Pastoralism support livelihood of pastoralists directly, and many other people indirectly through the value chain of its products. Pastoral farming system is the most economic activity in arid and semi-arid lands. In Kenya, it is mainly practiced in southern and north eastern regions where it provides 90% of employment and 95% of family income (FAO, 2005). Despite its huge economic contribution, this system is facing numerous challenges, including increased frequency of extreme droughts, security issues especially cattle rustling, land use and land tenure change.

One of the most important factor affecting the pastoralist’s profitability is knowing the right time to sell livestock. Unfortunately, sell decision are rarely based the economic or financial data, or early warning on extreme climatic condition but on pastoralist’s intuition which often not optimal and sometimes lead to loses. Optimal sell decision in the face of frequent extreme pandemic due to climate change like drought, and pastoralist culture is key in achieving a profitable pastoral farming system.

In this study, a cross-sectional survey will done. A sample of farm will be drawn from farm in Southern Kenya. An analytical study design will employed since the study will attempt quantify relationship between sell decision and factors influencing it including household needs, extreme climate condition (drought), herd size, among others. Qualitative and quantitative data will be collected using questionnaires and conducting interviews.

A multistage sampling technique will be employed in this study. Sub-counties in Southern Kenya will be the first sampling units while pastoralist farms will be second sampling units. A sample of sub-counties will be drawn randomly using simple random sampling without replacement. From each of the selected sub-county a sample of farms will be selected using simple random sampling without replacement.

Binary logit model will be used to determine the factors that influence the sell (or not sell) decision. Given the nature of dependent variable, i.e., binary outcome (sell or not sell). Binary logistic is selected over the ordinary regression model. The regression model for pastoralist sell decision is

  


Where  probability of selling,  is probability of not selling. is the odd ratio. PDSI is drought severity index,  is the slope and’s are regression coefficients.

R code

Fit1=glm(y~financial need+herd size+PDSI+cultural intuition, family=binomial(link=”logit”), data)

summary(fit1)

anova(fit1)

FAO, 2005. The state of food and agriculture. Food and Agriculture Organization of the United Nations.