

3 MILK MARKETING

Milk marketing in Western Kenya is mainly informal with liberalisation of milk marketing in 1992 and the lifting of urban milk market monopoly previously enjoyed by the Kenya Co-operative Creameries (KCC). There are a few dairy farmers co-operative societies that came up to market members milk, after most collapsed or are on the verge of collapse. By December 1999, there were 16 active milk intake societies in Nyanza and seven in western. Other milk market outlets available for farmers in some areas include private processors such as Kitinda, Nasyanda and Magharibi dairies in Bungoma district. They source milk from farmers for processing. KCC is still operational in certain areas like in Nandi where there are two cooling plants in Kapsabet and Lessos.

3.1 Formal milk marketing

There are few functional Dairy Co-operative Societies (DFCS), beset by management problems and operating below capacity. The main service rendered to members is bulking and transporting milk to processors. Others like the Vihiga Dairy Farmer's Co-op Society offer AI services and award soft loans to members. The milk price to members from the Co-ops varies between KSh 17 to 25 per litre depending on seasonal variation of milk supply. Mode of payment is mainly fortnightly or monthly. The members prefer this because they receive lump sum payments as opposed to cash payments, which are hard to manage. The milk disposal outlets include household consumers, institutions and hotels with the price ranging between KSh 25 to 30 per litre for fresh milk and KSh 32 for fermented milk. The table below gives a list of the few dairy co - operatives existing in the region:

Table 7 Cooperatives, year of establishment and current milk intake

Name of Farmers Co – operative Society	Year of establishment	Current milk intake (litres)
Vihiga/Sabatia	1990	150 - 300
Awach Multipurpose	1978	80

Quality control measures undertaken by the DFCS prior to milk intake include use of a lactometer and match test. The main constraints hindering the progress of the DFCS are management problems and competition from informal market agents.

3.2 Informal milk marketing

This is the most common channel of milk marketing in the region. Majorities of the traders interviewed rely on this type of business as a sole income generating activity. There are direct sales from the producers to the consumers and as well from traders to consumers. Some of the traders sell the milk from dairy bars (milk bars), mainly located in the urban areas and

retailing raw, boiled or fermented milk. Other traders are not stationed anywhere and move around, hawking milk. There are also milk distributors/wholesalers who source milk from farmers and sell to traders who in turn sell to the consumers.

3.2.1 Milk bars

Most milk bars have licenses from the Kenya Dairy Board (KDB) and the Municipal Councils. As long as the licenses are up to date, they face no harassment from the KDB or the Council. The amounts paid comprise KSh 2,000 per year to KDB, cess KSh 0.20 per litre, Municipal Council annual fees of KSh 200, annual food and hygiene license at KSh 300, and public health annual license of KSh 200.

Amounts handled by these traders are as low as 40 litres and as high as 200 litres. The milk deficit areas are Kakamega, Vihiga and Rachuonyo, where milk has to be sourced from very far to meet local demand, which has a bearing on the high sales price (Case 1 and 2).

Case 1: Everlyne Vugutsa's milk bar is situated in Vihiga town. She sources milk from Danger forest market in Nandi (about 70 km) (40 to 60 litres) at KSh 16 to 17 per litre. She pays a further KSh 100 for her own transport and KSh 30 per 20 litre jerrican. The final milk sale price is KSh 20 per 750ml treetop bottle. The quality control measure she undertakes prior to milk purchase includes pouring a little milk on the ground and observes the flow. The faster the flow, the higher the adulteration levels with water.

Case 2: Emmah Adolwa runs two milk bars in Kakamega. She sources milk from two suppliers Malanga dairies and Turbo (75 km away). She handles about 200 litres per day and sells at KSh 28 per litre. She tests for milk quality using a lactometer and wants to start undertaking the acidity test. She has a freezer for preserving milk.

The main mode of transporting milk is by public means (matatus), bicycles ('boda-boda') and a few of the traders use private vehicles. Milk purchase price ranges from KSh 13 to 16 per litre after the rainy season (May to October) and peaks to KSh 17 during the dry season (January to March). The sales price range from KSh 20 to 28 per litre for fresh milk and KSh 32 to 40 for Lala (fermented). The main market outlets include households, hotels and institutions. Payment is commonly cash on daily basis for households and monthly or weekly for hotels and institutions. Occurrence of milk spoilage is not high, as almost all milk is disposed off the same day. In addition some of the traders have freezers to cool the milk.

3.2.2 Mobile milk traders "Hawkers"

The KDB officials, council officers and the public health officials restrict hawking on the grounds of non-payment of licenses and concern for hygiene. The KDB offices in Kakamega indicate that they had licensed 10 hawkers in the district. On the other hand, in areas like Nyamira and Oyugis, the traders have never experienced or heard about the activities of the

KDB. There is still no proper regulation of the informal milk markets, because there are many traders still not paying the required licenses, while others have to pay both at the point of collection and sale (Case 3).

Case 3: Milk Hawkers at Danger in Nandi

The traders source their milk from two organised collection centres at Danger in Nandi. While at the purchase point, they pay the County Council levy. In addition at the point of sale, such as in Kakamega or Kisumu they pay the Municipal County charges.

In Nandi, traders source milk as early as 4 a.m. as they have to travel long distances (Annex 3). They handle small amounts about 40 to 60 litres per day as required by milk bars, using plastic containers (jerricans) which are less costly and easier to transport using “matatus” and bicycles. The source of milk is mainly directly from individual farmers, organised collection centres as in Case 3, or purchases from other traders. Sales are made in the morning, and by 9 a.m. the sales are completed. The main market outlet are the individual households, with the purchase price ranging from KSh 13 to 22 per litre and the sales price KSh 22 to 25 per litre for fresh milk. Payment is made on daily basis.

3.2.3 Milk wholesalers/distributors

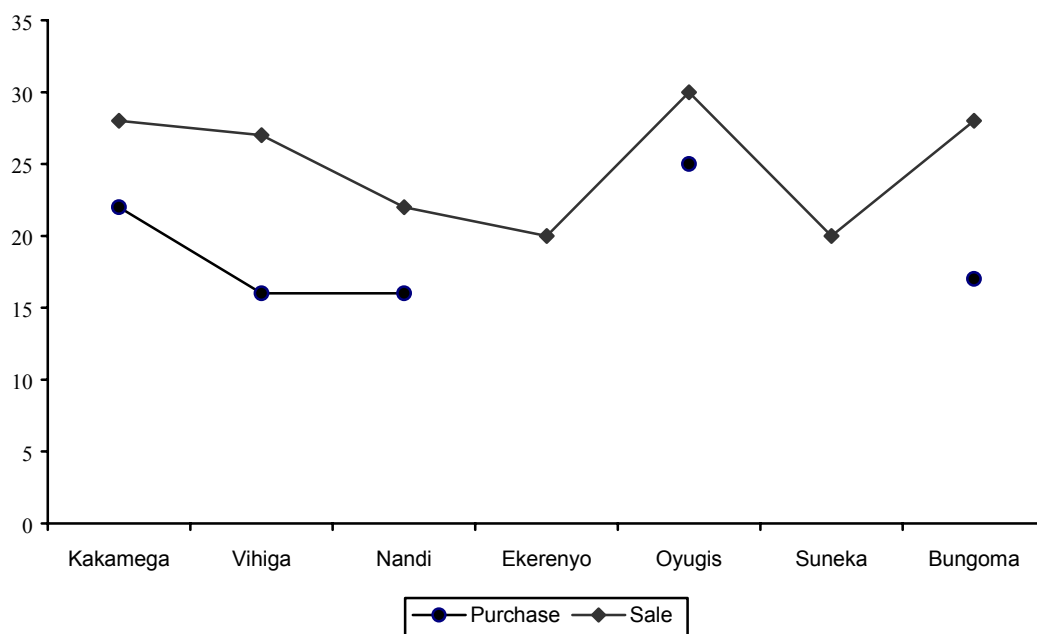
There exist a few milk distributors in the region. One interviewed in Kakamega indicated that he sources milk from Turbo where he has employed five milk agents (three full time and two part time), collecting milk from collection points. The suppliers are 31 farmers all within a radius of five kilometers. Milk is brought at a central point and dispatched on matatus for Kakamega, the sales area. He pays a transport charge of KSh 50 per can and a further KSh 30 per can per milk agent. He sells to private traders, mainly the hawkers at KSh 25 per litre.

Sales prices are higher in milk deficit areas because of the associated transaction costs as the milk source is far. The highest milk sale price recorded was in Oyugis (KSh 30 per Litre. fresh milk and KSh 32 per litre. fermented) (Figure 2). In some areas like Suneka (Kisii) and Ekerenyo (Nyamira), farmers sell their own milk, as there are few traders.

The quality control measures used prior to milk intake is the use of a lactometer, matchstick and organoleptic tests such as odour, smell and milk flow, (Case 1 and 2). Left over milk is soured and sold to consumers the next day at a price of about KSh 32 per litre. There are few occurrences of milk spoilage as they have informal contractual arrangements whereby the suppliers replace spoilt milk.

Ranking of marketing constraints was carried out in Suneka (Kisii), Ekerenyo (Nyamira), Kojwang' Katunde (Rachuonyo), Kilibwoni (Nandi) and Nangili (Bungoma) (Table 8). Traders' suggestions on opportunities for overcoming constraints

Figure 2 Purchase and sales prices (KSh per litre) by site



1. Organised milk marketing, with clear cut rules and regulatory authorities to ensure fair play on all sides
2. Improvement of milk quality (unadulterated milk) and consumer awareness
3. Government /NGOs should create a credit scheme to provide farmers and traders with soft loans to purchase capital equipment

Table 8 Ranking of constraints cited by milk traders/farmers

	Kakamega	Vihiga	Kisii	Nyamira	Rachuonyo	Nandi	Bungoma
Harassment by the KDB	2					1	1
Fluctuations in supply/prices (season)	4	2	2	2			3
High transportation costs	1	1				4	
Lack of knowledge on milk handling						7	
Lack of storage facilities	3					8	
Competition from other traders							2
Adulteration of milk by suppliers					5	2	5
High cost of capital items			1	5	1	5	6
High default rates				4			
Lack of AI services/Bull schemes			4		3		
Lack of organised marketing			3	1	4	6	
Transportation problems (foot)				3	2	3	4

3.3 Kenya Dairy Board

The Kenya Dairy Board (KDB) has provincial offices in each province. The Western province office is situated in Kakamega. One of the objectives of liberalisation of milk marketing was to allow for more processors. However, according to KDB in Kakamega, it opened markets for milk vendors (hawkers) which pose potential public health hazards. It also caused the collapse of the Kakamega Dairy Farmers Co-operative Society and has led to the few cases of Tuberculosis and Brucellosis reported in district hospital. In Kakamega, they have licensed 50 farmers, 20 milk bars, 1 mini dairy (Kitinda) and 10 hawkers. They have also licensed KCC, Premier and Ilara processors. The requirements for a license are that one should have a premise, use aluminum milk cans, knowledge on milk handling and eventually have a cooler. KDB's role in the liberalised market is to carry out quality control checks but they are constrained by lack of testing kits. The way forward according to the KDB is to educate farmers and milk market agents on milk handling hygiene practices and to encourage more processing of milk.

4 Service Provision

4.1 Veterinarians, Animal Health Assistants and Stockists

Incidences of cattle diseases are high in the region as a result of poor animal management, poor spraying methods and feeding practices. The main diseases include tick - borne diseases (East Coast Fever, Heartwater and Anaplasmosis) Brucellosis, scours in calves, mastitis, nutritional disorders and foot and mouth disease. The drugs are unaffordable to many farmers who therefore settle for cheap, ineffective drugs or herb-using quacks. The drugs stocked are from Coopers, Cosmos and Bayer. There are very few stockists serving vast areas. The items stocked include animal feeds, acaricides and minerals (Table 9).

Table 9 Prices of livestock inputs

Item (KSh per 100ml)		Livestock feeds (KSh per bag)	
Dewormer	Wormicid	70	Dairy Meal 750 - 870 per 70Kg bag
	Nilzan plus	180	Mineral Lick 160 per 2Kg bag
Stock spray	Triatix	240	
	Almatix	180	
	Stelladon	170	

The sources of livestock feeds include; Unga Feeds, UniFeeds and Milling Corporation of Kenya.

Constraints cited by the service providers include;

1. Lack of means of transport
2. No record keeping by farmers
3. Reliance on quacks by farmers until animal condition is critical
4. Unfair competition from quacks
5. High default rates by farmers

4.2 AI services

Procurement of semen is from CAIS and ABS. Government services through the veterinary department do not serve well because of lack of transportation in most areas. In Rachuonyo district, AI is currently provided by the Government-run Oyugis scheme. The charges are KSh 300 per series of four services. Private AI providers such as the Amani Centre (Oyugis) and PUSU Women's group have collapsed. The Amani centre started providing services to farmers benefiting from the Heifer Project International (HPI), but was extended to other farmers. The scheme collapsed due to high charges caused by high cost of liquid Nitrogen from CAIS. Currently, there are bull schemes set up by HPI and private farmers.

The constraints cited include transport, low conception rates due to poor heat detection and deterioration of semen quality due to poor storage and handling facilities.

5 Conclusions

The conclusions being presented here are derived from interactions and deliberations with the 14 farmers' groups within the seven districts. They are not precise and they were not intended to be, but are general and indicative. They present an initial attempt to understand the region and set the scene for further interventions by research and development organizations such as SDP.

Most regions except Rachuonyo have the potential for intensive livestock production due to favourable climatic conditions. Extensive dairying is restricted to Nandi, Bungoma and Kakamega where land sizes are relatively larger. Intensive dairying is to be found in Vihiga, Kisii and Nyamira. Rachuonyo has both extensive and semi-intensive dairying.

In the region farmers also have a relatively long experience with farming crops and livestock. From the historical development farmers have been responsive to incentives as shown by rapid increases in production of crops and milk when conditions are conducive and then quickly reducing production when conditions change.

In Bungoma and Kakamega, there exists a bias on crops enterprises especially sugar cane. Zebu are preferred to grade cattle for traditional cultural reasons. These cultural factors may be the greatest constraint to dairy development along side lack of forage, technical know how and diseases. The few grade animals cannot sustain a private AI scheme. Intensification of dairy would increase the household labour demand and offer alternative sources of income. Rachuonyo is unique from the other areas in that most parts are drier and not densely populated. However, the potential for intensification exists in a few areas such as Oyugis

In Vihiga, there is potential for increased intensified dairy production. The farmers have some experience in livestock production, though they still have a strong leaning towards crop enterprises. The milk market is good whilst the limiting factors are unavailability of breeding stock and cost of animal health services.

In Kisii and Nyamira there is still heavy reliance on cash and food crops whose prices are attractive, and the majority of the farmers have local cows. Main problems are animal diseases, availability of grade animals, feeds and input prices. As with Rachuonyo, human diseases especially malaria are of major concern. There are concerns with management of societies.

Western and Nyanza are generally deficient in milk and all flows tend towards the major towns. A few Dairy Farmers' Co-operative Societies are still operational though beset by management problems and competition from milk hawkers. Trade in milk is mainly informal

in the region, with participants involved in transportation and distribution. The informal traders serve both farmers and consumers more efficiently, a situation that is unlikely to change until milk production rises significantly to the point where farmers have difficulties selling milk. The role of regulatory bodies is unclear, in that where they exist, they are seen to be too restrictive and where they have no offices, they are ineffective. There are opportunities for growth in milk marketing if there's improvement in the organization of traders and encouragement from regulatory bodies to trade in larger volumes under hygienic conditions.

For SDP, the issues that will have to be addressed will revolve around the huge milk deficit while there is still potential to increase milk production. Immediate issues would be to improve our understanding on why the production gap exists and why farmers do not adopt technologies that would increase milk output.

6 References

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Annex 1: Mapping of spatial variation in Western Kenya

1. Cattle densities in Western and Nyanza

Just released by the ILRI-GIS section is a dataset on cattle numbers and densities for each division in Kenya. Data for this coverage were obtained from the Livestock Production Department which provided the latest district level report on livestock numbers (1992-1998). Since the western regions of Kenya tend to be high potential livestock regions in terms of agro-climatic conditions, total cattle densities were mapped as opposed to the densities of grade cows in the area. Although cattle rearing in general is widely prevalent, only a few areas tend to show intensive numbers of dairy animals.

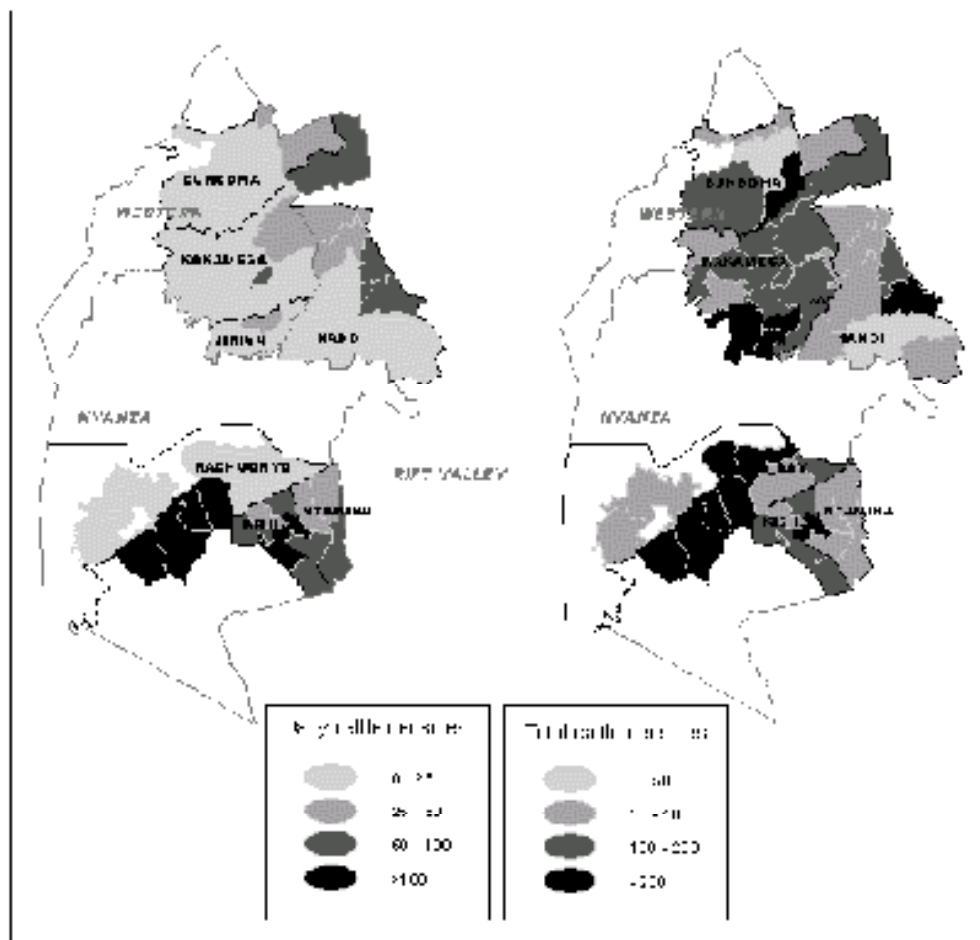
2. Tick borne disease distribution

Data on tick borne diseases were provided by the ILRI-GIS section and supplemented by household data on the occurrence of tick related illnesses from the Other District Survey. The available layers cover brown ear tick distribution data and expert opinions on the spread of ECF and other tick borne diseases. To check the consistency of all these very different tick and disease data, an overlay was made of the distribution layers and point data. The resulting overlay of all presents a consistent pattern of expected and reported distribution of tick borne diseases: the whole of Western Kenya is affected. However, several important parameters were not available when assembling data, such as different breeds and management practices, which affect infestation. Hence, the forthcoming characterization study in Western might contribute to a more sensitive layer on actual tick related risks.

3. Spatial distribution of ethnic groups

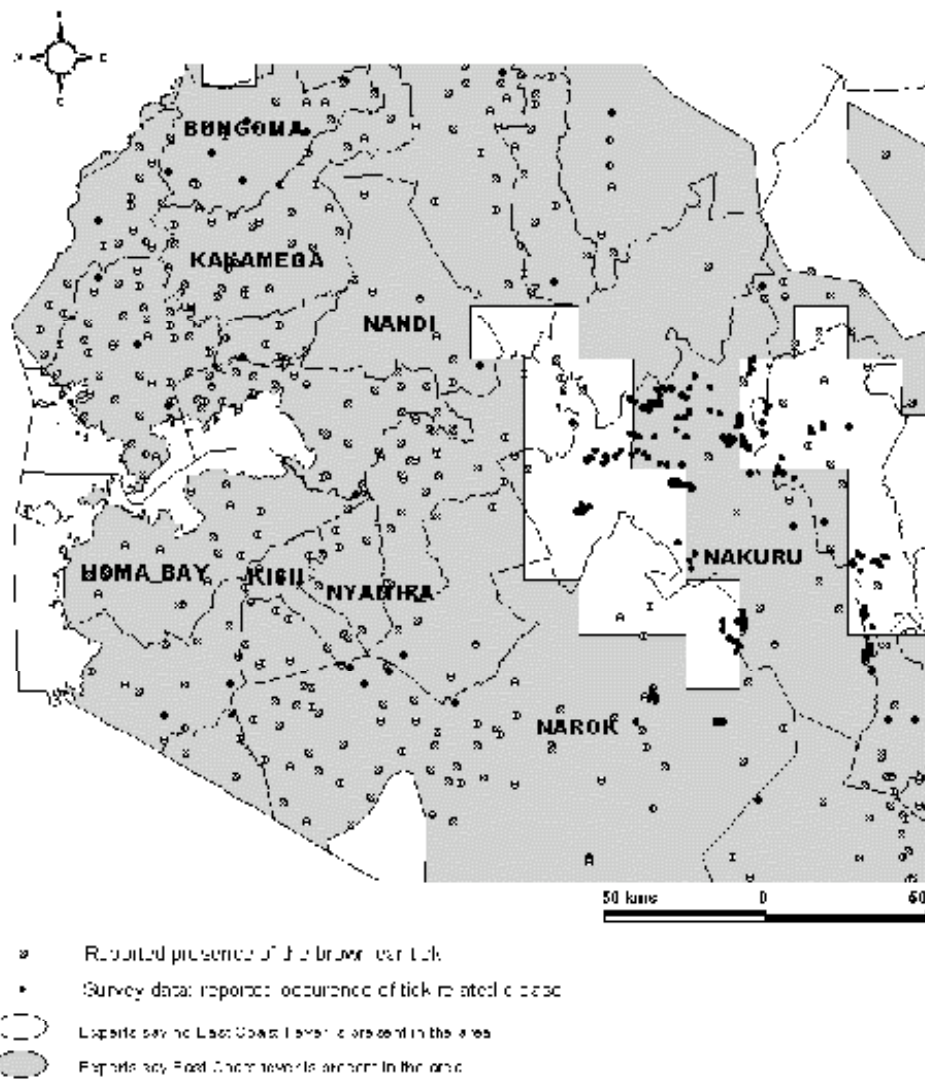
The obvious but indistinct relationship between ethnicity and dairy practices was reason to add basic data on the spread of ethnic groups throughout the districts under study. The Kenya Central Bureau of Statistics provided data the presence of different ethnic groups for all districts at sub-location level. For sub-locations with one predominant ethnic group (being >95% of the total inhabitants) no secondary ethnic group was recorded. Most areas proved to be quite consistent especially Kisii and Nyamira. In all other areas, secondary ethnic groups were recorded, with Nandi harboring the largest number of other ethnic groups apart from the predominant Kalenjin.

Figure 3 Grade and total cattle densities



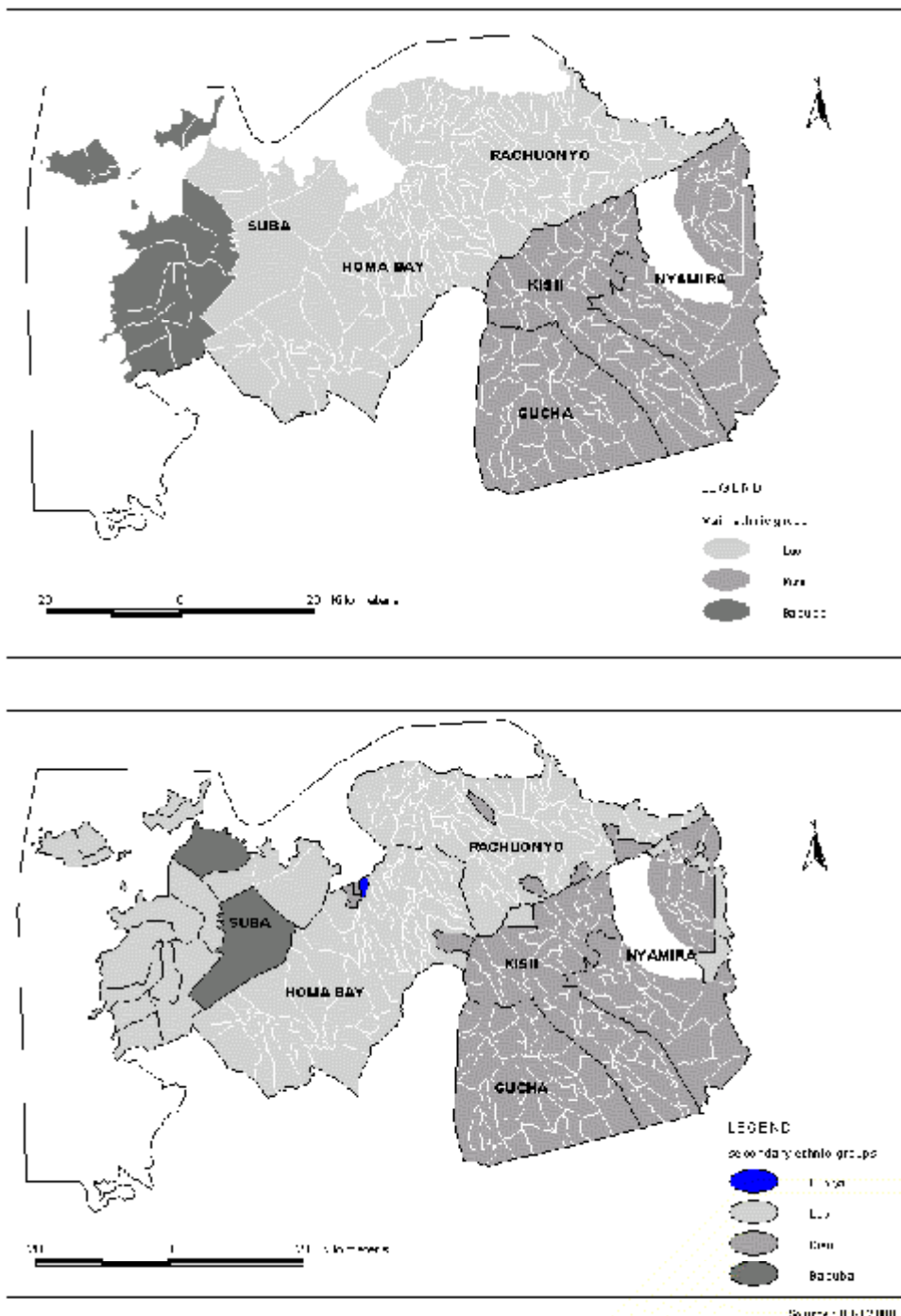
Source: ILRI 2000

Figure 4 Distribution of ticks and reported tick-borne disease cases



Source: ILR 5300

Figure 6 Distribution of ethnic groups in Nyanza province



Annex 2 Farm and Community level Resource maps

Figure 7 Farm and community resource maps for Kakelo Dudi, Rachuonyo district

