

The impact of increased food prices on rural-urban-rural relationships. The case of Eastern Sudan.

By

**Zeremariam Fre (PhD) Team leader,
Mirghani Ibnoaf (PhD) Senior Researcher, and
Hiroshi Kuwata (MSc) Researcher
(PENHA)**

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ABSTRACT

The global increase of food prices in 2007 has to a degree affected the Sudan like so many other nations and has been a subject of discussion at the national level. However, in the case of the Sudan the food prices increase has happened over a much longer time frame and it is difficult to trace its roots in the current world food crisis.

Price increases in essential imported commodities such as food stuffs, e.g. wheat, are reflected in local prices in the cities but there are also marked increases in locally produced staple foods particularly sorghum which is the most important locally produced food item as far as the rural and urban poor are concerned.

The Eastern Region of the Sudan in general and the Kassala State in particular, which are main focus of this study, reveal that the underlying causes for the current local grain price rises have more to do with internal distribution systems, accessibility and policy issues than external factors such as increases in international food prices. Getting reliable information on such issues is politically very sensitive and therefore difficult to obtain.

The Eastern Region and particularly the Gadarif State is considered to be the breadbasket for the whole of Sudan and the Eastern Region is more than able to feed itself. It is beyond the scope of this study to analyse all the underlying factors that led to a situation in which a food surplus region in general suffers from food insecurity. The Eastern Region produces 23% of the total grain production for Sudan.

This study which is mostly based on findings from Kassala State which revealed the following:

- There is a major livelihood transformation among the pastoral communities who are symbiotically linked to urban communities to the benefit of the rural-urban poor. However, we have found very little evidence that the sedenterisation and urbanisation process is driven by the international food price increases.
- For livestock owners both rural and peri-urban the availability of animal food is the critical factor in securing their food security. Animal food is the second most important purchase along with human food for the livestock owning population who are the main producers of meat and milk for the urban centres. The terms of trade at present are not in the favour of livestock owners and that are adding to their economic and social vulnerability.
- From a policy and knowledge perspective at State and Federal levels there is very little understanding as to how the above mentioned rural-urban symbiotic relationships operate to benefit the rural-urban poor. The premise for intervention, be it in food security or other development spheres, is based upon rural-urban dichotomy which stresses the artificial rural-urban divide. There is thus a huge information gap, which needs to be bridged by fresh research that seriously looks at the urban-rural dynamics more seriously.

The authors of this report are of the view that there are a number of opportunities to enhance local food security by putting in place rural-urban inclusive policies which should include: more investment on the livestock sector, more investment on animal fodder, improving the local market infrastructure, revitalising the private sector, introducing better milk/meat processing technologies for home and abroad.

1. Introduction

1.1 The purpose of the study

This paper intends to provide some indicators of the negative (or positive) impacts of food prices, world wide and nation wide, on the livelihoods of poor communities in Sudan in general and in Eastern Sudan in particular. The policy issues will address government interventions to improve these impacts and highlight the implementation of these policies and their effectiveness.

For the case study in Eastern Sudan reference will be made to vital statistics including population assets. Within the framework of food security, food availability, accessibility and affordability will be highlighted. Relevant local adaptation strategies used by poor communities will also be discussed within the limits of the available data.

The relationship between urban and rural communities as evidenced by marketing channels, employment opportunities and conflict resolution mechanisms of the native administration will be briefly analysed thus giving the case study a broader cross border and national context.

Environmental degradation and climate change effects on food availability, prices and livelihoods within these communities will also be considered, both in their broad aspects and by focusing on policies related to the national adaptation plans.

In view of the above indicators some conclusions, lessons learned and possible recommendations will be drawn in an attempt to link the case study to the more general papers being prepared as part of this series.

During the course of the study and especially during the fieldwork the authors were privileged to have greater insights to study in some depth the survival strategies of the rural-urban communities concerned and the socio-economic interactions among them. Food, food security, evolving livelihoods and urbanisation are among our central themes. Because of these new insights the study may have shifted its focus from international food price increases towards urban-rural livelihoods, livelihood evolution etc., while maintaining the focus on food security, food prices based on livestock as the key economic asset.

Main research questions

1. What have been the historically important food issues of Eastern Sudan, with a particular emphasis on rural-urban relations?

2. How does the current livelihood evolution/adaptation (from pastoral nomadism to sedentarisation) impact upon urban-rural relationships and food prices?
3. How did the recent international food price increases affect food problems and entitlements in Sudan (in the context of rural-urban differences and relations)? Who has benefited, who has lost, and what strategies have been deployed at Federal and State level?
4. How does the cross border food trade between Sudan and Eritrea impact positively or negatively upon rural-urban-rural relationships?
5. To what extent have the impacts of the food prices been the result of government policies (with a particular emphasis on policies with rural-urban dimensions)?
6. What does this imply about future vulnerabilities, given the uncertainty in future of international food prices?

We hope our paper will contribute to better understanding that the resilient communities at the grassroots level in Eastern Sudan are less affected by international food prices but suffer more as the result internal/national policies over which they may have very little control.

1.2 The scope of the study and data limitations

The study is not a baseline study on the impact of increased international food prices on rural-urban interactions and as a case study has a limited scope. The Eastern Sudan region in particular suffers from paucity of information given the limited manpower capacity but the researchers were able to compliment the scanty literature with observations and interviews from the field visits.

1.3 Content and structure of the report

The report has six sections that are structured as follows:

- I. The introductory chapter briefly outlines the outcomes, purpose, and the methodology, the challenges faced during the course of the study and the methodology followed.
- II. The second section provides a general background to Sudan's ecological setting, population numbers, the socio-economic indicators, the role of agriculture and current policies to food related issues.
- III. Section three deals with Eastern Sudan as the main focus of the present study and provides information on the significance of that region which is perceived as 'the Sudanese bread basket'. This section provides some statistical data on grain production, fluctuations of grain prices and their impact on the rural-urban communities. The section also explains the

economic importance of the Gadarif State in providing seasonal employment, grain, and animal fodder to the Kassala and other neighbouring states.

- IV. Section four concentrates on the Kassala State as the main case study area. The section provides background information on the ecological setting and the broad socio-economic context of the Kassala State in Eastern Sudan. This is followed by an analysis of the key issues that have emerged from the study and their implications for urban-rural interactions.
- V. Section five is case study material which builds on previous sections but provides a real life situation experience concentrating on three important economic activities i.e. milk sales, livestock marketing and sale of fodder. The case study clearly demonstrates the new survival strategies, which seems to bind the urban and the rural communities in their struggle for economic survival.
- VI. The last section discusses the major findings and recommendations from the study suggesting some ways forward.

1.4 Research methodology

The research is based both on a literature review and a short field visit to Kassala State. Written material on urban-rural interactions in Kassala State is almost non-existent and material on food prices is also scanty. We visited the relevant line Ministries in search of information and obtained list of prices for essential food commodities as extrapolated in the Central Bureau of Statistics. Most of the line Ministries at the State level have been set up recently (following the peace agreement in November 2006) and they lack both financial and human resources to be able to conduct research outside Kassala town.

As far as the field visits are concerned we were able to visit and conduct interviews in three settlements namely the peri-urban SurSur settlement (5kms outside Kassala); Fedayet settlement (40 Kms outside Kassala); Ghulsa settlement (45Kms outside Kassala) and the Rimela grazing area along the Takaze river (94 Kms outside).

All in all we held discussions with five focused group (FGDs) each consisting of 3 to 10 persons. Two of the FDGs were women only consisting of 10 women each. We held one to one discussions with a number of key informants, including merchants, teachers, milk vendors and NGO representatives (**listed under Annex 2**).

A detailed case study from one low-income household enabled us to draw general conclusions backing our own participant field observations.

We were also able to take many photographs that spoke volumes about the lives and struggles of communities we dealt with during the research.

1.5 Challenges faced

It has already been mentioned that the researchers had a very limited information base to work from. However, the two senior researchers undertaking the research had extensive knowledge of the Eastern region and have been able to draw from their own experiences.

In addition during the Eid festivities (from December 2nd to the 14th) all government offices and research institutions were closed and it was impossible to meet officials at the State level.

Getting travel permits to carry out research in the settlements outside Kassala was also difficult at first although the travel permit was granted at the end enabling the researchers to get on with the job.

Information on the Government run strategic grain store in Gadarif town was restricted "deemed too sensitive" and we have been unable to obtain any information from there. This was clearly a major setback but well beyond the control of the researchers.

1.6 Glossary of terms

2. Background to the Sudan

2.1 Location and Climate

Sudan is the largest country in Africa and ranks number ten by area in the world country ranking. Its total area is 2,505,810 sq. km. Out of this area 129,810 sq. km (5.2%) is covered by water (fresh or saline). Land boundaries extend over 7687 km. It is surrounded by nine African countries, namely Central African Republic (1165 km), Chad (1360 km), Democratic Republic of Congo (628 km), Egypt (1273 km) Eritrea (605 km), Ethiopia (1606 km) Kenya (232 km), Libya (383 km) and Uganda (435 km). The Red Sea coastline extends over 853km and it is a major seaport for Sudan, Ethiopia and Chad. The country is characterized and dominated by the Nile River and its tributaries dividing it from North to South.

The climate is tropical in the south, desert in the north and there is a wide belt of Savanna in the central and western regions. The rainy season varies by region (April to November) with large variations, within and between years, and variations in intensity and distribution which clearly impact on livelihoods, production and productivity and represent one of the major causes of discontinuity, poverty and conflict.

Temperatures experience high diurnal and seasonal variations, but are generally very hot in summer and pleasant in winter with sunshine all-over the year.

Map 1: Sudan National Map (2007) by United Nations



Source: <http://www.scribd.com/doc/217638/Map-Sudan> (08/01/2008)

2.2 Population

In July 2008 Sudan's population was estimated at 40,218,456 with an annual growth rate of 2.134%, a life expectancy growth rate of 2.134% and a life expectancy at birth of 50.28 years.

Sudan exhibits a wide diversity in population structure and ethnicity. The country is rich in cultural diversity with more than 597 tribes and over 400 local languages and dialects. Arabic and English are the official languages and are used for education, communication and commerce.

Although ethnic groups are concentrated within their original tribal and geographic locations, a variety of groups is found in all the states capitals, big towns and cities.

The population structure is dominated by a high percentage of young (0-14 yrs) representing 41% of the total population and a very small percentage of people above 65 years of age (2.5%). This indicates a very young population putting pressure on limited public services and representing a high cost to scarce resources. The economically active group (15–64 years) represents 56.4% of the total population.

2.3 Agriculture in Sudan

Agriculture and livestock raising are the main sources of livelihood in Sudan for almost 60 % of the working population. According to the FAO (AQUASTAT), in 2002, the agricultural sector contributed over 39 percent to the GDP. In 2004, the sector employed 57% of the total economically active population. It contributed about 90% of the Sudan's non-oil export earnings.

There are three main patterns of agricultural production in Sudan; irrigated, mechanized rain-fed and traditional irrigated and rain-fed agriculture. Since the eighties large investments continue to be made in mechanized, irrigated and rain-fed agriculture. The early emphasis on cotton growing decreased through the years due to multiple domestic and external factors. Oil crops (peanuts, sesame, cotton seed and sunflower), wheat and sugar cane became major crops. Rain-fed mechanized and traditional agricultural production continued to produce different sorghum varieties (main staple cereals), short fiber cotton and other food crops for household and local use. Vegetables and fruits are grown all over the country with varying intensities. For the three patterns the increase in output has been achieved through expanding horizontal cultivation rather than increasing vertical productivity.

Livestock raising was almost entirely in the traditional sector. Most Sudanese household farmers keep animals in varying numbers even in and around big cities including Khartoum and urban/peri-urban agriculture is growing economic phenomenon.

2.4 Socio-economic indicators

The 2000 UNDP Human Development Report designated Sudan in the category of "low human development index, with a rank of 143 and a per capita GDP of US\$ 296.

In the 2003 publication Sudan's ranking changed from the above category of human development to the category of medium human development with a rank 138 and per capita GDP of US\$ 395. The 2004 report saw an increase in GDP to US\$ 412 due to oil production. The UNCTAD report (2006) on the least developed countries ranked Sudan as number 16 out of 50 countries (LDCs).

The adult literacy rate is 69% for males 46% for females. The percentage of the population using improved drinking water source is 78% for urban areas and 64% for rural areas. Life expectancy at birth is 57 yrs for males and 62 years for females.

Asia is Sudan's main export market followed by the Gulf (Saudi Arabia) and the European Union. Main exports are oil, livestock, cotton, oil seeds and Gum Arabic. The main imports include wheat, machinery, and transport vehicles.

Over decades Arab investors, including Abu Dhabi Fund for Development, have bought direct stakes in Sudanese agriculture. The president of United Arab Emirates (UAE) has said that his country was considering large-scale agricultural projects in Sudan to insure a stable food supply for the UAE. The same pattern is followed by Qatari and Kuwaiti governments. According to the Guardian Newspaper (November 2008) Saudi Arabia is the largest investor in Sudanese agriculture and agribusiness with the aim of satisfying its own domestic market. Asian countries like South Korea and China are also making huge investments in agriculture in Sudan with the view of importing agricultural products to their countries.¹

2.5 The Current Sudanese Situation

Among the countries of the Horn of Africa, Sudan is the only country which is by definition "a net food exporter", according to many observers. However the question now is how and why do an overwhelming majority of the people remain poor and what caused the huge gap between the 'haves' and the 'have nots' in Sudan? Some would argue that Sudan is actually "not a net food exporter" a debate which will no doubt continue unabated.

Some argue that Sudan's ability to produce food to feed itself has decreased. Also the competitive export market in agricultural products decreased in volume and in value. Urban centres are now depending more and more on importation of wheat, wheat flour and other food commodities. Rural-urban relationships suffered greatly from the above set-backs and lack of policy support and lost many incentives to produce in the agricultural sector.

The various wars over the last decade and the current conflict in Darfur have had a major negative impact on the national economy by diverting human and financial resources. Such wars have displaced and urbanized by "default" millions of people because communities had to abandon their livelihoods in the rural areas.

¹ The Guardian November 22nd -2008.

In theory, net food exporting countries (of which Sudan is arguably one) and the farmers in those countries should benefit, while the net food importers will be the biggest losers. This is clearly not the case in the Sudan. This condition can only be justified if at least three assumptions hold true:

1. If the rise in price is reaching the real food producers at the grassroots level.
2. If agricultural input price rises do not negatively impact production costs.
3. If food market domination is restricted through severe regulatory interventions.

In real life situations these conditions are difficult to meet due to the differing interests of various players in the theatre of food production and marketing. However, sharp and sudden rises in prices usually do not last for long particularly when the issue is not food but economic, commercial and political manipulation of the food issue which can jeopardize human civilization at its roots.

The impact of rising food prices will vary greatly among countries and within countries as well, depending on the level of development, the system of governance and the market regulation and enforcement mechanisms.

The government authorities in the Sudan are well aware of food price increases and their impact on the livelihood of the majority of the population and on the political stability which is already at risk. A national council for strategic planning was established to provide a policy framework and guidance for the whole economic activity. Within this framework the agricultural sector was in focus with the objectives of increasing production and productivity, stimulating the private sector initiatives and giving incentives for foreign direct investment. These objectives were planned to be achieved through a phase of “agricultural mobilization” and a second phase of “agricultural renaissance”.

Both mobilization and renaissance projects are targeting mainly increasing wheat production, high value agricultural products like oil seeds and increasing livestock production and productivity. The thematic thinking is not to depend on recent oil production and to use oil revenues in developing a sustainable agricultural system that compete in domestic and international markets.

Sudan is expected to raise its food production significantly in the coming ten years partly because of the large scale foreign investments and partly to feed the trading partners in the Gulf.

The problem arises again if we consider the rural sector and its capacity in competing with modern large scale producers. The small farmers, pastoralists and livestock dependant communities are expected to face greater problems in the production and in the marketing of their small traditional products and as a result and for reasons mentioned before most of those who are able will move to urban centers. In this situation international trade (import and export) will benefit and small producers will lose. Imports will be directed towards technologies and supply of superior goods while exports will be from large scale producers who can produce according to international standards and requirement.

The ability of the poor rural or urban to buy food or to produce quality goods will continue to be limited unless some incentives in terms of support, subsidy or engagement with large scale producers can be made.

3. Background to Eastern Sudan

Eastern Sudan is composed of three states namely Kassala State, Gadarif State and Red Sea State. The table below shows the population of each state, the percentage of the country population and the urban and rural percentages.

Table 1: Population in the three States

State	Population (1000)	% of Sudan	% urban	% rural
Kassala	1625	4.7	37.3	62.7
Gadarif	1674	4.9	31.3	68.7
Red Sea	734	2.0	64.0	36.0
Total	4033	11.6	-	-

Source: Central Bureau of Statistics 2007

As shown in Table 1, the Red Sea state had the smallest population and highest urban ratio due to the fact that it includes Port Sudan which is the main Sudanese Port on the Red Sea. Almost 2/3 of the population is working to provide different port services. The Red Sea state is poor in natural resources particularly agriculture. However, the rural community depends on livestock rising and some small size semi-traditional fishing. They represent a real example of the rural poor communities in the country. Villages are small and scattered which make provision of services and infrastructures non-feasible.

Kassala and Gadarif have similar population numbers but slightly different percentages of rural population (63 versus 69). Both states depend entirely on agriculture and livestock but with different patterns of production. Kassala state uses permanent irrigation systems (Gash and River Atbara) as well as surface water wells where they produce sorghum, groundnuts, wheat, cotton, sugar cane, fruits and vegetables. Very few rural areas depend on rain-fed agriculture and the predominant economic occupation is livestock production.

The average cultivated area and production of sorghum (years 2004, 2005, 2006) of Eastern Sudan was compared to the rest of Sudan as shown below in Table 2. The year 2006 was a buffer harvest year and according to some of our interviewees a great deal of grain from the strategic grain storage was exported to Ethiopia, Eritrea and the Gulf.

Gadarif State, where rainfall is better, depends on mechanized and traditional rain-fed agriculture with large areas for the private sector. The state produces the majority of Sudanese sorghum and sesame and significant quantities of groundnuts. Skilled and

semi-skilled workers from Western Sudan and the neighbouring countries come to the Gadarif state in large numbers for seasonal labour but some of those groups decided to settle permanently. For livestock owners, the two states represent a communal grazing area where there are no boundaries. Movement of animals is constrained only by authorities on both sides forcing them to pay multiple taxes, duties and grazing charges.

According to Fre (1989) there was an estimated number of 5,000 big commercial farmers in the Gedarif State owning huge tracts of land and using heavy machinery producing grain to the detriment of the environment. Much of the commercial rain-fed agriculture which was based on growing sorghum and sesame was capital intensive high input high output agriculture with the intention of feeding the nation. There were very frequent conflicts over land and passage among pastoralists and small farmers whose production objectives were more subsistence based and environmentally more sustainable. In recent years it seems that the commercial farmers and the pastoral peoples seem to have reached some form of a compromise because the pastoral people in many cases have been able to buy fodder crops from the commercial farmers and were able to use crop remains at the end of the harvest season. This new modus operandi between big farmers and subsistence based pastoralists is proving critical for pastoralists who have now been able to acquire fodder supply which has now become critical for the survival of their livestock during the long dry season. As pastoralists in the Kassala State have now been opting for a more sedentary lifestyle and they themselves occupy their own territory and thus the regular supply of crop fodder has been critical as will be discussed later. The pastoralists are also now becoming more commercialized and contribute substantially to the economy through sale of milk and live animals.

Table 2: Contribution of Eastern Sudan to Sudan Sorghum Production (years 2004, 2005, 2006)

	Average area*	Average production**	Average yield***
Sudan	14429	3911	276
Eastern Sudan	4121	904	269
%	28	23	—

* Area in thousands of feddans.

** Production in thousand metric tones.

*** Yield kg/feddan.

Source: Central Bureau of Statistics 2007

It is evident that 11.6% of the Sudanese population in Eastern Sudan used 28% of agricultural land and produced 23% of the sorghum which indicates that the region produces sorghum which far exceeds their consumption and is used in other states or sometimes exported. The same can be said about livestock and remembering that the region, particularly Gadarif is the homeland for sesame.

Gadarif State is also where the strategic grain storage is located. The storage which is owned by the Government was established a decade ago as part of the Sudan Government's food security strategy with the view of stabilizing prices and bridging

the food gap in times of shortage. Grain is bought during harvest time (October-December) and sold at reasonable market prices during the long dry season (April-July) when grain prices are likely to go up in the country. During the study it was difficult to get more information and such information was deemed sensitive.

3.1 The Impact of Increased Food Prices on the Rural Community in Eastern Sudan

Sudan's response to the world wide increase in food prices is particular to the country. The increase in wheat prices caused an increase in domestic prices. If world wide prices increased by 10% the domestic prices increased by not less than 20%. A decrease in world prices was never reflected by a decrease in domestic prices. This was true for wheat, oil and other commodities. Furthermore, an increase in wheat prices usually causes an automatic and unjustified increase in locally produced cereals (sorghum and millet).

It is known that agricultural and livestock production in Sudan is generally overtaxed. In the Eastern region overtaxing is coupled with multiple extra charges and duties with or without legislative support. Multiple windows for collecting these revenues do exist and represent a real problem that caused conflict and confrontation between authorities and farmers.

The Food Price Index for nine years (1999 – 2007) relating to Kassala state was collected from the central bureau of statistics to see the trend of increase in food price. The table below shows a year by year continues increase in the index that started by 4,781 in 1999 and reached the maximum of 7,391 in 2007.

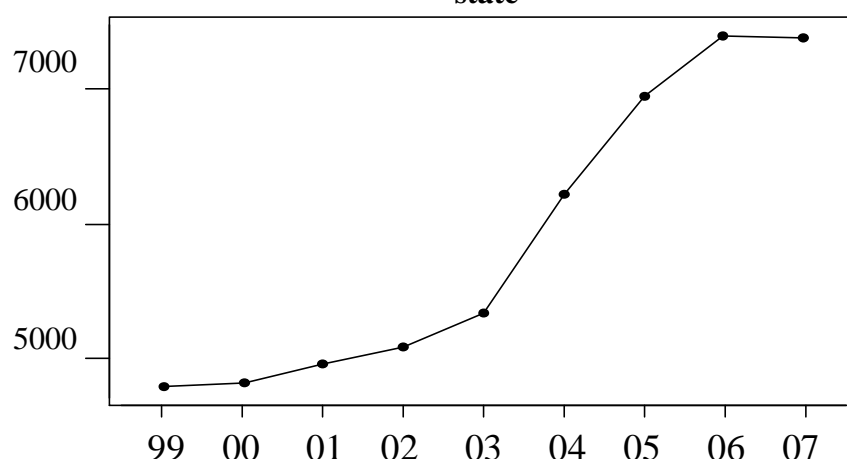
Table 3: Price Index for Food Commodities Kassala State

Index	Year
4781,3	1999
4820,3	2000
4949,2	2001
5081,2	2002
5333,1	2003
6219,3	2004
6950,6	2005
7407,4	2006
7391,5	2007

Source: Central Bureau of Statistics 2007

Graph 1 below shows the same increasing trend.

Graph 1: Time series analysis showing the indicators of food prices in Kassala state



Source: Central Bureau of Statistics 2007

From the information above we can draw the following conclusions:

- Food prices in Sudan and in Kassala State started long before the international increase in prices.
- The rate of domestic increase in prices is more than that of the international prices.
- Kassala State has little dependence on wheat where the major staple food is sorghum which is produced partly in the state and partly in the state and partly in the neighbouring Gadarif State.
- The increase in prices covered all food commodities and was not restricted to the imported wheat.

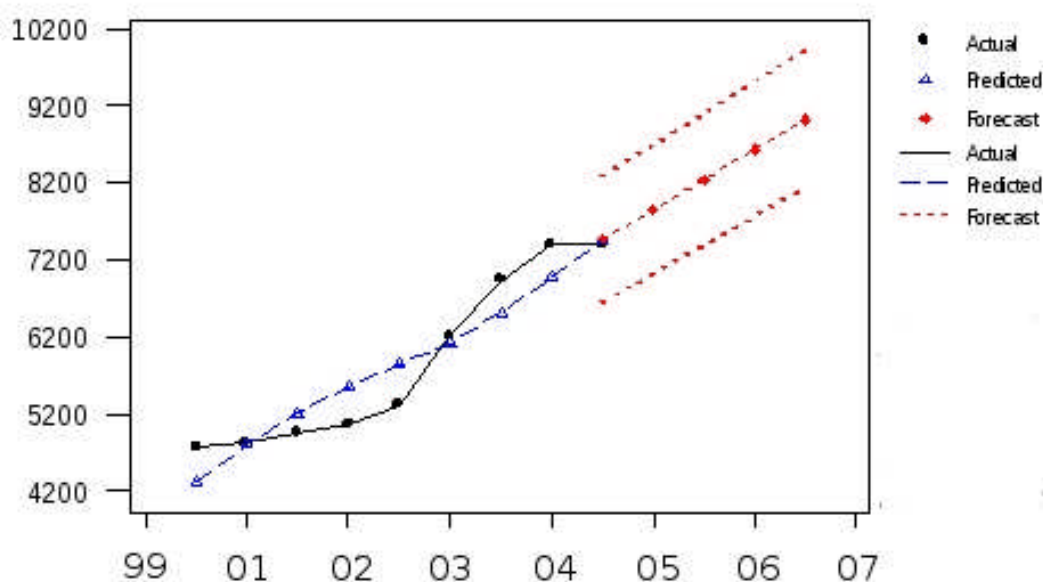
The data is subjected to further analysis to predict the future trend for the years 2008 through 2011. Table 4 shows the results and a graphical representation is drawn.

Table 4: Predicted Forecast of food prices for the years 2008 - 2011

Year	Period	Forecast	Lower	Upper
2008	10	7853.28	7015.91	8690.65
2009	11	8245.99	7390.21	9101.76
2010	12	8638.69	7763.28	9514.11
2011	13	9031.40	8135.20	9927.61

Source: Central Bureau of Statistics 2007

Graph 2: Actual, Predicted and Forecast of food price trends in Kassala state



Source: Central Bureau of Statistics 2007

Within the Eastern region both urban and rural areas produce and consume sorghum as a staple food. The two areas are subject to different supply and demand forces in their sorghum markets. The urban area is densely populated (Port Sudan, Kassala town and Gadarif town) with high sorghum demand and low level of production. By contrast the rural area is less concentrated and has favourable production conditions, such as the demand for sorghum is relatively low and supply is relatively high. In normal conditions (good rainfall, minimum market distortions) the market forces will attain reasonable price equilibrium.

Urban centres in the East purchase much more food domestically than imports or exports. The devastating impacts of increased food prices, directly or indirectly impact the asset poor farmers and the urban poor. The first can not produce enough food for themselves and the second need to purchase food. Both rural and urban poor can not afford to buy food at increased or inflated market prices.

4. Socio-economic interactions between Urban and Rural Linkages: the case of Kassala State, Eastern Sudan

4.1 Kassala State in Brief

Some authors considered that the early establishment of Kassala goes back to the early 16th century when a number of villages on the east bank of the Gash united*. Kassala was then chosen as the eastern administrative center by the Turks in 1840 and since then remained the most important administrative centre. It was then the capital of Kassala region (1950), capital of the eastern region (1980) and capital of Kassala state (1994).

The actual federal system was launched with the 10th constitutional decree of 1994 and the Local Government Act 1995. The decree divided the country into 26 states.

Capital	: Kassala Town.
Location	: Between longitudes 37E and 35W and latitudes 14.15 and 17.15N. It has Eastern boundaries with Eritrea (235km) and Ethiopia (17km). In Sudan it is neighbouring the Red Sea State at the North, Gadaref State at the South West and Nahr-Al-Nil State at the North-West borders.
Area	: 42282 km ² .
Climate	: Dominated by North-Eastern winds in winter and southern winds in autumn. The vegetation zones vary from desert, semi-desert, savanna and valley environment. Ambient temperature ranges from 33C to 47C. Annual rainfall varies between 350-400mm. The northern areas sometimes were influenced by the Red Sea climate.
Roads	: The state is connected to the National Road Khartoum-Port Sudan. Internally there are Halfa-AlGirba Road which is connected to the National Road.
Main Towns	: Kassala, Al Girba, New Halfa, Aroma, and Wagar.
Airport	: There is one small airport at Kassala town and a smaller airport at New Halfa.
Communications	: All types of communication services are available in the state.
Water Resources	: Potable water services cover 65.8% of population at the urban centres and 36% of the population at navel areas water for agriculture is available throughout the year from Al Girba dam and Atbara River and seasonal irrigation from Gash River and other valleys and Khors.

4.2 Population & Demographic Indicators

General:

Population	: 1678603.
Family size	: 6.3.
Urban	: 36%.
Rural	: 52%.
Nomadic	: 12%.
Refugees	: 83071.
Internality Displaced	: 66511.

Refugees in the state represent 82.2% of the total number of refugees in Sudan and 5% of the state population. However these numbers are believed to be overestimated due to double counting, double registration by refugees, the maintenance of deceased refugees and deliberate inflation to insure additional resources.

Ethnic Groups in the State:

Group	% of total population
Hadandawa	: 29.9
Beni Amer	: 15.2
Nigerian (Sudanese) tribes	: 9.7
Non-Sudanese (refugees)	: 8.8
Tribes of Western Darfur	: 7.7
Eastern Arab tribes (Rashaida)	: 5.0
Northern Arab tribes	: 2.5
Kawahla and Central Arabs	: 2.7
Nuba groups	: 1.7
Others	: 8.6

Source: Modified from national census 1993, department of statistics, Khartoum – Sudan.

4.3 Kassala Administration Districts

(Mahalyat)

Formerly Kassala was comprised of five districts 'Mahalyas' namely; Kassala, Al Gash, Setit, Nahr Atbara and Hamashkorib. At present and in compliance with the East Peace Agreement (November 2006), the State was divided into 10 districts 'Mahalyat' as follows:

Table 5: Kassala Population Distribution

No	Mahalyaa	Capital	Population (1000)	(%) of total	No of households
1	Kassala	Kassala	325	(18.4)	51,587
2	Rural Kassala	Shamboob	233	(13.2)	36,984
3	Western Kassala	AbuTalha	126	(7.1)	20,000
4	Nahr Atbara	New Halfa	393	(22.2)	62,381
5	Dalta North	Wagar	96	(5.4)	15,238
6	Rural Aroma	Aroma	78	(4.4)	12,381
7	Rural Girba	Girba	109	(6.2)	17,301
8	Rural Wad Al Hilawe	Wad Al Hilawe	65	(3.7)	10,317
9	Hamashkorib	Hamashokorib	130	(7.4)	20,635
10	Talkook	Talkook	212	(12.0)	33,650
	Total	10	1768	100	280,635

Source: Ministry of Finance, Department of Planning, 2007 modified by author, average family size 6.3.

4.4 The role of the livestock economy in the Kassala State

Pastoralists in the Kassala State make significant contributions to the State and Regional economies. Total numbers and value of livestock sold for local consumption or export is shown on Table 6 below. A total of 76 million SDGs (equivalent to 38 million dollars) is a result of the pastoralists.

- Cattle – which are not exported – contributed by 23 millions SDG (30%)
- Camels (local consumption and export) contributed by 32 millions SDG (42%)
- Sheep contribution was estimated at 20 millions SDG (26%)
- Goats share in local consumption and export was 1.1 million SDG (2%)

Revenues from the camel trade came first followed by cattle, sheep and goat respectively. It is obvious that goat contribution to trade is underestimated because most of goats are slaughtered for local consumption and therefore are not reported since they are home consumed.

Table 6: Livestock market output – Kassala State (2007)

Species	Local consumption recorded slaughter (No)	Value at retail prices (1000 SDG)	Export (No)	Value at retail local prices (1000 SDG)	Total (No)	Value (1000 SDG)
Cattle	37962	22777	-	-	37962	22777
Sheep	79115	14241	31783	5720	110898	19961
Goats	7129	428	11234	674	18363	1102
Camels	1114	1337	25717	30860	26831	32197
Total	-	38783	-	37254	-	76037

Source : State Ministry of Animal Resources, Animals Slaughtered and Animals Exported. The value is taken from study findings.

Note: Non-market local consumption is not included

Table 7 shows the livestock markets in Kassala, the average daily number of animals and the market frequency in days.

Table 7: Number, size and frequency of livestock markets:

S/No	Market	Average No. of animals/day	Frequency
1	Kassala	800	Daily
2	New Halfa	600	Daily
3	Shambooh	350	Daily
4	Al Rattaja	450	Twice a week
5	Um Gamees	350	Twice a week
6	Aroma	120	Twice a week
7	Al Shajarah	150	Once a week
8	Wad el Helewe	250	Once a week
9	Wagar	150	Once a week

Note: No specification of the species is given. However, the main species in order are sheep, cattle and camels.

Source: Interview data.

The feeder markets at the settlement level are well connected to the main market outside Kassala town as shown in the table above.

4.5 Theoretical framework and issues emerging from the study

The challenges faced by rural, urban and peri-urban communities in East-Sudan can be summed up as follows:

- Large scale internal displacement resulting in many pastoral people abandoning their traditional settlements due to insecurity and being forced to move into government held security hamlets
- Destitution and large scale villagisation and urbanisation
- Drought and famine forcing many pastoralists to abandon the pastoralist way of life
- The uncontrolled spread of *prosopis juliflora* (muskit) in the wet land areas.
- Disruption of the livestock trade in local and Middle Eastern markets
- Mining of some the grazing areas by the rebels and the government forces
- Intense competition over grazing land between farmers, pastoralists, the Government and the refugee influx from Eritrea and Ethiopia.
- Threat of serious drought and famine during 2008-2009

The State government where the rural and urban communities are supposed to be represented is still in the process of being consolidated in the context of multi-ethnically based governance. The State's line Ministries are still at the embryonic stage; infrastructure is very poor, large numbers of pastoralists are still internally displaced. Research institutions are being rebuilt and there is a scarcity in locally trained manpower. Services to rural and urban poor are almost non existent despite the major contributions they make to the local and regional economies.

In terms of the existing political and social power structure Gutbi (2008) comments on the dilemma faced by the State administration.

“There are overlapping circles of power in Kassala State which can be categorized as two layers; first the Native Administrative System; which is old dating back to the beginning of the 20th century. The Native Administrative System is based on the tribal structure of the different groups. The native administrative system of a given tribe is headed by a paramount chief (Nazir) who supervises a given number of mayors (Omdas). Each Omda supervises a number of Sheiks, who deal directly with the people at the grassroots level. Usually each Sheik is responsible for about 70 households. To a large extent this pyramid is also used by the hierarchical system of the ruling party (National Congress Party) in terms of grassroots committees which are represented at the local legislative council and the state council. At the top of the hierarchy there is political representation at the National Assembly which is the federal parliament.”

Page 2

Gutbi (2008)² makes the following observations as the deeply rooted prejudices which have contributed to further marginalise Kassala State within the framework of wider greater Sudan.

“There is an ever growing perception that the residents of this region do not have the ability to develop, or at least some groups within the region are described this way. This perception, or rather prejudices, is echoed even by well experienced development workers. Areas that remained poorer than others are said to be resided by groups which show little or no interest in positive change or development.”

Page 1

The same author observes that the high degree of vulnerability is exacerbated by environment degradation due to overgrazing, poor rainfall, high level of illiteracy especially among women and weak local institutions which are able to address developmental challenges...

Furthermore Gutbi (2008) states that,

“...the presence of IDPs and refugees has influenced the livelihood patterns and shaped the market trends especially in town. Kassala State borders Eritrea; as such it is affected by the internal political issues on the other side of the border, and the regional politics between the two countries. Kassala hosts a number of Eritrean and some Ethiopian refugees, as well as internally displaced persons. Conflict whether within the state or in the neighbouring country adds to the vulnerability of both rural and urban populations. The conflict resulted in depleting assets especially for rural refugees and IDPs who very much depend on land for their livelihoods (agriculture and/or livestock), both of which are dependent on land which they do not own any more. The displaced have limited access to land and no control over it, unless tribal affiliations are strong enough to enable access to land, namely agricultural land.”

Page 3

2

Historically, the limited research efforts in Kassala State, as is the case in the whole Eastern Region, were premised upon the Rural-Urban dichotomy and failed to reveal the strong rural-urban socio-economic linkages both at inter-State and intra-State levels. The authors searched for relevant research material at the Federal and State levels but sadly very little information was found. This study could well be the first of its kind which seriously looks at such linkages and the information generated by our study could help in providing insights into more detailed research in this field in the near future.

Our study clearly indicates that there is indeed a strong bond and complementarity between rural and urban livelihood support systems especially among the rural as well as urban poor. Our observations from the field and accounts from our key informants are that the symbiotic relationship in both economic and social terms is a given reality. Such socio-economic symbiosis cuts across ethnicity, race and even political borders where there is clear evidence of strong economic ties between the ‘villages’ and ‘towns’.

The authors of this report think that urban-rural economies and livelihoods should be seen as part of a ‘continuum’ where the rural supports the urban and the urban supports the rural in a situation of common struggle for common survival. It is in this context that we shall be investigating the food prices/food security issue and its implications for urban-rural relationships.

“There is a growing recognition of the importance of focusing on the mutual interdependencies, rather than the ‘separateness’, of rural and urban areas because the livelihoods of rural and urban households rely on both ‘rural-based’ and ‘urban-based’ resources as well as the exchanges between the two areas.”³

The following are some key issues emerging from the study in terms of the rural-urban perspective and such issues will form the basis for the analysis of the field based data from which important lessons and recommendations will be drawn.

In terms of economic significance livestock production, agriculture (both rain fed and irrigated) and urban-peri-urban agriculture have important roles but for our purpose we shall focus on livestock as the most important sector of particular significance to the study we have carried out in the urban-rural interactions context.

Firstly, in terms of economic mainstay livestock production, both sedentary and nomadic, occupy a central position in the urban-rural context because livestock and livestock products are the most traded commodity thus forming a special link between the urban and the rural communities. The communities who are now settled in Kassala town have strong roots in the rural areas and they still cherish livestock products (milk, meat, butter, lard and ghee) and therefore a strong socio-economic connection is vital. The main sources of livestock are the pastoral and agropastoral areas dotted throughout the Kassala State.

Secondly, there is a clear livelihood transformation among traditional nomads who are the masters of livestock breeding and management. The reasons for such a transformation and what caused them are very complex and is an independent study

subject. In Kassala state, the communities who still maintain a nomadic way of life are less than 15 % (Ibnoaf, 2008) and there is clearly a major shift towards whole scale sedentarisation arguably the first step towards urbanisation.

Over the last two decades small villages or traditional hamlets have been transformed into large settlements. Kassala town and its surroundings grew in high proportions due to many pastoral communities settling in Kassala town itself. This partly explains why the rural communities are strongly connected to Kassala town in social and economic terms.

A new pattern of settlement has now emerged in the former pastoral areas. Women, children and the elderly stay in the permanent settlements and keep small livestock (sheep and goats). A large number of nomadic children are now benefiting from formal education at primary and secondary levels in their own settlements. Once educated most of them end up in Kassala or other towns in search of new employment opportunities while others end up working in their settlements as teachers, health workers etc., while men and younger boys migrate with milking cattle well away from such settlements in search of grass and water for most of the year even as far as the Ethio-Eritrean border depending on the availability of grazing opportunities

The following quote from a son of a former nomad says it all in terms of former nomads adopting new survival strategies:

“I am a teacher in my village and a nomad at heart. I love my cattle and camels and treat them as members of my family. I take my animals in the night for night grazing, teach during the day and grow crops during season. I also travel to Kassala town to buy extra animal feed for my animals, it is a hard life”

Mustafa Fayid a primary school teacher from Fdayet village (December 2008)

We also observed however that many of the livestock owners prefer to stay within the Kassala radius (our estimation is 30 to 100 kms) so that they are able to provide milk to Kassala town and buy essential commodities such as animal feed and essential food items for domestic use. Through case studies we shall demonstrate later how such arrangements work at a household level in relation to milk sales thus connecting Kassala town with the rural areas and vice versa.

The following statement from a small livestock owner who shuttles regularly between Kassala town and his village 40kms away says to sell milk and buy animal fodder says:

“Most of us do not own large number of cows and traditionally we never sold milk but butter, lard and ghee. But things have now changed and it is no longer a shame in our culture to sell milk for money. I have ten cows but myself and my cousins combine our animals together into a bigger herd to give us safety and save on labour expenses. We keep the animals as near as possible to Kassala so that we can sell milk in Kassala and buy what we want from Kassala specially animal feed...”

Ali Adam Ali Sursur settlement (December 2008)

Thirdly, small scale subsistence agriculture has become an important part of the equation in transforming the pastoral society from not only being crops (durra) as part of the staple diet but also providing the much needed animal fodder. Crop residues produced from small family farms are mostly inadequate for their animals and most livestock owners have to go to Kassala very frequently to purchase sesame cake, flour meal cake etc as supplementary feeding for their animals. One must stress however that Kassala State has limited agricultural potential and much of the crop fodder is brought from the Gedaref State in the South which is agriculturally a much higher potential area.

There is a big grain and fodder market which is frequently visited by small and large rural livestock owners who come to Kassala to purchase animal fodder which seems to be vital to the survival of their livestock. In fact in terms of household expenditure animal feed seems to be the most important item and even as important as feeding the family whose survival depends on the well being of the livestock.

“A great deal of the money we receive by selling milk or livestock is spent in buying animal feed (aliga), herding labour costs and shopping for the family. I treat my animals like members of my family and their well being will be for the good of my family. Well fed animals means a well fed family”

Ali Adam Ali Sursur settlement (December 2008)

This is yet more clear evidence that the rural and urban communities are strongly connected in an economic sense where the exchange of commodities is a key element in that relationship.

Fourthly, the livestock trade though rudimentary, seems to be functioning well clearly connecting the urban and the rural poor in a symbiotic manner where mutual exploitation seems to be less significant.

Most of the trading is managed by small traders who seem to have very limited capacity (in terms of transport, animal feed, access to markets etc) to be able to sell animals in major markets outside the State. According to our informants and our own observations there is very little evidence showing the role of big middle merchants or middle men excessively exploiting the rural and urban poor. In trading terms the livestock are the main commodity people sell under very different arrangements. For the majority of resource poor pastoralists trading is done through clansmen who are themselves poor and who are entrusted to sell the animals on behalf of others on the basis of trust and mutual benefit.

The following statement from one of such traders who are locally known as “delal” or trader describes it all.

“People we know, friends and sometimes members of our clan bring the animals to the market by themselves and leave them with us on trust to sell them on their behalf. We charge 2SDG per head of small stock (sheep/goats) and 6SDG per cattle. Depending on the buyers we find we will sell as many livestock as possible and next day the owner will come and collect their money from us. The livestock we are unable to sell will be returned to the owner who will be responsible to taking them to his settlement”

Abdulghadr Idris a trader in Kassala livestock markets (December 2008)

Fifthly, cross border trade between Sudan, Eritrea and Ethiopia takes place formally and informally but the extent and the volume to which the cross border trade takes place is partly determined by the political relationships between the three countries. During the nineties political relationships between the three countries were not cordial and that often led to the formal closing of the common border (especially between Sudan and Eritrea) and under those circumstances the informal trade must have flourished. During the last 9 years while the relationships between Ethiopia and Eritrea remained tense with closed borders (following the bloody border conflict from 1998-2000) the Sudanese relationship with both Eritrea and Ethiopia remained fairly cordial.

Ethiopia and Eritrea are both grain deficit countries and according to our informants sorghum which Sudan produces in abundance in the Gadarif is sold to both countries. Ethiopia and Eritrea also import petroleum, cooking oils etc. from Sudan. According to the same informant Ethiopia and Eritrea export food commodities such as sugar, onions, coffee, livestock and spices.

Some of the Sudanese authorities we approached seeking information on the extent of grain exportation to Ethiopia and Eritrea were not willing to provide information given the ‘sensitivity’ of such information. For example we failed to get information if some of the strategic grain stored in Gedaref has been traded with the neighbouring countries.

We were only able to gather some limited information on livestock trade between Kassala State and Western Eritrea by talking to merchants who conduct cross border trade and who told us about the challenges they face in maintaining such trade.

One of the key challenges for traders of livestock and other commodities on both sides of the Eritrean-Sudanese border is that both governments have imposed trade restrictions in order to safe guard their own food security situation in their respective countries given the prevailing drought situation on both sides of the border. Sudan has restricted any grain exportation to Eritrea while Eritrea has banned livestock trade across the border in order to maintain its own food security. Trade on other food items like onions, sugar and electronic items especially through informal means has also been restricted.

According to our informants the trade restrictions on both sides of the border do not impact in the same ways as far as local commodity prices are concerned. For example while the restrictions on onion trade from the Eritrean side led to the doubling of local

prices in Kassala the restrictions on livestock trade from the Eritrea side did not affect livestock market prices in Kassala.

This is clearly an area of study which will require more in depth study and the authors recommend a specific study on cross border trade.

Lastly, urban-periurban agriculture (mainly mixed farming and horticulture) in and around Kassala is an important economic activity in terms of food security and offering employment opportunities for the rural and urban poor. The authors were not able to deal with this issue but from our observations many of the new settlers in Kassala town may be taking up urban-periurban agriculture as a viable means of livelihood.

In conclusion we are able to confirm that while we have found no clear evidence that international food price increases have adversely affected local economies in the Kassala State, but rather internal distribution systems, regional politics and lack of clear policy to help the urban and rural poor have caused food insecurity and price fluctuations.

Some of the policy constraints can be summed up as follows according to Ibnoaf (2008);

- The variable/unpredictable political environment.
- The weak capabilities of the private sector.
- The disincentive of establishing functional and promoted pastoralist and other community based organizations.
- There is a vacuum of active livestock policies at state and national levels.
- A low livestock profile in national livestock planning particularly observed in poverty reduction strategy paper (PRSP) which contains general issues.
- Lack of understanding the potential role of livestock sector in meeting the pro-poor development objectives.
- Poor levels of data and information availability and the consequence of poor analysis.
- Lack of participatory approaches.

The following in depth case studies will further demonstrate how the rural and urban poor have devised survival mechanisms to enable them to cope rather imaginatively given their dire economic situation.

5. Case Studies from Sursur Settlement

5.1 Background and rationale to the case studies

The case studies mainly concentrate on information drawn from one of the major livestock owning groups, the Beni-Amer which is one of the most important groups residing on both sides of the Sudan and Eritrean border. There were several advantages in selecting such a group for the purpose of our study and these include:

- Previous contact with such communities because of PENHA's work in the same areas, which meant that the communities were easily accessible to the researchers. This made the household level interviews and focus group discussions much easier. We were also able to take photographs of some of their daily activities.
- Having access in interviewing women among Beni-Amer was easier once the researchers got the blessing of the men and community leaders. It is more challenging for men to interview women and only a female member of the research team was able to talk to the women.
- Due to time limitations it was impossible to cover more than one community during the limited fieldwork phase in the rural areas.
- The group by and large represents challenges as well as opportunities faced by other communities.
- One of the authors spoke the local language and this meant that credible information could be obtained where the informants were able to express themselves freely thus providing the researchers real insight into the situation on the ground
- Like so many communities i.e. pastoral, agropastoral and the Urban poor, the Beni-Amer are in a state of transition from pastoral nomadism to sedenterization and inevitable urbanisation
- The Beni-Amer group who are in the state of transformation have clearly linked urban and rural livelihoods to enable them to cope better and do not see a contradiction in such complementarity
- The Beni-Amer in Kassala State have a special bonds (through clan, intermarriages, trade ties etc.) with communities across the border in Eritrea and one could say that they become one of the main bridges in the cross border trade.

Although we focused on a specific case study's material for indepth analysis, additional information from the focus group discussions including womens' groups, individual one to one interviews with key informants and our own participant observations have been added.

5.2 Main Objective

To gain an indepth understanding of the nature of socio-economic Urban – Rural (U-R) linkages particulaly the ones related to livestock owners (mainly dairy) in Sursur village, why the linkages matter in this particular community, and what might become important to look at more extensively in future research.

5.3 Methodology

In this case study the following research methods were used for collecting both primary data and secondary data.

- Household interviews
- Focus group discussions (“Gebena” or coffee meetings under a tree)
- Participant observation
- Taking photographs
- Semi-structured interviews



**Picture I : “Gebena” meeting with livestock owners at a grazing point of Rimela
95 Kms outside Kassala Town**

5.4 Sursur Village

Sursur village is located 5 km away from Kassala town (Peri-urban area) but the grazing area for livestock from the settlement ranges from 30Kms to 200 kms in range depending on the season. The village has approximately 250 households and one local council. The society in this village is clan based. Ethnicity is Beni-Amer as mentioned above. On the basis of the clan system, people are systematic and well organised to perform different tasks in the village.

The village was established about 20 years ago, after a long history of nomadic life. Along with their sedentalisation, they started introducing rain-fed agriculture to their life. Therefore, nowadays a lot of livestock owners are involved in rain-fed agriculture

as well as livestock farming. This trend is also happening in many places in the rural areas of Kassala state.

Their lifestyle is categorized as semi-nomadic life. Major income sources are livestock, dairy (mainly milk) production and agricultural outputs (mainly sorghum). Most of men in the village engage in livestock farming. Livestock owners take their animals to water and grazing points to give water and animal feeds. In case of serious needs for animal feeding (water and grazing), livestock owners have to take their animals to more than 100km away from their settlement.

Regarding the average number of cattle owned by Sursur residents, although there are some exceptions where people do not own cattle at all, majority of livestock owners (70%) own 3 to 5 cattle. On the other hand, well-off livestock owners (only 30%) own more than 50 cattle. This is because due to the current situation involving the lack of animal fodder, a lot of livestock owners have lost their animals either selling them at a very low price or letting them die with hunger. This critical situation creates a new trend which is to reduce the number of cattle to a small productive herd size and combine their cattle into one herd (less than 100) and divide their roles within their families, clan members and blood relatives. Such rationalization of labour resources leads to diversification of their daily work, such as selling milk, taking care of cattle and rain-fed agriculture.

Their division of labour is broadly categorized as follows;

- Men and older boys engage in livestock management (cattle & camels)
- Women are responsible for household works and also small livestock (sheep & goats)
- Children go to school and help in taking care of small livestock

Regarding the work which men and young boys engage in, it again can be divided into 2 types of roles as follows;

- Herders (owner and hired): the ones who stay with livestock all the time sometimes up to 3 months without going back to their own villages (especially in dry season). This group is charged with the responsibility of taking care of the livestock at all times including night grazing, animal health and watering the animals. During the dry season animals are taken out from grazing from early evening to early morning. From 8am to 5pm the livestock and the herders are watered and rest under trees near river banks. At that point they are joined from the owners who come from Kassala with animal feed to feed the animals and collect the milk.
- Local herders (owners) who frequent the Kassala market: the ones who travel everyday between farming gate to Kassala town to sell milk and to buy daily consuming materials such as sugar, coffee, and so on for families in the village as well as people who are always with livestock. They also do public relations in the town with authorities, other tribes and NGOs.

So the two groups compliment each others activities to benefit their livestock by pulling together their labour resources. Ali's case story is a manifestation of the second group (see Annex 1 for a typical family calender).

As part of a new trend, women's' involvement in income generating activities is becoming commonplace. Nowadays a lot of women participate in income generating

activities such as selling handicrafts in Kassala town, as well as conducting small scale trades. They produce handicrafts in their spare time and sell them in Kassala town. Furthermore some of the women use the money from their profits and invest in buying some daily consuming commodities such as oil and sugar and sell them in their village. Some of them are also make butters out of milk brought by their husband and sell them in Kassala town. Women are also responsible for small animals such as goats and sheep. Some women have also now formed a group to save 3 SDG per household per month in order to bring electricity to their village.

Regarding children in the village, most of the children go to primary school. The number of children enrolled in school is quite high in this village. Parents are committed to their children's education. However due to the lack of school facilities, children need to go to school in neighbouring village (4 km away from their village).

Small flocks of goats from a number of families are combined into a larger flock and taken care of by shepherds in the village till children from each household come and pick up their goats after school.

The hired shepherds from the village help take care of a large flock of goats when women and children are out for either daily household works or school. This cooperative work is an indication how resource poor livestock owners pulling labour resources together for mutual benefit.

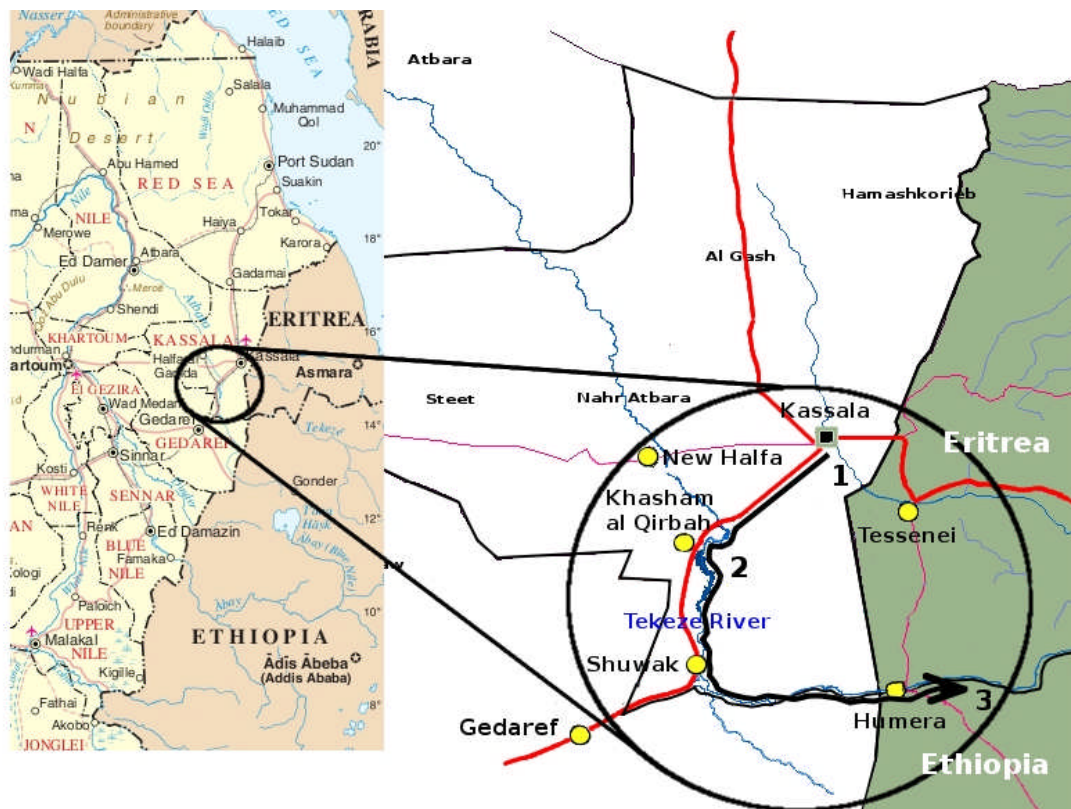


Picture II : Primary school children from Sursur village

5.5 Annual Activities of Livestock Owners

Map 2 below clearly demonstrates that semi-nomadism is still prevalent and plays an important role in their life. The annual activities of livestock owners are also demonstrated in the calendar below. The calendar consists of three major seasons (Rainy Season, Harvest Season, and Dry Season).

Map 2: Annual Nomadic Movement of Sursur Livestock Owners



*Black arrow on Map 2 shows their annual movement from Sursur village to Ethiopia. Numbers (1, 2, and 3) shows approximate places where livestock owners are in each season of the year. 1. Rainy season, 2. Harvest season and 3. Dry season (all seasons are explained below). At the time when we conducted research, we were the place around “2” on the map.

Table 8: Annual Activities Calendar of Livestock Owners

Season	Duration	Rain-fed Agriculture	Activities in livestock farming
Rainy Season	July - October	Cultivating their lands	Bring their cattle close to their settlement
Harvest Season	November – February	Harvesting	Feed their cattle with bi-product & start moving to water and grazing point away from their village
Dry Season	March - June	Attending social events	Take cattle away to the most far area from their village

As already mentioned above although livestock farming is still at the center of their life, the agricultural side is growing and becoming an important part of the contribution to securing their food and also securing their animal feed. This is largely because of the current critical situation with the lack of grazing places. A major outcome from their rain-fed agricultural activities is sorghum. Sorghum is quite useful for them not only for food, but also using it as bi-product for animal feeding. Therefore a lot of livestock owners who own land engage in rain-fed agriculture to grow sorghum.

Rainy season is approximately between July and October. Characteristically this season is wet and suitable for rain-fed agriculture. Therefore a lot of livestock owners who own land engage in cultivating their land during this season. Due to sufficient grazing and water during this season, their cattle are brought close to their settlement.

Harvest season is between November and February. During this season, water and animal feed become difficult to find near their settlement. Therefore they need to start moving their livestock to find water and grazing point around Tekeze.

Dry Season runs approximately from March and to the end of June. Due to the critical situation of water and animal feeds, herders need to take their livestock toward Ethiopia along Tekeze River. If the water and grazing situation gets worse, they need to even cross the Ethiopian border where they may find better pastures to secure animal feeds. This time of the year is the most severe for them to secure their animal feedings as well as income from their milk producing. In addition to that, their moving distance becomes maximal in whole year. It is more than 100km in the distance from Sursur.

5.6 U-R Linkages in the Case of Sursur Livestock Owners

There are clearly continuous changes in the life of rural villages, for example, sedentalisation in this region changed not only the lifestyle of livestock owners but also their value system. Nowadays, value in cash is becoming more important than it used to be in their life in steps with growing expenditure in health care, education, daily consumption and suplimentary animal feed due to lack of grazing resources to feed their animals. This lifestyle change clearly has a deep impact on U-R linkage. In this society U-R linkage plays a critical role in widening their livelihood opportunitires.

Three types of U-R Linkages used by Sursur livestock owners

In this case study, we focused on the livestock owners who particularly deal with milk production and sale. Therefore the case study is mainly about U-R linkage of milk sales. However, it is also true that their life is deeply connected to other U-R linkages. Fodder market and livestock market are typical examples. These two markets also play an important role in their life. Therefore in this case study following three natures of U-R linkages are briefly examined and presented;

- U-R linkage in milk sales
- U-R linkage in animal fodder sales
- U-R linkage in livestock sales

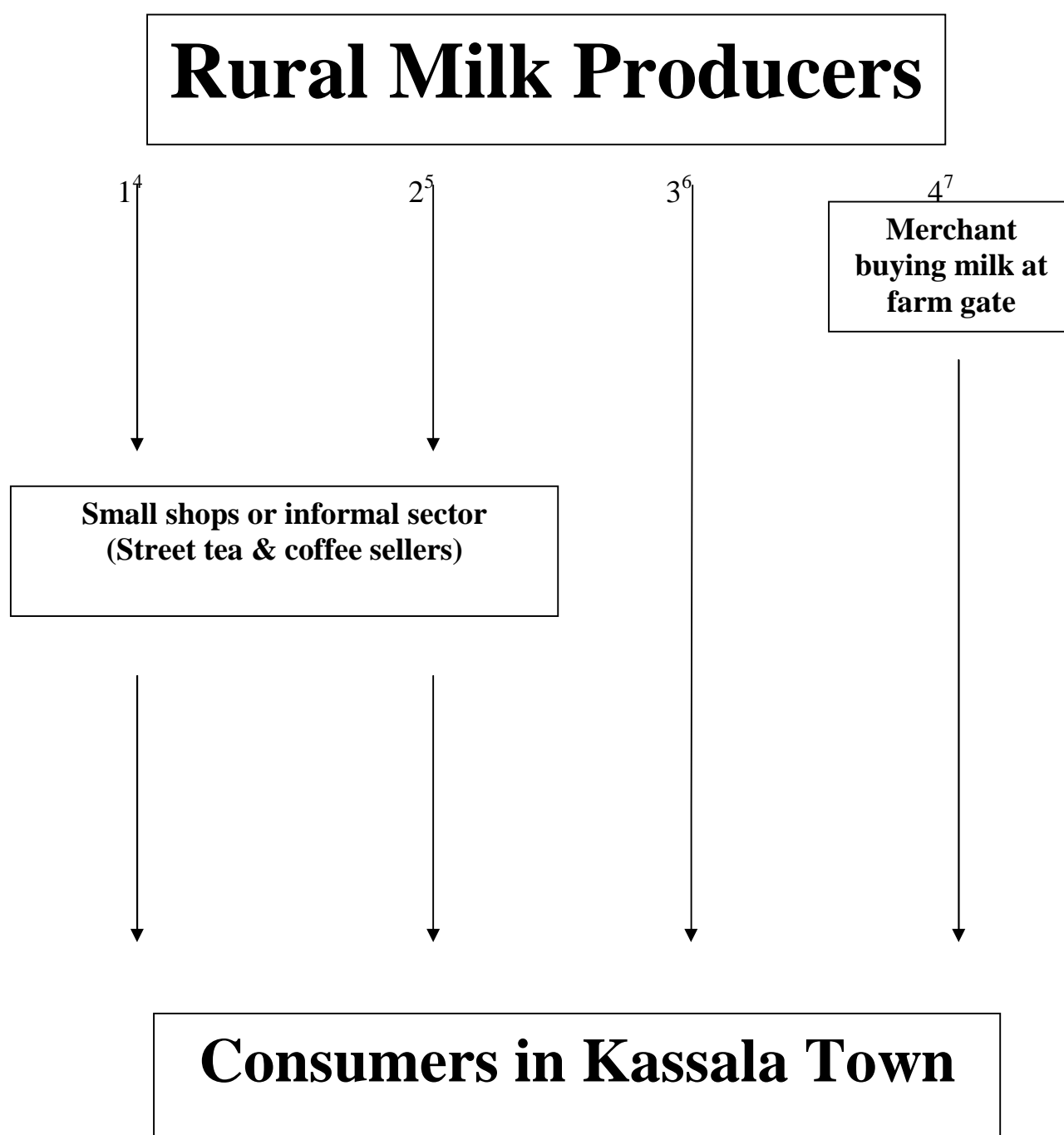
a. The Nature of U-R Linkage in Milk Sales

Compared to the other two linkages, this linkage is unique because this U-R linkage does not have a large market place where milk is traded. This connection is much more straightforward and not complicated. The link is almost direct between producers (livestock owners) from the settlement to consumers (urban dwellers) in Kassala town.

See diagram 1 below showing how producers and consumers are connected between urban and rural. From our research, we have not found any evidence of a major involvement of middlemen in the chain. In addition to that, surprisingly, there is no taxation on milk sales. The linkage is established on the basis of trust among relatives, clan members and friends.

Thus, key players in this chain are mainly people who are close to the producers. Therefore in this system, over charging is not the case most of the time. For example, in Ali's case, he has a friend who sells his milk for him in the town and this friend of him gives money to him next day as a profit. In this case, only a small amount of money is taken as a margin by shop owner (the friend of Ali) and rest of money goes to the producer (Ali in this case).

Diagram 1: Milk Trading Channels Flow Diagram



⁴ By using a hired lorry, some herd members bring milk to small shops and ask them to sell it in Kassala town

⁵ By their car or pickup van, livestock owners go to town to sell milk to small shops

⁶ By using a hired lorry, livestock owners come to Kassala town and sell milk on the street by themselves

⁷ Selling a milk on farming point (merchants with lorry), some merchants come to farming gate to buy milk at low price compared to the price in town

Tracing milk from producing point to consumers

Milking is normally done after the supplementary feeding and water giving to cattle. Therefore it normally takes place near a water point which is called “Hafir” or around river banks. Feeding and giving water to cattle helps maximize the amount of milk that cows produce. After the milking, milk is normally filled in several containers. Then containers are immediately picked up by a lorry and travel all the way to Kassala town.



PictureIII: Livestock owners preparing milk for selling it at farming gate 94 Kms outside Kassala, Rimela Area

Cows are milked between 12pm to 14pm and the milk is brought to Kassala town around 17pm every day throughout the year except some times in the dry season in which milk producing is extremely low and all animals are far away from their village (more than 100Kms). The milk is boiled and sold instantly to the ‘milk hungry’ customers in Kassala. Boiled milk can be kept overnight for sale next morning. According to our research, there are mainly 4 different channels that producers take to sell milk in Kassala town as showed on Diagram 1 above.

1. By using a hired lorry, some herd members bring milk to small shops and ask them to sell it in Kassala town
2. By their car or pickup van, livestock owners go to town to sell milk to small shops
3. By using a hired lorry, livestock owners come to Kassala town and sell milk on the street by themselves
4. Selling a milk on farming point (merchants with lorry), some merchants come to farming gate to buy milk at low price compared to the price in town

In most cases, they use a hired lorry (see pictures below) for bringing milk to the town, however if livestock owners are well-off and have a means of transportation, they bring milk by themselves.



Picture IV & V: Lorries are used for taking milk from production point to Kassala town and bringing back foods, supplementary animal fodders which is bought in Kassala town to the grazing areas

According to livestock owners in Sursur village, a lorry can be hired by a group of 15 to 20 small producers at around 140 SDG per round trip between Kassala town and the grazing areas (at this time, they are in Rimela area which is 94kms outside Kassala). In this way livestock owners decrease the money spent on transportation costs.

The price of milk differs in the location where milk is sold and the distance traveled. Due to the extra expenditure for transportation, the price of milk sold at the farm gate is lower than the price of milk sold in town. For example, if milk is sold in town the price of the milk can be 80 Piaster⁸ up to 100 PT per Rattle⁹, on the other hand, milk sold at farming gate is up to only 60 Piaster per Rattle. Furthermore the price of milk differs depending on seasons as well. The price changes of milk in seasons are listed below.

Table 9: Seasonal price difference in milk

Months	Price per R. on production point	Price per R. in town
Aug, Sep, and Oct	30 Piaster	50 Piaster
Nov to March	60 Piaster	80 to 100 Piaster
April, May, June and July	80 Piaster	100 Piaster

Source: Interview data

In rainy season, normally the price of milk goes down due to a sufficient supply of milk in the market. This is because during the rainy season, there is plenty of water as well as animal feed so that cattle can produce a lot of milk. From November to March, the price of milk goes up. In the dry season which is between April and July, the price is the highest throughout the year, due to a lack of productivity, shortage of fodder and water.

⁸ Piaste (P.T)

⁹ Rattle: equivalent to 1Lb, about 50ml

b. The Nature of U-R Linkage in Fodder Sales

Along with severe situation in grazing, the idea of supplementary fodder (picture below) is growing rapidly. This practice is introduced recently through public awareness, and training. In fact, the majority of the money which they earned from milk goes to supplementary feeding. There are several market places in Kassala town dealing with feed such as bi-product of sorghum, wheat, sesame, and so on. Most of animal feed sold in the market in Kassala town come from Gedarif state.

Livestock owners from Sursur village come and buy supplementary animal feed (see picture VI below) here in this market immediately after they collect money and milk containers from small scale shops or other informal sector (Street tea & coffee sellers, etc) in the morning. They bring supplementary animal feed and other daily consumption materials (sugar, coffee etc) to the other groups of workers who take care of cattle at the water point.



**Picture VI: Supplementary Animal Feed Sold in Kassala Market
(Sesame Cake and Wheat Bran)**



Picture VII: Crop Fodder market in Kassala town

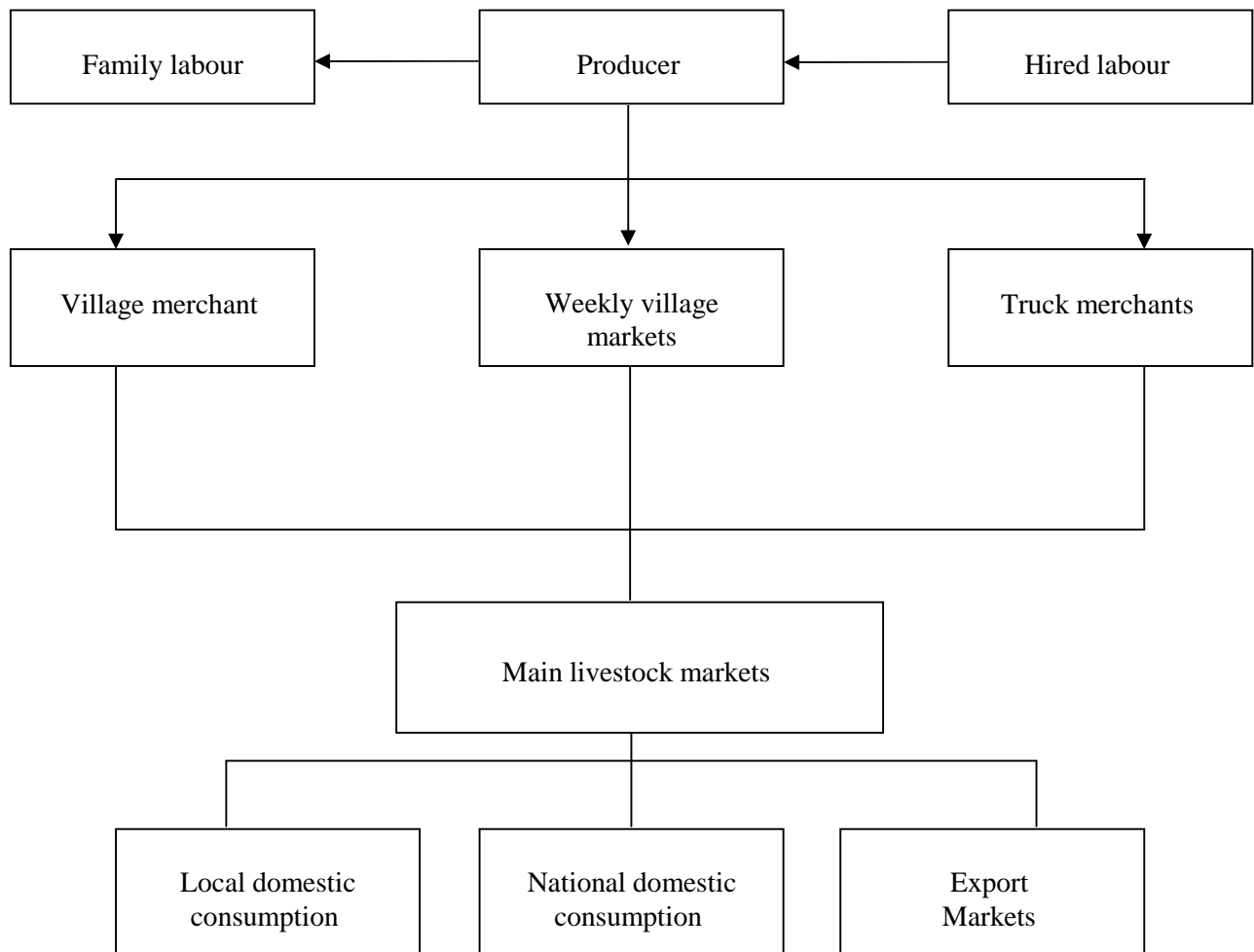
c. The Nature of U-R Linkage in Livestock Sales

The nature of U-R linkage in livestock sales is also simple, governed by the social and economic forces operating in the Sudanese economy. The livestock producer role in the market system is almost instinctive, traditional and repetitive.

Diagram 2 shows the livestock marketing channel with a possibility of by-passing one step. What concerns the pastoralists in this diagram is the channel from the producer to the main market.

We observed that pastoralists in Kassala tend not to sell livestock on investment or commercial basis. They sell animals when they are in bad need for cash that cannot be obtained from other sources (petty trade, crops, wild products, etc).

Diagram 2: Livestock Marketing Channels Flow Diagram



Information collected during this study provided the following selling indicators:

- Lack of necessary petty cash
- Need for urgent health care
- Social occasions (marriage and death)
- Paying variety of taxes including religious Tax “Zakat”¹⁰,

Each of the above indicators implies that they sell animals at the lowest prices available since they are not able wait for better market conditions.

The prices in livestock sales vary according to the seasons and to a great extent according to the urgency of the family cash needs.

- Good seasons are characterized by low mortality, high number of offspring, high restocking, low off take and high prices. During the rainy season livestock owners resist selling animals and that drives prices up.
- Bad seasons are characterized by high mortality, low birth rate, and higher off take. This leads to high supply of poor animals at low prices.

Table 10 shows the maximum and minimum prices of each species of livestock in good and bad seasons.

Table 10: Livestock prices in SDG/head in Kassala Markets

Species	Max (A#)	Min (B)
Cross dairy cows	2700	2600
Local dairy cows	1800	1300
Beef cattle	700	500
Rams	180	80
Male goats	70	40
Female goats (breeding)	100	80
Camels (meat)	1200	900

Source: Interview data.

The majority of sales in the study area are for sheep followed by beef cattle, camels and dairy cattle. As shown in the table above maximum price variation is expressed by rams. A small variation in prices was observed with breeding cross dairy cows since their market supply and demand and their raising is completely different from other stocks.

¹⁰ Zakat is the amount of money that every adult, mentally stable, free, and financially able Muslim, male and female, has to pay to support specific categories people.

Source: <http://www.islamicity.com/mosque/Zakat/#learn> (09/01/08)



Picture VIII: The Main livestock market in the outskirts Kassala town

5.7 Analysis

The nature of U-R Linkages used by livestock owners in Sursur

Three linkages shown above are not all complicated structures. A common characteristic of these linkages is the spirit of mutual trust among people who are involved in the trading system which is based on clan, relative, and friendly connections. Middlemen are not major players in such a linkage. The linkage of milk sales, as we have observed, is almost a direct connection between producers and consumers without any big market places.

The idea of selling milk as well as buying supplementary animal fodders is a comparatively new trend for livestock owners not only in Sursur villagers but also other rural dwellers. This demonstrates that these U-R linkages in milk sales and animal fodder sales are comparatively new. In these new linkages, it seems that the structure of linkages tends to be simple and also that there is not much interaction with government or private sector. These channels are established and developed by people who need the channel, in this case rural and urban dwellers.

Regarding milk sales, there was a traditional reluctance to sell milk and selling milk was a taboo. According to the number of participants, selling milk was considered a shame. Milk was something God gives and people shared it around, nobody sold it. Therefore money from milk sales (something God gives) was considered as dirty money as it may bring a curse to the animals. However nowadays, milk selling is quite common.

Two assumptions can be made regarding this. One is a value change in cash in semi-nomadic life and the other is growing milk demand in urban area.

The value change in cash has grown in steps with sedentarisation. People need to have a certain amount of money for fulfilling their needs in education, health services, animal feedings, and other daily consumptions. This might encourage people to generate income from what they already have.

In addition, another key reason is the growing need of milk in Kassala town. Many urban dwellers in Kassala town used to have cattle at home, however as the process of urbanization goes further, the space for livestock was becoming limited in the town center. At the same time, population growth was happening in the urban and peri-urban areas. Therefore urban dwellers became dependent on milk produced in rural areas. This also motivates rural milk producers to sell more milk to urban dwellers. All things considered, it is clear that emerging or established U-R linkages in milk sales is fulfilling demands and supplies from both urban and rural sides and this is likely to grow.

The scarcity of grazing resources forced the livestock owners to depend more on supplemental animal feed which has to be brought from Kassala town. As a coping mechanism, they started making their size of herd smaller and in addition to that, they started using agricultural bi-product for animal feeding. This is yet another example of the emerging symbiotic relationships between the urban and the rural.

Why do the linkages matter in this particular community?

At the time when they lived a nomadic life, these linkages were non-existent or very weak and people did not have much connection to the urban areas. However, because of sedentarisation, their life is connected to urban areas within the three linkages described above.

The three linkages clearly have many socio-economic implications for the communities. For example, the U-R linkage in milk sales brought the opportunity to access income generating activities to cattle owners. The linkage in fodder sales brought a new way of securing animal feed which can be an alternative way of grazing in the future. The linkage in livestock sales also brought the means of income generating to livestock owners. Furthermore these linkages also diversified villagers' opportunities to secure their life needs. For example, in terms of job opportunities for non-livestock owners, existence of these linkages helps them to get jobs like following:

- Market Investigators - People work as a market investigator. Investigators check the price of livestock as well as fodders and inform it to livestock owners.
- Delal -These people take a role for selling animals. Basically, they are responsible for taking care of animals and selling animals to consumers on behalf of producers. They get a small margin out of profits.

Regarding the U-R linkage in milk sales, it helps people who need to come to the town and sell milk everyday (just like Ali) to be exposed to information in the town.

Regarding a current critical situation in a lack of grazing land which is the most serious issue for the livestock owners, these linkages contribute to diversifying the ways of securing animal feed. Lack of animal feed causes low productivity of milk or low quality of livestock which are sold at very low prices, thereby leading to insufficient income for the livestock owners. Insufficient income in households badly affects all aspects of their life such as health, education and others, of course, including animal feeding. Therefore, animal feed is crucial for them to secure their life

Apart from these three linkages, the U-R linkage established by women has also provided opportunities for women to get involved in income generating activities. Due to strict traditions women in this society have never had opportunities to work outside the home. However this opportunity in income generating activities will help empower women.

All these linkages, among others, will have positive medium and long term impacts on the natural resource base and on total environmental conditions. Certainly these changes will decrease the pressure on land and to give it enhance to regenerate itself, will decrease pressure on forests (firewood) and will give time to indigenous grazing plants to regenerate.

What might become important to look at more extensively in future research?

Through this case study, authors found that, along with a new trend of supplemental animal feeding which is done mainly by giving agricultural by-product to animals, the U-R linkage of fadder sales become more and more important for rural livestock owners. Therefore the further study focused on this linkage as well as trade with neighbouring states (Gardaruf particulaly) is important in order to assess the situation and find out the way the poor can take advantage of the linkage for securing their animal feeding.

6. Conclusions, Findings and Recommendations

A. Main findings

1. The study clearly shows that rural-urban socio-economic interactions are fairly well established and there is no doubt such interactions are to the benefit of the rural and urban poor. Milk, livestock sales, animal fodder and sorghum trading are the crucial connections in such interaction. Such interaction could also be described as symbiotic, non-exploitative and thus enhancing rural-urban economic and social interactions. We did not observe many barriers or controls to such interactions from the local authorities. Particularly, in terms of milk trade, the linkage is very simple and does not have middlemen as such repeatedly postulated idea by professionals.

2. A major process of sedentarisation of pastoral and agropastoral peoples is underway due to a number of environmental, political and social factors, which have negatively impacted upon traditional pastoralism as the main livelihood system in the study area. Nomadic hamlets have now become villages and villages have been transformed to larger settlements or quasi towns. Kassala town itself, which has swollen into a big city, offers limited employment opportunities and so people prefer to keep their foot in their villages while successfully trading with Kassala town which is the main trading centre.

Within such settlements people are adopting multiple survival strategies including livestock/milk trading in Kassala, seasonal agricultural work, and keeping the family in one permanent settlement so that the families could benefit from available educational and health services. It is interesting to observe that many of the herders prefer to stay within the peripheries of Kassala town in order to sell milk for cash, buy animal fodder and other essential commodities.

3. In this new settlement pattern the whole family stays in one settlement keeping small stock (sheep/goats) while the men seasonally migrate with the larger stock (cattle and camels) to where they can find better grazing. In the absence of men women are now carrying out additional responsibilities such as taking care of small stock, looking after older folk, collecting fire wood, attending social functions and so on. These changes although by default and not by design are significant in a male dominated society where the role of women has been very restricted. Within the household decision making is dominated by women and taken to the public by men for cultural reasons. We also observed that more than half of the students in primary schools we visited are females. It has to be pointed out however that the role of women in agricultural work and trading among the Beni Amer is still very limited.

4. We have found very little field evidence that the current international food price increases have driven the process of urbanisation in the Kassala State. Evidence on the ground clearly indicates that the sedenterisation and urbanisation processes have been progressively taking place over the last two decades and were caused by a combination of political, social and environmental factors most of which were beyond the control of the communities concerned. It is more or less an adaptation process and coping mechanism in response to these internal and external factors.

5. The private sector, which is still underdeveloped, seems to have very little control over the livestock trade but have major control over the grain supply and control of

the market over food commodities. The terms of trade at present (due to the prevailing drought situation in the Region) are not in favour of livestock owners who are forced to sell their animals for very low prices. As the long dry season approaches there is a real threat of famine where thousands of livestock may be decimated and rural people affected by famine.

6. International food price increases have led to an increase of prices in some imported commodities including wheat flour. Sorghum, which is the staple food for the urban and rural low-income communities, has doubled in price compared to the last two years. But this has more to do with inequitable internal distribution of grain and other food commodities and with poor harvest during 2008 and the fact those rich merchants taking advantage of the demand-supply situation. It can be argued that international food price increases have visibly limited impact on urban-rural interactions.

7. According to our key informants, the focus group discussions and our own observations livestock owners both urban and rural are suffering from huge shortages of animal feed during the long dry season. Livestock owners are accustomed to providing animal feed supplements like sesame cake, groundnut cake, sorghum straw etc. which have to be bought mostly in Kassala town and taken back to their settlements or the grazing areas depending on the season. After food and clothing the purchase of animal feed is the second most costly item in the family budget. In some of the remote grazing areas we were told that grass may be available but lack of water becomes a major constraint for livestock owners. This is particularly true when the pastoralists move to the Butana plains where there are rich pastures and poor supply.

8. Cross-border trade between Eritrea and Kassala State operates on an on-off basis with some restrictions from both governments. There are some regulations and restrictions, which makes the free flow of goods and services difficult at times. Much of the cross border trade is also affected negatively or positively depending on the political climate between the neighbouring countries. Recent cross border trade restrictions include livestock export ban from Eritrea, which was reciprocated, by grain export ban from the Sudan side.

Unfortunately we have found very little documented information on the extent and value of the cross border trade both formal and informal between the two countries.

In terms of cross border grazing it is difficult for both governments to control the long porous border between the two countries and livestock owners from both sides reported that many of them seasonally cross borders in search of grass and water. Here it should be noted that there are common tribal linkages between the two countries where it is difficult to differentiate between them. Another form of survival strategy for many cross border communities is for them to acquire two different identity cards which creates de-facto dual citizens (i.e Sudanese-Eritrean).

9. In terms of the capacity of Local Government institutions and grassroots led CBOs and NGOs there are great limitations not only in terms of delivering services to the people but also lack of basic information on the complementarity of the evolving livelihood systems mentioned above. Specifically, there is lack of capacity in understanding of the process of urbanization and a stratified planning mechanism built on the participatory community consensus.

Policy makers at State and Federal levels seem to perceive the 'Rural' and the 'Urban' as two very distinct livelihoods systems which because of their spatial setting would require very different development intervention strategies. In the case of the Kassala State the 'Rural-Urban' dichotomy is not helping in understanding the complex realities on the ground and alternative approaches, which look at the inclusive nature of such a livelihood systems, is recommended.

In this respect there is a huge information gap and policy makers need to inform themselves on the critical significance on urban-rural relationships in view of the inevitability large-scale urbanization in Kassala and other states in Sudan.

B. Recommendations

1. It is recommended that an empirically based policy review is conducted and such a review needs to take on board the realities on the ground and the aspirations of the evolving communities both rural and urban as indicated by this study. Holding a workshop to discuss the findings of this research would be an important first step towards realizing such an objective. We therefore strongly recommend that IIED, PENHA and other interested partners support such a worthy initiative.
2. Urban and Peri-urban agriculture in and around Kassala town is an important economic activity about which very little is known. We recommend a proper study on the significance of Urban-Periurban agriculture and its contribution to local food security. With growing urbanization there is no doubt that Urban agriculture will grow in its socio-economic and environmental significance.
3. There is a need to assess and understand the capacity limitations (i.e conceptual, contextual and practical) on the part of the policy makers especially at State levels. There is thus an urgent need for capacity building support on policy issues and how they relate to strategies and plans oriented towards human development rather than natural resource exploitation.
4. Rural-urban linkages can be restored through the removal of the existing price distortions with the reduction of barriers to rural-urban-rural trade which necessitates investment in physical and social assets. Rural communities, particularly agro-pastoralists need to be engaged closely with existing market players and new comers.
5. Make a proper assessment of the existing capacities of the private sector with the view to re-energize and reactivate the private sector to provide services to the rural and urban poor
6. Animal nutrition is facing serious feed and water shortages during the period March – June every year and is causing great losses and waste. Feed collection, treatment, processing and packaging need paramount attention for multi-purposes; to improve productivity to build an industry to accumulate capital and reduce pressure on the already pressured pasture-lands. Agricultural by products are residues are abundant and wasted.

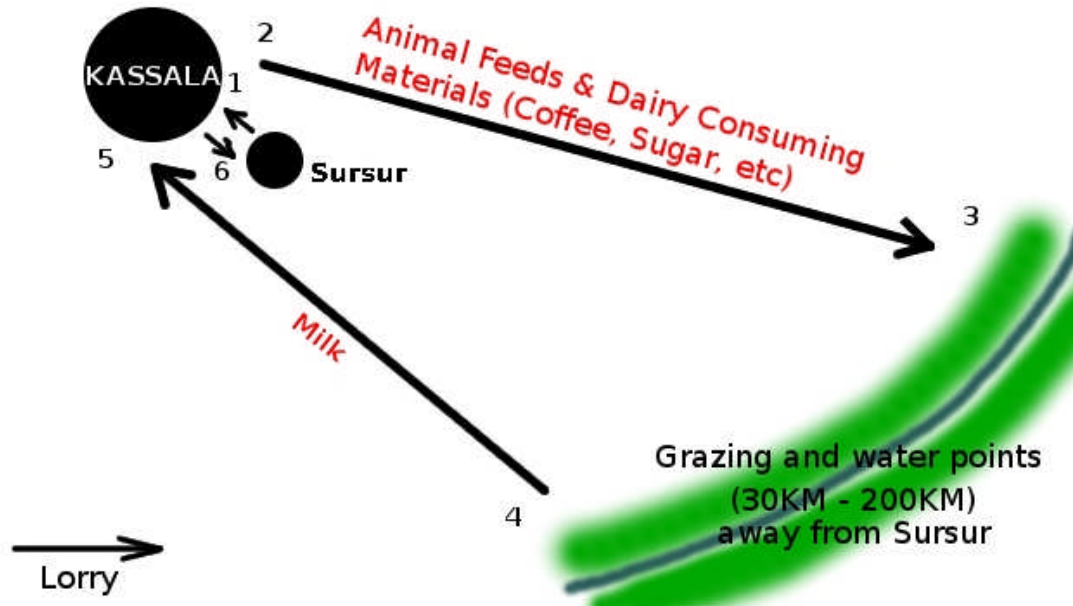
Annexes

Annex 1 Household Dairy Calendar (Ali's case)

	Ali	His wife	His Children (3 boys, 1 girl)	
5:00	Gets up (before sun-rise)	Gets up & prepares fire for morning coffee	Sleeping	
6:00	Gives money to his wife for the daily expenses	Feeds goats	Sleeping	
6:30	1. Leaves to Kassala town to collect money and milk containers from a milk seller	She cooks breakfast	Get up	
7:00	Washes containers and fills them with water for drinking	Eats breakfast with children	Eat breakfast	
8:00	2. Goes to fodder market to buy	Does housework	Take goats to the shepherds & go to school	
9:00	<ul style="list-style-type: none">▪ animal fodder▪ daily consumer items for herders staying with herds all the time		School	
10:00	and leaves town between 10:00 and 11:00.			
11:00	3. Goes to water point to deliver staff he bought and help herders to do followings	Prepares & eats lunch with children	Coming back for lunch	
12:00	<ul style="list-style-type: none">▪ Feeding cattle▪ Milking cattle (between 12pm and 14pm)	Does housework and makes handcraft. Sometimes goes to town to sell them in town.	School	
13:00				
14:00	4. Leaves water point to Kassala town to deliver Milk to a milk seller			
15:00				
16:00			Pick up their family goats from the shepherds	
17:00	5. Leaves milk with a milk seller & does public relations	Feeds goats	Playing	
18:00		Does housework		
19:00	6. Comes back home from town			
20:00	Last pray	Prepares Dinner	Help preparing dinner	

21:00	Dinner & Listening to Radio with his family		
22:00	Goes to bed	Goes to bed	Sleeping

Ali's daily activity



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