

# Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea Markets in Southern Highlands of Tanzania

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## Abstract

Since 2013, the Government of Tanzania has put in place an agricultural policy that emphasizes sustainable agriculture through sustainable, environmentally friendly crop husbandry practices and public-private collaboration with other agricultural marketing actors in meeting product quality, grades and standards for domestic, regional and international markets. This paper, therefore, assessed the influence of Innovative Activities on Sustainability Standards for Acquisition and Retention of tea markets in the Southern Highlands of Tanzania. It specifically intended to determine the extent of innovative activities undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards

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**Index terms**— innovative activities, sustainability standards, acquisition and retention of markets

## 1 Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea

Markets in Southern Highlands of Tanzania Dr. CRN, Charles Raphael Abstract—Since 2013, the Government of Tanzania has put in place an agricultural policy that emphasizes sustainable agriculture through sustainable, environmentally friendly crop husbandry practices and public-private collaboration with other agricultural marketing actors in meeting product quality, grades and standards for domestic, regional and international markets. This paper, therefore, assessed the influence of Innovative Activities on Sustainability Standards for Acquisition and Retention of tea markets in the Southern Highlands of Tanzania. It specifically intended to determine the extent of innovative activities undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards; examine the influence of activities on sustainability standards; and examine the power of sustainability standards on acquisition and retention of tea markets in Southern Highlands of Tanzania. The data were collected using a questionnaire from 300 tea growers sampled through a stratified random sampling technique. The collected data were described statistically before analyzing them using Simultaneous Multiple Linear Regression. The findings show that the Process Innovative Activities and the Technological Innovative Activities were undertaken to a great extent. On the other hand, the Organizational Innovative Activities were undertaken to a small extent by the surveyed tea growers in the Southern Highlands of Tanzania. Furthermore the innovative activities such as process, organizational and technological innovative activities had a statistically significant and positive relationship with sustainability standards. Likewise, the studied sustainability standards such as workers' wages and rights, housing and education, health and safety, and farm productivity, were generally found statically significant to the acquisition and retention of tea markets. It is therefore recommended that the tea growers and exporters should continue to practice thoroughly the innovative activities for achievement of sustainability standards leading to successful acquisition and retention of tea markets.

## 2 I. Introduction

since 2013, the Government of Tanzania has put in place an agricultural policy that emphasizes sustainable agriculture through sustainable, environmentally friendly crop husbandry practices and public-private collaboration with other agricultural marketing actors in meeting product quality, grades, and standards for domestic, regional and international markets.

The agricultural policy came as the result of the intention of boosting the development of crop commodities (Economic Survey of the United Republic of Tanzania [URT], 2012). Before the policy, there was low product quality due to poor linkages in crop production, processing, marketing, transactions, technology, policy and other frameworks for sustainability of standards for agricultural products (URT, 2012).

In tackling such challenges, various philosophies, policies, and practices have been currently taken to Tanzania's sustainable agriculture goals, including voluntary standards for certification of agricultural products and organic agriculture (URT, 2011). In Tanzania, sustainable agriculture refers to the integration of environmental conservation, profitable farms and prosperity of farming population (Action Aid Tanzania, 2011). Sustainable agriculture deals with the capacity of producing sustainably without soil erosion, disturbing ecosystems, human, and social capital for the purpose of maintaining healthy soils. Sustainable agriculture can be achieved by minimizing the use of synthetic fertilizers, pesticides, herbicides, and other possible external inputs.

Importantly, the innovative activities are one of the solutions devised for Tanzania's sustainable agriculture, which was likewise inevitable in Tea production. The activities based on the cooperation between public and private stakeholders in the tea industry for the purpose of creating an enabling environment of adopting private sustainability standards (Kavia, Loconto & Simbua, 2016). That cooperation is observed in Tea production in the Southern Highlands (Mufindi, Njombe and Rungwe districts). In this cooperation, tea production is divided between standard, three companies on a contract farming basis (Mufindi Tea Company [MTC], Unilever and Wakulima Tea Company [WATCO]). TSHTDA organizes tea smallholders in groups/associations; TRIT provides new technologies and extension frameworks for the system; RA/SAN certifies tea processing factories in which smallholders deliver their tea leaves; MTC, Unilever, and WATCO owns the nine tea processing factories. The duty of the companies is to ensure successful management services to smallholder groups for competent production, processing, and marketing of high-quality teas through the RA and SAN standard (Kavia, Loconto & Simbua, 2016).

Accordingly, the RA and SAN standards aimed at increasing product quantity and quality, and enhancing market recognition of responsible farming. The companies were now helped to retain current markets and tap into new ones for maintaining and improving their markets. The successful RA certification of smallholder tea farmers required noteworthy participation of dissimilar stakeholders in the value chain, in addressing challenges that prevent tea smallholders from implementing RA criteria practices. This involvement ranges from changing the mindset of smallholders, through preliminary training to achieve RA certification, to hands-on guidance, and practical advice (Kavia, Loconto & Simbua, 2016).

It must be remembered that tea ranks fifth after cashew nuts, coffee, cotton, and tobacco as the chief foreign exchange earning export crops in Tanzania (TSHTDA, 2013). Tea contributed US\$ 47,993,000 equivalent to 7% of the total cash crop export earnings in 2012 from exports of 26,133 tonnes (Kavia, Loconto & Simbua, 2016). The country earned about US\$ 56,031,000 in 2013 after exporting 27,776 tonnes of made tea (Tea Board of Tanzania [TBT], 2013). Also the tea industry contributed significantly to employment opportunities by employing about 50,000 families and about 2,000,000 people directly and indirectly (TSHTDA, 2013).

Due to such importance of the tea industry, some researches were conducted addressing the development and maintenance of the sustainability standards, which in turn lead to the acquisition and retention of tea markets. For example, Baffes (2004) did the study on Tanzania's Tea Sector: Constraints and Challenges. This study reveals that low prices and late payments by the Tea Authority, old and inefficient processing factories, inadequate use of inputs, rundown transport equipment, poorly maintained feeder roads (i.e., roads connecting farms to tea factories), and low yields due to failure to adopt new clonal varieties, the problem of engineering standards, lack of spare parts, power failures, non-replacement of machinery and overloading were constraints and challenges faced the tea sector in Tanzania.

Additionally, Kavia, Loconto and Simbua (2016) assessed the institutional collaboration for sustainable agriculture with reference to the tea sector in the Southern Highlands of the United Republic of Tanzania. The study portrays that there was a variation of collaboration level between private and public institutions. The institutional innovation implemented by different actors found to have improved numerous traditional tea production practices. However, markets for sustainable products were found restricted to market channels.

The previous but current study, particularly by Kavia, Loconto, and Simbua (2016) indicates the institutional innovation, particularly collaboration between public and private sectors in the tea industry. However, the study did not show the extent to which such institutional innovation undertaken facilitated the tea growers/exporters in obtaining and maintaining certified compliance of tea sustainability standards. Furthermore, the same study did not establish the statistical influence of the institutional innovation on sustainability standards and eventually leading to the acquisition and retention of tea markets. It was thus very essential to assess the influence of institutional innovation on sustainability standards for acquisition and retention of tea markets in the Southern Highlands of Tanzania by: i.

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determining the extent of innovative activities undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards in the Southern Highlands of Tanzania ii.

examining the influence of innovative activities undertaken by the tea growers on sustainability standards in the Southern Highlands of Tanzania; and iii. examining the influence of sustainability standards on acquisition and retention of tea markets in the Southern Highlands of Tanzania II.

### 3 Methodology a) Approach

The quantitative approach was applied in this study due to the nature of the study's main objective with causal-effect. This objective demanded the study to be approached quantitatively with the support of quantitative data. The approach of the study simplified the understanding of the research problem more absolutely predominantly by elaborating association between variables, i.e., innovative activities,

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sustainability standards, acquisition, and retention of markets.

### 5 b) Design

The study at hand applied an explanatory cross-sectional survey design. The design applied aided in studying each tea grower as a unit of analysis in Mufindi, Njombe, and Rungwe in Tanzanian Southern Highlands. The design similarly donated in providing a speedy, efficient, and accurate means of assessing information about the studied population. The "what" questions of the study supported the use of the survey design in the study.

### 6 c) Area of the Study

The data were collected from Tanzania Southern Highlands particularly in Mufindi, Njombe, and Rungwe districts. The districts were preferred as they are the chosen districts for institutional innovation. These are principal districts with a concentration of major national and multinational tea firms in the country. Tea production in the Southern Highlands (Mufindi, Njombe, and Rungwe districts) is divided between smallholder farms and large estates owned by tea companies with the processing facilities. This brief explanation indicates the presence of private and public institutions that facilitated innovation for the achievement of required sustainability standards.

### 7 d) Population Sampling and Data Collection

This study sampled 350 tea growers in smallholder farms and large estates using a stratified simple random sampling technique. The data were collected from tea growers in smallholder farms and large estates using the questionnaires designed in Kiswahili. The 300 questionnaires were received and found complete and useful for the data analysis. The response rate was 86%. The calculation of this sample size is justifiable when based on the nature of data analysis, i.e., Multiple Linear Regression (MLR). The sample size requirements for MLR is calculated using the formula " $N > 50 + 8m$  (where  $m$  = number of independent variables" by Nunnally and Fidell (2001, p. 117). After calculation, it was noted that this study has not violated the sample size assumption, i.e.,  $N > 50 + 8(3) = 74$ . It must be noted that this study had three predictors and 300 cases which are more than 74 obtained from the formula above.

### 8 e) Data Analysis

This study chiefly opted for Multiple Linear Regression (MLR) in analyzing the collected data. Before using MLR, some Descriptive Statistics (DS) were performed mainly regarding demographic information of the surveyed population. The DS was likewise used to obtain the results for specific objective number one. On the other hand, MLR was used to test the relationship between innovative activities, sustainability standards, and acquisition and retention of markets among tea growers in smallholder farms and large estates in Tanzania. In summary the MLR was employed in analyzing the collected data for specific objective number two and three. The MLR was the best technique for analysis because of having more than one predictors and one continuous dependent variable. The predictors were innovative activities, while the continuous dependent variable was sustainability standards or acquisition and retention of tea markets. Specifically, the activities included process, organizational, and technological innovative activities.  $Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 +$

### 9 f) Measurement of the Variables

This study has two prime variables: predictors and criterion variables. The predictor, in one hand is the institutional innovation, while the criterion is the sustainability standards. In the other hand, the predictor is sustainability standards, while the criterion is the acquisition and retention of markets. The institutional innovation or innovative activities include Process Innovative Activities, Organizational Innovative Activities, and Technological Innovative Activities. measurements are according to Ongong'a and Ochieng (2013); Kavia,

Loconto, and Simbua (2016). The three items are new technology adopted to harvest tea leaves as opposed to manual labor, improving factories processing capabilities, and production techniques. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Process Innovative Activities in the surveyed districts.

Organizational Innovative Activities was a nonmetric variable measured using four items. These measurements are according to Ongong'a and Ochieng (2013); Kavia, Loconto, and Simbua (2016). The four items are highly skilled laborforce (efficient labor force highly trained), well remunerated labour force, reconstruction of clustering resources (a new organizational configuration), and achieving reselection and optimization of strategic goals through the sharing of knowledge, networking, and collaboration. The 5point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Organizational Innovative Activities in the surveyed districts.

Technological Innovative Activities was a nonmetric variable measured using three items. These measurements are according to Ongong'a and Ochieng (2013); Kavia, Loconto, and Simbua (2016). The three items are generation of new technology for tea production, use of generated technology in tea production, and diffusive process of generated technology. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Technological Innovative Activities in the surveyed districts.

Sustainability Standards was a metric (continuous) variable evaluated and measured using four major itemized criteria. Similar measurements are outlined by RA/SAN and were previously used by Newsom, Jeffrey, and Milder (2018). The four major criteria are tea workers' wage and rights, housing and education, health and safety, and tea farm productivity. The number of achieved itemized criteria by the individual tea grower was used as a scale when evaluating Sustainability Standards in the surveyed districts in the Southern Highlands of Tanzania. The number was specifically 100 points for full compliance with a given criterion (major conformity); 50 points for partial compliance (a minor non-conformity), and 0 points for non-compliance (a major non-conformity).

Acquisition and Retention of Markets was a metric (continuous) variable evaluated and measured using quantity itemized criteria according to Kavia, Loconto, and Simbua (2016). The criteria are percentage of tons increased in harvesting season compare to the seasons before introducing the innovative activities; market recognition of RA-certified teas compare to the time before introducing the innovative activities; improved current markets compare to the time before introducing the innovative activities; retained current markets compare to the time before introducing the innovative activities; and new markets tapped compare to the time before introducing the innovative activities.

## 10 III.

### Results and Discussion a) Descriptive Results

#### 11 i. Personal Information of the Surveyed Tea Growers

Both sexes of tea growers in Southern Highlands were surveyed in this study. Among the tea growers in the surveyed districts, 70.0% were male, while 30.0% were female (Table 2). The majority of the surveyed tea growers were the male. These results imply that the male are leading in the tea industry compare to the female in surveyed districts.

Concerning the variable age, the range of ages is from 25 to 45 and above years. The results of surveyed tea growers show that, 9% of them had the age between 25-29 years, 10% between 30-34 years, 20% between 35-39 years, 28% between 40-44 years, and 33% of the tea growers had 45 years and above (Table 2). The majority of the surveyed tea growers had, therefore, the age of 45 years and above years old.

Marital status was one of the demographic information explored among the surveyed tea growers in this study. The results show that 9% of the surveyed tea growers were single, 53% married, 16% divorced, and 22% widow (Table 2). The majority of the tea growers were married. These results mean that tea growers who were surveyed in the three districts of Southern Highlands in Tanzanian were married.

The location of this study was three districts. The surveyed tea growers were asked to identify the particular district they were living and working in. In so doing, 30% of the tea growers lived and worked in Mufindi, 34% lived and worked in Njombe, and 36% lived and worked in Rungwe. The majority of the surveyed tea growers were therefore living and working in Rungwe though the insignificant difference is observed from tea growers living and working in other districts.

The lowest education level considered in this study is no formal education level, while the highest level is postgraduate. The results in Table 2 established that 10% of the surveyed tea growers had no formal education, 37% had primary education, 26% had secondary education, 20% had undergraduate education, and 7% had postgraduate education. The majority of the tea growers had primary education in the surveyed districts of Tanzanian Southern Highlands.

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## 12 ii. The Extent to which Innovative Activities Achieved Sustainability Standards

This section specifically determined the extent to which innovative activities are undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards in the surveyed districts of the Southern Highlands of Tanzania. It addresses the extent to which the activities such process, organizational, and technological activities achieved sustainability standards in the surveyed districts in Tanzania.

The results in Table 3 show that, the Process Innovative Activities are undertaken by the surveyed tea growers did not at all achieve Sustainability Standards by 7%, to a little extent by 9%, to a moderate extent by 14%, in great extent by 50%, and to a very great extent by 20%. The majority of the Process Innovative Activities undertaken by the surveyed tea growers in Tanzanian Southern Highlands achieved Sustainability Standards to the great extent.

Furthermore, the Technological Innovative Activities undertaken by the surveyed tea growers did not at all achieve Sustainability Standards by 10%, to a little extent by 10%, to a moderate extent by 8%, to a great extent by 44%, and to a very great extent by 29% (Table 3). The majority of Technological Innovative Activities undertaken by the surveyed tea growers in Tanzanian Southern Highlands achieved Sustainability Standards in great extent.

Besides, the surveyed tea growers achieved Organizational Innovative Activities in a very small extent by 24%, in a small extent by 49%, in a large extent by 16%, in a very large extent by 8%, and 3% of the tea growers in surveyed districts were neutral on the achievement of organizational innovative activities (Table 3). The majority of the tea growers in the surveyed districts achieved organizational innovative activities in the small extent in the districts of Tanzanian Southern Highlands. From the results presented above, it is generally but openly realized that the Process and the Technological Innovative Activities were undertaken by the surveyed tea growers in a great extent. The above results are supported by Ongong'a and Ochieng (2013) who previously found that, the indispensable elements of innovation and adoption of new technology system which included knowledge and education domain, business and enterprise domain, and bridging institutions that link the two domains were adopted in great extent in the tea industry in Kericho Kenya.

On the other hand, the Organizational Innovative Activities were undertaken by the surveyed tea growers in a small extent in the surveyed districts of the Southern Highlands in Tanzania. These results may be supported by Ongong'a and Ochieng (2013) who previously noted that the majority (33.3%) of tea firms in Kericho, Kenya did not at all adopt new technologies despite their development.

Generally, the extent of undertaking innovative activities by the tea growers in surveyed districts in Southern Highlands in Tanzania varied. This variation is likewise found by Ongong'a and Ochieng (2013) in Kericho Kenya, whereas the extent of adopting the use of information technologies, development of new products, increased variety of new products, new marketing, new packaging, and new marketing strategy varied.

## 13 b) Inferential Results

The Multiple Linear Regressions (MLR) was the principal Inferential Analysis used in this study. The model was performed to predict the influence of innovative activities on sustainability standards; and the influence of sustainability standards on acquisition and retention of tea markets. Preliminarily, some keystone analyses were done in avoiding violation of the MLR assumptions. The assumptions addressed were sample size, independence of residuals/relations, outliers, multi collinearity, normality, linearity, and Homoscedasticity.

## 14 i. Influence of Innovative Activities on Sustainability Standards

This section presents and discusses the results of specific objective two, which aimed at examining the influence of innovative activities undertaken by the tea growers on sustainability standards in Southern Highlands of Tanzania. Having used the MLR, the results indicate that sustainability standards (outcome variable) were explained by the model with the innovative activities (predictor variable) by 42%. The value obtained was .420, which implies the model explained 42% of the variance in sustainability standards (see Table 4). In testing how well the regression model fitted the data, it was found that the computed F statistics was 28.081 with an observed significance level of 0.000. The models reached the statistical significance which was  $p < 0.001$  (see Table 4). It was anticipated that, the innovative activities undertaken by the tea growers had positive influence on sustainability standards in the surveyed districts in the Southern Highlands of Tanzania. The summary of regression analysis run portrays the results in Table 4. Moreover, the results show that Process Innovative Activities had a statistically significant and positive influence on sustainability standards (Beta=.215,  $t=6.315$ ,  $p < 0.001$ ). These results imply that the more the tea growers practice process innovative activities, the more they achieve the sustainability standards.

Furthermore, organizational innovative activities had a statistically significant and positive influence on sustainability standards (Beta=.215,  $t=5.232$ ,  $p < 0.001$ ). These results may advocate that the more the surveyed tea growers practiced organizational innovative activities, the more they achieved the sustainability standards in the surveyed districts of Tanzanian Southern Highlands.

## 16 IV. CONCLUSION AND AREAS FOR FURTHER RESEARCH A) CONCLUSION

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Likewise, technological innovative activities had a significant influence on sustainability standards (Beta=.196,  $t=5.129$ ,  $p>0.001$ ). These results entail that the more the surveyed tea growers practiced technological innovative activities, the more they achieved sustainability standards in surveyed districts in Tanzanian Southern Highlands.

Generally, this study at hand noted that the process, organizational, and technological innovative activities had statistically a significant and positive relationship with sustainability standards among tea growers in the surveyed districts in Tanzanian Southern Highlands. These results are likewise supported by the earlier studies. For example, the previous study by Ongong'a and Ochieng (2013) revealed that innovative strategies adopted in tea industry in Kericho resulted into increased revenues, high productivity levels, and reduced costs which in turn led to improved sustainability standards.

Moreover, Kavia, Loconto, and Simbua (2016) previously realized that the institutional innovation implemented by different actors the adoption and achievement of sustainable practices for sustainability standards. This means that the tea companies in the Southern Highlands were able to ensure that sustainable practices were adopted by smallholder farmers in which the standard acted as an incentive for the adoption of sustainable practices precisely because all the different actors collaborated around the goal of certification and changed their organizational practices to support this new goal.

### 15 ii. Influence of Sustainability Standards on Acquisition and Retention of Tea Markets

This section entails the results for the third specific objective of the study. It aimed at examining the influence of sustainability standards on acquisition and retention of tea markets in the Southern Highlands of Tanzania. The results of MLR display that, the acquisition and retention of tea markets (outcome variable) were explained by the model, with the sustainability standards (predictor variable) by 35%. The value obtained was .345, which means the model explained 35% of the variance in the acquisition and retention of tea markets (see Table 5). In testing how well the regression model fitted the data, it was found that the computed F statistics was 19.198 with an observed significance level of 0.000. The models reached the statistical significance, which was  $p<0.001$  (see Table 5). It was foreseen that the sustainability standards achieved by the tea growers had a positive influence on the acquisition and retention of tea markets in the surveyed districts in the Southern Highlands of Tanzania. The summary of regression analysis run depicts the results in Table 5. Additionally, the results illustrate that the Workers' Wage and Rights had a statistically significant and positive influence on the acquisition and retention of tea markets (Beta=.426,  $t=2.481$ ,  $p<0.001$ ). These results imply that the more the tea workers obtain their respective wages and rights, the more the tea market are acquired and retained by the tea growers in the Southern Highlands of Tanzania.

Furthermore, housing and education had a statistically significant and positive influence on the acquisition and retention of tea markets (Beta=.142,  $t=2.385$ ,  $p<0.05$ ). These results may campaign that, the more the surveyed tea community obtained housing and education, the more the tea growers acquired and retained tea market in the surveyed districts of Tanzanian Southern Highlands.

Likewise, health and safety had a significant influence on the acquisition and retention of tea market (Beta=.076,  $t=2.212$ ,  $p>0.05$ ). These results entail that the more the surveyed tea community obtained health and safety, the more the tea growers acquired and retained tea markets in the surveyed districts in Tanzanian Southern Highlands.

The studied sustainability standards such as workers' wages and rights, housing and education, health and safety, and farm productivity were generally found statically significant to the acquisition and retention of tea markets in the surveyed districts of Sothern Highlands in Tanzania. Previously, Ongong'a and Ochieng (2013) likewise exposed that innovative strategies adopted in the tea industry in Kericho resulted into increased revenues, high productivity levels, and reduced costs, which in turn led to improved sustainability standards and eventually resulted into the acquisition and retention of tea markets.

Additionally, Kavia, Loconto, and Simbua (2016) previously noted that the institutional innovation implemented by different actors has changed numerous old tea production performances; improved green leaf price; and created favourable relationships between smallholders and companies in the production chain. A sustainable production of product for the market is not contributed alone by a single incentive

## 16 IV. Conclusion and Areas for Further Research a) Conclu- sion

The studied innovative activities such as process, organizational, and technological innovative activities had a statistically significant and positive relationship with sustainability standards among tea growers in the surveyed districts in the Tanzanian Southern Highlands. Among other factors, the activities contributed 42% in obtaining and maintaining certified compliance of tea sustainability standards.

On the other hand, the studied sustainability standards, such as workers' wages and rights, housing and education, health and safety, and farm productivity had a statistically significant and positive relationship with acquisition and retention of tea markets in the surveyed districts of Sothern Highlands in Tanzania. Among other factors, the sustainability standards contributed 35% in acquiring and maintaining tea markets.

When the innovative activities are practised to a great extent by the tea growers, the sustainability standards are achieved and eventually lead to the acquisition and retention of the tea markets. It is therefore recommended that the tea growers and exporters should continue to practice thoroughly the innovative activities for effective and efficient achievement of sustainability standards leading to successful acquisition and retention of tea markets.

## 17 b) Areas for Further Research

The reasons on why some innovative activities are practised in a small extent are not addressed in this study. Future study can be done to come up with the reasons of difference in practiced extent of the studied innovative activities.

Furthermore, this study has not able to address the simultaneous direct and indirect relationship between innovative activities, sustainability standards and tea market acquisition and retention. Further research can be done in the future in establishing the simultaneous direct and indirect relationship between innovative activities, sustainability standards and tea markets acquisition and retention.

Moreover, not all innovative activities e.g., product innovative activities are covered in this study. Further research can be done in the future by studying all types of innovative activities and statistically relate them with sustainability standards and tea markets acquisition and retention.

Finally, the studied innovative activities contributed 42% on sustainability standards, while sustainability standards contributed 35% on the tea markets acquisition and retention. The future study is suggested to know other factors that influence sustainability standards and tea markets acquisition and retention.

1

BM	Proposed Sample Size	Surveyed Size	Sample	Percentage
Mufindi	117	93		31.0
Njombe	120	111		37.0
Rungwe	113	96		32.0
Total	300	300		100.0

Figure 1: Table 1 :

x 1-3:

Organizational Innovative Activities and Technological Innovative Activities)  
And

Predictors (Productive

$$Y_2 = ? + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4$$

Where: Y<sub>2</sub> -Criterion (i.e. Markets Acquisition and Retention)

?: constant (intercept)

b<sub>1-4</sub>: Regression Coefficients

x<sub>1-4</sub>: Predictors (Tea Workers' Wage and Rights, Housing and Education, Health and Safety, and Tea Farm Productivity)

Where: Y<sub>1</sub> -Criterion (i.e., Sustainability Standards)

?: constant (intercept)

b<sub>1-3</sub>: Regression Coefficients

Figure 2:

## 17 B) AREAS FOR FURTHER RESEARCH

2

Personal In-formation		Scale	Frequency	Percent
Sex	1.	Male	211	70.0
	2.	Female	89	30.0
		Total	300	100.0
Age	1.	25-29 years	26	09.0
	2.	30-34 years	30	10.0
	3. 4.	35-39 years 40 -44 years	60 85	20.0 28.0
	5.	45 and above years	99	33.0
		Total	300	100.0
Marital Status	1.	Single	26	09.0
	2. 3.	Married Divorced	159 48	53.0 16.0
	4.	Widow	67	22.0
		Total	300	100.0
Residential and Working Area	1.	Mufindi	91	30.0
	2.	Njombe	101	34.0
	3.	Rungwe	108	36.0
		Total	300	100.0
Education Level	1.	No Formal Education	31	10.0
	2.	Primary Education	112	37.0
	3.	Secondary Education	77	26.0
	4.	Undergraduate Education	60	20.0
	5.	Postgraduate Education	20	07.0
		Total	300	100.0

Figure 3: Table 2 :

3

Scale	Process Innovative Activities		Technological Innovative Activities		Organizational Innovative Activities
Achievement Extent	F	%	F	%	F
Not at all	21	7	29	10	22
To a little extent	27	9	30	10	50
To a moderate extent	43	14	23	8	17
To great extent	150	50	132	44	143
To a very great extent	59	20	86	29	68
Total	300	100	300	100	300

Figure 4: Table 3 :

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B	t	Sig.
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Figure 5: Table 4 :

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**5**

B

t

Sig.

Figure 6: Table 5 :



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