RELATIONSHIP BETWEEN RESOURCES AND SUSTAINABILITY OF SMALL TEA ENTERPRISES IN KENYA

Paul Maina Mathenge  
School of Business,  
Dedan Kimathi University of Technology, Kenya.  
Corresponding Author email: mathenge_paul@yahoo.com

Prof. Muruku Waiguchu  
School of Business,  
Dedan Kimathi University of Technology, Kenya.

Prof. Mwita Marwa  
School of Business,  
Dedan Kimathi University of Technology, Kenya.


ABSTRACT

This study presents findings on factors that influence sustainability of small tea enterprises in Kenya. Specifically, the study sought to examine the relationship between resources and dependent variable (sustainability) on small tea enterprises in Kenya. The population of the study is an estimated 420,000 small tea entrepreneurs who are members of Kenya Tea Development Agency spread in the seven tea-growing regions in Kenya. The study was a cross-sectional survey, and descriptive in design, carried out in the seven tea-growing regions. The study used a mixed method, which involved both qualitative and quantitative data analysis. Self-administered questionnaires were used for primary data collection while journals, books and the Internet were used for secondary data collection. Factor analysis was used to measure the variability among the variables. For test statistics, p-value less than 5% was considered significant. Cronbach’s analysis was used to test the equality of means of all independent variables. A regression model was also developed to establish the strength of the relationship between the dependent variable and independent variables. Presentation of information was done using mean scores and percentages and standard deviation. The findings indicated that four out of five hypotheses of the study were supported. These findings, it is hoped, will bridge the gaps in literature, identify and articulate alternative models for assessing sustainability of small tea enterprises for adoption, and will be used in the academia, agribusiness and by policy makers to improve the tea sector in Kenya.

Key words: Resources, sustainability of small tea enterprises
Background of the Study

Studies such as done by Mueller, Klaunds, Mc Donald, & Schuerman (2007,) view ‘Sustainability’ as a term that implies a mode of managerial decision-making and action, which aids the enterprise with long-term value creation. They stated that in modern firms, “especially after some of the widely publicized failures of firms to become sustainable, the term ‘Sustainability’ has been used in many ways, from financial reporting to gathering public relations support”.

Unlike Demirdjian’s (2005) traditional definition of sustainability as the act of exploiting natural resources without destroying the ecological balance of a particular area through global resource depletion and environmental pollution, this study adopts Mueller et al., (2007) contextualization of sustainability. The study’s perspective is consistence with other earlier studies; for example, Springett’s (2003) proposition that, rather than adopting the general notion that sustainability relates mainly to physical resources, the concept of sustainability is rooted in the management tradition, that is, emanation from the professional management paradigm.

Studies such as Nirza, Gonclaves, Charbel & Chiappetta (2011) posit that a large part of the economic system in many countries, whether developed or developing, is formed by micro and small-sized enterprises (MSEs). Various researchers for example (Beck, Demirguc-Kunt, & Levine (2005); Stel, Carree, & Thurik (2005); Van Praag & Versloot, (2007); Acs, Desai,& Hessels, (2008a) & Acs, Desai, & Leora,(2008b) have considered these enterprises as essential for the economic development of countries. These considerations are the reasons that these enterprises contribute sizeable revenue to the gross domestic production (GDP) in their respective countries, as well as through creating employment. The Agricultural Sector contributed 4 percent of the GDP out of which, small tea enterprises combined, earned about 1.2 billion Kenya shillings in foreign currency representing more than 60 percent (Nirza et al., (2011).

General Objective

To examine the relationship between resources and sustainability of small tea enterprises in Kenya.

Research Hypothesis

H₀: There is no significant positive influence of resources (human capital) on sustainability of small tea enterprises in Kenya.

H₁: There is a significant positive influence of resources (human capital) on sustainability of small tea enterprises in Kenya.

Literature Review

Entrepreneurship concept: Historical development

Literature provides very divergent and broad approaches and definitions of entrepreneurship borrowing from diverse disciplines. Rindova, Barry, and Ketchen (2009) identify different approaches in historical order, starting from classical economical approach, trait approach and social identity approach. The theoretical development of entrepreneurship in this study can not suffice without entrenching the theory of opportunity cost or comparative advantage borrowed from economics to acknowledge the fact that the farmer is an entrepreneur with choices to make
on his use of factors of production with the motive of getting the best returns (profit) from his investment.

Theory of opportunity cost

From the times of Theen (1823); Mill (1848); Walras (1874); Von Wieser (1876); Von Bohmbawerk (1894); Wicksteed (1914); Knight (1921); & Rodan (1927); the theory of opportunity has been discussed and with time has become clear that it is an important element in entrepreneurial studies. The theory simply states that something worth of value is given up when options are made in favor of something else perceived to have a higher value. The next best alternative forgone is the opportunity cost; since resources are scarce, the choices would imply opportunity cost therein (what the farmer would have done with his land if he did not use it to grow tea) Prasch (1996).

What can be done best and at a lower opportunity cost gives room for specialization and enhances trade between individuals and countries. This is sometimes referred to as comparative advantage. The farmer who produces tea at a lower opportunity cost from the fact that his land is ideal for growing tea compared to other land use has comparative advantage. The very fact that land is scarce and to mobilize its use requires a farmer to make entrepreneurial decision on what best to produce on his land qualifies him to be an entrepreneur. If the land is diverted to other uses the farmer has to gauge whether it would be less suitable. In this study the farmer is better off in growing tea. Various theories have been advanced in the development of entrepreneurship as a discipline as depicted in the following paragraphs.

Classical Economic Approach

Cantillon (1755) defined an entrepreneur as speculator in search for profits from buying and selling of items with a profit. Smith (1776) depicted the entrepreneur as an adventurer searching for threats; projector anticipating the future; and an undertaker who takes wise risks and is accessible for investment if properly remunerated (Rindova et al., 2009). Many more scholars contributed in the early days to the debate but it was Schumpeter (1965) who identified the role of the entrepreneur in creating change and disequilibrium in the market through innovation and pro-activeness.

According to Rindova et al., (2009); Knight (1921) had already discerned the difference between risk and uncertainty in defining an entrepreneur. Kihlstrom & Laffont (1979) blend the idea of Cantillon and Knight to define the entrepreneur as one who is a risk taker. Say (1971) recognized the entrepreneur as one who supervises and administers in a business. He specified that risk is not the central function of the entrepreneur but also managerial skills and other moral qualities such as judgment and perseverance were vital for an entrepreneur (Rindova et al., 2009). Praag (1995) noted that Kirtze (1973) turned upside down Schumpeter, understanding and identifying entrepreneurship as a result of innovation intended to exploit the opportunities given by economic disequilibrium. He emphasized that entrepreneurs identify potential opportunities that are unexploited (Praag, 1995). Baumol (1993) identified the entrepreneur as a speculator trying to sell different products. In the economic approach, an entrepreneur is the one who coordinates different factors of production. An entrepreneur has no fixed pay earnings but must invest a known amount of money in production without prior knowledge of return on investment. The entrepreneur expects his income earning to surpass investment based on demand for the product.
Trait Approach

Researchers in the twentieth century started defining the entrepreneur by drawing up a set of traits a person needs to possess to become a successful entrepreneur. Already in 1934, Schumpeter had identified an entrepreneur as an extraordinary person who brings about extraordinary events and new technology, and as an innovator. In 1982, Casson identified the attributes of an entrepreneur as skills to judge and coordinate capital as the important for success (Rindova et al., 2009). Trait approach is limited in the sense that there are people who set up an enterprise yet do not fit the criteria listed in the definition. There are always exceptions. The approach cannot explain the regional variation where in some regions people have entrepreneurial acumen more than others from different regions.

Trait approach cannot explain why majority of start-up businesses fail. Four out of five business start-ups end up in failure as noted by Mazzarol, Volery, Doss & Thein, (1999) and Morrison, Breen & Shameen (2003). In this regard who should be considered an entrepreneur? Is it the person who started a business and failed or the one who succeeded?

Rindova et al. (2009), note that there is more in entrepreneurship than a handful of person’s traits. They combine the two approaches and identify an entrepreneur as one who starts a company (economic approach). Establishment of an enterprise is an essential economic activity and can also be considered as a single trait, one that is common to all entrepreneurs (Rindova et al., 2009).

Frese & Fay, (2001) had identified that there is a positive relationship between personal trait namely personal initiative and performance of small enterprises in terms of profit affirming that trait matters in successful performance of small enterprises. Kiggundu had already established a significant relationship between personal initiative and success in African small enterprises (Kiggundu, 2002).

Social Identity Approach

The entrepreneur’s distinctiveness is not located in the personality of the individual but instead, is formed through interaction with society and culture. Elfring (2003) noted that the process of obtaining the identity is through social interaction with others. It is a mixture of social influences that have made an individual actor to become an entrepreneur. An entrepreneur is a person who combines resources (capital, knowledge and people) to create surplus value. Resources can be accessed through social networks. Locations are identified with creating competitive advantage and through the network; the entrepreneur discovers the opportunities, secures the resources and obtains legitimacy (Elfring et al., 2003).

Elfring, quoting Burt (2005) noted that society consists of networks of tightly related individuals, who can be linked by brokers or people who have ties within different networks. The different approaches to entrepreneurship generate a definition that takes an entrepreneur as a person with a strong capability to create value from his/her social capital by linking his/her social networks in various ways (Elfring et al., 2003). Several scholars attempted to define entrepreneurship from varying perspectives. Drucker (1985) defined entrepreneurship as an act of innovation that involves endowing existing resources with new wealth-producing capacity. He envisioned a shift from managerial to an entrepreneurial economy while, interestingly, Gartner (1988) understood entrepreneurship as a process by which individuals pursue opportunities without considering the resources they currently control or the traits inherent in the entrepreneur.
He emphasized that the entrepreneur is created by the organization with specific purpose of carrying out activities or roles that enables the organization to function. This shifted the focus from who an entrepreneur is to what he does. Stevenson & Jarillo (1990), on the other hand, defined entrepreneurship as the process through which individuals and teams create value by bringing together unique packages of resource inputs to exploit opportunities in the environment. Entrepreneurship involves how, by whom, and with what effects opportunities to create future goods and services are discovered, assessed and exploited. They noted that an entrepreneur accesses other people’s resources. The emphasis was on span of activities that happen in every stage of organizational development; namely, creation, growth and rebirth through strategic transformation.

The social identity approach theory still had a gap because the social make-up of an organization may make an entrepreneur but this does not guarantee success of the enterprise. Other factors outside the scope of the social theory like psychological attributes and resource availability may affect the success of an entrepreneur and the enterprise. This necessitated the development of psychological entrepreneurship theories.

**Psychological Entrepreneurship Theories**

These theories are individual-centered and stress personal characteristics that define entrepreneurship (Landstrom, 1998). The theories highlight the need for achievement and locus of control as the key drivers of entrepreneurship. The need for achievement implies the drive of business founders to quest for new and better answers than those given in the definite environment and their capacity to get the solutions through their own performance. If a person is capable of achieving such goals, it is presumed that his achievement motivation tallies with the pre-condition of becoming a successful entrepreneur. The difference between successful and unsuccessful entrepreneurs is put into consideration (McClelland, 1987). The locus of control refers to people who believe that they determine their future development through their own actions. These entrepreneurs are assumed to be successful.

The other trait is problem-solving orientation, which is an expression of the cognitive capability to act in an intricate environment and to be attracted to non-routine tasks. Individuals should be able to solve existing problems by transfer of knowledge expression into specific actions (Lumpkin & Dess, 1996).

Interpersonal reactivity is the capacity to place oneself in others’ shoes; for instance, the capability to approach other people and cultivate rewarding relationships with them. An adequate level of interpersonal reactivity should better enable the entrepreneur to create client-focused products (Baron, 2008). This was in line with what Mc Cormick (1996), noted that capability to cultivate relationships gives the entrepreneur the chance to network and especially to access resources. Assertiveness is a trait in a person that manifests the ability to achieve one’s interest in a socially acceptable way. It relates to total performance of an entrepreneur towards clients. The traits theory makes the assumption that if the ability to assert oneself is satisfactorily high, the entrepreneur will be better able to attain the planned goals. Entrepreneurship is disposed to risk-taking, innovativeness and tolerance for ambiguity characteristics. This brought about the Personality Traits Theory.

Simpeh (2009) noted that Davidson & Honing (2003) describe personality traits as “stable qualities that a person shows in most situations”. According to the traits theorists, an individual possesses inborn qualities and potential that makes them entrepreneurs. The psychology of the
owner matches with organizational conditions to determine economic success and entrepreneurs are understood as persons with particular skills involved in entrepreneurial activity.

The theories put forward that the traits in a person dictate the behaviour of the individual entrepreneur. Personality, though not related to, mediates success. The character of the entrepreneur has a strong influence on the achievement of a firm particularly if an entrepreneur runs it alone. The theories assume that the personality or character of human beings consists of given traits that are stable over time. These traits are shaped by know-how to work as entrepreneurs thus the small tea entrepreneur would mediate the success of his enterprise (Simpeh, 2011). The recent findings on risk-taking add weight to the earlier empirical studies, which suggested that as wealth increases, inclination to risk rises. The small tea entrepreneur becomes a risk taker with inclination to increase wealth. This theory does not explain the high failure rate of the nascent small business enterprises. The entrepreneur may have the psychological factors necessary for successful performance of the enterprises, but without access to the necessary resources, it may prove very hard to perform successfully. This necessitates the resource based entrepreneurship theory that attempts to fill the gap.

**Resource-Based Entrepreneurship Theory**

The arguments presented in this theory put into focus the notion that access to finance, social and human capital gives rise to opportunity-based entrepreneurship and new venture growth (Davidson et al., 2003). The concept of human capital was originally developed to approximate employers’ income from their investment in human capital. This was adapted to entrepreneurship research by Utsch & Rauch (2005) in which they highlighted that formal education, training, employment or experience, start-up experiences, owner’s experience, parents’ background, skills and knowledge constitute enterprise success.

Individuals with more or higher human capital achieve higher performance when executing tasks as proposed by Dimov & Shepherd (2005). They demonstrated that human capital variables are positively related to nascent entrepreneurs, a view supported by Davidson & Honing (2005). Human capital theory assumes that people endeavor to receive rewards for their investment in human capital, which leads to enterprise success (Utsch & Rauch, 2005). The enterprise’s success depends on the owner’s capability to perform entrepreneurial tasks of discovering and exploiting business opportunities (Shane & Venkataraman, 2000). They further indicated that prior knowledge adds to the owner’s alertness to discover particular opportunities not visible to others that are used in planning and venture strategy. This becomes a determining factor on the success of the enterprise. The success is equated with survival in the sense that the enterprises that keep running and make economic profit are perceived as successful (Bruederl, Preisendoerfer & Ziegler (1992). Firms’ success is dependent on their resource endowment and lack of resources though a challenge to success can be mitigated through diversification (Wernerfelt, 1984).

According to Shane & Venkataraman (2000) environmental scanning, making decisions on the opportunities and coming up with strategies of utilizing these opportunities, management and leadership are all means to success. In summary, the resource-based entrepreneurship theory emphasizes that entrepreneurs make every effort to obtain financial returns from their venturing activities equivalent to their human capital investment. The missing point was about management of these resources or governance which if not well coordinated, success could be hard to come by.
The Giessen Amsterdam Model of Small Business Enterprises Success supports the resource-based theory as it considers human capital combined with personality and defined goals. When the three factors are combined with strategies in the right environment, they give success to the small business enterprises. The model argues that personality and human capital (i.e. education and experience) factors have a function in goals and action strategies and determine the success of small business enterprise (Rauch & Frese, 2000).

Rauch and Frese noted that the Giessen Amsterdam Model of small business success had no direct arrows from personality, human capital, and environment through to success notwithstanding such relationship having been studied. He responds that this was under assumption that there is no success without action, which is determined by goals and strategies.

These theories looked at a wide range of factors that influence success in small business enterprises, especially key factors such as resources, the entrepreneur psychological capacity and economic factors. This research adapted this model as a convenient way of individual business analysis using human capital, goals and strategies to study success of small businesses. Taking it further, the study incorporated enterprise characteristics, way of doing business, finance, resources, products and services as the factors that affect the tea farmer within the context of his farm (enterprise) which the farmer has control of, in determining the sustainability of small tea enterprises.

Literature is short of information on a combined theory that serves all factors that influence sustainability in small tea enterprises. However, Rauch & Frese (2000) highlight that the Giessen Amsterdam Model of entrepreneurship success best represents goals as the factor that mainly determines the success of small enterprises, though not without limitations. Goals and objectives are not often separated from strategies as Venkataraman (1989), noted which often makes it hard for evaluation of success. Frese (1995) had tried to draw a line by equating strategy to action; for instance, he stated that a strategy implies action and entrepreneurs try to translate goals into action. Other scholars like Davidson (1998) indicated that goals are related to growth experience. Baum, Calobrese, & Silverman (2000) stressed that goals and visions have an effect on the performance of small enterprises. Jennings & Beaver (1997) equated small enterprises success with attainment of objectives mainly economic profit. In this study success is equated with sustainability which is a holistic approach to continuous exploitation of available resources with due consideration to environment and future generation and ensuring stable quality and increases in farmers’ tea yields and revenue.

The Giessen Amsterdam Model of small business enterprises success is presented below depicting the inter-relationship of key variables with success. It is a good attempt, in view of this study, of amalgamating the drivers of success and their connectedness.

**Figure 2.1: The Giessen Amsterdam Model of Small Business Enterprises Success**
Source: Rauch and Frese (2000)

Effects of Resources

According to Owuor (2000), Mc Mahon (2001), Mwaura (2007), Wal (2008), Kagira (2012) and Kaberi (2013); resources that were at the disposal of the small tea farmers were limited such that they could not enable them to get information on the market and change the progression of the enterprise. They argued that estates were able to exit from some of their business areas if the environment was not favorable but this was not usually possible for the SMEs. These studies have looked at the effects of resources in terms of limitation to better options, barrier to exit from unfavorable enterprises and lack of information. Though this is important a look into the strategies to equip the small tea entrepreneur would be necessary. This study sought to establish the strategies of making the required resources available to the small tea enterprises in order to ensure sustainability especially of increased quality output of green tea. This is the only area the farmer can manipulate in the whole of tea supply chain.

Research Methodology

Research Design

The study was a cross-sectional survey, quantitative and descriptive in design. The three main purposes of the study are to describe, explain and validate findings. Description emerges following creative exploration and serves to organise the findings in order to fit them with explanations, and then test or validate those explanations (Krathwohl, 1993). The survey was carried out in nine Counties (Kisii, Kericho, Bomet, Kiambu, Muranga, Nyeri, Meru, Kirinyaga and Kakamega) in Kenya with high concentration of small tea entrepreneurs using the seven regions set by KTDA. The decision was based on the tea growing regions in Kenya. The study collected data from 14 selected factories from four tea-growing regions based on the KTDA
cluster. Adopting KTDA high and low bonus pay list based on the factories from the seven tea growing zones explains how the study arrived at the 14 factories. This made the classification simple and less time-consuming. The fact that KTDA uses the same strata of factories strengthens the choice of the classification.

The study used a quantitative method to collect data, which was then quantified using statistical analysis in order to design the relationship between the variables of the study and to draw generalized association. Self-administered questionnaires were used for primary data collection. Journals, books and Internet were used for secondary data collection. A survey enabled the researcher to obtain data about practices, situations or views at one point in time through questionnaires.

The use of survey permitted the researcher to study more variables at one time than was typically possible in laboratory or field experiments, whilst data can be collected about real tea farming environments.

**Target Population**

The target population was 420,000 small-scale tea farmers who are members of Kenya Tea Development Agency spread throughout tea-growing regions in the country. This is the KTDA documented estimate of small tea holders in Kenya (KTDA, 2012). The population was thought to be rich in information and covered adequately the variables involved in the study. The study was selected on the strength that it involves a careful and complete analysis on entire activity to be studied and emphasizes depth rather than the breadth of a study Bartlett, Kotrik & Higgins (2001); Mugenda & Mugenda (2003); Saunders et al., (2009); Kelly, Clark, Brown, & Sitzia (2013), recommend that the study population should be fully representational as in census if possible. Often, constraints like time, finance and geographical spread of the population make it difficult to engage the whole population in the study hence a representational sample can be used. They recommended that the method used should enable the sample to be generalized about the population of the study. The study’s target population constituted of small tea entrepreneurs in Kenya, managed by KTDA in their respective factories since they are organized in groups with common production, processing, marketing and management characteristics.

**Sampling Design**

The study collected data using a questionnaire instrument from a mix of stratified and simple random samples by involving small farmers from select factories following the KTDA regional classification. The regions were stratified in order to have a better geographical representation.

**Sampling Frame**

A sample frame is a list that includes every member of the population from which subjects are to be taken. A sampling frame is also an objective list of the population from which the researcher can make a selection. The basic idea of sampling is selecting some of the elements in a population so that the researcher may draw conclusions about the entire population. A sampling frame should be a complete and correct list of population members only, bearing in mind that larger samples outperform small ones due to the strength of the sample. “The larger the sample size, the better” as one is assured of sufficient representation of the population as recommended and emphasized by Cooper and Schindler (2003).
Bartlett et al., (2001) argue that there is no defined sample frame and literature does not provide a definite framework. They suggest that the research should frame the sample in such a way that the sample frame achieves a representative character for the population of study. A fact supported by Kelly et al., (2013) that the sampling frame should not just be limited to time and financial constraints but the researcher should consider a frame that will give a sample good enough to strengthen the statistics during analysis phase and be representative of the population of the study. Mugenda & Mugenda (2003) suggest that where resources are not a constraint a researcher should take as big a sample size as possible. This guides the sample framework. The unit of this study constituted entrepreneurs with not more than two acres of land under tea or not more than six thousand tea bushes who are members of KTDA, as this defines the small tea entrepreneur in this study.

**Sampling Technique**

According to Cooper and Schindler (2003), sampling is done in order to lower costs, increase the speed of data collection, greater accuracy of results and availability of population elements. The study used stratified samples drawn from the seven regions using the KTDA high-low bonus payment in 2012/2013. The sampled factories based on bonus payment gives a list of farmers with two acres and below. Using randomized sampling, by the help of Excel software, the list was run to give the specific farmer with their membership numbers and names. A sample of 40 farmers from every factory was employed, with each farmer traced right to the farm.

**Sample Size**

The study adopted Yamane (1967) simplified formula to calculate sample size using the equation

\[
 n = \frac{N}{1+N(e)^2}
\]

A 95% confidence level and p= 0.05 was assumed for Equation where n is the sample size, N is the population size and e is the level of precision.

\[
 n = \frac{420,000}{1+420000(.05)^2}
\]

n = 399.99 = 400

Kish (1965), suggests that sample size is often increased by 30 per cent to compensate for non-response. He also posits that the number of administered surveys or planned interviews can be substantially larger than the number required for a desired level of confidence and precision.

Hence \( n = 399.99 + 400(0.30) = 400 + 120 \)

n = 520(Sample Size for ±5% Precision level, where Confidence Level is 95% and p=0.05)

Barlett et al., (2001) argue that sample size depends on many factors, such as the number of variables in the study, the type of research design, the methods of data analysis and size of the accessible population. They go ahead to argue that “One of the very advantage of quantitative methods is the ability to use smaller groups of population to make inferences about larger groups that would be prohibitively expensive to study”. When determining the sample size, it is vital to put measures to deal with non-response. Mugenda & Mugenda (2003) suggest that where time and resources allow, a researcher should take as big a sample size as possible. The study took advantage of available time and resources to interview a little more respondent above the minimum 520 as reflected above to a sample size of 680.
Data Collection Methods

A self-designed questionnaire was used to gather the research data. The questionnaire consisted of two parts: The first comprised demographic characteristics and profile information of the respondents; the second consisted of questions which were intended to measure factors of small tea enterprises’ sustainability using the five-point Likert scale; from “Strongly Agree” to “Strongly Disagree.” The factors considered were enterprise characteristics, way of doing business, finance, resources, product and services. In the third part, the respondents were asked to score the importance of the perceived small enterprises’ sustainability. A five-point Likert scale was used in this part, from “Strongly Agree” to “Strongly Disagree.” This was used to generate quantitative data.

A questionnaire was used to collect primary data by way of interviews. The respondents targeted were farmers who have run small tea enterprises for the last 15 years and are involved in day-to-day running of these businesses. The data collection instrument was developed and organized on the basis of the specific study variables to ensure relevance to the research problem. The structure of the questionnaire was clear, easy to understand and straightforward to ensure that the respondents answered the questions with ease.

The questionnaires were administered to randomly sampled farmers, from a sample size of 680 farmers. The study took due care to make sure the respondents understood the questions well enough to answer as correctly as possible. Random supervision was carried out among the assistants during the interview process. At data capture, the study had quality control measures to ensure data accuracy and effective process in handling. These included statistical checks to make sure that correct answers for open-ended questions were entered and that questionnaires were well structured.

Data Analysis

The data gathered was analyzed and presented using descriptive statistics. The checks also ensured that correct and accurate data was captured into its respective or designated design format. Preliminary statistical checks were carried out on frequencies on obligatory questions. Exportation of data was done using tables and data sheets to validate that all the entries were properly captured.

Pearson’s correlation was used to assess the magnitude of relationship and associations. The study used the p-value statistic in test of alternative hypothesis and separation of mean. Descriptive statistics used included frequencies, measures of central tendencies and measures of dispersion (standard deviation, range or variance). Inferential statistics was used in measurement of significance of the relationships and differences between or among the variables. Multiple regression analysis was used as the study had multiple variables to determine whether the five independent variables have any significant effect towards sustainability of STEs in Kenya. Cronbach’s alpha values were computed to assess the internal consistency aspect of reliability of the multi-item scales measuring the study’s variables. The Statistical Package for Social Sciences (SPSS) version 16 was employed to analyze the data.

Regression Model

The study used multiple regression method of data analysis, which the study found to be appropriate whenever a quantitative variable (the dependent or criterion variable) is to be
examined in relationship to any other factors (expressed as independent or predictor variables). The regression model sought to find out the relationship between the variables and predict future outcome.

\[
y = \beta_0 + \beta_1 X_1 + \epsilon
\]

Where:  
\( y \) = Estimated value of STE’s sustainability  
\( \beta_0 \) = Intercept  
\( X_1 \) = Resources (Human Capital)  
\( \beta_1 \) = Gradient / Change in \( X_1 \)  
\( \epsilon \) = error variable (factors outside the regression model)

Results

Years in Business as a Factor of Enterprise Characteristics

Tea farming requires a considerable amount of experience. A total of 384 respondents (59 per cent) indicated that they had engaged in tea farming for the last 14 years. Only 19 farmers (2.9 per cent) have been in tea farming for 34 years. A total of 65 farmers (10 per cent) have been in tea farming for more than 35 years. The finding demonstrates a likelihood of enhancement of capacity among farmers to ensure they deal with emerging challenges as only 10 per cent have over 35 years’ experience in tea farming.

Table 4.11 below depicts the number of years the farmers have been in tea farming:

<table>
<thead>
<tr>
<th>Attributes of Years in Business</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14</td>
<td>384</td>
<td>59.1</td>
<td>59.1</td>
<td>59.1</td>
</tr>
<tr>
<td>15-24</td>
<td>182</td>
<td>28.0</td>
<td>28.0</td>
<td>87.1</td>
</tr>
<tr>
<td>25-34</td>
<td>19</td>
<td>2.9</td>
<td>2.9</td>
<td>90.0</td>
</tr>
<tr>
<td>&gt;35</td>
<td>65</td>
<td>10.0</td>
<td>10.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data (2013)

The implication from the above tabular representation is that 40 per cent of the interviewed respondents have been in tea farming for more than 15 years. This means that their tea bushes are old and this could be a contributing factor to the low output. The old tea bushes need to be replaced with young and mature tea bushes to maximize production.

Location and Ownership of the Farm as a Factor of Enterprise Characteristics

The study observed that some farmers whose farms were located near the factory could pick even three rounds per day (eight hours) while those located far from the factory had less time (four hours) to pick their tea. Nevertheless, the study appreciates that 403 farmers (62 per cent) believe that their location has been suitable for business and that they have a competitive advantage as a result of their location.
The Table 4.12 below illustrates the ranking of suitability of location in reference to sustainability of small tea enterprises.

Table 4.12: Frequency Ranking of Sustainability of Small Tea Enterprise Location

<table>
<thead>
<tr>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>59</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>175</td>
<td>26.9</td>
<td>36.0</td>
</tr>
<tr>
<td>Neither</td>
<td>13</td>
<td>2.0</td>
<td>38.0</td>
</tr>
<tr>
<td>Agree</td>
<td>318</td>
<td>48.9</td>
<td>86.9</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>85</td>
<td>13.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary data (2013)

These perceptions are imperative for sustainability of tea farming in the regions as they influence tea output and eventual earnings, access to resources, finance and even the way of doing business given that majority of farmers own farms with very low acreage (0.5 acres). Location plays a major role in sustaining activities of tea enterprises and will always influence costs and income. The study provides a unique finding that 36 per cent of farmers are disadvantaged in terms of the location of their farms.

Lack of transport could prevent harvested green leaf from arriving at the factory in time, contributing to losses and lower morale among farmers. In some cases, the collecting trucks come only once a day, which at times is very early before the farmers are through with picking tea. The Poor road network and hilly topography in some areas was an issue because farmers in these localities were charged more on transport due to high fuel consumption and maintenance costs of trucks collecting the green leaves. This leads to most of their tea getting overgrown hence wasted.

Tea Enterprise Ownership as a Factor of Enterprise Characteristics

It is quite encouraging that 513 farmers (79 per cent) wholly own their land and continue influencing proceeds from tea as most of the decisions on the smallholder tea farms are made by the owners. Ownership of land is key factor in determining the access to loans and credit facility. It is used as collateral. Table 4.13 below represents these findings:

Table 4.13: Frequency Ranking of Sustainability of Small Tea Enterprises Ownership

<table>
<thead>
<tr>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>33</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>78</td>
<td>12.0</td>
<td>17.1</td>
</tr>
<tr>
<td>Neither</td>
<td>26</td>
<td>4.0</td>
<td>21.1</td>
</tr>
<tr>
<td>Agree</td>
<td>234</td>
<td>36.0</td>
<td>57.1</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>279</td>
<td>42.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary data (2013)

Sustainability in the enterprise can only be achieved when farmers have the capacity and right to make informed and independent decisions over their farms. This is hugely supported by land ownership among tea enterprises. It is equally important to own land, which is considered as an asset and collateral in case of sourcing of funds from the finance institutions.
Lease of tea farm

The study found that leasing tea farms is slowly becoming a new trend among tea entrepreneurs, with 32 per cent of respondents advocating for the trend against 210 farmers (60 per cent) who do not lease their farms (Table 4.14).

Table 4.14 Frequency Ranking of Sustainability of Small Tea Enterprise by Leaseholds

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>319</td>
<td>49.1</td>
<td>49.1</td>
<td>49.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>78</td>
<td>12.0</td>
<td>12.0</td>
<td>61.1</td>
</tr>
<tr>
<td>Neither</td>
<td>45</td>
<td>6.9</td>
<td>6.9</td>
<td>68.0</td>
</tr>
<tr>
<td>Agree</td>
<td>182</td>
<td>28.0</td>
<td>28.0</td>
<td>96.0</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>26</td>
<td>4.0</td>
<td>4.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Primary data (2013)*

The perception emanates from the fact that many farmers who own small parcels of land have low levels of income or view tea farming as insurance against challenges arising from lack of decent income from other enterprises. Those who lease their farms find it convenient due to stable income from rent. The study notes that efforts need to be put in place to provide farmers with incentives so that they appreciate and safeguard their tea enterprise. This will improve the level of sustainability and development in the tea growing regions. It is imperative to have farmers by choice than circumstantial farmers, who can pull out of the venture with the slightest income attractive venture other than tea.

Support as a Factor of Resources

The study illustrates that 312 farmers (48 per cent) who were interviewed had access to support from professionals. This was in form of training, field days and demonstrations (Table 4.25).

Table 4.25: Frequency Ranking of Training for Improvement

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>78</td>
<td>12.0</td>
<td>12.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>189</td>
<td>29.1</td>
<td>29.1</td>
<td>41.1</td>
</tr>
<tr>
<td>Neither</td>
<td>71</td>
<td>10.9</td>
<td>10.9</td>
<td>52.0</td>
</tr>
<tr>
<td>Agree</td>
<td>293</td>
<td>45.1</td>
<td>45.1</td>
<td>97.1</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>19</td>
<td>2.9</td>
<td>2.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Primary data (2013)*

The study’s finding shows that farmers had access to training through field schools and extension workers. Given that there is need for regular follow-up and capacity to deal with new challenges in the course of tea production, farmers were in agreement that training should be embraced to enable them employ best practices in their tea farms for maximum output and eventual good returns from tea.
Recommendations
Role of Resources on Sustainability of Small Tea Enterprises

From the findings of this study, resources (human capital) in the small-scale tea enterprises affect its sustainability. There are two resources components namely; availability of competent labour and support from stakeholders.

The study findings confirmed that labour is such an important factor in tea production that when it is not available, harvesting is a challenge. Only 38 per cent of the farmers had access to competent labour force (Table 4.24). Competent labour in tea production ensures quality green leaf picked and this gives better returns to the enterprise.

From the findings, 59 per cent of the respondents use professionals, extension workers, soil analysts and climate change experts to run farmers’ field schools and advise small tea entrepreneurs accordingly (Table 4.25). This enhances green tea output and eventual earnings of the entrepreneur. Training farmers is critical for success of their businesses. It confirms what Ireland et al., (2001) found in their study that resources in form of labour, land and expertise had significant influence on the success of small businesses. Kagira et al., (2012) in their study on sustainable methods of addressing challenges facing the small tea holder in Kenya, highlighted the importance of resources (land and competent labour) in expansion programmes in small tea holdings. Availability of competent labour force and support from the stakeholders thus has significant influence on sustainability of small tea enterprises in Kenya as confirmed by this study.

Contribution to Knowledge
The findings from the study will be used by farmers through adopting the suggested strategies to improve their outputs, manage their finances and improve communication and embrace search for knowledge to maximize their return on tea investments. The model has a predictive capacity and this would assist the tea farmer in knowing the areas that he must improve to maximize his output. More importantly, the model would help to predict whether the tea enterprise is sustainable or not. Farmers can take note from the model that linkages and networking, sourcing and managing finances, managing labour and area or size matters in running tea enterprises profitably.

Though literature provided the variables used in the study, no empirical data was available for anyone who used exactly the same variables as used in this study for small tea enterprises in Kenya. The theories grounding the study have been used in the study for the first time in Kenya in the tea sector and findings fill the knowledge gap. The findings from the study are also a contribution to knowledge to be used in learning institutions.

Policy makers will be able to use the strategies suggested in this study to make key decisions affecting the tea industry in Kenya. The grading could be done differently and this could see the small tea entrepreneurs take more tealeaves to the market instead of the current recommended two leaves and a bud.

KTDA should reconsider their decision on Mechanized Tea Harvesting for the small-scale farmers to improve efficiency, which would further cut the labour costs. KTDA should also bring on board all stakeholders in the tea supply chain to eliminate chances of exploitation especially at the bottom of the chain. The cost of running the factories is borne by the farmers and reducing such costs would ensure that the farmer takes home a bigger share of income.
The factories should embark on value addition measures where they can pack the tea ready for retail and thus eliminating the costly process of middlemen. Direct sales should be encouraged where farmers have direct access to the buyer instead of middlemen who exploit the tea farmers.

References
Action Aid, (2005), Tea Break; a Crisis brewing in India.
Baron, R., (2007). “Psychological perspective of entrepreneur cognitive and social factors in entrepreneur’s success.” Current Directions in Psychological Sciences 9,275-292


266.
Kenya gazette.1999
Kiggundu, M. (2002). Entrepreneurs and entrepreneurship in Africa: What is known and
what needs to be done. *Journal of Developmental Entrepreneurship, 7* (3), 239-258.
Operations and Production Management, 2*(12), 45-73.
approach.” *Journal of Economic Literature, 35*(1), 60-85.
Knorrinaga, Berner E., & Gomez G. (2008). *Helping a large number of people become a little less
poor. The logic of survival entrepreneurs*, 21-23.
Kristiansen S., Furuholt B.,& Wahid, F. (2003).“Internet cafe entrepreneurs: Pioneers in
information dissemination in Indonesia.” *The International Journal of Entrepreneurship
and Innovation, 4*(4), 251-263.
Norwegian Students.” *Journal of Enterprising Culture, 12*(1).
Kristiansen S. (2002). “Competition and knowledge in Javanese rural business.” *Singapore
Journal of Tropical Geography, 23*(1), 52-70.
Reports on the Present Environmental Situation in Agriculture*. FAO of the United
Countries in Transition. In: Country Reports on the Present Environmental Situation in
problems and prospects.” *Tea, 18*, 75-86.
development in district Gujrat,Pakistan.” *Journal of Global and Science Issues, 1*(1), 53-63.
Mazarin T., & Choo S. (2003). “A study of the factors influencing the operating location
decisions of small firms.” *Property Management, 21*(2), 190-208.
Mazzarol T., Volery T., Doss N. & Thein V. (1999). “Factors influencing small business start-


