International Journal of Academic Research in Business and Social Sciences
2017, Vol. 7, No. 3
ISSN: 2222-6990

Moderating Effect of Index Based Livestock Insurance on Socio-Cultural Factors Affecting Performance of Livestock Projects in North Eastern Kenya

Mohamed Keinan Hassan
PhD. Candidate Jomo Kenyatta University of Agriculture and Technology,
School of Entrepreneurship, Procurement and Management,
Nairobi, Kenya

Jane Gathenya
Senior Lecturer Jomo Kenyatta University of Agriculture and Technology,
School of Entrepreneurship, Procurement and Management,
Nairobi, Kenya

Mike Iravo
Senior Lecturer Jomo Kenyatta University of Agriculture and Technology,
School of Entrepreneurship, Procurement and Management,
Nairobi, Kenya

DOI: 10.6007/IJARBSS/v7-i3/2697 URL: http://dx.doi.org/10.6007/IJARBSS/v7-i3/2697

ABSTRACT
Livestock keeping represent vast majority of household wealth and accounts for more than two-thirds of average family income in arid and semi-arid lands of Kenya. In the last decade, four severed droughts occurred in Northern Kenya resulting to major livestock mortality. Following to this, several projects were embarked to manage risk such as provision of micro-insurance for low income people but not much has been achieved. Therefore, the purpose of this study was to investigate the moderating effect of index based livestock insurance on socio-cultural factors affecting performance of livestock projects in North Eastern Kenya. The study used cross sectional design and targeted population from households in Garissa and Wajir. Structured questionnaire was administered to the sampled population which was randomly selected using multi-stage random sampling technique. Quantitative data collected was analyzed by statistical models such as Analysis of variance (ANOVA), Multivariate regression analysis was applied to measure moderating effect of index based livestock insurance on socio-cultural factors. The study found out that there was a weak positive linear relationship between socio-cultural factors and performance of livestock projects in North Eastern Kenya using Pearson correlation coefficient. However, introduction of moderating variable into independent variable (socio-cultural factors) there was insignificant relationship with performance of

livestock projects in North Eastern Kenya North Eastern Kenya.The study recommends to the project managers to be cognisant that group norms would affect the individual's behavior patterns and therefore they should ensure that religion, culture, norms and values are factored before any project takes off.
Key words Index based livestock insurance, performance of livestock projects, socio-cultural

INTRODUCTION

Since the occurrence of the 2008-09 droughts in Kenya, there has been increased effort to help communities in arid and semi-arid lands (ASALs) manage their risk better (Channa, 2013).Weather related risks experienced in the ASALs have driven most pastoralists into destitution (Chantaratet al., 2014) and the situation is exacerbated by the lack of access to adequate risk management tools (Channa, 2013). Several projects, with approaches or models for managing risk and promoting sustainable development in the ASALs were implemented. The Emergency Drought Recovery Project (EDRP) was implemented by the Government of Kenya with the support of World Bank from 1991–1996 in Mandera, Marsabit, Tana River, Turkana and Wajir districts (Johnson &Wambile, 2011). Later Arid Lands Resource Management Project phase 1 and 11 (ALRMP 1996-2010), a community-based drought management initiative (Johnson &Wambile, 2011). Other complementary projects were drought management initiative, Kenya rural development project and Hunger safety net project.

Provision of micro-insurance, small-scale insurance products aimed at low income people who are generally excluded from more traditional insurance products, has attracted widespread interest as a means to enhancing the resilience of the rural poor against covariate climate risks (Churchill, 2006; Mechleretal., 2006; de Bock & Gelade, 2012). In particular, recently introduced index-based weather insurance has attracted considerable attention as it is free from information asymmetry problems. An innovative feature of the index insurance is that indemnity payouts are determined based not on actual losses experienced by policy holders, but on easily observable, objective weather parameters that are highly correlated with expected losses, such as rainfall, temperature, and satellite-measured vegetation level.

Despite sweeping claims that index-based micro-insurance would be the next "revolution" in development practice (Murdoch,2006), evidence to date shows that unexpectedly low uptake, rarely above 30%, causing many to rethink the attractiveness of the product or suggest ways to improve it (De Bock &Gelade, 2012; Miranda &Ferrin, 2012; Matulet al., 2013). For example, Binswanger-Mkhize (2012) provides an argument for why index-based insurance will not proliferate. Through a review of the literature, he finds that higher income farmers are already self-insuring against risk by diversifying their income portfolio. Lower income farmers and landless laborers who are unable to diversify optimally would, therefore, be more likely to gain from index-based insurance; however, the cost of doing so generally prohibits uptake. In this regard, the moderating effects of IBLI on socio-cultural factors affecting performance of livestock projects in North Eastern Kenya, is of great significance.

Statement of the Problem

Most livestock mortality is associated with severe drought. In the past century, 28 significant droughts have occurred in north eastern Kenya, four of which has been in the last decade (Dror et al., 2014). Climate change has been linked to drought in Eastern Africa (Ngugi et al., 2015). Several projects, with approaches or models for managing risk and promoting sustainable development in the arid and semi-arid land (ASAL) of Kenya were implemented such as the Emergency drought recovery project (1991-1996), Arid lands resource management project 1, (1996-2003) and Arid lands resource management project 11(2003-2011), Drought management initiative, Kenya rural development project ASAL –DM and Hunger safety net project are among this (Johnson & Wambile, 2011).

Provision of micro-insurance, small-scale insurance products aimed at low income people who are generally excluded from more traditional insurance products, has attracted widespread interest as a means to enhancing the resilience of the rural poor against climate risks (Churchill, 2006; Mechler et al., 2006; de Bock & Gelade, 2012). In particular, recently introduced Index Based Livestock Insurance uses observable parameters, such as rainfall, temperature, and satellite-measured vegetation level (Banerjee, 2015). IBLI pays out compensation to clients in the event of livestock mortality occasioned by drought. Unlike traditional insurance IBLI compensates clients whether losses have been incurred or not provided the strike level has been exceeded. The low uptake of the ILBI product in countries where it has been introduced shows that purchasers are doubtful if it really can deliver welfare gains (Gineet al., 2008; Cole et al., 2013).While most literature discusses crop insurance schemes and micro-insurance for health and life in developing countries. A wide research in existing literature does not indicate the moderating effect of Index Based Livestock Insurance (IBLI) especially on the performance of livestock projects in Northern Kenya, and that the weather based index insurance for livestock is not getting adequate momentum.

Objective of the study

The objective of the study was to find out moderating effect of Index Based Livestock Insurance (IBLI) on socio-cultural factors affecting performance of livestock projects in North Eastern Kenya.

Hypothesis

Ho – there is no moderating effect of Index Based Livestock Insurance on socio-cultural factors affecting Performance of livestock projects in North Eastern Kenya.

H_1 – there is moderating effect of Index Based Livestock Insurance on socio-cultural factors affecting Performance of livestock projects in North Eastern Kenya.

LITERATURE REVIEW

The study was supported by the covariate and idiosyncratic risks theory and **t**heory of project performance and review of relevant literature.

Covariate and Idiosyncratic Risks

Risks can be categorized into economic, human and asset risks. These can either be covariate risks or individual (idiosyncratic) risks (Skees & Enkh-Amgalan, 2002). The insurers are able to

fully cover risks and indemnify clients against significant risks by pooling individual risks of many clients at relatively low premiums (Brown & Churchill, 1999). For a risk to be insurable their occurrence must be determinable and they must lend themselves to specificity (Litzka, 2002).
In practice, idiosyncratic risks can be pooled and turn out profits while covariate risks cannot. The idiosyncratic risks are sanitized after pooling at the macro-economic level while covariate risks accumulate thus negatively impacting savings and consumption. Thus, at a macro-economic level, covariate risks should be insured while idiosyncratic can be left to their own. Usually, farmers go against this analysis and insure idiosyncratic shocks instead of covariate. Notably, covariate risks are more feasible to an insurer and more common (Collier, 2001). It is unproductive to pool covariate risk since the insurer would be forced to keep reserves at the same level as the insured would keep if uninsured (Priest, 1996).
Examining the ratio of covariate to total risk at various scales reveals considerable geographic heterogeneity (Jensen et al., 2014). Covariate shocks represent only a small portion of households' risk portfolio in some locations, while in others the majority of livestock mortality is associated with covariate shocks. The degree of geographic heterogeneity in the relative importance of covariate shocks points towards regions where IBLI may be well suited and others where it may not offer an appropriate approach for reducing risk associated with livestock mortality. The idiosyncratic risk that index insured households continue to face is mostly the result of random, unobserved household characteristics and events, but is also positively associated with a higher household dependency ratio and income diversification away from livestock-related activities, both of which likely reflect reduced managerial attention to animal husbandry, as well as geographic location (Jensen et al., 2014).

Theory of Project Performance

There are two groups of project performance measurement methods: pragmatic and economic. Pragmatic measurement methods consider other aspects of project performance apart from economic aspects. Performance is determined based on, typically, a pre-specified success criteria (Rosenau & Githens, 2011). At the end of the project, during evaluation, the success criteria set at the beginning is referred to, in determining success or otherwise of a project. For complex projects, it is not feasible for the requirements to be adjusted while on-going.
Economic measurement methods, concentrate on the financial aspects of projects. They determine the extent to which a project meets its financial value. Examples of such economic methods are the Return on Capital Employed (ROCE), Return on Investment (ROI), and Balanced Scorecards (Francis & Minchington, 2002). The limitation with this method is that it dwells on the past with may be rather too late with profound monetary consequences. Although, forecasting is available in all of these metrics, true values can only be ascertained at the end of the project (Thomas &Mullaly, 2008).
With pragmatic measurement models, project managers are not encouraged to deviate from the success criteria that have been agreed at the outset (Wernham, 2012). They – and the project team – are expecting to be assessed against those criteria. There is little room, if any at all, to revisit and amend the success criteria as the project progresses (Grabher & Thiel, 2015). These create artificial boundaries for the project manager to work within, limiting the

opportunities for creative thinking and employing professional judgment to the challenges the project presents as it progresses (Grabher & Thiel, 2015).

Socio-Cultural Factors

Human are social in nature so they all belong to different groups in order to satisfy the social needs. They observe each other and take cues how to behave to fit in and please each other in the group (Bishal, 2009). Therefore, group norms will affect the individual's behavior patterns. These norms include rules, regulations, habits and mores. To ensure conformation of group norms, sanctions (rewards or punishment) are used in formal or informal ways (Bishal, 2009).

Groups that have a direct influence to a person belonged by it are called the membership groups. Among these membership groups some are primary groups such as family, friends, neighbors and co-workers in which there are continuous but informal interactions. Secondary groups include religious, professional and trade unions groups where there are more formal and less regular interactions (Kotleret al., 2008).

Adoption of IBLI in north eastern Kenya will have religion as a fundamental determinant to the number insured and market price. Islam is the predominant religion in north eastern Kenya (Schlee, 2012). Permissibility of insurance in Islam is a touchy issue. Depending on how it is applied, it can either be Halal (Permitted) or Haram (Forbidden).

Islamic insurance is a relatively new concept in Islam. Pastoralists in north eastern Kenya are likely to be skeptical of IBLI due to its insurance aspect and this will impact on the number insured. Further, while free trade is allowed in Islam, fraud and exploitation is forbidden. Unlike conventional insurance schemes, default on premiums cannot attract interests. Interest is forbidden in Islam (Mohamed & Patel, 2003). Islamic insurance, Takaful**,** applies the 'al-Tabarru'system, making it free from uncertainty, interest and gambling (Mohamed &Patel, 2003).Each participant that needs protection must be present with the sincere intention to donate to other participants faced with difficulties. Therefore, Islamic insurance exists where each participant contributes into a fund that is used to support one another with each participant contributing sufficient amounts to cover expected claims-(Mohamed &Patel, 2003).

Pastoralism is an age-old engagement which has been handed down generations to the modern day. It therefore had deep rooted beliefs that make up a body of indigenous knowledge. Pastoralists, like any other community, will hold on to norms and customs for practical and nostalgic reasons. IBLI is not introduced to pastoralists in an insurance-vacuum; for centuries communities have had indigenous risk management strategies for their livestock (Dixit et al., 2013). A comparatively new phenomenon, IBLI, will have to go against the norms and customs of the pastoralists. This will affect the number insured under IBLI.

Education is critical to micro-insurance. While micro-insurance can provide much-needed risk management mechanisms to vulnerable low-income households, it is a tool that is widely under-supplied and under-utilized (Dercon et al., 2009).Insurers that want to expand into this sector face a range of challenges. Supply-side challenges include a limited understanding of target populations' risks and needs, the difficulty of pricing a product with low premiums and high transaction costs, and the problem of finding a suitable delivery channel. These are major hurdles, but progress is being made.

RESEARCH METHODOLOGY

The study used cross sectional design and targeted population from pastoralist households in Garissa and Wajir. Structured questionnaire was administered to the sampled population which was located using Snowball Sampling, also referred to as referral chain sampling, for locating research cluster (pastoralist households) whereby one subject gives the researcher the location of the other cluster , then a multi-stage random sampling technique used to sample the household. . Quantitative data collected was analyzed by statistical models such as Analysis of variance (ANOVA), Multivariate regression analysis was applied to measure moderating effect of index based livestock insurance on socio-cultural factors in north eastern Kenya.

RESEARCH FINDINGS AND DISCUSSION

The study focused on 153 questionnaires administered to pastoralists' communities living in Garissa and Wajir Counties. All the distributed questionnaires were returned. A total of 21 questionnaires were from Lagdera, 14 from Balambala,35 from Fafi, 5 from Garissa korakora, 11 from Wajir south, 36 from Wajir west, 29 from Tarbaj, 1 from Wajir north and 1 from Wajir east. The study achieved an overall response rate of 100 % which was acceptable as suggested by Fosnacht (2013).

Socio-cultural factors

Source of information

Majority of the respondents (78.4%) did view that friends were a major source of information on social cultural factors. A large percentage of the respondents (53.6%) unanimously opined that Neighbors were a source of information. Most of the respondents (66%) did not view that a religious leader/Imam at the mosque was as sources of information about social and cultural factors. A significant large number (77.8%) shared this opinion about politicians (MP, MCAs). A majority (68.6%) did not consult administrative leader (DC, Chief, Government official) for information. A significant large number (97.4%) did not view radio as a source of information. Majority of the respondents (93.5%) did not view newspapers as a source of information. Majority of the respondents (78.4%) did not view insurance agents as a source of information. A significant number (91.5%), did consult information from age mates around them.

Source of information

Source of information	No (%)	Yes (%)
From friends	21.6	78.4
Neighbours	46.4	53.6
Through a religious leader/Imam at the mosque	66	34
Through politicians(MP, MCAs)	77.8	22.2
Through administrative leader(DC, Chief, Government official)	68.6	31.4
Through Radio	22.2	77.8
Through TV	97.4	2.6
Through Newspapers	93.5	6.5
Through insurance agents	78.4	21.6
Through age mates	91.5	8.5

Religion, culture, norms and values

Social cultural factor was measured using the Likert scale and the results, expressed as percentages, mean and standard deviation. The mean values represent points of convergence of the different respondents opinions regarding the Religion, culture, norms and values. The low standard deviations of the opinions indicated a high clustering around the mean of the distribution. This implied that there was close agreement in the opinions among the respondents. The results in Table below indicates that majority of the respondents cumulatively, 93.7% of agreed that they have full confidence of the Sheikh/Imam in their area. A few 23.4 % of the respondents agreed that they trust their friends fully. 78.1% of the respondents agreed that they are strong followers of community's culture and norms. 51.6% of the respondents agreed that the educated members of their household determine the decision they make. A few 28.9% of the respondents agreed that the decision made is determinant of the group they belong. A significant small number32%) of the respondents agreed that the decision they make is influenced by the network they belong to. A large number of respondents 86.8% cumulatively agreed that the community culture and norms influences their decision making.

International Journal of Academic Research in Business and Social Sciences
2017, Vol. 7, No. 3
ISSN: 2222-6990

Religion, culture, norms and values

	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Mean	Std. Deviation
You have full confidence of the Sheikh/Imam in your area	0	0.7	2	32.2	65.1	4.62	0.563
You have full trust in your friends	2.7	30.7	43.3	12.7	10.7	2.98	0.986
You are a strong follower of the culture and norms of your community	1.3	8.6	11.9	29.8	48.3	4.15	1.025
Educated members of your household determines the decision you make	2.6	18.5	27.2	48.3	3.3	3.31	0.903
The group you belong to determine your decision making	0.7	8.6	61.8	26.3	2.6	3.22	0.66
The network you belong to greatly influences your decision making	0.7	6.7	60.7	21.3	10.7	3.35	0.786
Culture and norms of your community does influence your decision making	2.6	9.2	1.3	59.2	27.6	4	0.949
Culture and norms of your community doesn't influence your decision making	0.7	8.8	0	56.8	33.8	4.14	0.857

Moderating effect of IBLI on the relationship between study variable and livestock performance

Moderated regression model for social cultural factors

The first specific objective of this study was to establish the moderating effect of Index based livestock insurance on socio-cultural factors affecting performance of livestock projects in North eastern Kenya.

The hypothesis tested for this specific objective was:

H_{01} – there is no moderating effect of Index Based Livestock Insurance on social cultural factors affecting performance of livestock projects in North eastern Kenya.

A hierarchical moderated multiple regression (MMR) was done to determine if Index based livestock insurance moderates the relationship between social cultural factors and Performance of livestock projects in North eastern Kenya.

Using the MMR analysis, the moderating effect of the Index Based Livestock Insurance was analyzed by interpreting 1) the R^2 change in the models obtained from the model summaries, and 2) the regressions coefficients for the product term obtained from the coefficients tables.
This was undertaken in a three step process. At the first step, the independent variable, at the second step, the independent variable i.e social cultural factors and the hypothesized moderator (Index Based Livestock Insurance) were entered as predictors. At the third step, the cross product of each independent variables and Index Based Livestock Insurance were regressed on the outcome variable to test for interaction effects each step had model 1, 2 and 3.The results are shown in Table below.
In model1 there is a significant relationship between the predictor (social cultural factors) and performance of livestock projects in North eastern Kenya. (R^2= 0.06, F (1, 126) = 8.105, p =0.005). The R^2= 0.06 showed that social cultural factors explains 6% of the variation in performance of livestock projects in North eastern Kenya. The remaining 94% is due to other factors not captured in this model. The result in Model 2 presents the results for the independent variable (social cultural factors) and the moderator (Index Based Livestock Insurance). The results in Model 2 indicated that social cultural factors has a significant and positive relationship with performance of livestock projects in North eastern Kenya (β= 0.545, t=2.680, p=0.006). The β of 0.545 indicates that a unit change in social cultural factors increased the performance of livestock projects in north eastern Kenya by 0.185 units, Index Based Livestock Insurance being constant. Further there is an insignificant relationship between Index Based Livestock Insurance and performance of livestock projects in North eastern Kenya (β= -0.021, t= -0.185, p=0.885).

$$Y=0.608+0.545X_1-0.021X_5$$

Where Y is performance of livestock projects in north eastern Kenya, X_1 is social cultural factors (religion, culture, norms and values), X_5 is Index Based Livestock Insurance.

In model 3, the moderation is tested by introducing the interaction term social cultural factors * Index Based Livestock Insurance. There was a significant relationship between relationship social cultural factors and performance of livestock projects in north eastern Kenya (β= 0.668, t= 2.680, p=0.008). Therefore β= 0.668 indicated that a unit change in social cultural factors is associated with a 0.668 increase in performance of livestock projects in north eastern Kenya, Index Based Livestock Insurance being constant. The β changed from 0.545 to 0.668 after moderation. Further there was a negative insignificant relationship between Index Based Livestock Insurance and performance of livestock projects in north eastern Kenya.
The interaction term social cultural factors*Index Based Livestock Insurance is insignificant (β= -0.310, t= -0.784, p=0.434).
There was a change in R^2 from 0.061 to 0.065 giving a R^2change of 0.005 which was small and insignificant (p value 0.434). In this regard, the study failed to reject H_{01}.
$Y=0.183+0.668X_1-0.027X_5-0.310X_1*X_5$

The three models were significant as indicated by their F-values were (8.105, 4.032 and 2.884) and their corresponding p values were 0.005, 0.020 and 0.038 respectively. On adding IBLI variable on the model containing social cultural factors, the change in F was not significant (F-change =0.021, p=0.885) indicating that IBLI as a predictor has no significant influence on performance of livestock projects. On adding the interaction term (social cultural factors*IBLI) to the model containing social cultural factors and IBLI as predictors, the change in F was not significant (F-change =0.615, p=0.434) meaning that IBLI is not a significant moderator of the relationship between social cultural factors and performance of livestock projects.

These study findings corresponded with other studies reviewed in the literature that conventional insurance is forbidden in Islam because it contains elements contradictory to Islamic Shariah (Mohamed & Patel, 2003). These are, uncertainty (Gharar) where the amount and time is not known, gambling (Maisir**)** where the participant contributes a small amount of premium in hope to gain a large sum, and interest (Usury) where an element of interest exists as is in conventional insurance products (Mohamed & Patel, 2003).

Moderated multiple regression for social cultural factors

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change	df1	df2	Sig. F Change
1	.246[a]	0.06	0.053	0.76631	0.06	8.105	1[a]	126	0.005
2	.246[b]	0.061	0.046	0.76931	0	0.021	1[b]	125	0.885
3	.255[c]	0.065	0.043	0.7705	0.005	0.615	1[c]	124	0.434

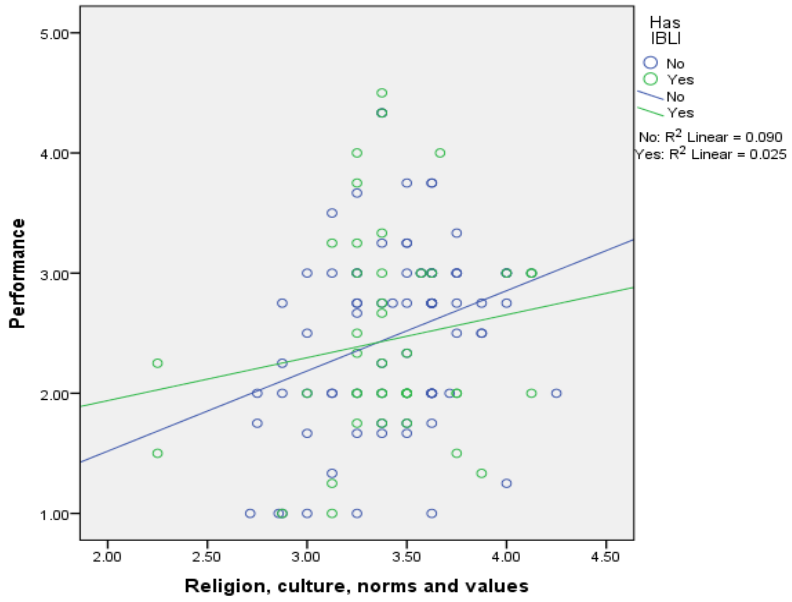
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.76	1	4.76	8.105	.005[b]
	Residual	73.992	126	0.587		
	Total	78.752	127			
2	Regression	4.772	2	2.386	4.032	.020[c]
	Residual	73.98	125	0.592		
	Total	78.752	127			
3	Regression	5.137	3	1.712	2.884	.038[d]
	Residual	73.615	124	0.594		
	Total	78.752	127			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.594	0.663		0.895	0.373		
	Religion, culture, norms and values	0.547	0.192	0.246	2.847	0.005	1	1
2	(Constant)	0.608	0.673		0.903	0.368		
	Religion, culture, norms and values	0.545	0.193	0.245	2.817	0.006	0.995	1.005
	Has IBLI	-0.021	0.144	-0.013	-0.145	0.885	0.995	1.005
3	(Constant)	0.183	0.865		0.212	0.833		
	Religion, culture, norms and values	0.668	0.249	0.3	2.68	0.008	0.601	1.664
	Has IBLI	-0.027	0.144	-0.016	-0.185	0.854	0.992	1.008
	IBLI*Social.C	-0.31	0.396	-0.088	-0.784	0.434	0.6	1.668

Although the model did not provide sufficient evidence of IBLI moderation on the relationship between social cultural factors and performance of livestock projects.Further investigations using scatterplot roughly suggested some form of moderation. As shown in the Figure below the crossover point for the two regression lines occurs on the right side of predictor and therefore the moderator influenced the relationship narrowly. The performance of people with lower values of social cultural index was below those who were holders of IBLI but for people with higher values of social and cultural index, their performance of livestock projects was higher than the holders of IBLI.



CONCLUSION AND RECOMMENDATIONS

From the study findings, it could be concluded that there was a weak positive linear relationship between socio-cultural factors and performance of livestock projects in North eastern Kenya using Pearson correlation coefficient. Thus, the study concludes that social cultural factors such as religion, culture, norms and values significantly affect the performance of livestock projects. Further, the study concluded that there was a negative insignificant relationship between Index Based Livestock Insurance and performance of livestock projects in north eastern Kenya. The interaction term social cultural factors and index based livestock insurance was insignificant. This is because conventional insurance is forbidden in Islam because it contains elements contradictory to Islamic Shariah. Further investigations using scatterplot, the study concluded that the performance of people with lower values of social cultural index was below those who were holders of IBLI but for people with higher values of social and cultural index, their performance of livestock projects was higher than the holders of IBLI.

The study recommends to the project managers to be cognisant that group norms would affect the individual's behavior patterns and therefore they should ensure that religion, culture, norms and values are factored before any project takes off. For example, People of North Eastern Kenya are believed to be Pastoralists and because of this, it is believed they would hold this practice and pass it to the next generations. Hence the reason why social cultural factors affect the performance of livestock projects in North Eastern Kenya. Also, the study recommends to the project managers that they should never moderate social cultural factors with index based livestock insurance. The interaction of social cultural factors and index based livestock insurance would affect the performance of livestock project insignificantly in North Eastern Kenya. This is because conventional insurance is forbidden in Islam because it contains elements such as interest which is contradictory to Islamic Shariah and insurance products

implemented in North Eastern Kenya like modern banking products should conform to Islamic shariah.

REFERENCES

Abdi, H., & Williams, L. J. (2010).*Tukey's honestly significant difference (HSD) test.*Encyclopedia of Research Design. Thousand Oaks, CA: Sage, 1-5.

Arun, T., Bendig, M., &Arun, S. (2012).*Bequest motives and determinants of micro life insurance in Sri Lanka.* World Development, 40(8), 1700-1711.

Aubry, M., & Hobbs, B. (2011).*A fresh look at the contribution of project management to organizational performance.* Project Management Journal, 42(1), 3-16.

Awel, Y. M., &Azomahou, T. T. (2015).*Risk preference or financial literacy? Behavioural experiment on index insurance demand.*Risk, 005.

Bageant, E. (2014). Gender Differences In Demand For Index Based Livestock Insurance. Unpublished master thesis). Ithaca: Cornell University.

Baloglu, S., &Uysal, M. (1996).*Market segments of push and pull motivations: A canonical correlation approach.* International Journal of Contemporary Hospitality Management, 8(3), 32-38.

Banerjee, R. (2015). *The story of Index Based Livestock Insurance (IBLI).*

Barnett, B. J., &Mahul, O. (2007).*Weather index insurance for agriculture and rural areas in lower-income countries.* American Journal of Agricultural Economics, 89(5), 1241-1247.

Barnett, B. J., Barrett, C. B., &Skees, J. R. (2008).*Poverty traps and index-based risk transfer products*. World Development, 36(10), 1766-1785.

Bastagli, F., & Harman, L. (2015).*The role of index-based triggers in social protection shock response.*Overseas Development Institute.

Binswanger-Mkhize, H. P. (2012). *Is there too much hype about index-based agricultural insurance?.* Journal of Development Studies, 48(2), 187-200.

Bishal, N. (2009). *Factors Influencing Consumer Behavior of Smartphone Users*.

Bollig, M. (2005). 4*: Inheritance and Maintenance among the Himba of the Kunene Region*. Perspectives on Namibian inheritance practices, 45.

Brown, S. (2003). *Deteriorating human security in Kenya: domestic, regional and global dimensions.*The new regionalism in Africa. Burlington, VT: Ashgate.

Brown, W., & Churchill, C. (1999). *Providing insurance to low-income households Part I: A primer on insurance principles and products.*

Bryman, A., & Bell, E. (2007).*Business research methods* (2nd ed.). New York: Oxford University Press.

Bryman, A. (2008). *Why do researchers integrate/combine/mesh/blend/mix/merge/fuse quantitative and qualitative research.* Advances in mixed methods research, 87-100.

Bryman, A. (2012). *Social research methods* (4th ed.). New York: Oxford University Press.

Bryman, A., & Bell, E. (2015).*Business research methods.Oxford university press*.

Cai, J., de Janvry, A., &Sadoulet, E. (2011). *Social networks and insurance take up: evidence from a randomized experiment in China.*ILO Microinsurance Innovation Facility Research Paper, 8.

Calderón, C., &Servén, L. (2004).*The effects of infrastructure development on growth and income distribution (No. 270).*World Bank Publications.

Carter, M. R. (2009). *Inducing innovation: risk instruments for solving the conundrum of rural finance.* Population and natural resources.

Carter, M. R., Ikegami M. and Janzen, S. A., (2011).*Dynamic Demand for Index Based Asset Insurance in the Presence of Poverty Traps*, 7th International Micro-insurance Conference, November 8 - 11 2011.

Catherine, B., and Dalal, A., (2010). *Explaining Insurance: Implementing Consumer Education in CARE-India's Insure Lives & Livelihoods Program*. New York University.

Catley, A., Lind, J., &Scoones, I. (Eds.). (2013). *Pastoralism and development in Africa: dynamic change at*

Chantarat, S., A. G. Mude.(2013).*Designing index-based livestock insurance for managing asset risk in northern Kenya*,The Journal of Risk and Insurance, 2013, 80(1) , 205-237 DOI: 10.1111/j.1539-6975.2012.01463.

Chantarat, S., Mude, A. G., & Barrett, C. B. (2009).*Willingness to pay for index based livestock insurance: Results from a field experiment in northern Kenya*.

Chantarat, S., Mude, A. G., Barrett, C. B., & Carter, M. R. (2013).*Designing index-based livestock insurance for managing asset risk in northern Kenya.* Journal of Risk and Insurance, 80(1), 205-237.

Chelang'a, P. K., Banerjee, R., &Mude, A. (2015).*Index-Based Livestock Insurance (IBLI) lessons in extension and outreach: A case of Wajir County*.

Cohen, L., &Manion, L. (1989).*Action research: Methods of education*.

Cole, S., Bastian, G., Vyas, S., Wendel, C., & Stein, D. (2012).*The effectiveness of index-based micro-insurance in helping smallholders manage weather-related risks*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Cole, S., Giné, X., Tobacman, J., Townsend, R., Topalova, P., & Vickery, J. (2013).*Barriers to household risk management: evidence from India. American economic journal*.Applied economics, 5(1), 104.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). *Advanced mixed methods research designs.*Handbook of mixed methods in social and behavioral research, 209-240.

Crompton, J. L. (1979). *Motivations for pleasure vacation*.Annals of tourism research.

De Bock, O., &Gelade, W. (2012).*The demand for microinsurance: A literature review*. Microinsurance Innovation Facility, Research Paper, (26).

Delgado, C. (2005). *Rising demand for meat and milk in developing countries: implications for grasslands-based livestock production*. Grassland: a global resource, 29-39.

Denzin, N. K., & Lincoln, Y. S. (2002).*The qualitative inquiry reader*.Sage.

Dercon, S., Kirchberger, M., Gunning, J. W., &Platteau, J. P. (2009).*Literature review on microinsurance.*ILO.

Eriksen, S., & Lind, J. (2009).*Adaptation as a political process: Adjusting to drought and conflict in Kenya's drylands.*Environmental management, 43(5), 817-835.

Fischer, I., &Buchenrieder, G. (2009).*Laptop, Livestock drawings and Ricewine: a demand analysis for Livestock insurance in Northern Vietnam*. Savings and Development, 41-60.

Forsyth, D. R. (2015), *The Psychology of Groups.*NOBA Project.

Francis, G., &Minchington, C. (2002).*Regulating Shareholder Value: A Case Study of the Introduction of Value–based Measures in a Water Company*. British Journal of Management, 13(3), 233-247.

Garissa County Government. (2013). *Garissa County Integrated Development Plan*. Retrieved https://www.humanitarianresponse.info/system/files/documents/files/garissa%20county%20government%20CIDP.1.pdf.Accessed on 25th October 2015.

Gathenya, J. W. (2012). *Entrepreneurial strategic planning practices and firm performance among women-led small and medium enterprises in Kenya*.Ph D Thesis, JKUAT.

Government of Kenya.(2008). *Sessional Paper No. 2 of 2008 on National Livestock Policy*.Ministry of Livestock Development.Pp 4, 5, 73, 74.

Grabher, G., & Thiel, J. (2015).*Projects, people, professions: Trajectories of learning through a mega-event (the London 2012 case).*Geoforum.

Hair, J. F., Black, W. C., Babin. B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (5th Ed.). New Jersey: Pearson Prentice Hall.

Hanning, B. (2002). *Has the increase in private health insurance uptake affected the Victorian public hospital surgical waiting list?.* Australian Health Review, 25(6), 64-71.

Hess, U., &Syroka, J. (2005).*Weather-based insurance in Southern Africa: The case of Malawi*.

Homann, S. and Verlag, C.(2005). *Indigenous knowledge of Borana pastoralists in natural resource management: a case study from southern Ethiopia.*CuvillierVerlag.

Jain, A. (2010). *Principles of marketing*.VK PUBLICATIONS.

Jensen, N. D., Barrett, C. B., &Mude, A. (2014).*Basis risk and the welfare gains from index insurance: Evidence from northern Kenya*. Available at SSRN 2505764.

Kazianga, H., &Udry, C. (2006).*Consumption smoothing?Livestock, insurance and drought in rural Burkina Faso*. Journal of Development Economics, 79(2), 413-446.

Kenya National Bureau of Statistics. (1999*). Population and housing Census*, Vol. 1: population distribution by administrative areas and urban Centers.

Kenya National Bureau of Statistics.(2013). *Kenya Facts and Figures.*

Khalai, D. (2015). *women, age and livestock insurance – a story from northern kenya*, Staff Insights, International Livestock Research Institute.

Kotler, P., Armstrong, G., Wong, V. and Saunders, J., (2008), *Principles of Marketing*, Fifth European Edition, Pearson Education Education.

Lamb C., Hair J., MacDaniel C., (2010), *Essentials of Marketing*, Seventh edition, Cengage Learning.

Lee, J., &Rao, H. R. (2007).*Perceived risks, counter-beliefs, and intentions to use anti-/counter-terrorism websites: an exploratory study of government–citizens online interactions in a turbulent environment.* Decision Support Systems, 43(4), 1431-1449.

Legget, A. (2011). *Constructs, Variables and Operationalization*.Masaryk University.Faculty of Informatics.

Leive, A. &Xu, K. 2008, *Coping with out-of-pocket health payments: empirical evidence from 15 African countries*, Bulletin of the World Health Organization, 86(11).

Little, P. (2005). *Unofficial trade when states are weak: The case of cross-border commerce in the Horn of Africa (No. 2005/13*). Research Paper, UNU-WIDER, United Nations University (UNU).

McCabe, J. T. (2004). *Cattle bring us to our enemies*. Ann Arbor: University of Michigan Press.

McPeak, J. (2004). *Contrasting income shocks with asset shocks: livestock sales in northern Kenya.* Oxford Economic Papers, 56(2), 263-284.

McPeak, J. G., & Barrett, C. B. (2001).*Differential risk exposure and stochastic poverty traps among East African pastoralists.* American Journal of Agricultural Economics, 674-679.

Menkhaus, K. (2015). *Conflict Assessment: Northern Kenya and Somaliland*. Available at SSRN 2589109.

Miranda, M. J., &Farrin, K. (2012).*Index Insurance for Developing Countries*. Applied Economic Perspectives and Policy.

Mohamed, M. & Patel, S. A. B. B. I. R. (2003).*An Opportunity for ICMIF members to provideIslamic insurance (Takaful) products*. Kuala Lumpur, Malaysia: ICMIF Takaful.

Mude, A., Barrett, C. B., Carter, M. R., Chantarat, S., Ikegami, M., &McPeak, J. G. (2009).*Index based livestock insurance for northern Kenya's arid and semi-arid lands: the Marsabit pilot.*Available at SSRN 1844758.

Mugenda, O. Mugenda. A.(2003). *Research methods Quantitative and Qualitative Approaches*. Nairobi: ACTS.

Ngugi, L. W., Rao, K. P. C., Oyoo, A., &Kwena, K. (2015).*Opportunities for Coping with Climate Change and Variability Through Adoption of Soil and Water ConservationTechnologies in Semi-arid Eastern Kenya*. In Adapting African Agriculture to Climate Change (pp. 149-157).Springer International Publishing.

Orodho, J. A. (2008). *Techniques of Writing Research Proposals and Reports in Education and Social Sciences.*Bureau of Educational Research. Kenyatta University, Nairobi, Kenya: Kanezja HP Enterprises.

Overbye, E. (2005).*Extending social security in developing countries: A review of three main strategies*. International Journal of Social Welfare, 14(4), 305-314.

Patt, A., Suarez, P., & Hess, U. (2010).*How do small-holder farmers understand insurance, and how much do they want it? Evidence from Africa*. Global Environmental Change, 20(1), 153-161.

Pfeiffer, D. (2010). *Veterinary Epidemiology: an introduction*. John Wiley & Sons.

Polak, M., Mishkov, L., & Williams, C. C. (2015).*Designing Focus Groups and Experiments to Evaluate Policy Approaches and Measures for Tackling Undeclared Work*.Available at SSRN 2565389.

Preacher, K. J., & Hayes, A. F. (2004).SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour Research Methods, Instruments, and Computers, 36*, 717-731.

Sherrick, B. J., Schnitkey, G. D., Ellinger, P. N., Barry, P. J., &Wansink, B. (2003). *Farmers' preferences for crop insurance attributes*. Review of Agricultural Economics, 25(2), 415-429.

Skees, J. R., &Enkh-Amgalan, A. (2002).*Examining the feasibility of livestock insurance in Mongolia* (Vol. 2886).World Bank Publications.

Streiner (2003) Starting at the Beginning: An Introduction to Coefficient Alpha and Internal Consistency" Journal of Personality Assessment, 80 (1), 99-103.

Sushil, S., &Verma, N. (2010).Questionnaire validation made easy.*European Journal of Scientific Research, 46*(2), 172-178.

Tarawali, S., Herrero, M., Descheemaeker, K., Grings, E., &Blümmel, M. (2011).*Pathways for sustainable development of mixed crop livestock systems: Taking a livestock and pro-poor approach.*Livestock science, 139(1), 11-21.

Tekabe, B., &Tandon, A. (2015).*Assessing fiscal space for health in Nepal.*

Thomas, J., Mullaly, M., 2008. *Researching the Value of Project Management*.PMI Research Conference Proceedings, Warsaw, Poland.

Vargas, J. J. (2013). *Hell's Kitchen and the Battle for Urban Space: Class Struggle and Progressive Reform in New York City*, 1894-1914. NYU Press.

Vargas, R. V. (2003). *Earned Value Analysis in the Control of Projects: Success or Failure?.* AACE International Transactions, 21(4), 211-214.

Vaughan, J.E (1989), *Fundamentals of Risk and Insurance*: New York, John Wiley & Sons 4th Edition.

Vrieling, A., Meroni, M., Shee, A., Mude, A. G., Woodard, J., de Bie, C. K., &Rembold, F. (2014).*Historical extension of operational NDVI products for livestock insurance in Kenya.*International Journal of Applied Earth Observation and Geoinformation, 28, 238-251.

Vogt, W. P. (1999) *Dictionary for Statistics and Methodology: A nontechnical guide for the Social Sciences*, London: Sage.

Wahab, S., &Norizon, N.S. (2012). The influence of service recovery strategies on the word of mouth: Views of mobile phone users*. International Journal of Computer Science Issues, 9*(3), 99-108.

Wambua, B. N., Omoke, K. J., &Mutua, T. M. (2014).*Effects of socio-economic factors on food security situation in Kenyan dry lands ecosystem.*

Wandera B, Prashad P, Merry A. 2013. *Piloting IBLI in Marsabit – ILRI Micro-insurance Innovation Facility brief.*

Wandera, B., &Mude, A. (2010). ILRI's index-based livestock insurance: hope for Kenya's pastoralists. Rural 21, 44(4), 24-25.

Webb, J. W., Ireland, R. D., Hitt, M. A., Kistruck, G. M., &Tihanyi, L. (2011). Where is the opportunity without the customer? An integration of marketing activities, the entrepreneurship process, and institutional theory.*Journal of the Academy of Marketing Science*, *39*(4).

Wernham, B. (2012). *Agile project management for government case study: the Success of the FBI Sentinel Project*. In Agile Business Conference (ABC2012).

Whittaker, H. (2015). *Legacies of Empire: State Violence and Collective Punishment in Kenya's North Eastern Province*, c. 1963–Present. The Journal of Imperial and Commonwealth History, 43(4), 641-657.

Yesuf, M., &Bluffstone, R. A. (2009).*Poverty, risk aversion, and path dependence in low-income countries: Experimental evidence from Ethiopia*. American Journal of Agricultural Economics, 91(4), 1022-1037.

Yin, R. (2009).*How to do better case studies*.The SAGE handbook of applied social research methods, 2, 254-282.