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## Organizational Determinants of Choice of Sustainability Strategies Adopted by Group Ranches in Samburu County, Kenya

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### **Abstract**

*The group ranch system is one of the best land ownership and livestock production strategies in the dry lands of the world where the potential for rain-fed agriculture is limited. This has resulted in numerous studies on the establishment of group ranches, their dissolution and coping strategies but with less focus on the sustainability of the group ranches. It is against this background that this study investigated organizational factors influencing choice of sustainability strategies adopted by group ranches in Samburu County; Kenya. The study adopted a descriptive survey research design employing use of Questionnaires, Key Informant Interviews, Focus Group Discussions and observation as primary data collection methods. The study used content validity and Cronbach's alpha methods to measure validity and reliability of the research instruments, respectively. The target population for the study was the 16,611 registered members in 38 group ranches spread out in the County. The study sampled twelve group ranches with approximately 5,643 members from which 374 respondents were systematically sampled. Purposive sampling was used to select Key Informants and the participants in the Focus Group Discussions. The investigation employed Multi-linear Regression to analyse organizational factors influencing choice of sustainability strategies adopted by group ranches in Samburu County while the Analysis of Variance (ANOVA) was used to test the hypothesis which stated that there was no significant influence of organizational factors on choice of sustainability strategies adopted by group ranches in Samburu County, Kenya. The p-value of 0.00 was obtained, indicating that organizational factors significantly influenced choice of sustainability strategies adopted by group ranches in the County. Overall, past experiences was the predominating organizational factor with a regression coefficient of 0.432 while past strategies had the least influence on choice of sustainability strategies adopted by group ranches in Samburu County, with a regression coefficient of 0.110. The study recommended integration of organizational factors in formulating policies for sustainability of group ranches.*

**Key Words:** *Organizational Determinants, Choice of Sustainability Strategies, Adoption, Group Ranches, Samburu*

## Introduction

Ranching is the practice of raising livestock on large tracts of land and occurs mostly in the climatically marginalized rangelands where the potential for rain-fed agriculture is limited due to environmental challenges (Huho, Ngaira & Ogindo, 2010; Hatfield & Davies, 2006). It is the main land-use in the rangeland ecosystems the world over with considerable cultural, economic and ecological importance (Hussey, 2010). In America, the rangelands comprise about 40 per cent of the landmass. In Australia, they occupy about 70 per cent of the continent, much of which is used for livestock production (Brown & Gilfoyle, 2009). In Africa, the rangelands occupy 43 per cent of the continent's land mass; 70 per cent of Eastern Africa and more than 80 per cent of the Kenya landmass is considered to be arid and semi-arid, suitable for ranching (Hoffman & Vogel, 2008).

Ranching is an important livestock production system that is practised by over 200 million people worldwide (United Nations Environment Programme [UNEP], 2015). In Kenya, it remains the best sustainable production system in the semi-arid and arid lands (ASALs) particularly in Mandera, Wajir, Garissa, Tana River, Marsabit, Isiolo, Turkana, West Pokot, Baringo, Kajiado, Narok, Laikipia and Samburu Counties (Kipaioni, 2013; Huho, 2011). Sustained ranching in the rangelands is therefore critical in uplifting the living standards of the ranching communities as well as generating rapid economic growth (Ntiati, 2002).

Arising from global challenges of water scarcity, increased population growth rates, climate change and increase in demand for livestock products, greater importance is being attached to land ownership in the rangelands (United States Agency for International Development [USAID], 2011). Land is a base for food production and income generation, serves as collateral for credit and is a means of holding savings for the future. It is also a social asset that is crucial for cultural identity, social status, political power and participation in decision making (National Land Commission Strategic Plan, 2013-2018). Therefore, land ownership plays a significant role in the economic, social, cultural and political development of many economies the world over (Chen, 2007). It is also challenging for people living in the rangelands to make long-term and sustainable improvements on the land whose security of tenure has not been recognized, protected and registered (Wayumba, 2013). Thus ownership and sustainable utilization of land in the ASALs is important for the broader economic growth and poverty reduction (Constitution of Kenya, 2010: Kibugi, 2008).

In the pre-colonial times, land in the rangelands of Africa, was abundant with ranching being the main economic activity (USAID, 2011). Land was held as a trans-generational asset whose management was at different levels of the social organizational structure (Karodia & Soni, 2014) with its access and control depending on an individual's place in the social order of the community. However, land tenure and its management have undergone an evolutionary transformation (Lesorogol, 2008) with individualization and privatization of land becoming increasingly common in the rangelands (Mwangi, 2007). As Borwein (2013) observed group ranches were established as a form of collective land ownership to privatize communal land in the rangelands.

Before colonization, land in Kenya belonged to the whole community and its management, access, and control depended on the customs and practices of the particular communities (Wachira, 2008). Communities, particularly the pastoralists, such as the Samburu, Maasai and the Borana preferred communal land ownership where every person in the community had rights of access to the land (Mwakima, 2013).

After independence, the drive to privatize land in Kenya made the post-colonial government establish group ranches in the Arid and Semi-Arid parts of the Country which went hand-in-hand with the Kenya Livestock Development Project (Baumann, 2011; Moiko, 2011). The government had realized that the ecology of the ASALs favoured communal land ownership in form of group ranches instead of individual land ownership (Mwangi, 2007). As observed by Mule (2010) communal land ownership in the ASALs was more appropriate as it allowed migration of livestock within group ranches and to the

neighbours for pasturage that was a critical coping strategy against unreliable rainfall patterns, extreme temperatures, droughts and diseases.

The group ranches were the principal means through which community land previously held by the defunct county councils was adjudicated and registered to the members (Odari, 2010; Lesorogol, 2008). They contributed about 10 per cent of Kenya's Gross Domestic product (GDP) and were a critical source of economic activity in the dry areas of Kenya where rain-fed agriculture was hardly practised (Fratkin, 2008). Kenya's livestock production system accounts for 24 per cent of the total agricultural output and is worth about US\$800 million per year (AU-IBAR in IIED and SOS Sahel, 2010).

In Samburu County, group ranches were the main sources of livelihood as they provided for about 90 per cent of employment and more than 95 per cent of family incomes (Food and Agriculture Organization [FAO], 2005). Besides being the main source of income, group ranching also provided livestock that was used for cultural and religious roles like dowry payment, symbol of prosperity and prestige (Noor, Guliye, Tariq & Bebe, 2013).

However, by the 1980s, most of the group ranches established in the late 1960s and early 1970s had dissolved and sub-divided into very small land holdings that were ecologically and economically unviable for ranching (Mule, 2010). This coupled with mismanagement practices, left members staring at what Masharen (2015) referred to as economic ruin, thus raising questions about the future of group ranches in Kenya (Gaitho, 2014; Veit, 2011). Nevertheless, the group ranches that resisted the temptation to dissolve adopted strategies such as income generating activities, partnerships, investments in the community wellbeing and leasing of land to private developers for sustainability (Kipainoi, 2013).

In the County of Samburu, Kenya, land demarcation/surveying started in the early 1970s (Ministry of Lands and Physical Planning [MoLPP], 2016). Initially, the communities living in the County were opposed to the group ranch concept but later on the desire to own land communally grew and forty-two group ranches were established (National Land Commission [NLC], 2014 ; Lesogorol,2008). However, due to climate change, increased population growth rate, loss of pastureland, insecurity and mismanagement, group ranches in Samburu County were under pressure to subdivide, ushering in a scenario that would not support ranching (United Nations Development Programme [UNDP], 2015). Thus the biggest challenge facing group ranches was now to strike a balance between satisfying livelihood needs of the members and sustainable use of resources found within the ranches (Mwakima, 2013).

Therefore, the study expects to examine organizational determinants of choice of sustainability strategies adopted by group ranches in Samburu County, Kenya.

## **Literature Review**

The group ranch concept refers to a livestock production system in which land ownership is communal and the membership is based on kinship and traditional land rights. The members have a collective freehold title to land and have free access to usage of the land (Republic of Kenya, 1968b). Creation of group ranches in Kenya was facilitated by the Land Adjudication Act, Cap 284, by providing for the ascertainment of rights and interests in customary lands to the owners (Republic of Kenya, 1968a). The administration and governance of group ranches was provided under the Land (Group Representatives) Act, cap 287, laws of Kenya whereby the group ranch was owned jointly by all members in equal, undivided shares (Republic of Kenya, 1968b). Each member was entitled to reside on the group land and to elect group ranch representatives who were expected to safeguard members' rights, and were authorized to hold property on behalf of, and to act on behalf of and for the collective benefit of all group members.

The group ranch system of land ownership and livestock production was introduced in the late 1960s and early 1970s in the ASALs of Kenya to promote commercial ranching and to secure communal

land rights. This was after it had been realized that the ecology of the rangelands favoured communal land ownership in form of group ranches instead of individual land ownership. This allowed mobility of livestock in search of pasture and water within the group ranches and their neighbours (Mule, 2010). Group ranches were the main sources of livelihood in Samburu County providing about 90 per cent of employment and more than 95 per cent of family incomes (Food and Agriculture Organization [FAO], 2004). Besides, they provided livestock for cultural and religious roles like dowry payment, symbol of prosperity and prestige (Noor *et al.*, 2013). However, by the 1980s most of the group ranches had dissolved and sub-divided into very small land holdings that were ecologically and economically unviable for ranching (Mule, 2010). This, coupled with mismanagement practices, left members staring at economic ruin (Masharen, 2015) hence raising questions about the future of group ranches in Kenya (Gaitho, 2014; Veit, 2011).

The study was guided by the theory of sustainable livelihood that argues that people have goals that they desire to achieve in their lives by undertaking certain activities and using certain resources accessible to them (Bennett, 2010). The theory is applicable in the study of choices of sustainability strategies of group ranches since the principal aim of any organization is to improve and sustain the living standards of its shareholders. Just like other organizations, group ranches are owned by the members engaged in activities meant to improve their livelihoods. A livelihood is said to be sustainable when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Bennett, 2010). Therefore, for sustainability, group ranches are required to craft and execute strategies that create sustainable livelihoods for their members.

The concept of sustainability has its origin from the United Nations report of 1987, popularly known as the Brundt land report. In the report, sustainability was defined as a progressive way that satisfied the needs and aspirations of the present generation without compromising the possibility for the future generations to satisfy their needs and aspirations (Kuhlman & Farrington, 2010). Since then the concept has been re-interpreted differently by different professionals (Fratkin, 2008). To anthropologists, cultural ecologists, and human rights advocates, sustainability means the ability of a people to preserve and defend their way of life. For pastoralists, sustainability means maintaining livestock production system, defending their land rights and having unlimited access to water and grazing resources while the environmentalists define it to mean the need to protect the earth's natural resources against further degradation for the present and future generation. Thus, the concept of sustainability is futuristic.

The concept of sustainability strategies was used in this study to refer to the practices adopted by group ranches to make them hold together without disintegration (without dissolving and sub-dividing) for the present and future generations. The literature review revealed that since its introduction in Kenya, the group ranch system was more than forty years old and yet there was a feeling among scholars that it had failed to meet its stated objectives and had also jeopardized the socio-economic and cultural welfare of the members (Mule, 2010). There was a growing trend toward dissolution and subdivision of group ranches into individual land holdings with subsequent sales of individual land units. As argued the dissolution and fragmentation of group ranch did not augur well for rangelands and their sustainability was at risk.

Previous studies revealed that organization characteristics such as organizational structure, past strategies and past experiences influenced choice of strategies and performance of organizations (Moiko, 2012; Elbana & Child, 2007; Okumus, 2003). An organization has been defined as a structured, social entity that is goal-directed and is linked to the external environment (Daft 2007). Every organization has a unique structure that reflects its current image, reporting relationship and internal politics (Mwita, 2013; Okumus, 2003). The organization structure has been identified as an important organization characteristic influencing choice of strategies undertaken by organizations for it facilitates the co-ordination and implementation of the organization's common goals (Moiko, 2012; Elbana & Child, 2007; Okumus, 2003). An organizational structure is the arrangement by which various organisational activities and efforts are divided up and coordinated. It is pivotal between the

tasks and the process for it affects crafting of new strategies or shifts in the existing strategies. An organisation needs to be appropriately structured for the circumstances in which it finds itself and particularly the tasks it has decided to carry out (Elbana & Child, 2007).

Therefore, any operating organization such as a group ranch should have its own structure such as a local governance system in order to operate efficiently with the aim of achieving the set targets (Moiko, 2011). Organization structure has a positive influence on the choice and sustainability of an organization's strategies (White & Bruton, 2007).

It is against this background that this study investigated the organizational factors influencing choice of sustainability strategies adopted by group ranches in Samburu County, Kenya.

## **Research and Methodology**

### **Questionnaire Development**

The Questionnaires were the main tools used to collect the necessary information from the sampled respondents. They were developed in English but translated it into Kiswahili or Samburu languages whenever we came across respondents who never understood English language. They contained both closed and open-ended questions and were administered by the researchers and the research assistants. However, the questionnaires would be dropped and picked later where the respondents requested to be given more time to fill them.

Validity of the research instrument was determined using content validity method which measures the extent to which a measuring instrument provides adequate coverage of the topic under study (Kothari, 2004). In order to check on the content and format of the questionnaire, the researchers approached land management practitioners and issued them with research questionnaires. They were required to give their opinion on whether or not the research instruments were appropriate to be used in the study (Mugenda, 2003). Their recommendations, together with the views from the pilot study respondents, were used to improve the research instruments.

Similarly, reliability of research instruments was also determined. It refers to the degree to which a research instrument yields consistent results of data after repeated trials (Ng'ang'a, *et al*, 2009). Reliability is the extent to which measurements of the particular test are repeatable and the procedure yields consistent results on repeated tests (Malhotra, 2004). The more consistent the results given by repeated measurements are, the higher the reliability of measurement procedures (Zikmund, 2003). The first draft of questionnaire was given to four experts in the field of strategic management who were asked to review the instrument and to make recommendations for improving its reliability. These recommendations were then incorporated into a second draft of the instrument which was later used in the pilot study that involved 20 respondents randomly selected.

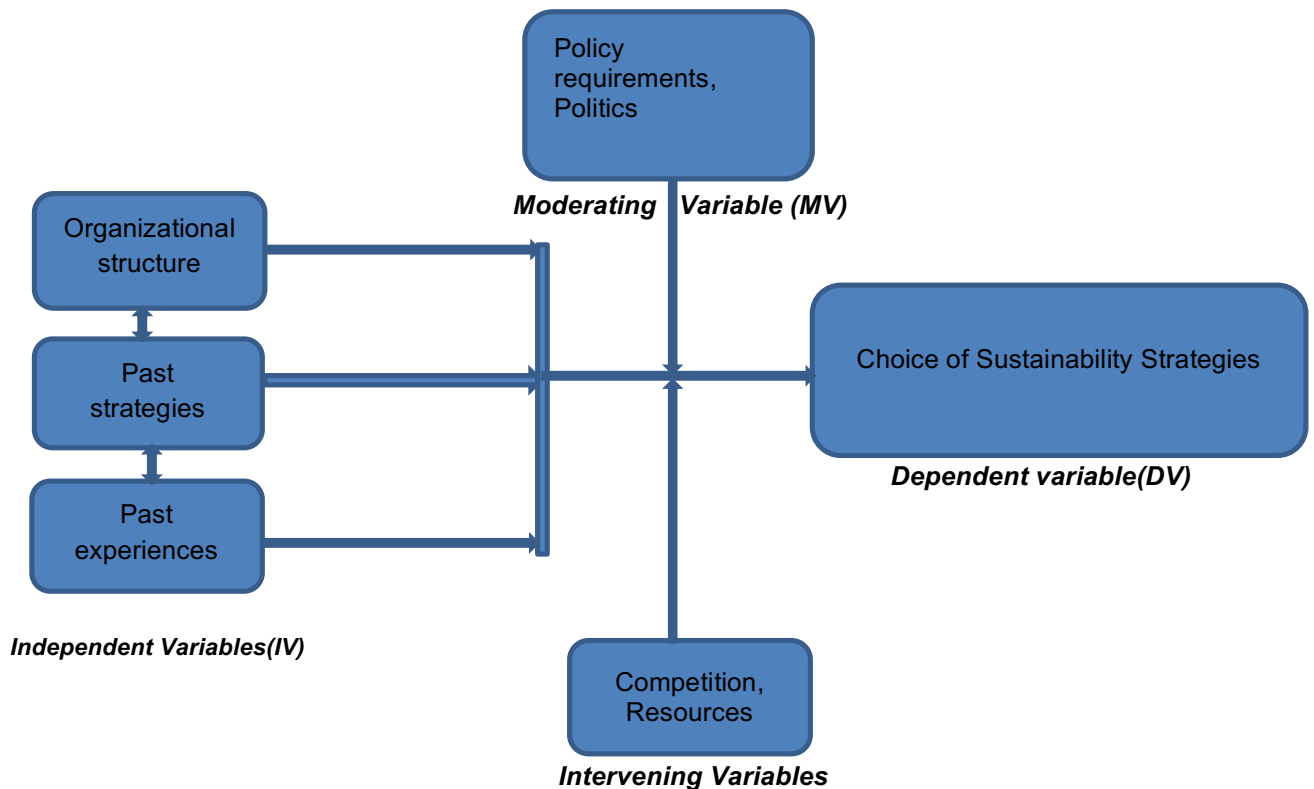
To assess internal consistency reliability estimates of the questionnaire, the researchers used Cronbach's alpha method. Cronbach's alpha is a reliability coefficient that measures inter-item reliability or the degree of internal consistency between variables measuring one construct (Malhotra, 2004). In social sciences, acceptable reliability estimates range from 0.70 to 0.80(Kothari, 2004) and any alpha coefficient higher than 0.7 indicated that the gathered data had a relatively high internal consistency and could be generalized to reflect opinions of all respondents in the target population (Schindler, S. P.& Cooper, D.R, 2001).

The questionnaire consisted of three major sections (A, B and C). Section A asked five questions to get demographic data on the respondents. Section B asked questions on the group ranch activities while Section C had questions on organizational factors perceived by the respondents to have influence on the choice of sustainability strategies adopted by group ranches in the study area. The respondents were asked questions indicating the extent to which each variable had an influence on choice of sustainability strategies adopted by group ranches. The questions in Section C used five-

point Likert-type items, anchored by 1 = Not at all, 2=Low extent, 3=Moderate extent, 4= Great extent and 5 = Very great extent.

Prior to the survey, we undertook a pilot study in one of the group ranches and interviewed twenty members of the group. The aim of the pilot study was to find out whether the respondents understood the questions well. The views arising from the pilot study were used to enrich the questionnaire as well as to make it clearer.

A conceptual framework was conceived showing the relationship between the independent variables and the dependent variable (figure 1).



**Figure 1: Conceptual framework**

Figure 1 is a diagrammatic representation of the relationship between the independent variables (organizational structure, past strategies and past experience) and the dependent variable (choice of sustainability strategies). The diagram further shows the moderating variables (policy requirements and politics) and intervening variables (resources and competition) that directly or indirectly affected the degree of the relationship between the independent variables and the dependent variable. A moderating variable is a variable that changes (increases or decreases) the otherwise established influence of the independent variable upon the dependent variable while the intervening variable is used to explain causal links between variables (Kothari, 2004).

### Sampling and Data Collection

Sampling involved construction of a sample frame of 16,611 items indicating the membership of all the group ranches in Samburu County. There were approximately 16,611 registered members of group ranches in Samburu County. We compared all the registers kept by the Registrar of Group Representatives in Nairobi with those kept by the Assistant Registrar, Samburu and chairmen of the respective group ranches in the county.

The sampling of the population in the study was necessary because a target population of 16,611 registered members was too large for a complete enumeration. Furthermore, sampling would save time and money, allow more time to be spent on training research assistants, testing and checking the instruments (Ng'ang'a, *et al*, 2009; Ader *et al*, 2008). We sampled 30 per cent of the 38 group ranches operating in Samburu County to give a sample size of 12 group ranches as recommended by Mugenda and Mugenda (2003), a sample of between 10 per cent and 30 per cent of the accessible population for a descriptive research design is acceptable. The sampled 12 group ranches had approximately 5,643 registered members from which the study sample size of 374 respondents was drawn.

The main sampling procedures used in the study were systematic and purposive sampling. Systematic sampling involves selecting every  $n^{\text{th}}$  item on the sample frame (Ng'ang'a, *et al*, 2009; Kothari, 2004). The sampling strategy was used to select 12 group ranches and 374 respondents from the selected 12 out of 38 group ranches in the study area.

Purposive sampling strategy was used to select respondents considered to have common things like experience, intuition and expertise in the subject being studied (Ng'ang'a, *et al*, 2009). The strategy is also used in the selection of a group of subjects from a larger group for study based on the judgment of the researcher as to which subjects best fit the criteria of the study (Huho, 2011; Rukwaru, 2007). The strategy was used to select Key Informants who included Director of Land Adjudication and Settlement, the Registrar of group representatives, officers from Samburu County Government and other experts in the land sector. The Key Informants gave information on the organizational factors influencing choice of sustainability strategies adopted by group ranches. Purposive sampling was also used to select participants in the Focus Group Discussions who gave views on the organizational factors influencing choice of sustainability strategies adopted by group ranches in Samburu County.

In the study, Focus Group Discussions (FGDs) were held to generate qualitative data to supplement data collected quantitatively. The discussions were held on the appropriate time the participants agreed and were based on the prepared checklists. The groups included both male and female members of the selected group ranches. One Focus Group Discussion was held in each of the sampled group ranches making a total of 12 FGDs. The number of each FGD participants ranged from six to eight (Krueger, 2002) and the researchers provided the necessary rules and set the tone of the discussion. Questions aimed at getting information on the organizational determinants of choice of sustainability strategies adopted by the targeted group ranches were asked. The FGDs were also conducted to gain insight into how people constructed organizational issues by sharing their knowledge and experiences.

Additional primary data was also collected from Key Informants like the Director of Land Adjudication and Settlement, Registrar of Group Representatives, County Chief Executive Committee members in charge of lands, National Land Commission officials, County Assistant Registrars of Group Representatives and land experts. The Key Informants were purposively selected whereby respondents with knowledge and competence in the information being sought for were identified and sampled (Huho, 2011). Through probing, the researchers were able to gain in-depth information on the situation of group ranches and how organizational factors influenced choice of sustainability strategies adopted by group ranches.

## Analysis

The data was analysed using SPSS version 21.0 and complemented by Microsoft Excel. The relationship between independent variables (past experiences, organizational structures and past strategies) and dependent variable (choice of sustainability strategies) was described by use of the following regression model:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ . Where,  $Y$  = Choice of sustainability strategies;  $X_1$  = past experiences;  $X_2$  = Organizational structures;  $X_3$  = past strategies. Analysis of Variance

(ANOVA) was used to test the hypothesis which stated that organizational factors had no significant influence on choice of sustainability strategies adopted by group ranches in Samburu County, Kenya.

## Findings

The research findings were primarily based on the questionnaires administered to the respondents, focus group discussions and interviews with key informants, and the researchers' observation. Through these data collection methods, the research team was able to gather information on the organizational factors influencing choice of sustainability strategies adopted by group ranches in Samburu County.

Organizational factors investigated were organizational structures, past experiences and past strategies. The study established that past experiences had the greatest influence on choice of sustainability strategies adopted by group ranches in Samburu County, accounting for 67 per cent. It was followed by organizational structures at 22 per cent and past strategies in third position, accounting for 8.5 per cent. The combined influence of organizational structures, past experiences and past strategies accounted for 2.5 per cent (Table 1).

**Table 1:** Influence of organizational factors on choice of sustainability strategies

Factors	Frequency	Percentage
Organizational structures	76	22
Past strategies	30	8.5
Past experiences	235	67
Organizational structure, past strategies and past experiences	9	2.5
<b>Total</b>	<b>350</b>	<b>100</b>

**Source:** Field data, 2016

Results in Table 2 indicate that past experiences had the greatest influence on choice of sustainability strategies with a regression coefficient of 0.432. It was closely followed by organizational structures, 0.289; and past strategies, 0.110, in that order.

**Table 2:** Regression Coefficient for organizational factors

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	.793	.099		7.999	.000
	Past strategies	.110	.021	.203	5.292	.000
	Organization structures	.289	.023	.451	12.566	.000
	Past experiences	.432	.026	.615	16.770	.000
a. Dependent Variable: Choice of sustainability strategies b. Independent Variables: Past strategies, Organization structures and past experiences.						

**Source:** Field data, 2016

Further, the model in Table 2 indicates that when organizational factors (past strategies, organizational structures and past experiences) were at zero, choice of sustainability strategies was at 0.793. Holding other factors constant, a unit change in past strategies resulted in a 0.110 unit change in choice of sustainable strategies. While a unit change in organization structures resulted in a



0.289 unit change in choice of sustainability strategies, a unit change in past experiences led to a 0.432 unit change in choice of sustainability strategies.

The Analysis of Variance (ANOVA) was used to test the null hypothesis which stated that there was no significant influence of organizational factors on choice of sustainability strategies adopted by group ranches in Samburu County and the results are indicated in Table 2.

**Table 3:** Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.936	3	19.979	171.265	.000 <sup>p</sup>
	Residual	40.362	346	.117		
	Total	100.299	349			
Predictors: (Constant), Past strategies, organizational structures, past strategies						
Dependent Variable: Choice of sustainability strategies						

The results in Table 3 revealed a significance value of  $p = 0.000$ . Since  $P < 0.05$ , the null hypothesis was rejected and the alternative hypothesis which stated that there was significant influence of organizational factors on choice of sustainability strategies adopted by group ranches in Samburu County, was accepted.

## Sustainability strategies

Sustainability strategies refer to the practices adopted by group ranches that made them hold together without dissolving and sub-dividing. The strategies sustained group ranches for the present and future generations.

The growing trend toward dissolution and subdivision of group ranches into individual land holdings was evident in many of the group ranches in Kenya, Samburu County not being an exemption. The trend was a big challenge to the livestock production system because it restricted free movement of livestock and created human-animal conflict. However, the rate of dissolution and subdivision was relatively lower in Samburu County compared to many other counties with most of the group ranches in the County being sustained. The sustainability of the group ranches was affected by various social, economic and environmental factors. As a result, choices of sustainability strategies were dependent on the causes of the dissolution and subdivision. With regards to organizational factors, the survival of group ranches was dependent on the following adopted strategies:

### Conservation

The conservation strategy was adopted by majority of group ranches in the County. The strategy had positive effects on pasture and wildlife as pasture increased in the conservation areas and was available for grazing during droughts. Likewise, wildlife considered an important input in eco-tourism activities that offered employment opportunities for the locals, was conserved. There was also increase in forest cover that helped protect water catchment areas and enhanced bee keeping activities.

The study established that previous experiences, either within the group ranches or from the other group ranches, influenced choice of sustainability strategies adopted by group ranches in the study area. For example, past experiences like loss of grazing land due to dissolution and sub-division of some group ranches in the County made majority of group ranches hold together as they did not want land available for ranching to decrease as it had happened to the dissolved group ranches such as Tinga "A" and Longewani "A" group ranches. When something positive resulted from past experiences, group ranches were more likely to decide in a similar way, given a similar situation. Likewise, when something negative resulted from a decision, the group ranches avoided repeating past mistakes. For example, Losesia and Girgir group ranches had employed rangers to guard

against cattle rustling and to protect wildlife in the conservancies. This strategy had earlier been adopted by Ngutuk group ranch and proved successful.

The study established that past strategies influenced strategies chosen and adopted by group ranches. Past strategies strongly influenced choice of future strategies while successful strategies were sustained. Where the adopted strategy showed signs of failure due to some implementation challenges, the group ranches increased their commitment to the adopted strategy. Therefore, whenever members decided to craft new strategies, they crafted ones that were very close to the past successful strategies. For example, Losesia, Girgir and Ngutuk group ranches had adopted conservation strategy, both as a source of revenue and as a security measure.

Just like past strategies, the study established that choice of sustainability strategies adopted by group ranches in the study area was determined by past experiences. The study established that group ranches in Samburu County experienced frequent and recurring droughts that led to inadequate water and pasture, endemic livestock diseases and low investments. As a result of these past experiences, group ranches adopted eco-tourism and conservation strategies for sustainability. For example, Kalama and Namunyak wildlife conservancies in Samburu County were established to protect water catchment areas, re-generate vegetation, and manage group ranch resources effectively.

## **Meetings**

All the group ranches in the study area were required by law to convene annual general meetings (AGMs). The strategy gave the members the right to information regarding the activities of their group ranches and the opportunity to vote on important matters affecting these organizations. Every member was required to attend and participate in the group ranch deliberations and to equal benefit sharing from the group ranch resources. In the meetings, for instance, members would be informed about matters concerning distribution of dividends accrued from income generating projects and any proposed projects that group ranches would undertake. Finally, the existence of transparent, accountable and flexible organizational structures advocating for participatory decision-making by the members led to sustainability of group ranches in Samburu County, Kenya (Figure 2).



Figure 2: A planning meeting of Losesia group ranch

Overall, the study established that group ranches in Samburu County had organizational structures with clearly defined roles played by both the officials and the members. The group ranch officials were the legal representatives of the ranches with power to sue and be sued on their own behalf and that of the group ranches while the members were the shareholders, owned all the group ranch resources and had the final say on how their group ranches would be managed. The officials would propose strategies for adoption but the decision to adopt it or not came from the members during the Annual General Meetings (AGMs).

### **Digging of shallow wells, dams, pans and rock catchment**

In order to sustain group ranches, the study established that past strategies such as provision of shallow wells, dams, pans, rock catchment and purchase of veterinary drugs were adopted during droughts and whenever diseases occurred. For instance, during the 2008-2009 droughts, Girgir group ranch in Samburu County, adopted strategies like delivery of water for both human and livestock use to the members, distribution of tanks, construction of shallow wells and water pans. On livestock health, the group ranch adopted vaccination, deworming and other clinical treatment strategies.

### **Conclusion**

The findings provide support for the conceptual framework in Figure 1 and the analysis of data demonstrates that past experiences, organizational structures and past strategies significantly influence choice of sustainability strategies adopted by group ranches. Organizational structures spelt out the tasks members should do, how, when and where decisions were made. Likewise, past experiences and past strategies influenced choice of sustainability strategies adopted by group ranches because when something positive resulted from a strategy, organizations were more likely to craft new strategies similar to the past strategies given a similar situation. Similarly, the group ranches tended to avoid repeating past mistakes.

The survival of group ranches in Samburu County dependent on choice of sustainability strategies influenced by organizational structures, past experiences and past strategies.

### **Acknowledgement**

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