to town to purchase cereals (rice, millet, sauce-making ingredients) to supplement the milk that is missing from their diet.

Chart 5.2 Changes in milk production of cows (the views of 3 participants)

	Before Environmental Change	After Environmental Change
Participant #9	1 cow provides milk for entire family	100* cows are necessary for the same amount of milk as before
Participant #8	5 cows provide milk for entire family	10 cows are necessary for the same amount of milk as before
Participant #7	1 cow provide milk for entire family	10 cows are necessary for the same amount of milk as before

*This is most likely an exaggeration, but is included to demonstrate the degree of exasperation.

Statements about the environmental challenges affecting their livelihoods included: the lack of pasture (100 percent), lack of rain (85 percent), and less diversity of grasses (or less vitamin-rich grasses) (57 percent). There are trees, grasses, birds, fruits, vegetables that are no longer found in the Azawak. This is due to the changes in the temperature and the lack of rainfall. And, without this alimentation, the cows are no longer producing milk as before. Also, animals fall sick more easily. And, when the animals are sick the milk is reserved for the calves. Thus, the environment isn’t able to support the lifestyle of a herder. As one former pastoralist stated, “herders have a lot of worries now in relation to the environment” (#7).

Lacking pasture to sustain their animals, participants mentioned two alternative methods of feeding their herds: buying hay or millet stalks in towns or giving animals of their silage (if they also had a farm). One participant pointed out that this fodder for sale is being cut in the pastoral zone and sold back to herders (8). This year, due especially to the drought in 2009, a sack of animal fodder costs the same price as a healthy, female goat. Millet was being sold to Abalak residents at subsidized prices due to last year's drought. However, few former pastoralists benefited from the handouts.⁹

When drought conditions strike Niger, there is typically an international and national response. However, such aid is rarely targeted to assist pastoralists in maintaining their livelihoods. Of those interviewed, only one participant (#14) stated that he had received any aid from the government or non-governmental projects. When asked this question, two responded by pointing out that one must help oneself ("each man with his elbows").

At the same time, several participants referred to the fact that government policies often favor agriculture over pastoral livelihoods. One participant spoke about the increasing numbers of pastoralists coming up from southern Nigeria to herd their animals in the Azawak during the rainy season and depart to the south after the harvest (#13). Several mentioned that people profit from pastoralists by harvesting the grasses and then re-selling them to pastoralists during the *soudure* (hot season when food is scarce), when there is nothing to eat (#9, #13). Such exploitation of the pasture contributes to lack of animal fodder as well. Yet, mostly all the participants attributed the reduced grasses to a lack of rainfall.

During the *soudure* or hungry season (May – July, typically), finding pasture becomes especially challenging for herders. If buying supplemental products in town (such as the grasses exploited by opportunists) is not feasible (for instance they haven't enough animals to sell), herders will travel long distances in search of pasture. When asked how their animals died, all of the participants stated reasons related to lack of pasture in the rural area (also mentioned: starvation, lack of vitamin-rich grasses). Others mentioned lack of rainfall, sickness, and God's will as contributing factors to animal loss. When asked how many animals a pastoralist's family needs to stay in the rural area, responses varied from "50 cows, 100 goats, and 200 lambs" to "30 cows" to "40 goats and 3 cows or female camels." The most modest assessment was "5 good milking camels."

Water as well has become scarce due to the changing environmental conditions. The changing weather is clear. Everyone is aware of it. Because, before, there was lots of pasture and lots of rain. And, when there is a lot of rain we can have what is called ibinkar in the dry season. This means that even the small wells give water all throughout the dry season. And now, since there is no more rain, there is no ibinkar... the rainfall diminishes

⁹ In the Tuareg culture, one's honor is everything. Waiting in line to accept subsidized millet publicizes a Tuareg's loss of status. Most Tuareg would wait in line only out of sheer desperation. So, despite the challenges facing Tuareg families, many did not receive aid in Abalak. Such cultural norms of the pastoral groups are rarely taken into consideration by many of the aid programs.

every year. (#15)

Most participants mentioned deep wells as their primary source of water. Due to the number of people utilizing the well, often women will depart in search of water early in the morning (estimated 5 am) and not return until just before dusk. Both the distance between pasture and the depth of the wells (“donkeys get tired and die pulling out water”) affected participants.

Despite all these challenges to living in the rural area, most participants expressed that they loathed town life (“here everything costs money, even water we have to pay for” [#15]) and wished to return to the rural area as soon as they could reconstitute their herds. Very few mentioned that they would move again soon, mostly due to a lack of financial resources or old age. One participant mentioned that if he could not support his family (lack of human security) in Abalak, he would be forced to leave for a larger city. Very few mentioned that they might move again, the reasons aligning with either old age (lacking energy) or a lack of financial resources to move.

Oral History of Dillafata (pastoral zone near Abalak)

Nearly eleven years ago the project Jeunesse En Mission Entraide et Développement (JEMED) established a fixation point¹⁰, which is a center for education, commerce, and food security for WoDaaBe Fulani called Dillafata. Located on a dusty road 23.28 kilometers southwest from Abalak, Dillafata began with the construction of a well (by JEMED) in 1999. Since then, 110 households of true nomads who have recently left 100 percent nomadism consider their “home” to be Dillafata. Of these households, nearly all of the individuals still take care of animals during part or all of the year, meaning that they are nomadic or semi-nomadic pastoralists. A small percentage (about 20 households) have permanently established a home in Dillafata. The project, whose aim is climate adaptation for pastoralists, has assisted with food security projects, education, and relief efforts for pastoralists in the region, using Dillafata as a center.

Dillafata consists of 20 mud brick homes, situated around a cement school, a small boutique (selling household items), a cement grain bank, a cement fodder bank, and a well (all but the homes were constructed through support from the project JEMED). Not far from the village is a seasonal lake, which becomes the village water source during the rainy season due to the depth and difficulty of the village well. In the vicinity of Dillafata there are ten ponds, two of which have water up to three months after the end of the rainy season. The remaining ponds typically dry out only a month after the rains cease. Families have settled in Dillafata for many reasons including: to participate in JEMED’s programs, because they have lost all their animals, to send their children to school, or for social reasons.

Though Dillafata is a fixation point and not a town, the demographic makeup of

¹⁰As part of its long term development plan, JEMED establishes fixation points made up of physical and social structures in areas typically inhabited by nomadic groups during some portion of the year. Their aim is to allow the population to retain a mobile, semi-nomadic lifestyle around the fixation point.

residents is semi-pastoralists, true pastoralists, and a few sedentary farmers. Everyone in Dillafata still owns animals. To WoDaaBe Fulani herders, owning and moving with one's animals is equivalent to being WoDaaBe. Those who no longer take care of animals have adopted agricultural activities (3 percent). Others take part in small commerce activities, such as the boutique in Dillafata (6 percent). The major source of income for the semi-pastoral residents of Dillafata is labor migration or *exode* (30 percent). This year, as with most lean years during the dry season, every household sent at least one person south to Nigeria (or Mali) to earn money selling traditional medicine, braiding hair, carving calabash bowls, or performing other work. When herders migrate to find work or leave on *exode*, they typically give their animals to someone else to care for them. Those on *exode* typically return to Dillafata once the rains begin again.

The population of WoDaaBe semi-pastoralists in Dillafata are quickly adapting to the impacts of climate change. Though the individuals interviewed consisted of both true and semi-pastoralists, for purposes of this study they are considered non-migrants.¹¹ Their main difficulties in the rural area are with third party transitory herders (Woodke 2005), those individuals hired to temporarily shepherd the animals owned by agriculturalists of the southern Sahel during the growing season. To avoid the farms of the south, herders penetrate the pastoral zone and exploit the pasture during the rainy season, to return to the southerly agricultural zone after the harvest. These herders are increasingly a source of conflict over water and pasture resources for true pastoralists, as it is perceived that they destroy the pastoralist's natural resource base.¹² Ironically, in the past it was the WoDaaBe Fulani who conflicted with the Tuareg over the common pastoral zone. Now that the residents of Dillafata are fixed, and this is due primarily to environmental degradation, they loathe the actions of these transitory herders (who are contributing to the degradation). Such transitory herding is tolerated due to tribal lines and traditions of hospitality. All the same, nearly everyone the researcher encountered (experts and residents) in Dillafata mentioned this problem of conflict with transitory herders or others exploiting the natural resources.

Participant Responses - Dillafata

The participants in Dillafata were mostly true nomads or semi-nomadic pastoralists. They were all non-migrants due to the fact that they were still living in an area that had been heavily degraded. What is more, some of them had taken up farming on very marginal land.

All of the respondents spoke favorably of the project, explaining that it has allowed them to continue living in rural area and prevented some from traveling south to Nigeria on *exode*. The average age of participants is 36; the average number of children is two. Participants' responses may have been biased due to perceptions that the researcher could influence the project's decisions and development programs. This has been

¹¹ In the EACH-FOR framework, non-migrants are those individuals who have not moved into a town or city center, but, rather have remained in the rural areas (see Definitions).

¹² This practice was noted as early as 1940 (Marty, 1989) but has greatly increased in the last 10 years (Woodke 2005).

accounted for in the analysis.

Figure 5.4 Profiles of Non-Migrant Participants living near Abalak (Dillafata)

Non-Migrants (WoDaaBe Village Dillafata – Outside Abalak)								
#	# yrs in Current Residence	Former Residence(s)*	Gender	Race	Group	Age	# of Children	# of Children in School
5	5	n/a	F	WoDaaBe	Kojankoni	30	0	0
6	7	n/a	F	WoDaaBe	Bikoronin	30	4	n/a
7	8	n/a	M	WoDaaBe	Bikoronin	50	1	0

*All of the participants lived in the rural area as nomads prior to coming to the JEMED center at Dillafata. The male participant (#8) still lives in the rural area with his animals, but considers Dillafata his “home.”

When asked what they do in Dillafata, all three participants responded by saying that they have no work there. One woman used to sell cheese from the milk of her animals; now, there is not enough milk to do so. The second woman used to travel south to Nigeria to sell traditional medicine. The man explained that he can find work in Ghana or Nigeria carving out calabash bowls, but otherwise, he has no work in Dillafata other than herding his animals. “The cows do not have any food. I don’t have any other work that I know how to do, so I have to walk far to find where the grass is” (#7).

All of these non-migrants shared the stories of those people that “the bush refused” (#7), as termed by one participant to describe those who left the bush. This year alone, twenty people were reported to have left to travel to other countries and work. Reasons stated for leaving the pastoral area (and settling in Dillafata or migrating to other countries on *exode* or permanently) were directly aligned with environmental change. These included water scarcity, conflict over grass or water resources, environmental degradation, and famine. Participants #7 and #6 stated reasons for going to Nigeria:

If you can, you find water and you look for where the grass is and find that [for your cows]. If you can't, you are obligated to go to other countries and look – Nigeria, etc (#7).

[Those who left] had problems here... The reason they leave is because there isn't any food. If there's no food, cows, animals, they have to go and find something for their children (#6).

Conditions reported back from *exode* areas are not favorable. Participants reported that they or those they knew were harassed, beaten or thrown in jail, “but they go because they have to (#5)”. Leaving is not preferable, due to the risks of leaving behind one’s family and animals, the latter of which are often neglected by the remaining shepherds.

A true nomad still living with his animals in the rural area, Participant #7 listed the names of ten different grasses that used to exist, but that have since disappeared. He explained what changes he had seen in the environment during his lifetime wandering in the bush.

Before we would have rain for three months and it would always fall and we would have good, tall grass and all the plants would come to fruition.

But, now, it only rains a handful of times, maybe ten times, maybe five times, I don't know... There is no rain and there is a lot more wind. There are also trees that use to be here that I do not see anymore. Rain, wind, heat has killed the trees (#7).

The non-migrants expressed a keen understanding of the land, its biodiversity, and the elements of climate (sun, heat, dust, wind, lack of rainfall) that were contributing to the degradation of the environment, losses of biodiversity, human and animal death, and sickness. One participant explained that the sun even makes people sick now, and this is a new phenomenon. Dust also contributes to animal illnesses, and there is less diversity of and less vitamin-rich grasses. As a result, the milk production has decreased, one cow produces used to produce the amount of milk 10 cows produce today. In order to sustain the animals, it's necessary to buy products (such as the shaft or byproduct of millet threshing) in town. Peoples' diets have changed as well from primarily milk to primarily cereals (which must be bought, as opposed to milk, which comes from their animals). All three participants stated that the environmental problems causing their departure are due to less frequent rainfall. Participant #6 summarized her observations of environmental change as follows:

There used to be lots of trees. Now, there are some trees you can't even find anymore, that people don't even know what they are anymore. It used to be that one cow would have so much milk that you would be filled from one cow. People used to not eat much millet, they would just live mostly off of milk and they would never have sauce. Now, people eat mostly millet and sauce... [There is not enough milk] because there's not enough grass. Now, they need you to buy sanyo and other food stocks for their cows and it's very expensive. [There is less grass] because the rain has stopped.

For those in Dillafata who have planted crops, they are not receiving much from their efforts because there is not enough rain to produce grain for the household. Referring to her crop production, one woman said, "The rain isn't enough because there are a lot of people in the house (a lot of mouths to feed). There is not enough" (#5) Participants used to take part in other commercial activities, such as embroidery, carving calabashes, or other artistic items. Now, due to the problems of buying fodder (for animals) and food (for their families), the income is not enough to cover all the costs. "Because there are so many problems, you're always thinking about what you'll do to get food for your family" (#5).

Non-migrants are also observing conflicts over water, pasture, and other scarce natural resources.

I've seen someone hit another (until his head bleeds) because of grass. I've seen someone kill another person over water. I've seen someone cut the shoulder of another person because of grass and water... [Why?]... If you're thirsty and you feel like you're going to die of thirst and you don't know what to do so you go to the well. The owner of the well says you can't have any. But, you're dying of thirst so you start getting water anyway. Then, the owner starts fighting with you (#7).

One participant (#7) explained that the government is part of what is causing conflicts, due to the lack of management of the pastoral zone. Anyone is allowed to come and cut down grass and take it to the cities to sell. But, then there is not enough left for the animals of the residents of places like Dillafata. "When the WoDaaBe say 'No, you can't do that' to the Hausa people [cutting down grass], then that brings fights" (#7). Despite violence in the pastoral zone, one participant denied that this caused people to leave. "They want to stay with their cows, because that's their life" (#7).

Fortunately for the residents in Dillafata, the project has assisted them to the extent that they can stay in the bush and maintain a similar lifestyle to pastoralism. Not a single participant in Dillafata mentioned that the government had assisted with their problems. When asked if JEMED would help them in the future, some felt that was dependent upon her own individual effort to participate in JEMED's programs. "People want to move forward, they don't want to be stuck in the past" (#5). As a result, these true and former pastoralists are now increasingly expressing the importance of sending their children to school, if the environmental conditions allow them to stay in Dillafata (instead of leaving on *exode*).

History of Niamey

Niamey is the largest city and the capital of Niger. Situated along the Niger River, Niamey is located in the arable zone in the most southwesterly region of the country. The city is home to at least 750,000 people (INS, 2005), a population that increases at a yearly rate of 4.8 percent. The industrial and commercial capital of the country, Niamey is home to a large community of expatriates, an elite class of Nigériens, working class Nigériens, and rural-urban migrants seeking opportunities.

Surrounded by the traffic, pavement, noise, restaurants, and wide diversity of modern pursuits and economic opportunities, it is tempting to forget the bush in search of the good life. A melting pot of West African and expatriate culture, food, and services, Niamey presents relative luxury when juxtaposed with the bush of Abalak.

The economic opportunities for former pastoralists are not plentiful. Many former Tuareg and WoDaaBe herders encounter harassment and discrimination in the capital. Similar to their former work as guardians of animals, pastoralists have easily fallen into the niche of guarding buildings in Niamey (schools, businesses, institutes, etc.). This also gives them easier access to city services, as they are able to set up their tents and households in the compound outside the building they are guarding.

Others, who are unable to legally secure a plot of land in Niamey, are not as fortunate. In an area called Chateau Un, several large plots of land used to be covered with makeshift structures, tents, and other temporary dwellings of rural-urban migrants. During several occasions in 2007, the entire plot (at least 2 hectares in size) was "accidentally" burned to the ground. This method for chasing out squatters is commonly used by the government or other land owners throughout the capital. Yet, the cost of land in Niamey is well out of the range of affordability for the former pastoralists.

Participant Responses - Niamey

In Niamey, Tuareg and WoDaaBe families are typically larger than in the bush, with greater numbers of children in school. The average profile of the Niamey participants is as follows: 40 years old, six children, and four children in school. When compared to their counterparts who are living in the town of Abalak, the family size is twice as large in Niger's capital.

Figure 5.6 Profiles of Individual Participants living in Niamey

Migrants (Niamey)								
#	Current Residence (# yrs)	Former Residence(s)*	Gender	Race	Group	Age	# of Children	# of Children in School
16	10	Kiribati	M	Tuareg	Kelassouk	50	8	4
17	n/a	Akebounou	M	Tuareg	Inaden	41	5	3
18	10	Idouk	F	Tuareg	Kelaghalal	40	7	4
19	15	Gendarma	M	WoDaaBe	Kojankone	40	8	4
20	n/a	Tadabayliss	M	WoDaaBe	Kojaikor	30	3	3

* The following names are locations in the Department of Abalak.

The five participants interviewed in Niamey (made up of a mixture of Tuareg and WoDaaBe former pastoralists), the majority of which held jobs as guardians. Several also worked as artisans and one woman was not employed. While the majority of participants expressed nostalgia for *ehare* (having animals), several, especially young people easily disdained the rural life as too difficult. Instead, they prefer the ease and facility of the city. As one participant stated:

I'm going to tell you something. You can't compare ease to difficulty. For example, here, my children all have access to schooling. I even have a daughter who is in collège [middle school]. And, thanks to God, each morning, I am able to give them something with which they can buy their needs (money). All this would not be possible in the bush. (#17)

One female participant lived on an undeveloped plot in Niamey. Having grown up beneath the *ehan* (tent) of the Azawak, she expressed deep nostalgia for the bush. "It's only an obligation that we live within four walls." Her family had moved to Niamey ten years before, yet they had only spent one year in their current compound. When developers wish to build on the plot of land, they will be forced yet again to search for a new home.

The reasons that originally brought former pastoralists to the city are for the most part similar to those that brought settlers to Abalak or Dillafata – environmental change.

Before, there were many animals and pasture. Then, the drought arrived and there was no more rain, the rain had diminished. So, people left the

bush, some going to Libya and others to Chad and other to Nigeria. And some, like us, moved towards the cities (#16).

As have other former pastoralists, those who settled in Niamey mentioned drought, environmental degradation, animal loss, famine, and difficulties in the rural area as primary reasons for their migration to Niamey.

Yet these participants mentioned many other reasons aside from environmental degradation that impelled them to move to Niamey. One stated (#16) that the lack of government or project support prevented them from overcoming their challenges in the rural areas. Several participants (#19, #20) stated that they chose to come to Niamey because of relatives or friends moving to or already living in the city. The female participant mentioned that she came to Niamey following her familial relations (#18).

Unlike the migrants in Abalak, Niamey settlers stated that they moved to have access schools and jobs, international markets (for artisan's crafts), social connections, and overall better conditions. Also, several Niamey participants stated that they had not considered moving again. The availability of jobs in the city was the primary reason for staying in Niamey.

What brings people into town is that they have realized that they can quickly earn money, send their [artisanal] work to Europe and then return back to their home in the bush... In the city, it's easy to find something to eat or drink. In the bush, it's necessary to go to the market and sell animals in order to buy food to eat. But here, I just go next door to buy some food. It's the easy life! (#17).

Others had negative views of city life, especially when referring to their former lives in the bush.

There's nothing here in the city. You wake up in the morning to look for something to eat. If you find something, you return and eat it. If you do not, you sit in your hunger. In the bush, during the time when we had enough milk, everyone received. In town, it's never sure if you will eat or not (#18).

The responses of Niamey settlers were mixed with nostalgia, a desire to return to the rural area, and also a desire for a life of ease. While most of the participants favored their lives in town to the difficulties of the bush, almost all stated that they would return to the bush if they had animals. "I came to the city to get money. If I find enough, maybe I'll go buy animals and go back" (#19). "If I get even three cows, I'd return to the bush... Yet, I'm among those who love luxury and ease [of the city]" (#17). Contradictions like the latter statement were stated in subtle ways during the discussions with Niamey participants. Half of the participants in Niamey stated that they sent home animals and money to their families who remained in the rural area.

Though participants sometimes referred to the environmental degradation they encountered in their former areas (all were originally from the Azawak Valley), such comments were less prevalent than in the Abalak and Dillafata interviews. Most simply

indicated that the root cause for leaving the bush is environmental degradation. Few mentioned details about water, pasture, or other forms of natural resource scarcity.

Q: What environmental problems did you observe in the bush?

A: The problem is people were always selling their animals to eat... because there is no grass because there is no rain.

Q: Did you move because of the lack of pasture and rainfall?

A: No, I don't think that is really the reason. Even if there were enough rain, I would still come [to Niamey]. Here it is easier because I am a guard and I get a salary... But, if I find a way, the bush is where I'd rather be. (#20).

DISCUSSION

From the perspective of former pastoralists in Niger, infrequent rainfall, heat waves, loss of biodiversity, and overall changes in the environment are the reasons contributing to the former pastoralists' decisions to migrate to town. The following analysis uses the EACH-FOR framework as a conceptual reference point. Based on the responses of participants, the analysis explains the levels and prevalence of environmentally induced migration occurring in the areas of research (Abalak and Niamey).

Profile of Migrants

The pastoralists who are migrating out of the bush are on average 45 years old. These individuals typically are married, with an average of 3 children, one of school age. Unlike typical exodus migrants (one household member aged 15-50 migrates) (EACH-FOR), the pastoralists are migrating with their entire families from the bush to town. Pastoralists who migrate from the pastoral area often have little or no experience working in an urban setting. The typical profile is: illiterate, uneducated, and lacking an understanding of civic life (most do not possess an identity card). While some are finding work (especially in Niamey), many are struggling to meet their family's needs in what they regard as undignified forms of labor, farming on marginal land, or borrowing money/begging to meet their needs (or sometimes to start small businesses). What creates the most difficulty for migrants is that it is often their first time living in town. Thus, such rural-urban migration equates to an entire socio-economic shift for the pastoralist from a life of animal husbandry to a new and different way of life. The difference in the profile of Abalak migrants and Niamey migrants is not their socio-economic profile but their reasons (push and pull factors) for migration to town. As has been shown in the results, the majority of participants, especially those from Abalak, named environmental reasons for their migration.

Key Factors Influencing Migration

Due to the significant number of participants that identified the environment as one of the causes for their migration, it was clear that persistent environmental change is playing an important, if not leading role in migration. Loss of animals was most frequently cited as the reason for coming to town (even for those in Niamey). When asking about the reasons for such losses, the whole host of environmental factors appeared: lack of rainfall, environmental degradation, drought, lack of pasture, conflict over natural resources, and overall difficulties surviving in the bush. Life in the pastoral

zone is increasingly difficult, causing many to give up on this way of life and either strategically make the shift to town or be forced by circumstances to seek assistance and labor in town.

Such forced migration is defined (according to the EACH-FOR framework) as environmental displacement. The literature cites that pastoralists are able to withstand many environmental extremes due to their mobility (McLeman and Smit 2006, Henry, Sabine et al 2004). Yet during the past 40 years, environmental conditions, coupled with the overall mismanagement of the pastoralist zone's natural resources, have pushed pastoralists to the brink. For the majority of participants, migration to town or *exode* was not a choice, as shown both by the reasons for their departure, famine circumstances at home, as well as the high levels of nostalgia for the former lifestyle in the bush. Due to the involuntary nature of their migration, the majority of participants (namely those in Abalak) fit the definition for environmental displacees.

One respondent (#12) in Abalak made a proactive plan to leave his life in pastoralism, based on increasing evidence of unfavorable environmental conditions. He strategically sold off some of his animals to purchase land, as a result of 15 years of observing his stock of animals decrease. While this may be seen as a purely economic choice, the participant's comments highlighted the fact that this was a last resort due to environmental changes, not an economic choice. This individual's choice reflects the EACH-FOR definition of environmental migrant (proactive migrant).

In contrast, the decisions for migration to Niamey often reflected more economic motivations than environmental push factors. Several mentioned that they had migrated to another place prior to arriving in Niamey. While their initial decision to move out to the pastoral zone was based on animal loss or drought, their second decision (moving to Niamey) was to improve their overall conditions, have access to schools, and obtain greater economic opportunities. Thus, several of the participants in Niamey did not reflect environmentally-induced migration. These individuals reflect the definition of economic migrants.

Changes in Ecosystem Services

An evolution is occurring in the Azawak Valley. Triggered by a lack of rainfall, the grasses and trees that used to be abundant in the region have diminished along with the number of animals that support the pastoralist livelihood. Plants that treat sickness, trees that fatten camels, grasses that give vitamins to herds all have disappeared. This loss of biodiversity has been equated to the lack of rainfall in the Azawak. For humans this means less nutritious pasture for their herd, less available water for humans and animals, scarcity of natural resources, and the heightened frequency of conflicts.

Additional human influence may increase degradation of the environment due to a general mismanagement of the pastoral zone. Opportunists cut down trees and grasses for fuel wood and fodder, transporting these goods to town for sale. Transitory herders from Nigeria and southern Niger penetrate Niger's pastoral zone during the rainy season, when the native pastoralists are in the north. These herders return

southward when the farming season is over. What remains of the pasture must sustain the herders for the long nine-month dry season, especially due to limitations on their mobility caused by agricultural lands to the south and the Sahara desert to the north. What is more, as natural resources become more and more scarce, neighbors are less likely to support one another, and conflict ensues.

Natural causes for the environmental degradation are based mostly on the changing patterns of rainfall. Rain no longer covers the land in the way it once did. Also, there are often long periods of time between rainfall, meaning that the initial grass starts and then dies due to desiccation. Heat is also a factor, killing certain species of trees and grasses and importing locusts and other insects, which feed on the natural resources and, sometimes carry diseases.

Location of Migration

The majority of former pastoralists migrate within Niger's borders. However, in the three research areas there were references to labor migration or *exode*. This seemed to be especially a necessity for those people living in Dillafata, who, when pushed by drastic environmental circumstances often migrated to find jobs in Nigeria or other countries.

Circumstances upon Arrival

For the majority of participants, they began their migration into town with very few resources to reestablish a new livelihood. Typically, when faced with drought or other challenging environmental circumstances, pastoralists tend to hold onto their animals despite the worsening conditions. As a result, when natural resources become more scarce or unavailable, the result is great losses to one's herd. In most cases, herders have had no other choice than to migrate into town. While some former pastoralists come to town with some means to purchase land and create a sedentary home, many more take up residence on others' land. Thus, these individuals are without capital, without land, and extremely vulnerable.

Preventative Coping Mechanisms

Prior to leaving the bush, there are many methods of coping with drought, water shortages, lack of pasture, and environmental extremes. Mobility is a pastoralists' first defense against difficulty coming from scarcity. Yet, due to the need to buy cereals to supplement the pastoralists' diet, it is difficult to travel too far from home with the entire family.

Thus, as a second resort, a herder will leave his family and his tent and go off with the animals in search of pasture. This journey is very arduous as the herder typically sleeps alongside his animals in the open. When such large mobility fails to locate the necessary alimentation for the animals, the herder is forced to sell some of his herd to buy food to save the rest. As a result of the drought this year (2010), the cost of animal feed has exceeded the cost of a healthy, female goat in Abalak.

When a herder's animals do not survive, there are still alternatives available to him before migrating to town becomes necessary. For instance, many former herders have

built homes and congregated in small hamlets in the bush. Here, they plant crops (despite the Rural Code that forbids planting in the pastoral zone, many are finding this is necessary as a last resort). Typically, the production is very low, as the soil content and rainfall availability in the pastoral zone are not suitable for agriculture.

Not a single participant mentioned getting support from the government at any stage of coping with environmental change. Those who have increased civic awareness (participants who had spent longer than ten years in town) mentioned the government's shortfalls during the periods of drought. Others (more recent migrants) made statements pointing out the need for each person to find what they need on their own (without outside help).

New Modes of Survival

While some are modeling a new cultural framework in town, others are constantly looking backward to what they left behind. The element of complacency amongst respondents was clearly apparent. In town, despite the possibility of greater ease and luxury, one must pay for everything. Some participants used money so infrequently that the new economic modes of town life were foreign to them. What's more, without capital, they cannot leave to find something different nor can they go to return to their lives in the bush.

The one hope that was prevalent amongst most of the participants was the desire to send their children to school. For former pastoralists, who throughout their history mistrusted formalized education, this acceptance exemplifies both an element of globalization and a cultural shift.

The prevalence of remittances from those who are in town sustains family members who have remained in the rural area, without which they might not be able to hold onto their livelihood in the bush. It would be rare to find a family in Dillafata, for instance, that did not have someone supporting them in Nigeria, Mali, Ghana, or another country. Though more research is needed on the remittance system as it relates to pastoralism in Niger, the importance of this support to participants was evident in all the responses.

CONCLUSION AND RECOMMENDATIONS

Environmental change, with climate change as a proximate cause over the past 40 years is contributing to greater vulnerability and social collapse in the pastoralist society of Abalak, Niger. Environmental displacement and migration, defined by people who are forced or chose to move from their usual place of residence primarily for environmental concerns, is prevalent in the area of this case study, Abalak, Niger. The reason that pastoralists are migrating is primarily due to the decrease in their animals stocks. However, the proximate causes to animal losses are all related to environmental change. Drought, water and pasture scarcity, and increasing pressure and conflict over the common pastoral areas of Niger have created a conundrum for herders and for policy makers. To adapt to these environmental changes, which are also influenced by overall mismanagement of the pastoral zone, pastoralists in the Azawak Valley are migrating to towns, as has been shown through this case study of

Abalak and Niamey, Niger.

“The communities of Sahelian pastoralists were not waiting for the first alarm bells to sound before reacting, because they were already the direct victims of this phenomenon [climate change]. They adapt because their lives depend upon it... pastoralists today are the most exposed to the changes in climate for which they are the least responsible” (Aboubacrine 2008, p. 8).

Indeed the collapse of the pastoral system in Niger is nothing new. The pastoralists of Niger have experienced some of the greatest blows from environmental change during the two great droughts in the 70s and 80s, especially since their livelihood is directly dependent upon rainfall to nourish the marginal lands they inhabit. Yet as illustrated in the following recommendations, with concerted effort, the mismanagement of the pastoral system can be reversed. After uranium, livestock are Niger’s most lucrative export. The pastoralists of the Azawak Valley, who are experts in animal husbandry, sustain this important market. What is more, the human security of an entire population is at risk. Based on the 2010 drought, it is likely that the number of environmental migrants or displacees will increase, increasing the demand for unskilled labor in urban centers and the likelihood for violent conflict. Thus, the efforts to support the adaptation of pastoralists in the face of environmental change are paramount for both the economic viability and sustainable peace and human security of the nation.

The pastoralists’ migration and resulting departure from their way of life was not a choice, but forced by challenging environmental conditions that caused the loss of the one thing that sustained them – their animals. What remains to be seen is how the world will respond, if at all.

Recommendations

- Local, regional, and national officials must work with both male and female leaders in the pastoral communities to establish sustainable, regenerative, and appropriate development programs in the Azawak valley.
- The early warning system¹³ must be revised to include early and informative preventative measures for pastoralists and their herds
- New pastoral code that better represents the pastoralists’ lifestyle and the management of Niger’s pastoral area
- The creation of fixation points (similar to those of JEMED) that provide greater access to water, improving training on fodder bank systems, regenerating degraded land and renewing forests
- Conduct more intricate case study involving a wider range of current nomads and communities in sedentary villages

Afifi, T. (2009). Case study report on Niger for the Environmental Change and Forced Migration Scenarios Project. <http://www.each-for.eu/>, p.26.

¹³ The current early warning systems prevents food crises by stock piling millet for human consumption. Only when the system reaches its most critical level do national and international partners support herders with emergency animal fodder.

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