The 2009 drought invokes painful memories to pastoralists and conservationists living and working in southern Kenya. The livestock economy predominant in the region was severely affected and wildlife was lost in large numbers. Death of livestock caused meat prices to increase rapidly while nature based tourism revenues decreased significantly due to wildlife deaths. This paper assesses the actual losses of both livestock and wildlife species at Kuku Group Ranch (KGR) during the 2009 drought and the subsequent homegrown socio-economic alternatives to adapt to the drought. The study conducted between late 2009 and early 2010 shows the actual losses for cattle, goats and sheep were significantly high at 84%, 77.8% and 72.8% respectively resulting into huge monetary losses. Key wildlife species central to nature-based tourism such as Zebra (Equus burchelli) and wildebeest (conochaetes taurinus) were severely affected by the drought where they died more than any other wildlife species in the area. The drought increased the livestock and herbivorous depredations by carnivores in the area. The study concludes that despite re-stocking in the case of livestock and re-introduction strategies in the case of wildlife, other sustainable alternatives for adaptation to droughts needed to be integrated to replenish the livestock and wildlife numbers to levels that can ensure stabilizing Maasai people's livelihoods and also incomes from nature based tourism ecotourism.