

## **Transepithelial potential in the Magadi tilapia, a fish living in extreme alkalinity**

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Date: 2011

### **Abstract**

Livestock keeping is the mainstay for the pastoral community while also providing social and cultural value. This study ranked main production constraints and cattle diseases that impacted livelihood and estimated herd prevalence, incidence rate, and impact of diseases on production parameters in a semiarid pastoral district of Narok in Kenya. Data collection employed participatory techniques including listing, pairwise ranking, disease incidence scoring, proportional piling, and disease impact matrix scoring and this was disaggregated by gender. Production constraints with high scores for impact on livelihood included scarcity of water (19 %), lack of extension services (15 %), presence of diseases (12 %), lack of market for cattle and their products (10 %), and recurrent cycle of drought (9 %). Diseases with high scores for impact on livelihood were East Coast fever (ECF) (22 %) and foot and mouth disease (FMD) (21 %). High estimated incidence rates were reported for FMD (67 %), trypanosomosis (28 %), and ECF (15 %), while contagious bovine pleuropneumonia (CBPP) had an incidence rate <1 %. Milk yield was affected by FMD, ECF, and trypanosomosis, while ECF was the cause of increased mortality. FMD, ECF, CBPP, and brucellosis caused increased abortion, while effect of gender and location of study was not significant. Despite CBPP being regarded as an important disease affecting cattle production in sub-Saharan Africa, its estimated incidence rate in herds was low. This study indicates what issues should be prioritized by livestock policy for pastoral areas.