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Social Innovation: An Impulsion for Resilience of One-Acre Fund Household Livelihoods in Kenya

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ABSTRACT

The purpose of this study was to determine the effects of social innovation on the resilience of one-acre fund household livelihoods. Resilience is the ability to bounce back after a period of such shocks. . In that connection, there is a need to innovate alternatives that optimize resilience. Innovation has been studied in terms of technological innovation, business innovation, and or general innovation but not social innovation in connection to resilience. Social innovation uniquely matches resilience efforts at the vulnerable households' level. However, this connection has not been studied rigorously. The findings revealed that social innovation contributed statistically significantly to resilience of one-acre fund household livelihoods ($\beta = .832, p = .000$) and accounted for 69.3% change in resilience of one-acre fund household livelihoods $\Delta R^2 = 0.693, \Delta F(1, 308) = 167.748, p = .000$. The study concluded that, if more emphasis is put in social innovation, more resilience of one-acre fund household livelihoods would be realized. Therefore, an enhanced leads to resilience for households' livelihood. The study recommends that as a coping mechanism for food insecurity, farmers should adopt an acre fund model. This study advises the policymakers to consider the production of maize by use of one acre fund skills like social innovation to minimize the inefficiency levels and increase production by minimizing the cost of inputs and cost of capital. The study highlights the applicability of social innovation in a new context and further facilitates creation of knowledge and growth of literature in the social innovation sphere.

INTRODUCTION

Social innovation, is defined as the “innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly diffused through organizations whose primary purposes are social” (Mulgan, 2012). Social innovation contributes to economic development, socio-economic problems of poverty, and health, according to the OECD (2012). There are also social issues addressed by many growth-enhancing social innovations.

A study by Wenyuan *et al.* (2018), which examined the moderating effect of social innovation on the economic-social value in CSV relations in the Educational sector in Ghana, wanted to broaden its concept of shared value. The findings of this study showed how profitable social enterprises are using social innovations that are novel to the education sector in order to achieve a shared value creation in the particular indicators of social innovation. Wenyuan *et al.* (2018) asserts that the study has shown how the company has permitted CSV to be shifted to the educational sector in Ghana by social and catalytic innovation capacities while responding to educational lacunae and financial advantage. The results of the study further showed that social and economic value are positive in the development of shared value in education. The consequences of the above results for educational managers and social enterprise organisations, are that social innovation is the accomplishment of shared value in education (Wenyuan *et al.* 2018) With social innovation, business players can hear students and educational

managers' concerns using pragmatic mechanisms to solve educational challenges while enhancing their economic opportunities (Wenyuan *et al.* 2018). It is in the success of the new adopted model that the strength is this argument. However there is no argument about obstacles or hardships that led to the use of this model.

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Statement of the Problem

Food insecurity remains a major concern for numerous rural households in Kenya who rely on agriculture as their main source of livelihood. During the 2016/17 financial year, the country produced 37 million bags of maize against a requirement of 52.8 million bags for the same year. Smallholders produce around 75 percent of the country's food – largely for their own use. As a social enterprise, One Acre fund programme was introduced in western Kenya to help improve maize production on one-acre pieces of land occupied by many households. However, One Acre Fund households in Kenya still suffer deficiency in income growth, job creation, meeting health and education obligations of their families, food security and payment of other family bills despite engaging all the social entrepreneurship strategies, Innovation studies in connection to resilience of household livelihoods have focused on either general innovation or technological innovation or business innovation. Theoretically this leaves social innovation that would suit resilience. Consequently, the effects of social innovation on resilience of household livelihoods is unexplored. Whereas literature indicates that social innovation can moderate the relationship between social entrepreneurship and resilience of household livelihoods extant literature does not present its empirical testing to ascertain its magnitude, direction and interaction effect. The current study was set to establish how to deal with how social innovation can interact in a relationship with other variables and resilience for household livelihood. Therefore, generating information to fill this gap will increase the understanding of how households cope with the impacts of life-related problems. It is with this view that this research was essential in bringing about proper understanding of how social innovation activities relate in a relationship and the mission of resilience of one-acre fund household livelihood in Kenya. Furthermore, critically, any influence noticed through social innovation activities will help to open up new understanding of social innovation theory.

Research Objective

Determine effects of social innovation on resilience of one-acre fund household livelihoods in Kakamega County.

Research Hypothesis

(H0): Social innovation has no significant positive influence on resilience of one-acre fund household livelihoods in Kakamega County

Social Innovation Theory

Social innovation is a sub-concept of social entrepreneurship based on the theory of social innovation and plays a role in persuading changes in communities. In this study, the definitions of social innovation have similar themes, in order to confront deeper social problems, involving new ideas, programs or processes. Social innovation is therefore developing new ideas to alleviate certain societal challenges. Social innovation will offer the possibility of providing solutions to social issues which are not sufficiently addressed in a single acre fund by existing products and services. Relevant goals have been set for One Acre Fund. Instinctively, a key component of achievement is that customers are committed to a value proposition. But is One Acre Fund just as critical for its services to evolve to meet hundreds of thousands of customers? What this study is going to strive to answer is this question. Social innovation is measure that is extremely attractive for the communal transformation and economic development (Meister *et al.*, 2021; Phills *et al.*, 2008). However it is significant to mention that in social sector not each innovation can be considered as a social innovation except it serve the basic objective of the satisfying the communal needs, development and alter the social associations. So, social innovation is assumed to resolve the prevailing social issues productively specifically in bottom of pyramid economies (Schubert, 2018). Social innovation is described as the introduction of novel products, models and services that fulfill both social and enterprise needs and develop new social collaborations and associations (Oeij, *et al.*, 2019). Social innovation can be differentiated from the economic innovation on the basis of emphasis of profit maximization later on (Ayob *et al.*, 2016).

METHODOLOGY

The research design is a rational model of evidence that helps the researcher to draw inferences regarding the causal relationship between the variables under study Nachmias and Nachmias (1992). In this scenario, the theoretical methodology of Bless, Smith and Kagee (2006) deals with a conceptual problem and not a practical problem. According to Kothari (2004), a research design is an overall framework or plan for investigation and a logical model of evidence that guides the researcher at different stages of the research. This is the philosophical context within which the work was being performed. This research followed a sample methodology method that was compatible with a quantitative approach. Quantitative approach was used because the information collected through questionnaires was to be analyzed using analytical tools such as central trend measures and

dispersion measures (Newman and Benz, 1998). This research design enables the researchers to gather data from a wide range of respondents on the investigation of social entrepreneurship strategies, social innovation and resilience of one-acre fund household livelihoods in Kakamega County.

RESULTS AND DISCUSSION

The objective of the study was to determine the influence of social innovation in one-acre fund social entrepreneurship in Kakamega County. Social innovation was measured by New organization model and creativity Market orientation, new production technology and new products and new products and services. In order to establish how well social innovations are implemented respondents were to respond to statements on a Likert scale of 1 to 5 where, 1 meant that the respondents were Not At All, 2- small extent, 3- Moderate Extent, 4- Large Extent and 5 meant that they Very Large Extent. For the purpose of interpretation, a mean score of $0 \leq 1.5$ means that the respondents agreed not at all, between $1.50 \leq 2.50$ means they agreed to a small extent, $2.50 \leq 3.50$ they were respondents agreed to moderate extent, $3.50 \leq 4.50$ means they agreed to large extent and above 4.50 means the respondents agreed to large extent. The results were displayed with means.

Table 1: Social innovation

Statement	M
New organization model and creativity	3.41
Market orientation, new production technology and new products and services	3.48
Total	7.5
Mean scores	3.8

The influence of Social innovation was measured using a new organization model, creativity, Market orientation, new production technology new products and services. These innovation elements produced general average mean scores of 3.8 that is displayed in table 1.

A mean of 3.8 is an indication that the majority of the respondents have agreed that Social innovation with its elements play a significant role in the resilience of one acre fund households. The study resonates well with studies by Workman (2004) on market orientation, creativity, and new product performance in high-technology firms. The current study used New organization model and creativity; Market orientation; new production technology and new products and services and found out that.

Effects of Social Innovation on Resilience of One-Acre Fund Household Livelihoods

The objective was to determine effects of social innovation on resilience of one-acre fund household livelihoods in Kakamega County. Social innovation was operationalized as a composite variable that had the following five indicators as: New organization model, creativity, Market orientation, new production technology and new products and services.

To achieve the second objective a null hypothesis was formulated as

(H02): Social innovation has no significant positive influence on resilience of one-acre fund household livelihoods in Kakamega County

The hypothesis was tested using a linear regression model:

$$a. Y_i = \beta_0 + \beta_2 Z_i + \epsilon_i \dots$$

Factor Analysis for Social Innovation Communalities for Social Innovation

The communality for social innovation Table 2. shows

Table 2: Communalities for Social innovation

	Initial	Extraction
NOMC1: Creativity in One-Acre Fund improves yields in our farming activities.	1.000	.164
NOMC2: There is learning and acquiring of new ideas to farmer HHs farming or service delivery. Provision of new ideas, methods and tools has improved our farming activities	1.000	.795
NOMC3: Through new organization, farmer HHs have better ways of producing yields and marketing has made farmer HH get products.	1.000	.543
NOMC4: New One-Acre Fund model has improved our farming	1.000	.763
NOMC5: Our group uses creative methods of reaching markets, enhancing services and products e.g. volunteerism	1.000	.695
MONT1: One-Acre Fund produce have been able to enter new markets	1.000	.435
MONT2: We are able to produce & supply products with desired features that were previously not available and affordable to the consumers.	1.000	.808
MONT3: One-Acre Fund has introduced new products (solar lamps, batteries, sanitary pads) or services that benefit consumers	1.000	.646
MONT4: Information in One-Acre Fund reaches farmer HHs through text messages on their mobile phones and that farmers pay their loans via mobile phones.	1.000	.405
MONT5: It is easier to establish and access linkages for markets through different media including social media.	1.000	.511

Extraction Method: Principal Component Analysis.

the communalities after rotation which represents the relation between the variable and the other variables. All the Ten factors were retained for further analysis. All the communalities for factor that retained are with the lowest communality as 0164 for (Creativity in One-Acre Fund improves yields in our farming activities) and the highest at 0.889. We are able to produce & supply products with desired features that were previously not available and affordable to the consumers.)

Total Variance Explained for Social Innovation

One component was extracted after undertaking Principal component analysis with varimax rotation based on the Kaiser criterion, eigenvalues over 1, Suppressing the factor loading at 0.5 one item was dropped. The remaining component accounted for 57.6% of the variance for the eigenvalue greater than one as shown in Table 3

A scree plot was also generated to physically visualize the number of components to be retained. Based on the

Table 3: Total Variance Explained for Social innovation

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.764	57.643	57.643	5.764	57.643	57.643
2	.922	9.216	66.859			
3	.794	7.935	74.795			
4	.679	.791	81.585			
5	.498	4.985	86.570			
6	.391	3.910	90.480			
7	.343	3.431	93.911			
8	.299	2.989	96.900			
9	.177	1.773	98.673			
10	.133	1.327	100.000			

Extraction Method: Principal Component Analysis.

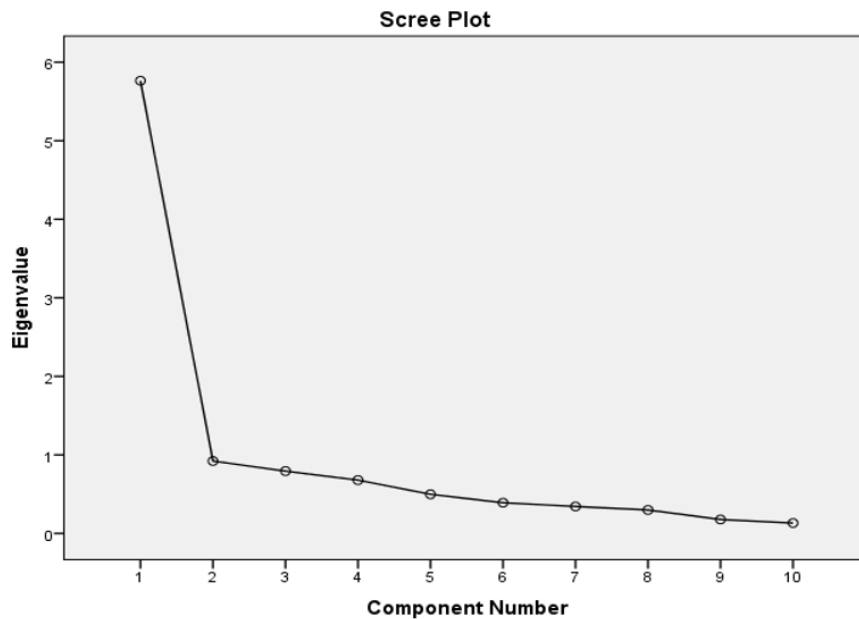


Figure 1: Scree plot for Social innovation

scree plot figure 1 the curve flattens out after the first component supporting retaining of one component. The study showed that since only one component was extracted. The solution cannot be rotated.

Effects of Social Innovation on Resilience of One-Acre Fund Households' Livelihoods

The second objective was to determine effects of social innovation on resilience of One-Acre Fund household

livelihoods in Kakamega County. Social innovation was operationalized as a composite variable that had the following five indicators as: New organization model, creativity, Market orientation, new production technology and new products and services. To achieve the second objective a null hypothesis formulated was revisited. The hypothesis was tested using a linear regression model: Equation.

$$a.Y_i = \beta_0 + \beta_2 Z_i + \epsilon_i$$

Table 4: Coefficients of social innovation on resilience of One-Acre Fund households' livelihoods.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.314	.031		.000	1.000
	Social Innovation	.832	.032	.832	26.394	.000

The introduction of moderating variable (social innovation) in model two, shows that social entrepreneurship strategies ($\beta=.832, p=0.000$) and social innovation ($\beta=.832, p=0.000$) are significant predictors of resilience of One-Acre Fund household livelihood. This means that social innovation ($t(308) = 12.952, p=.000$) is a significant predictor of resilience of household livelihood record. The model had the regression was calculated to predict resilience of One Acre Fund household livelihood based on social innovation. A significant regression equation was found $\Delta R_2=0.693, \Delta F(1, 308) = 167.748, p=.000$ in the table. Participants predicted resilience of One Acre Fund household livelihood was equal to $3.314+0.559SI$. Participants resilience of one acre fund households increased by 0.559 in social innovation where social innovation was measured on likert scale ranging from Not at All (NA), Small Extent (SE), Moderate Extent (ME), Large Extent (LE) and Very Large Extent (VLE). The regression constant shows that when the independent variable (social innovation) is constant at zero, the resilience of households' livelihood would be 0.400. It was established that with every unit positive increase in Social innovation resilience of One-Acre Fund households' livelihood would increase by 0.559. From the magnitude of the t-statistics it is seen that the social innovation had

higher impact to social entrepreneurship strategies. This implies that there exists a significant relationship between (Social Innovation) and resilience of One-Acre Fund households' livelihood.

Therefore, the null hypothesis (H_{02}): Social innovation has no significant positive influence on resilience of One-Acre Fund household livelihoods in Kakamega County was rejected.

Regression Analysis for Social Innovation on Resilience of One-Acre Fund Household's Livelihood

The researcher conducted further inferential statistical test using regression analysis (Table 4) to explain the influence of Social Innovation (SI), and resilience of household livelihoods (RHL). First the data was tested to determine its suitability of the data for regression analysis as explained by the regression ANOVA (Table 5).

Regression Analysis for Social Innovation on Resilience of One-Acre Fund Household's Livelihood

The model summary results as presented in Table 5 indicated that a significant positive influence of social innovation on resilience of household livelihoods and standard error of estimate (0.56) shows mean deviation of the predictor variable from the line of the best fit.

Table 5: Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.832a	.693	.692	.55521019	.693	696.650	1	309	.000

The R-square of 0.693 which implied that other factors held constant Social innovation explained 69.3 % of the variation in resilience of household livelihoods in Kakamega County. The remaining 30.7% variation was explained by other variables which are not in this model. Taking the correlation coefficient a step further by squaring it. The correlation coefficient squared (known as the coefficient of determination, R^2) as in Table 5 displays the model that gives an output of the R square change of 0.689.

This confirms that the second hypothesis of the study that was Social innovation has no significant positive influence on resilience of One-Acre Fund household livelihoods in Kakamega County was rejected. These findings corroborates with Khan Samar Hayat *et al.* (2021) findings on moderating role of social innovation

in the role of social capital and social value creation in augmenting sustainable performance of social enterprises. The moderation analysis confirms the moderating role of the social innovation upon the association of social capital and social enterprises. With R square change of 0.004. The hypothesis of the study that social innovation moderates the association of Social Entrepreneurship strategies and resilience of One-Acre Fund household livelihoods is fully supported.

ANOVA Results for Regression Analysis

The data was tested to determine its suitability of the data for regression analysis as explained by the regression ANOVA (Table 6).

ANOVA for Social Innovation

Table 6: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	214.748	1	214.748	696.650	.000b
	Residual	95.252	309	.308		
	Total	310.000	310			

a. *Dependent Variable: Resilience of Household livelihoods*

b. *Predictors: (Constant), Social Innovation*

CONCLUSION

The study concludes that Social innovation has a significant positive influence on the resilience of One-Acre Fund household livelihoods in Kenya. It considers social innovation as an integrative part of a holistic intervention that acts across single entrepreneurship and provides systemic impact for the resilience of households in societies. The study contributes to the studies of social innovation. This develops an understanding of how organizations are able to innovate in the pursuit of social goals as opposed to exploring the underlying reason as to why they do so. Despite the nascence of the field, the study has pushed the boundaries of social innovation research, contributing to empirical studies into the process and nature of the social innovation process. The study concludes that Social innovation has a significant positive influence on the resilience of One-Acre Fund household livelihoods in Kenya. The study also consider social innovation as an integrative part of a holistic intervention that acts across not-for-profit organizations, charities, social movements and community groups, as well for-profit enterprises and provides systemic impact for the resilience households in societies. Social Innovation has produced cross-sectorial (societal, economic, environmental, and governmental) and multi-level impacts (on individuals, community, and society), which have improved the societal well-being, and contributed to the reduction of certain forms of poverty, mainly through one acre fund.

Way Forward

Based on the conclusion, it is recommended that combined social innovation can be used to enhance resilience of farmer households. The cure to the current dwindling sugarcane crop uptake by farmers and that of collapsed industries lies in maize and other food crop production. Maize production has been premised on the assumption that farmers need to practice maize farming for subsistence. However, the findings of this study revealed that one can utilize his/her small farm to get higher yields in maize farming. Therefore, this study advises the policy makers to consider production of maize by use of one acre fund skills like social entrepreneurship strategies and social innovation to minimize the inefficiency levels and increase production by minimizing the cost of inputs and cost of capital.

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