

UNGOVERNED MARKETS: THE EMERGENCE OF CAMEL MILK MARKETS IN STATELESS SOMALI AREAS.¹

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Abstract: The Milking Drylands research initiative addresses the critical issues of food security, market integration, gender roles and governance matters in a peculiar area of the world, the Somali ecosystem. Case studies are developed upon camel milk marketing mechanisms, in order to provide relevant insights about rural development within a society that experiences a long lasting lack of central government and institutional capacities. While major livelihood problems faced by Somali communities are addressed, interesting dynamics of endogenous development are explored, in order to stimulate appropriate understanding of complex pastoral economics and provide options for sensitive interventions.

Keywords (JEL): Sociology of Economics (A14), Agricultural Markets (Q13), Natural Resources (O13), Informal Sector (O17), Somalia - Africa (O55)

0 – Rationale

Food security in marginal drylands is a matter of increasing concern, as global political and economic changes are reshaping rural livelihoods in the Horn of Africa. Pastoral societies face more threats to their way of life now than at any previous time, as areas beset by recurrent climatic extremes show growing degrees of exposure to conflict, ex-migration and radicalism, which in turn increase the vulnerability of local communities.

After years of neglect, pastoralism is back on the agenda of the international community.

Pastoralism is changing rapidly in order to respond to the vagaries of the natural and socio-economic environments it is embedded to. Challenges brought by population growth, climate change and globalisation are posing increasing pressure on rich-but-fragile rangelands. This results in pastoral systems facing integration into the wider societal frame to ensure their existence. The way these adaptive changes reshape the ‘room for manoeuvre’ for pastoral resource management is a critical element for the sustainability of these processes.

This article introduces the Milking Drylands research initiative, which is aimed to understand the shifting livelihood patterns of pastoral communities in the Horn of Africa. More specifically Somali pastoralists show a high degree of globalisation of their systems, which extensively rely upon mobility, information networks and market integration (Swift J., 1979). A comprehensive analysis of developing pastoral markets in the Somali region is believed to provide relevant elements to understanding food security patterns and socio-economic changes of pastoral systems, in order to contribute to appropriate governance and sustainable development in marginal areas.

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1 – Intro: the Neglect of Pastoral Livelihoods

Pastoral societies traditionally represent very complex but poorly analysed systems, often denigrated by policy-makers and romanticized by novelists: in neither case properly understood. This attitude reflected a limited understanding of these societies, often perceived as based on backward and conservative attitudes and as such marginalized from the wider socio-political mainstream. Traditional analytical tools have in fact often failed to understand the fundamentals of pastoral livelihoods, the critical links where coping strategies develop into adaptive changes. As Warren (1995) put it, the malign nexus of colonial governance, scientific homogenisation and simplistic economic theories about the use of pastoral rangelands have had negative impacts all over the world.

While the demise of pastoral livelihoods has been announced regularly - often in the face of entirely contrary evidence for their persistence (Blench, 2001) - indications attest that in many areas of the world pastoralism represents the most important livelihood strategy of a growing number of households. Its overall relevance to food security in vulnerable areas is acknowledged nowadays, not only in supporting pastoral own subsistence, but also as contribution to the national economies of poor countries as well as the provision of protein-rich products to town and urban dwellers. All these contributions materialize in marginal lands where other land uses have shown ineffective.

Most of recent research work in dryland areas has addressed the management of natural resource (e.g. the desertification threat, the rangeland ecology debate, etc... - see Box below). This has stimulated a more constructive approach towards pastoral resource management, and triggered a more comprehensive understanding of pastoral livelihoods, seldom targeted by development interventions and often misinterpreted by national policies. It is now time for socio-economic scientists to consolidate interdisciplinary efforts aimed at further and better understanding the complex and amazing livelihoods of dryland communities.

Pastoral resource management is based on a complex set of temporary or more permanent claims on pasture, water and other resources, and on underlying principles of flexibility and reciprocity (Thebaud & Batterbury, 2001). Pastoral production is in fact a complex form of land use, involving the direct interaction between three systems in which pastoral people operate, i.e. the natural resource system, the resource users system and the larger geo-political system (Pratt et al, 1997). The specific and different interactions among these three systems define to large extent pastoral livelihood strategies, vulnerability levels and capacities to adapt to changes and respond to shocks.

BOX – The New ecology Approach

The interaction between the flexibility of pastoral systems and the non-equilibrium nature of rangelands carries potentials that have been only recently properly assessed and recognised (Behnke & Scoones, 1993). Recent studies have challenged old-fashioned paradigms by getting rid of the false belief that pastoral production is poorly efficient and detrimental for the fragile ecosystems it insists upon. Indeed pastoral systems have shown the ability to interact with their ecological systems better than other land uses, often resulting in the highest land productivity and the best possible degree of environmental conservation (see also van der Brink et al., 1995), as the biodiversity, robustness and resilience of rangelands attest.

Differently from sedentary farming communities, the resource base – land - is not a fixed capital individually owned, but rather a flexible asset with specific users and access mechanisms. Land management and tenure institutions have therefore developed with this built-in flexibility. As Scoones put it (1999) what new avenues of social science enquiry are suggested by new ecological thinking, with its focus on non-equilibrium dynamics, spatial and temporal variation complexity and uncertainty ?

Pastoral communities exhibit specific capacities to cope with uncertainties, which represent a traditional feature of their livelihoods. These adaptive skills have awarded pastoralists consistent resilient and responsive capacities in face of tumultuous changes and recurrent shocks. To the extent that the underlying meanings of pastoral pillars - such as mobility, flexibility, risk management, information networks, decentralized authority - to mention a few - are increasingly acknowledged in current debates and their potentials for sustainable development recognized.

By analysing the functioning and the dynamics of developing pastoral markets in the Somali ecosystem this research aims to provide elements for further understanding of pastoral livelihoods and more appropriate development policies.

2 – Somalia, the Missing Country

Somalia is one of the poorest and least developed countries in the world. In 1996 it ranked 172 out of 174 countries on the UN Development Programme's Human Development Index (HDI). Since then, Somalia has been excluded from ranking on the HDI due to lack of data.

Poor quality of soils, high temperatures and erratic rainfall patterns pose traditional constraints to production in Somali environments. Consequentially mobile livestock rearing traditionally represents the backbone of the Somali economy and the major source of livelihood for local communities. Herd and flock diversification allows for complimentary resource utilization, with the diverse animals embodying different economic functions and social roles.

BOX – the Somali national herd

2001 projections for Somalia estimated about 5.2 million cattle, 13.5 million sheep, 12.5 million goats and 6.2 million camels, with cattle concentrated in the South and camels in the drier rangelands of the North. Somalia has the highest camel population in the world and more than 60% of the milk consumed in Somalia is camel milk (about 935 million litres camel milk per year in 1990 - FAO Database). Livestock inhabiting neighbouring areas of the wider Somali ecosystem should also be accounted for in this analysis, as these animals and their herders traditionally participate and contribute to the overall Somali economy and society.

The scramble for Africa has left the Somali people with their land split among different countries. As a result Somali pastoral communities sharing the same ecological conditions, cultural features and livelihood patterns are scattered throughout the Horn of Africa (Ethiopia, Kenya, Somalia and Djibouti), in what has been defined as **the Somali ecosystem**. This concept is suggestive not only of the similar ecological conditions but also of a *continuum* pattern that characterises the man-made networks and relations that make these populations integrated and interdependent. Somali pastoral livelihood strategies take place in fact at a regional level without major consideration for borders. Cross-border networks and resource management patterns allow for extensive links that facilitate the regional movement of livestock and people, as well as of information and commodities. This 'frontier land' destiny is nothing new for pastoral societies, as Galaty et Al. noted in 1994.

Conflictive conditions are another distinct feature of the Somali society, with insecurity generated by a number of different reasons, from internal clan rivalries, to conflictive pastoralists-State relationships, from pan-Somali feelings to geo-political interest from neighbouring countries. The history of a central indigenous government in Somalia is limited to few decades, and mainly characterised by the rule of Gen. Siad Barre, who seized power through a coup d'Etat by the late 1960s and lost it in the beginning of the 1990s with a civil conflict that ravaged the country into a humanitarian crisis. The territories of previous Somalia are lacking a recognised central government since more than a decade - representing a unique case in the world – and are continuously faced with degrees of conflict and insecurity.

Other peculiar aspects of Somali pastoralism are the centrality of the pastoral mode of production and the degree of market orientation, cultural crossover and global integration of the whole Somali society. In contrast to from other regional systems, where they represent marginalised sectors, pastoralists are by large the leading force of the Somali society. Furthermore, due to historical and geographical features, Somali pastoralism shows a higher - and growing - integration of livelihoods in market dynamics as well as exposure of its economy to the global frame. Likewise, expatriated Somali communities (the diaspora) may be nowadays found throughout all continents. Their support to the local economy through remittance cannot be overemphasized.

As a result of these issues the pace of **market integration and globalisation trends** among Somali pastoralists is therefore faster than elsewhere in the Horn of Africa, especially since the fall of the collapse of the central State. This process is also turning basic resources such as water, land, labour and veterinary cares into commodities, exchanged or purchased on seasonal basis. As a consequence Somali pastoralists are more exposed to market dynamics than other pastoral societies, thus to enjoy the benefits and share the risks of such option. The critical trade-offs of pastoral market integration processes are therefore to be clearly assessed and their relevance for local livelihoods assessed, as terms of trade involved in these transactions are critical to support or undermine pastoral livelihoods.

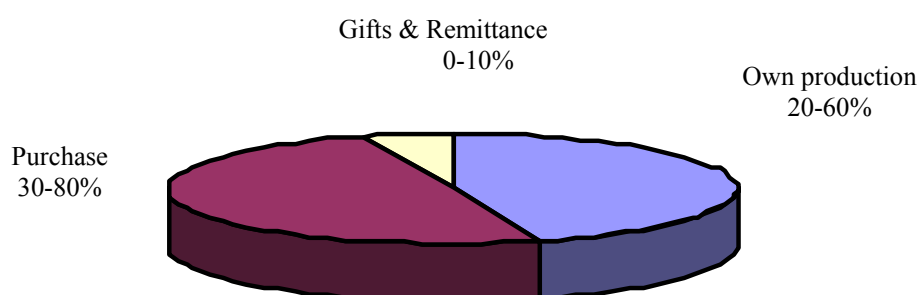


Figure 1: Average food economy pattern for Somali pastoral households

Source: FSAU, 2000

This chart shows the relative importance of food options for a middle pastoral household in a reference year. The pastoral average socio-economic group has access to increased own production due to the fact that they have consistent herd sizes. They are able to acquire almost half their food needs from their livestock and purchase the other half, often with the revenues generated from livestock products marketing.

3 – Challenged Rangelands

Most important critical trends challenging pastoral livelihoods in the Somali ecosystem at present are the human population increase, the fragmentation of the socio-political environment and the globalisation of its economy. All these processes result in overall increasing pressure on rich-but-fragile Somali rangelands so to stretch traditional ecological and social fabrics and carrying major consequences for local food security.

1) - The lack of the State authority and related centrally planned policies and investments, coupled with almost non-existent development interventions, provides limited room for much-needed economic growth and diversification in these marginal areas. **Options for alternative livelihoods are scanty** and young Somalis are forced either to migrate or to devote to traditional livestock herding in order to eke out their living. Moreover, conflictive conditions and refugee fluxes have undermined most traditional sectors of the Somali economy as well as traditional social support and resource management mechanisms. As a consequence, Somali rangelands are supporting an increasing number of people and demands, which challenges its carrying capacity.

2) – Due to the dramatic socio-political turmoil faced during the last decade, the **Somali socio-political fabric** is also under pressure. Distortion and erosion of customary institutions in Somalia started when state-related formal structures were superimposed to them and led to contested claims over resources. In Somali regions of Ethiopia and Kenya this process is more recent, while traditional authorities are now back in place in most of stateless Somalia. At a community level there is an overall decrease in the social cohesion and a return to the family, or small groups of families, as the main decision making unit. While State control is encroaching, especially in Somali regions of Kenya and Ethiopia, traditional decision-making mechanisms are challenged with widening social stratification, the emergence of a generation gap and redefined gender roles in most areas. These critical factors are internalized and also expressed in violent forms, resulting in degrees of conflict and insecurity. The crisis in decision-making and the resulting institutional shock are thought to become increasingly important for future pastoral livelihoods (de Haan & Gautier, 1999).

3) – **Globalisation trends** in these areas involve the growing number of agents and interests, which play a stake in pastoral arenas. Developing market integration and urbanization processes pose an increasing pressure on rangeland management. Livestock products represent the most important source of income for the predominantly pastoral population, and meat together with milk assure 55% of the calorie intake of the entire Somali people (EC, 2001). Furthermore revenues from the commercialization of pastoral products (about 65% of export earnings) provide the Somali economy with the much-needed resources to purchase imported staples. In this context no institutional setting is in place to interface these critical processes affecting the exposure and dependence of pastoral livelihoods to the mechanisms of the globalizing society.

All these processes carry major impact on pastoral environments, which are faced with encroaching interests and demands, challenged by climatic changes and threatened by the breakdown of customary resource management mechanisms and lacking the support of modern institutions. It is within this context that pastoral markets develop and increasingly contribute to reshaping the livelihoods of local communities, in their struggle to adapt to these processes. By building upon the fundamentals of pastoral resource management, skilled entrepreneurial capacities and exposure to international markets, the Somali society is seeking for its way out of food insecurity, political marginalisation and civil strife.

4 – The Development of Pastoral Markets

Since the fall of the Siad Barre regime and the subsequent collapse of the agriculture-based national economy (e.g. banana export to Europe) - which developed in greener southern Somalia along the Wabi Shebelle and Juba rivers - livestock trade has expanded to become the overall most important economic activity in the Somali ecosystem, whose rangelands have been **trading livestock** at international level for centuries. Compared to other production systems, the impact of the civil war on livestock production and marketing in Somalia was in fact relatively limited due to the fundamentals of pastoralism itself, which is set upon effective resilience, coping mechanisms and adaptive strategies. Nowadays livestock alone accounts for about 40% of GDP and about 65% of export earnings.

After the peak of civil strife, export figures clearly attested to an expansion and development of Somali livestock trade. Major recipients of Somali livestock – mainly sheep and goats - in recent decades have been Arab countries, more specifically Saudi Arabia in the period from before Ramadan to the end of the Haji, when millions of Muslim pilgrims converge to Mecca. In 2001 approximately 300.000 small ruminants were exported from the Somali ports of Berbera and Boosaaso, until a ban put a second and major halt to the import of Somali livestock. The ban was technically justified on an animal health basis, in accordance with the OIE International Code, following episodes of Rift Valley Fever spreading during the holy pilgrimage (and possibly economic interests from other powerful livestock export lobbies).

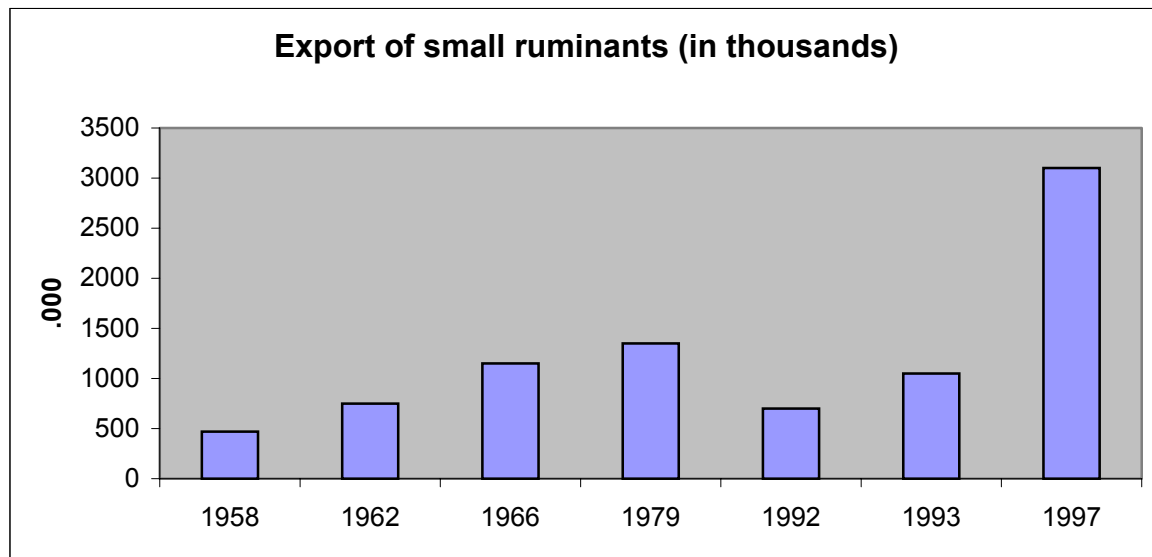


Figure 2 – Export of small ruminants from Somalia

Source: FSAU, 1998

The livestock ban provided a considerable shock to the Somali pastoral system. After years of almost constant growth Somali livestock export figures dropped dramatically. Somali pastoralists and traders had to face a dramatic situation to readapt their economic strategies. No institutional support was – and yet is – available to face this international matter.



Figure 3 – Livestock export figures from Boosaaso port

Source: UNCTAD, 2001

Critical trends and local shocks generated by erratic rainfall or conflict episodes are constantly dealt with in pastoral livelihood patterns, which show relevant degrees of flexibility and risk management capacities. Similarly the impact of shocks generated at the macro political and economic levels, such as the livestock ban, shows on one side the exposure of the Somali pastoral system to global decision-making processes while attesting, on the other, its resilience and the capacity to respond to the shifting conditions and adapt to the uncertain trends that characterise the region.

While the livestock ban has carried in fact dramatic consequences for local livelihoods, the Somali society has responded dynamically to this shock, by generating and developing alternative options to adapt to the new economic setting:

- New livestock export routes have been developed, still involving Gulf countries but also Libya and Egypt, especially for export of camels.
- Diversification of livestock products (e.g. carcasses from slaughterhouse to UAE) facing an increasing commercialisation in international markets.
- Enhanced cross-border trade towards Kenyan markets.
- Emergence of camel milk marketing to supply internal demand and provide alternative income generation to pastoral households.

These processes have developed despite the lack of recognised national authorities and consistent policy frame, which may play as an interface between pastoral societies and the wider global frame.

5 – The Commercialisation of Camel Milk

Among the different economic responses to these local critical conditions, the marketing of camel milk (CMM) represents an emerging form of pastoral entrepreneurship with some distinctive traits, when compared to the more traditional and long-established livestock trade and other forms of milk marketing. CMM is a quite recent enterprise Somali women developed as an adaptive strategy to generate some income as well as a coping mechanism to buffer against critical situations. It builds upon the economic potentials of drylands and the increasing urbanisation taking place in the Somali society. With more than 6 million head of camels, Somalia has the highest camel population in the world. A third of Somalia's camel population is located in the North. Camel herdsman populate most of the rangelands in North-Eastern region of Puntland, where camel husbandry is vital for the nomadic subsistence system at household and community level (UNA milk, 2004).

In the Somali pastoral culture, the one-humped camel (*Camelus dromedarius*) plays an important role, both in socio-cultural and economic terms, as it is not only able to make optimum use of the sparse vegetation but also to provide nutritious food for human beings. The economic potential of camel in arid and semi-arid lands is increasingly being recognised, together with its comparative advantages when compared to cattle and small ruminants, in terms of their adaptability to harsh climatic conditions. During the long dry seasons, it is often only camels that are able to maintain milk production while sheep, goats and cattle can no longer sustain lactation, because of their physiological dependence on large amounts of water for metabolism and cooling.

BOX – The precious features of camel milk

Camel milk shows an amount of outstanding features when compared to milk from other animals. Camel lactating period is longer than that of cows; milk is produced even under deep dry conditions and it preserves to an extent under harsh climatic extremes, thus to provide options for transport and processing in dryland environments. The nutritional value of camel milk is thoroughly acknowledged. Compared to cow milk it has higher protein and lactose levels, it is richer in minerals and in vitamins (especially A, B and C complexes), while fat content is lower in camel milk, thus to reduce cholesterol levels. Risks of TB and Brucella infections are lower. As such camel milk is especially utilised in the diet of children, sick and elderly persons. Increasingly therapeutical

properties of CM are also recognised. It has proven to boost the immune system against infections and allergies and provides relief to some diseases such as peptic ulcers and skin cancers. Its use in hospitals in some Arab countries (e.g. UAE) also addresses TB and AIDS problems (prof. U. Wernery, pers. comm., 2003).

Camel milk is the staple food of Somali pastoral communities, which rely on its direct consumption throughout the year as well as on its increasing relevance as an income generator. In the traditional pastoral society camel milk was only utilised for internal consumption or exchanged as a gift to establish and keep family ties and social support mechanisms. Previous reported experiences of its commercialization relate to the late 1980s, when camel milk marketing networks were established in southern Somalia to serve urban demands from the capital, Mogadishu (refer to the works of U.J. Herren, Uppsala University). As a result of the civil strife that remoulded the Somali socio-economic fabric, camel milk has increasingly become a marketable good in other areas of the Somali ecosystem and related trade has developed accordingly.

Current indications are in that the commercialization of camel milk in Somalia is expanding its outreach as well as improving its efficiency, and it increasingly represents a vital asset to ensure food security and promote socio-economic development of pastoral households. While current CMM developments aim to satisfy the increasing urban request, the growing demand from Arab countries provides a further challenge to its development into the global frame.

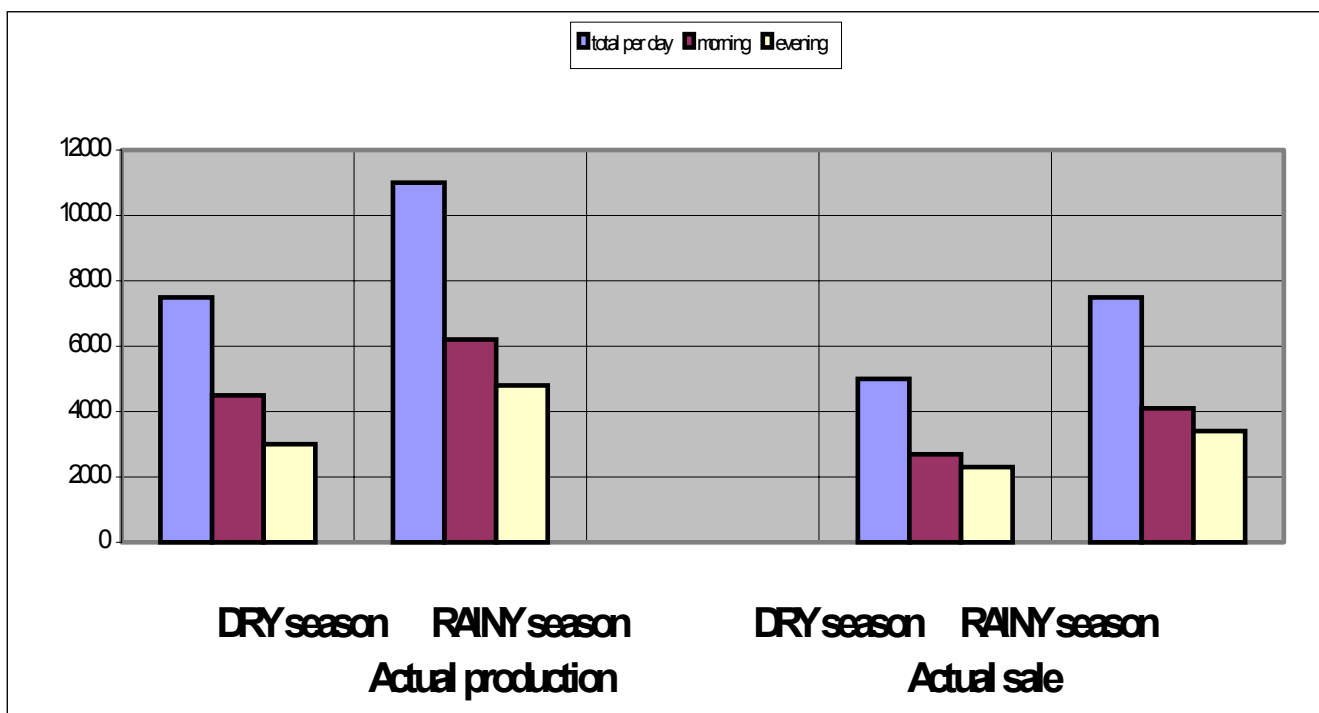


Figure 4 – Camel milk production and sale in NE Somalia (1998; liters/day)

Source: Farah Z., 1998

Camel milk trade shows high degrees of complexity, flexibility and effectiveness. It is complex as it involves a variety of agents, interests and relationships that continuously remould over time. It is flexible as it has to change through seasons and adapt to a variety of uncertain conditions (e.g. erratic rainfall or insecurity). It also shows to be effective as it efficiently serves a variety of different needs and interests on constant basis.

Seasonality plays a major role in milk marketing as its supply, quality and transport problems change drastically from the dry to the wet seasons, with consequent price fluctuations. The long dry

season (*diraac*) represents the most difficult time: milk supplies are lower, distances further and milk price higher. Pastoralists carefully consider economic trade offs before selling their milk in these periods, although are often limited in their choice by the need for cash to face household and herd needs (e.g. the purchase of water).

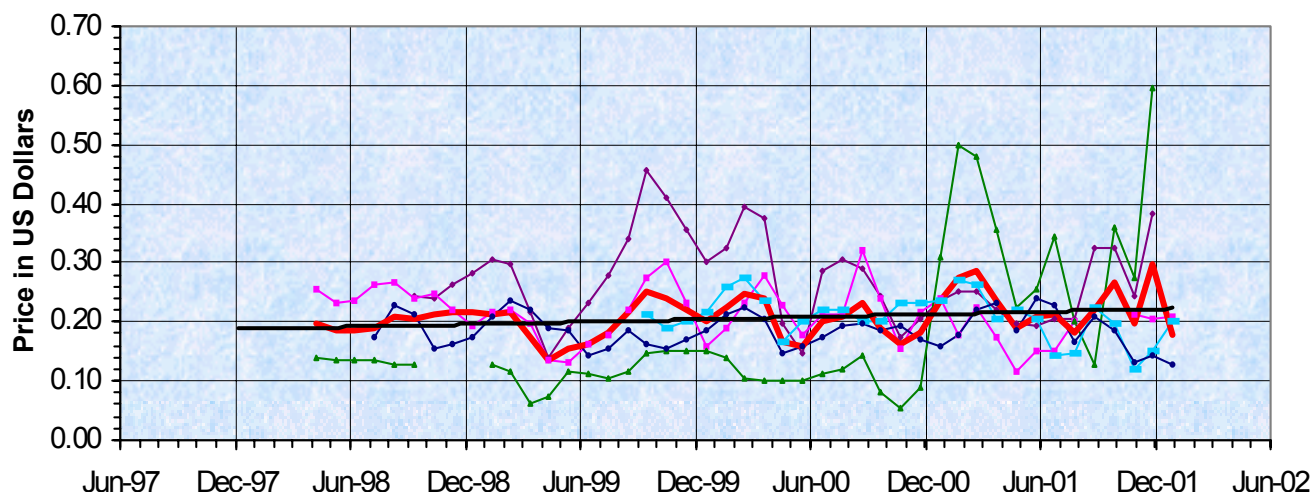


Figure 5 – Seasonality of CM pricing in different markets in Somalia

Source: FSAU, 2002

Somali camel milk marketing is an entirely private enterprise revolving around a trust system (money is paid after milk is sold) and operating without any institutional frame. The opportunity is here to assess the potentials and the threats an institutional setting may provide to the sustainable development of pastoral markets, as effective regulations are nevertheless needed to enhance the marketing of livestock products, especially on health-related matters, as the livestock ban has highlighted.

CMM relies upon networks of people and organisations (**the marketing agents**) entailing a variety of socio-economic activities and entertaining complex relationships, all revolving around CMM. These networks constantly exchange information and goods among the different areas of the Somali ecosystem as well as between the pastoral communities residing in inland ranges (producers) and the urban population inhabiting the towns and cities (consumers), through specific corridors. Relationships among the different CMM agents are based on social assets that enable collaboration towards common economic interests; family or clannish relationships seem in fact to constitute the original gender-based asset upon which milk marketing developed.



Figure 6 - The milk-marketing agents

The diverse milk marketing agents play distinct and complementary roles in different time and space scales and benefit or risk differently from this enterprise. Primary Milk Collectors (PMC) are women located in mobile camps which follow seasonal pastoral transhumance in order to collect

fresh morning milk from surrounding herders on daily basis. Milk is then sent to Secondary Milk Collectors (SMC) based in the recipient town markets, who daily receive camel milk and distribute it to market retailers. Transport Companies (TC) - managed by men – are hired by women collectors to carry milk to recipient markets. Daily covered distances may cover more than a hundred kilometres through rangelands. The links between **gender and market roles** are quite significant in this context. While women collectors' relationships constitute the backbone of the network, transport companies constitute the lifeblood of the system. These seem to take over major functions and responsibilities from women collectors as the system develops.

All agents include a mark-up in the milk price for the task they undertake in the system with risks, costs and benefits seasonally differentiated for the diverse agents. Although the value of milk and other commodities are thoroughly expressed in cash terms, most actual transactions take place either on credit basis or in the form of bartering, exchanged with food or non-food commodities. The effective use of cash is limited and mainly virtual. Other goods are exchanged complementarily and inversely through the CMM system, in order to satisfy pastoral needs for non-animal products as well as to increase the overall convenience of traders.

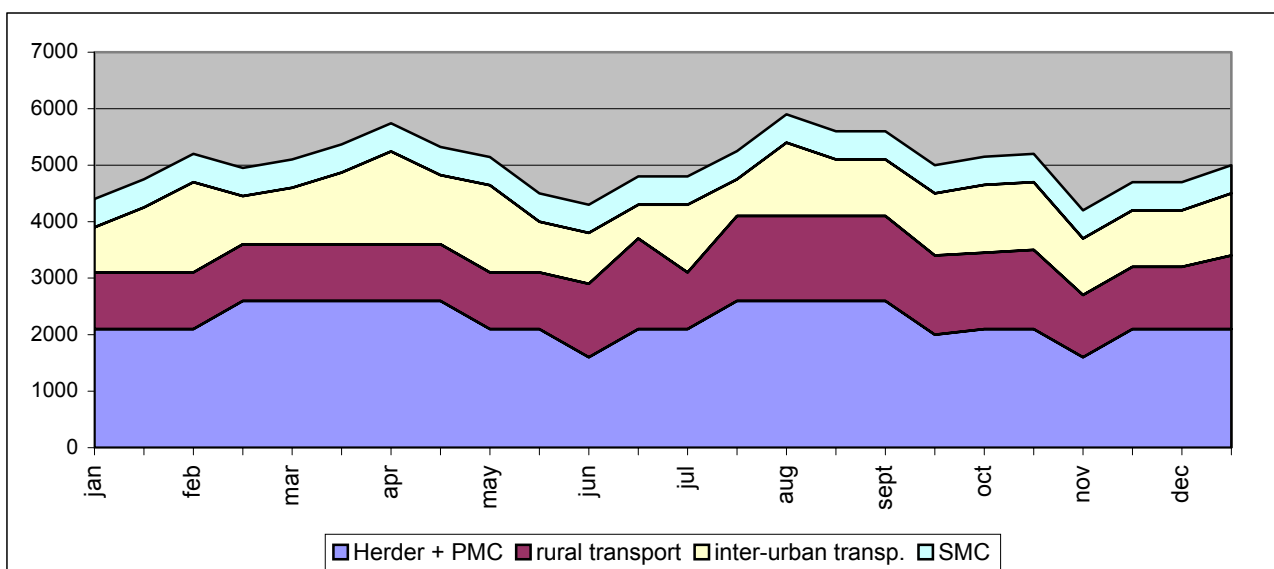


Figure 7 - Seasonal profit margins of CMM agents for W. Company (Qardho, 2000)

Source: UNAmilk - note: values expressed in SoSh/galaan- 1 galaan = 0.75 litres

Critical interfaces to assess and analyse the economic relationships among the different agents are the **terms of trade** between pastoral and imported goods. Theoretically calorie terms of trade could be very favourable for pastoral milk sellers: weight for weight the energy content (calories) of cereals is about five times greater than that of milk. While Camel milk contains about 700 cal/kg, locally consumed cereals (mainly rice and wheat) contain about 3.300-3.500 cal/kg (Save the Children UK, 2000).

Despite these potentials, field indications are in that market terms of trade are slowly but inexorably moving against pastoral milk producers. In other words, the value of pastoral products, either exchanged directly against grain or sold to buy grain, is gradually declining. In these conditions inflation strikes producers who are more exposed to impacting trends and shocks. As an example during the year 2000 pastoralists' purchasing power in NE Somalia was cut to one third of its 1999 value, due to drought conditions that compounded an already critical situation created by the livestock ban.

This situation is due to the fact that pastoralists operate within a subsistence-oriented economy and they tend to be squeezed by the other agents that operate with a market-oriented approach. Indications are that pastoralists have limited access to updated information of market pricing and hold limited negotiation power in the bush due to limited alternative options.

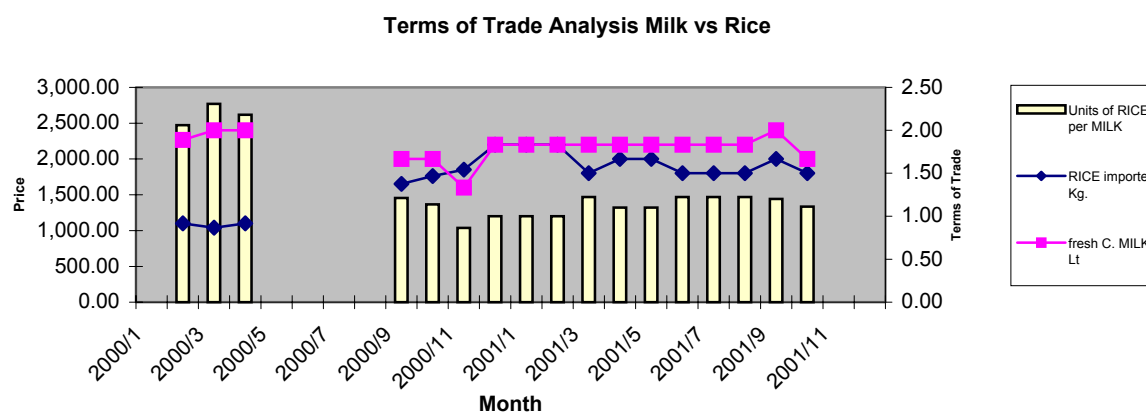


Figure 8: Terms of Trade between pastoral and imported products (Hargeisa market 2000/2001)
Source: FEWS

6 – The Milking Drylands Research Initiative

Food security and sustainable development of the Somali society – one of the most marginalised and vulnerable in the world - necessarily proceed through enhanced market integration of local livelihoods and globalisation of its economy. Although these processes have been developing for decades, Somali pastoralists are still struggling to get adequate compensation for their valuable products and services.

Overall figures from the limited official data, grey literature on local livelihoods and preliminary indications from the Milking Drylands research indicate some critical trends paralleled by interesting development options in the Somali ecosystem. The picture depicted provides relevant contributions to addressing the asymmetries of globalisation at different levels as it raises critical issues of vulnerability, poverty, market and governance in marginal areas which are tailoring their integration into the wider societal frame.

The Milking Drylands research builds upon these indications to develop a more thorough understanding of pastoral livelihoods vis-à-vis ongoing processes of integration into wider societal frames. The overall objective of this research is to contribute to improving food security and

sustainable development of pastoral communities in the Horn of Africa. More specifically the research will investigate the emergence and development of camel milk marketing in different Somali areas, in order to comprehensively address issues related to gender in drylands, governance of pastoral areas and sustainable technological change, which are considered pivotal for sustainable development of pastoral societies.

With this respect the ‘milking drylands’ research needs to forge an innovative and comprehensive **methodological approach** that enables undertaking multi-disciplinary and inter-sectoral efforts aimed at analysing the complex nature of pastoral markets. Locally tailored concepts have been developed to support information and data collection and analysis in pastoral areas. The Somali Ecosystem and the Corridor Approach allow tackling the complex geographical and societal dynamics of local pastoral markets through indigenous lens, that is the way Somali pastoralists perceive and strategically manage their resources.

Comparative analysis from different areas of the Somali ecosystem will provide the research with critical insights of the Somali societal changes and will allow assessing the influence of diverse cultures, institutions and markets to local development processes. Due to the huge extension of this ecosystem, and resultant influences of agro-ecologies, clan system and market networks, different ‘corridors’ can be said to exist, through which national and cross-border movements of livestock, people, goods and money take place and communication networks among Somalis strongly exist.

BOX – Somali corridors in the Horn

Such corridors will enable a comprehensive understanding of local socio-economic dynamics. Major Somali corridors are:

- * Issa: Shinille (Ogaden) – Djibouti – Awdal (Somaliland)
- * Issaq: Jijiga – Hartisheikh – Hargeisa – Berbera
- * (Darod) Ogaden - Majerteen: Warder (Ogaden) – Puntland (Somalia)
- * (Darod) Ogaden – Marehan/Majertein: Garissa (NE Kenya) – Gedo – Juba – Kismayo
- * Garre: Liben (Ogaden) – Wajjir – Lower/Middle Juba – Merka
- * Ogaden – Hawiye: Gode – Belet Weyn – Mogadishu

Other forms of corridor, based on ecological conditions and the resulting economic specialization can also be traced and superimposed on the above clan-defined territory. This would assist the further understanding of market flows, such as the cattle corridor (towards Kenya), the grain corridors (from riverine areas), the food relief corridors (depending on where a crisis happens) and others (Majid N., Nori M., 2003).

More specifically **comparative Case Studies** addressing milk and livestock markets in Puntland (NE Somalia), Liben zone (Ogaden, Somali region of Ethiopia) and Garissa district (Somali areas of NE Kenya) will allow assessing the relevance of the different institutions and regulations, as well as development policies towards sustainable integration of pastoral systems.

On the methodological side the integrated and complimentary use of the Sustainable Livelihoods (DFID - UK) and the Actor-Oriented (WUR – NL) approaches will allow the development of a European frame for the proper understanding of rural markets and the analysis of complex developing contexts, such as the Somali pastoral society. Despite its simplifications, the **Sustainable Livelihoods** (SL) approach provides a comprehensive frame for analyzing pastoral livelihoods, which are critically dependant upon natural resource access and management and assessing their vulnerability to internal and external forces. A SL analysis of Somali pastoralism shows that it has traditionally developed upon robust and adaptive natural, financial and human capitals (Nori & Switzer, 2004). Preliminary indications from this research highlight the relevance of the socio-political capital in triggering sustainable development changes, as milk-marketing networks attest. Equally physical assets, such as urban expansion, communication networks and

transport facilities, are a necessary prerequisite for integrating marginal environments. Environmental implications of ongoing changes are to be carefully assessed, as rangelands are rich but fragile ecosystems. Milk trade concentrates herders towards road networks, and the proliferation of milk camps may degrade certain areas.

Complimentary to this, the **Actor-Oriented** (AO) approach is an effective method to challenge the complex functioning of pastoral livelihoods, due to its emphasis on analyzing the different agents involved in development processes, assessing their multiple interests and objectives and understanding their relationships with an interdisciplinary perspective (Long N., 1992). Rangelands and pastoral systems are in fact widening arenas where multiple agents play different roles and conflict or cooperate in interests (Hussein, 1998). As such AO provides appropriate tools to get fruitful insights of pastoral marketing.

A comprehensive analysis of Somali pastoral markets through these approaches is believed to provide relevant elements for better understanding the livelihoods of local communities facing globalising trends. By analysing social changes, issues of governance and technological options, the potential exists as well to develop the camel industry so as to promote better food and economic security in the area. Options for utilizing pastoral markets as an early warning system for critical situations will also be analysed, together with the opportunity to assess the potentials of milk-related networks for animal health monitoring in the region. Market interfaces provide in fact enormous potentials to address appropriate institutional as well as economic frames for sustainable development in marginal areas.

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