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Dr Mwanyumba attended Mwanda Mlamba Primary School in Mwanda Location, St Mary’s Seminary, Kwale and Thika High School between 1968 and 1980. He joined the University of Nairobi in 1981 from where he graduated with Bachelor of Veterinary Medicine in 1986.

Dr Mwanyumba joined the Ministry of Livestock Development in 1986. He has worked in different capacities and stations in the Country and has gained long and wide experience in the animal health and production field.

In September 2010, Dr Mwanyumba graduated with a Masters Degree in Livestock Production Systems from the University of Nairobi. He immediately embarked on this PhD program in Dryland Resource Management which he has successfully completed.

Thesis Title

PASTORALIST LIVELIHOODS, LIVESTOCK HERD DYNAMICS AND TRADE IN GARISSA COUNTY, KENYA

Thesis Abstract

In the arid and semi-arid areas of northeastern Kenya, pastoralists are facing increasing risks such as drought, insecurity, animal diseases, increasing human populations and land fragmentation. These, together with subsistence and market demands, influence households’ characteristics and how they interact with livestock resources at their disposal to meet livelihood objectives. Livestock trade plays a key role in local food security and poverty alleviation. It also has poorly understood implications on indigenous animal genetics utilization; conservation; importation of ‘exotic’ genetics; and transmission of trans-boundary diseases. This study was done in Garissa county to analyze

current pastoralist socio-demographics, production objectives and livelihoods strategies; to evaluate livestock herd dynamics and reproduction; and to analyze the county livestock market and destinations of marketed livestock. The study was done using a cross-sectional survey of 146 households and by observation of the market functions, interviews with market players and longitudinal recording of sales and purchases. Livestock were the main source of income for 93% of households though 35% of households had plans to diversify. Most households were sedentary (68.5%), moving their livestock only at times of drought. Most households' members had low levels of education and provided 57% of the grazing labour. The mobile phone was a significant means of getting reports of distant livestock, second to owner visits. Goats provided most of the milk and market animals at 49% and 46% respectively. Households last sold their livestock a mean of 72 days before the interview date. Constraints cited arose from droughts, movement, livestock diseases and in marketing. Most households combined traditional strategies with relief aid to cope with these constraints. Within livestock herds, reproductive age females formed over 50% of all species. Livestock were not evenly distributed among households with 58%, 27%, 28% and 2% of respondents having no camels, cattle, sheep and goats respectively. All species had a 12 months negative balance with 58% exits and 42% entries. Cows calved first at four years and lived up to a maximum of 22 years, but the mean age of reproductive animals was 8 years. There were many (62%) cow pregnancies after the rains and abortions were rare. In the livestock market, incoming animal consignments were 71% local, 29% cross-

border and 75% on foot. Local consignments accounted for 54%, 38% and 87% of all animals, cattle and camels respectively and all the small stock. Somalia contributed 46%, 65% and 14% of all animals, cattle and camels respectively. Over 85% of the purchased animals were trucked to long distance destinations for slaughter, fattening and breeding. The market concentration ratio was 24% and 10% for sales and purchases respectively. The market value of the animals passed on to the producers was 86% and the wholesale margin was 17% comprising of 8% marketing costs and 92% profit. It was concluded that livestock herds were resilient, structured to provide milk and reproduce reasonably well. The market facilities were not adequate for livestock disease control, human and animal welfare and general hygiene, but business was competitive. It is recommended that participatory interventions to support local animal productivity, diversification and market facilities be set-up and households should balance between livestock labour and education needs of their dependants.

Key words: demographic parameters, livestock distribution and equity, livestock cycles, livestock inventory, livestock market competitiveness.