

# Return on Investment (ROI) of Micro and Small-Scale Enterprises (MSEs) in Tanzania: The Fruit and Vegetable Processors

Dr. S.H. Mashimba

Department of Economics and Statistics, Moshi Co-operative University (MoCU), P.O.Box 474 , Moshi- Kilimanjaro, Tanzania

**Corresponding author email:** [semmyjessy@yahoo.com](mailto:semmyjessy@yahoo.com)

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## ABSTRACT

This paper focuses on the financial performance in terms of returns on investment of Small-Scale enterprises in Tanzania, and fruits and vegetables processing sub-sector in particular. The agriculture sector is multifunctional in nature, and contributes to economic development and food security. However, the smallholder food processing enterprises in Tanzania do not access well the opportunities created by market, thus outstanding returns of their business is less likely. In that regard, this paper presents analyses of Micro and Small scale Enterprises (MSEs) fruit and vegetable processors, specifically on returns from their investments. The sample enterprises were collected during field work carried out in Dar es Salaam, Morogoro, Coast and Tanga regions of Tanzania. The cross-sectional and panel data were gathered from 140 MSEs of four respective regions. This study employs Return on Investment (ROI) tool to assess MSE's investment return levels in each study location. The ROI ratio of enterprise provides picture of its financial performance. The results show a less returns on investment of study enterprises, i.e. on average an investment of TZS 1 yields TZS 0.16 cents as gain and TZS 0.84 cent loss. The main factors associated to MSEs' returns are balance of production of processed products depending on availability of market; number of MSEs doing more or less same kind of business 'competition' at specific location; access to basic market information; business improvement services; access to supportive bodies; and manager-owners' general education level and experience in business activities. Further, for study MSEs the forecasted return on investment results promises gain to become four hundred more per TZS 1, on average. That is if their manager-owners invest profits collectively in each study location. Thus, this paper mainly proposes to merge MSEs and form cooperatives. Generally, the paper makes two major contributions. First, it gives empirical evidences regarding return on investment of fruit and vegetables processing MSEs in Tanzania. Second, it constructs a basic step in understanding how small-scale fruit and vegetables processors are organised and can be transformed to bring significant impact on their business, in turn on Tanzanian economy as a whole.

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**Key words:** *Fruits, Vegetable Processing, MSEs, Return on Investment (ROI)*



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## Introduction

### Tanzanian small-scale enterprises in general

The Tanzania's economy is lead by the private sector, majored by Micro, Small, and Medium Scale Enterprises (MSMEs) (NKYA, 2003, MILANZI ET AL., 2006; URT, 2009b). Most of Tanzanian MSMEs, especially food processing ones are still confronted with many problems in their daily operations. These includes heavy costs of compliance resulting from their size that leads to presence of unregistered enterprises 'informal'; insufficient working premises; inadequate linkage with the other economic sectors; limited financial services; and lack of capital as well as agro-processing machines. Also are characterised with the technical known how; high costs of transaction; and organisational costs problems that are difficult to measure quantitatively. (ILO, 2003; URT, 2003; ESKOLA, 2005; OLOMI, 2006; MILANZI, 2006; RUTERI AND XU, 2009b; URT, 2009a). The preceding named costs are difficult to measure due to operations complexity of MSMEs in Tanzania. Specifically, food sub-sector of Tanzania is largely made of small scale enterprises

and than large scale enterprises (LEs) that supply raw and processed products. All together are centred on processing locally produced agricultural goods (RUTERI AND XU, 2009a).

ADJEI ET AL. (2010) revealed that, in general the Tanzanian LEs export their products and leave local market much dependent on products manufactured by the MSMEs. This is not the case for Fruit and Vegetables (FV) processing vendors of Tanzania. Therein, fact is that, most of LEs that process FV competes with MSMEs of respective domain in local market. Very few LEs export their big share of processed Fruit and Vegetable Products (PFVP) and leave the local market depend on PFVP manufactured by MSMEs. In addition, none of small-scale Fruit and vegetables Processing (FVP) enterprises effectively practise the foreign marketing channel, thus their potential return on their investments is souldly limited.

### **Background to research issue**

Tanzanian economic survey book of fiscal year 2011/2010 depicted that, generally Tanzania economy grew fast, but absolute poverty and inequality stubborn are still present. NKYA (2003) and CALICE (2012) argued that, MSMEs widespread ownership provides more equitable distribution of income and contributes to poverty reduction. However, scholar LIEDHOLM (2001) claimed that, during periods of overall economic growth Micro and Small Scale Enterprises (MSEs) tends to perform better. Unfortunately, this is not apparently the case for most of Tanzanian MSMEs. Their performance interms of investment returns sounds to be of low level leading to slow growth. Nevertheless, there are some improvements in various economic sectors of Tanzania by means of performance. Although, their progress are relatively at low rate compared to some of transitions and developed economies countries. For instance, estimates showed that, the Tanzanian MSME's sub-sector has greatest potential for further employment generation (URT, 2003). Yet it contributed about a third of GDP (OLOMI, 2006), and employed 20% of labor force as well as 94.7% of school leavers in Tanzania (URT, 2003, 2009a).

Therefore, this paper objectively aims at understanding the performance 'in terms of Return on Investment' of agriculture related MSMEs. For this reason, it is found important to address the promissing Fruit and Vegetables Processing (FVP) sub-section of Tanzania. This study therefore assesses MSEs 'as business institutions' involving in fruit and vegetables processing to understand their return outcomes. This is important for having great contribution of agro-sector and certainly it's aligned Fruit and Vegetables Processing (FVP) sub-section in the economic development.

### **Problem Statement And Objectives**

MLINGA AND WELLS (2001) and NKYA (2003) studies examined MSME's linkage and institutional arrangements 'rules of the game' in Tanzania respectively. These studies using narrative approach found that, Tanzania small and medium scale sub-sector is characterised with bulk of informal labour force. The preceding authors argued that happens due to insufficient support from government institution and costly institutional arrangement for business formalisation. Thus, emphasized on addressing informal enterprises needs and institutional changes.

Further, MILANZI ET AL. (2006) work on SME's export market prospects using literature review method argued that, despite of given role of MSMEs upon economic growth of Tanzania. The MSMEs are not competitive enough in terms of quality of products to access export markets. The above authors added that, in Tanzania there are no information about MSME's growth, statistics by regions, and sub-sector. Most of information about MSME's activities are not documented or updated. The authors suggested reduction or removal of constraints facing MSMEs and exploit existing opportunities to access domestic and export markets.

On top of that, the qualitative survey analysis by RUTERI AND XU (2009a) found that, small and medium scale food processors in Tanzania suffer from severe exposure to information asymmetries. As such, become constrained from achieving economies of scale and scope. The absence of information costs and rational production of diverse products could in turn raise their revenue, profit, and capital investment at the end. That can actually enable entrepreneur(s) access financial and consultancy services easily, as well as discover or purchase advanced technologies.

Specifically it is herein presumes that, FVP MSEs under study are constrained with much problem and are less competitive in market, because of their independently operations, without coordination among themselves, with their input providers and downstream partners apart from sell-buy relationship. Meaning they operate under sole proprietorship mode 'individual or unilateral competitive organisation option'. The term organisation option, mode or structure of MSEs herein involves concept of a way an enterprise conduct its business activities. That means from processing stage of fresh fruit and vegetables until the processed products reach the end consumer(s).

Most of study MSEs' manager-owners and even staffs simply seek to optimise individual profit from their returns on investments. In fact, based on their small capital and staff-size, an individual operating approach limits Tanzanian FVP smallholders to attain their main objective through market access that is profit maximisation. Some of the obstacles for accessing markets are lack of technical knowledge, enough resources, existence of multiple vendors, ineffective market strategies, bureaucratic rules and regulation. Also, they are confronted by the challenge of not provining enough and reliable quality-standard products that are timely delivered to meet market demands. They are all directly or indirectly related to enterprise's returns and growth.

For study MSEs, the above envisaged characteristics construct a major problem, which is the low return from their investments. However, in Tanzania, a number of supports have been offered by the government, Non Government

Organisations (NGOs), and international agents to improve MSME's development. Additionally, several researches including the aforementioned were conducted to speed-up the development process of MSMEs in Tanzania. But, none of the efforts has analysed return on investments of Tanzanian fruit and vegetable Processing smallholders. Therefore, this paper seeks to answer the following basic and relevant objectives:

The main objective is to assess Investment Return of Fruit and Vegetables Processing (FVP) MSEs of Tanzania. More precise, this study wants to:

Determine if it is economically profitable for smallholder entrepreneurs to invest in the FVP activities under unilaterally mode of operation within study areas.

Provide new illumination concerning return on investment levels of the MSEs in Tanzania, using 140 sampled FVP MSEs;

Find out and forecast the returns differences of study MSEs through alternative investment mechanisms across study locations of this research;

Recommend an appropriate working framework for enterprises under study to improve their returns.

## **Methodological Approaches**

### **Study design, sample, and setting**

Given diversity nature of this MSEs under the study, this paper involved field survey which was done in four Tanzanian regions. Field duration was four months, in which researchers intensively consumed one month for information collection in each study area. Where, study locations and sample MSEs were purposively selected because of engagement in Fruit and Vegetables Processing (FVP) activities. The enterprises were sampled according to the Tanzanian MSME's definitions. Meaning MSEs consist of staff-size of less than 49 people. The sample enterprises were selected based on economically importance and amenable to study. The sample survey comprised of 67, 33, 28, and 12 FVP MSEs from Dar es Salaam, Morogoro, Coast, and Tanga regions of Tanzania respectively. In total, 140 FVP MSEs were visited and all are used herein for analyses to represent population of small-scale FVP enterprises in Tanzania. Table 1 below depicts statistics of sample MSEs in study areas for this study.

Table 1. Statistics of Sample MSEs in Study Regions

Regions	Frequency	Percentage (%)
Dar es Salaam	67	47.90
Morogoro	33	23.50
Coast	28	20.00
Tanga	12	8.60
Total	140	100.00

Source: Field data, 2011

### **Data and collection methods**

In doing research, we seek to solve prevailing problems of communities and learn more about technologies. Moreover, ultimate results of any research depend on the quality, validity, and availability of appropriate data with respect to studied issues or technologies. Thus, it is important to explain how information were collected and describe data used for analyses. With guidance of objectives of this paper, the cross-sectional and panel data were gathered from 140 MSEs of four Tanzanian regions. Most of data are transition in nature. Where, in each of visited region, information were collected by two enumerators oriented to study objectives before the process of data collection. The methods used for data collection during field study were focus group and direct interviews with MSE's manager-owners. Surveyed manager-owners and in most cases top management of the MSEs were involved in an interview.

The panel data were relevant for this kind of study simply because increase precision of analysis about over-time performance of the concerned enterprises. Herein, the panel data principally triple size of some information from three period panels of enterprise's data to study MSE's return performance phenomenon. The main objective of panel data was to gather information allied for assessing general status of sample MSEs at three panel batches. That is at initial stage where an enterprise started, middle of operation, and lastly at time of interview stages. It is understood that, most of the MSMEs in developing countries do not keep records in recordkeeping book. Most of surveyed MSEs had records of their operations of at least two last panels. However, average levels of quantitative data were used to solicit sample enterprise's information.

### **Method of analysis: Return on Investment (ROI)**

Quantitative method, the Return on Investment (ROI) is employed herein to assess sample MSE's investment returns in each study location. ROI ratio of enterprise provides picture of its financial performance. Also, ROI of any particular activity depend on imposed commitment to achieve the better results. ELLINGER ET AL. (2000) noted that, investment decision is associated by feasibility to access capital and completion of desires of having better life. For the study enterprises, their investments could promise to high desirable level of return depending on alternative strategies to execute productive activities. Also, their investment may be affordable and feasible depending on the potential Tanzania has in Fruit and vegetables production and availability of labour.

In that regard, it is important to evaluate tangible investments, i.e. financial and physical resources of sample enterprises at a general level in context of focusing their returns. In this paper, intangible resources of sample MSEs were

not evaluated because of quantification difficulties. As such investments like time spent and exerted labour energy in the production and marketing activities were also not included in ROI analyses. Basically, ROI method herein analyses financial assets invested by sample MSEs over time. That means net financial gain and investments ratio. Note that, the ROI analysis is used for prediction on decision making regarding appropriate operational framework for fruits and vegetables processing smallholders of Tanzania.

At first, simple ROI calculations of individual operating enterprises at three panels are made for the study locations, regional, and general levels. The results of that provide financial information whether individual or unilateral operational mode of sample MSEs is attractive and yield impressive returns. Afterwards, the forecast of ROI is done to see what would be returns if sample MSEs' gains are allocated differently. Where, the sample enterprises are assumed to invest their profits as a group within each study area. This means discounted ROI for collective action as an alternative investment strategy. In which this is calculated based on Tanzanian interest rate of the calendar year 2011, the year which third panel information of sample MSE's investment and net return data were collected.

Further, it should be noted that, human capital assets of sample MSEs have also been not included herein for ROI analyses as investments. This is because of the complexity to measure employee's performance in terms of cost and benefit. The ROI can be simply defined as the ratio of gain from investments minus its costs and investments or total costs. Originally was defined in two separate sides under finance and account disciplines. These are on return and on investment. According to ERIM, (2002) on return implies Net Present Value (NPV) of real or expected cash flow generated by a specific activity or the technology. While, on investment side implies the NPV of real or expected resources, materials, and immaterial flows of investments needed to reach a level of deployment for said project or technology.

Therefore, the ROI analyses carried-out herein consist of some assumptions on the data collected. It is assumed that, Production and Transportation Costs (PTC) incurred by sample MSEs in totality counts as operational cost. Then, plus the values of MSE's physical assets equals to total investments or costs. Also the sample MSE's profit stands as gains in the ROI analyses. Other assumptions are depicted forward. Mathematically, ROI can be defined as below, this is according to ERIM, (2002); KAPP (2003); IT ECONOMICS CORPORATION (2005-2010).

$$\text{Simple ROI} \equiv \frac{\text{Amount of financial gain}}{\text{Total investment amount}} \quad (1)$$

$$\text{Discounted ROI} \equiv \frac{\text{NPV}(\text{Cash flow}(t))}{\text{NPV}(\text{Investment flow}(t))} \quad (2)$$

Where, The simple and discounted ROI demonstrates the percentage of return for every unit of money invested when considering cost.

NPV (Cash flow (t)) is the net present value on return explicitly dependent on time, it demonstrate the benefit after considering investment or cost.

NPV (Investment flow (t)) is the net present value on investment explicitly dependent on time, it expresses the investment or cost.

And t is length of planning horizon, for the discounting. For this analysis is duration from the calendar year 2011 to 2025.

For discounted ROI analyses, it is herein assumed that there is a common resource pool each study location. Where, each of enterprise takes a share of resource from the pool expecting to receive certain level of return. Then later, same enterprises in each vicinity 'district or geographical area' collectively invest their gains received at the year 2011. This year is an initial duration for discounted ROI analysis case. Remember, third panel data for the MSEs' operation 'current stage' belongs to such above year '2011'.

Therefore, before finding discounted ROI, the study first finds Present Value (PV) of return on investment for sample MSE's of future 14 years from the years 2011 to 2025. Similarly the calendar year 2025 is chosen as end year of experimental time. Because, it is referring a year were Tanzanian government is aspiring to have a strong and competitive economy. In that sense then, returns of sampled enterprises is forecasted in each year within 14 experimental years. That is after having their PV of return on investment. According to IT ECONOMICS CORPORATION (2005-2010), the formula used to find PV is presented as below,

$$PV \equiv \frac{FV}{(1+r)^n} \quad (3)$$

Where,

PV is present value of return on investment

FV is future value of return on investment

r is discounting rate used to find FV for 14 calendar future years

n is number of calendar years '14 years' in which the PV of return on investment is discounted.

Further, before discussing and interpreting ROI values of sample enterprises. It should be noted that, even an outstanding ROI may be controversial to failure if the investment costs are very high. Also since the study MSEs operates in Tanzania as a country. Then its government is responsible to provide services to public so is more tolerant of low ROI (USGS, 2009). Furthermore, ROI values of analysed enterprises might be influenced by certain unconsidered factor(s) in their operating environment. That is a reason why it was is worth for this paper to describe some characteristics of sample MSEs which are thought to influence their returns.

## Analyses And Findings

This section explores the background of sample MSEs and their results of ROI analysis on investments return performance. The important note is that, empirical analyses have been executed in focus of previously noted aspect that, 'Tanzanian government economic development vision intends to achieve strong, diversified, and competitive economy by the calendar year 2025'.

### Basic information of the sample MSEs

Before presenting the empirical results of sample enterprises, it is important to discuss basic descriptive results of situations, covariates related to studied problem, and empirical domain. Therefore, this sub-chapter gives description of some summary statistics of covariates used for empirical analyses. These are statistics which illustrates profile of the sample MSE's, their manager-owners and geographical proximity characteristics found in study locations. The following Table 2a,b below explains characteristic differences for the sample enterprises in study locations. Therefore, the demonstrated characteristics of sample MSEs below are used as determinants in discussing and comparing ROI results.

### Return on investment analyses

#### Simple ROI analysis for sample enterprises

The ROI is one among other analytical tools that measures market orientation of an enterprise. The other common ones are cost benefit analysis (CBA) which is more comprehensive compared to ROI, because it quantify tangible and intangible costs as well as benefits; average rate of return on investment; Internal Rate of Return (IRR); and profitability index or Q methods, which this study has no profit index of studied MSEs to stand as a benchmark (ELLINGER et al., 1992; USGS, 2009). In simple ROI analysis for sample enterprises, the real values of investment and return means their average values at three panel times of operation. At start-up growth, middle of operation, and during data collection 'currently' stages. Table 3 below shows simple ROI values trends of sampled MSEs in each study area and its overall value over time.

Results of simple ROI in Table 3 highlights that, return on investment trend for most of sample enterprises in the study locations are fluctuating over time. Except those in Temeke district, Kibaha ward, and Tanga rural of Dar es Salaam, Coast, and Tanga regions respectively. Which, their ROI values are monotonically increasing over time. Referring to the Table 2a,b above it can be argued this is probably due to fact that, in these areas most of MSEs operates shorter distance to local government business departments and main input sources. Also, most of the enterprises in these areas do not produce processed products annually. This suggests that, MSEs therein plan for production and supply of their products depending on market needs. On top of that, with exception of those MSEs in Tanga rural, most of MSEs therein access basic market information as compared to other MSEs in respective regions or other study areas. The enterprises in Tanga rural do not access information but all are linked to governmental institutions or agents for supports, thus their returns increases.

Further, Table 3 indicates that, on average ROI of sampled MSEs in study areas and their respective regions are positive, thus attractive. But, their returns are very low when considering investments or costs. This is seen as loss side is bigger than the net return side. The ROI result for overall sample enterprises operating under unilateral mode shows that, TZS 1 investment in fruit and vegetables processing gives or yields TZS 0.16 cents as gain and 0.84 cents loss. That is when considering average costs invested for three panel operational times. This is positive net return and attractive. But, it is not financially and economically profitable.

Furthermore, in location-wise, the MSEs of Coast region appears to have somewhat rational return. Because results in Table 3 exemplify that, therein TZS 1 investment in fruit and vegetables processing gives or yields TZS 0.53 cents as gain and 0.47 cents loss. Looking in Table 2a,b above it appears that, most of sample enterprises in Coast region have some advantages proportionally over those of other study regions. These are, more MSEs therein consist of manager-owners with highest academic level of education, means Degree of any discipline. Also, comparing with enterprises of other regions majority of MSEs in Coast region operates less distances to the local government business department and managed with more experienced manager-owner(s). In addition, the results Table 3 below also illustrates that, TZS 1 investment in fruit and vegetables processing gives or yields TZS 0.24 cents as gain and 0.76 cents loss for Tanga region. While, for Dar es Salaam region when invest TZS 1 it gives or yields TZS 0.13 cents as gain and 0.87 cents go as loss. These are too low returns.

Further, MSEs in Morogoro region seems to receive less return than those in other three regions, by which TZS 1 investment in fruit and vegetables processing yields TZS 0.10 cents as gain and 0.90 cents loss. The disadvantage observed in Table 2b above for the MSEs in this region is that, compared to those of other regions most of sample enterprises in Morogoro operate under competitive environment. This could be a reason for their less return. Indeed, returns of enterprises in three prior mentioned regions 'Tanga, Dar es Salaam, and Morogoro' are not economically viable because their returns are less than losses incurred per TZS 1 investment. Specifically for the study locations, Table 3 below shows that ROI for sample enterprises in Kibaha area of Coast region is highest than of all other areas covered in this study. To which, on average the TZS 1 investment in fruit and vegetables processing therein an enterprise gains 0.59 cents, means loss is 0.41. This is economically feasible.

Proportionally, the advantages this area has compared to others as seen in Table 2a,b above is most of enterprises therein are managed with manager-owner(s) of highest academic qualification and business experience. Perhaps, it can be argued that most of the surveyed manager-owners in Kibaha area can easily come across challenges faced in their business. Furthermore, the least less profitable study area for fruit and vegetables processing investment is the Morogoro urban. Where,

result shows on average MSE's gain is only 0.10 per TZS 1 investment in fruit and vegetables processing activities, means 0.90 is lost (Table 3). In which, Table 2a,b above shows most of MSEs in this region produce processed products annually but does not access basic market information. This shows how lack of production and supply planning of products affects sample MSE's return.

The results further indicates that, the MSE's returns in Temeke district, Tanga urban, and Morogoro rural areas are higher compared to MSEs of other locations within the same regions (Table 3). The advantages MSEs have in respect to opposite enterprises in same region are, in Temeke most of the MSEs therein operate less distance to inputs sources, local government business department, and marketplaces of products. Also, have access to basic market information, produce less processed products yearly impressing that to some extent plan for products production and supply according to market needs. Also, most the MSEs in there receive more support from government and NGOs and their manager-owners have more years of business experience as compared to MSEs in other areas 'Ilala and Kinondoni' of Dar es Salaam region.

For Tanga urban, return of MSEs therein is a bit higher compared to MSEs in Tanga rural. This is may be attributed by the fact that most of the MSEs in Tanga Urban are managed with manager-owners that have high academic level of education 'Diploma' and business experience. Also, compared with the MSEs in Tanga rural most of enterprises therein do have access to the basic market information, trade technical assistance, receive support from non and government bodies, and operate under less competition environment. In Morogoro region, the rural area's MSEs demonstrates to receive higher return than urban ones, although the difference is insignificant. That might be contributed by less competitive environment of MSEs doing more or less same businesses in an area and received support from NGOs.

The result Table 3 again reveals the MSEs in Temeke, Kibaha, and Tanga rural of Dar es Salaam, Coast and Tanga study regions, have demonstrated consistency increase returns per investment over time. The noted reasons from Table 2a,b above which could be contributing to such behaviour are, most of MSEs therein access to basic market information; balance of products production and marketing activities; linkage to (non-) and government supportive bodies; operate shorter distance to input sources and local government business departments. Also, probably the manager-owner's high academic education level and experience in business activities seen to be important for the MSEs in Temeke and Kibaha areas comparing to other enterprises within their respective regions.

From above results it is learnt that, generally ROI for most of sample enterprises that operate under individual, the unilateral operation mode are positive and attractive. But, are less profitable 'not economically viable' as losses per investment is high than gains. Also advantages that need to characterise the MSEs under study in order to have better return are, balance of processed products production depending on market demand; access to basic market information; technical assistance on trade matters; different support such as trainings financial, and working equipment from (non-) and government bodied; less competition; manager-owner's high academic education level and business experience; shorter distances to input sources, processed products marketplaces, and local government business department.

Last but not least, the most identified bottlenecks or disadvantageous characteristics of enterprises for less return are competition among them in a village; and tendency of processing fruit and vegetables without planning that depend on enterprise's ability to access market 'in-effectiveness of push supply model'. The result argues that, the current operation strategies of study MSEs demonstrates low returns. This situation makes applicable unilateral working mode unattractive, thus forces to other business alternative strategy. Therefore, illustrated simple ROI net returns results in the Table 3 above are further compared with results of discounted ROI in study locations, i.e. discounted ROI results of Table 4 below. The ideal is to see how ROI of sample MSEs could probably change over time. That is if study entrepreneurs change from investing under unilateral operational mode of organisation and invest their received gains collectively as a group or team.

### **Discounted ROI analysis for sample enterprises**

This study adapts ERIM, (2002) fact that, real values of investment and return for the discounted ROI analysis means discounted values to time 0. It implies an effect of time and inflation is corrected. Where, according to the author above;

Other assumptions for discounted ROI analysis are,

r is a discount rate, where herein means minimum rate of compound interest manager-owner(s) consider acceptable for business 'cost of capital'

T is time horizontal length for discount, herein is 14 years after from calendar year 2011 to 2025

$$NPV(f) = \sum_{t=1, \dots, T} (f(t) / (1+r)^t)$$

The Table 4 below shows average effect of a 12% discount rate on PV 'at time from calendar year 2011' of investment values to be received by sample MSEs in each area for 14 future years. It is assumed that, the sample MSEs collaborate together in each study location instead of operating independently. That means not as it is happening currently that sample MSEs each invest independently, instead invest together as a team in their respective study location. Specifically, sum of sample enterprises' gains in each study location which received in the year 2011 are invested collectively. This is assumed that gains are collected together and represent investment of sample MSEs in each study area. That means investment is done in collaborative operation mode and not unilateral. So then, the investment results are examined, forecasted and compared based on the two different organisational options 'individual and collective working strategies'.

The objective is to suggest selection of the cost effective mode of operation for the study enterprises. Where, organisational option that pledge to have higher returns and be profitable than the other 'cost effective', would be given priority as suitable approach the study entrepreneurs should follow. Note that, together with findings of the simple ROI on

MSEs' performance analysis. The discounted ROI results are also used herein as bases for decision about suitable organisational framework for smallholder fruits and vegetable processors of Tanzanian

However, different organisation options such as cartel, individual competitive, cluster, and auction just to name few can suit to particular enterprises depending on several factors. The factors such as geographical scope to which they operate, guiding institution, and level of development as well as applied technologies in the sub-sector concerned. Therefore, the other option cluster, auction, and cartel for example have not been considered in this research as proper options for the studied entrepreneurs. This is because there is no specific area among study regions that have comparative advantage over others on production of certain fresh fruit and vegetables varieties. Also, the level of technology and business environment for small-scale entrepreneurs in Tanzania does not favour cartel system to an extent that they can effectively benefit from it.

In that regard, only the unilateral and collective operating organisational options are herein compared based on their cost effectiveness. Table 4 below shows MSE's discounted ROI of 14 future years from the year 2011 in each study areas. That is if gains are invested in a team for each study location. These results are important for comparing the current individual and collectively working alternatives if in place. That means independent and team investment based on the average simple and discounted ROI results respectively. It should be note that, the discounted ROI's figures are basically herein taken to forecast situation that would probably happen to surveyed entrepreneurs if they decide to work together. It is assumed that, the MSEs in each study area invest their gains 'profits' of year the 2011 in a team as an economic enterprise.

The discounted ROI results in Table 4 above are discussed comparatively to those of simple ROI found in Table 3 above. Discounted ROI result shows that, if sample MSE's profits are invested in collective mode, their returns in each year are can increase significantly over time (Table 4). This is contrary to previously found ROI results of same sample MSEs that operate under unilateral mode. Which, in most cases their returns were fluctuating over time. In particular, forecasted ROI results for sample MSEs shows that, if entrepreneurs Kinondoni district of Dar es Salaam region invest collectively. There is a great chance of their average gain to become bigger as compared to currently ones that resulted under unilateral mode.

The results therein show that, when considering costs there is possibility of average gain of surveyed entrepreneurs in Kinondoni area to reach 24.11 at 14<sup>th</sup> future years from year 2011. This is if surveyed entrepreneurs invest together as a group. The figure is almost two hundred-fold increase as compared to individual operating investment, which enterprise's average gain is 0.12 per TZS 1 investment. This might also decline as trends shows in Table 3 above. Meaning if the MSEs in Kinondoni area merge and invest together as a team may receive TZS 24.11 for every TZS 1 invested when considering costs. Basically, their returns are more likely to become 125 more than in 14 future years from year 2011 if invest their gains collectively.

Also, results in Table 4 above shows similar trend for other study locations as ROI values increases over time if MSEs invest their profits 'of year 2011' collectively. From result Table 3 under unilateral mode, the MSEs when considering costs each TZS unit of investment, receives average returns of 0.11, 0.22, 0.10, 0.11, 0.59, 0.28, 0.39, and 0.18 for Ilala, Temeke areas of Dar es Salaam, Morogoro rural and urban, Coast Kibaha, Mlandizi, Tanga urban, and rural areas respectively. The analysis of discounted ROI show the returns will probably change under collective option up to average ROI of 10.03, 9.39, 20.30, 1.93, 29.41, 2.72, 4.58, and 5.66 returns per TZS unit invested in 14 future years. Furthermore, overall average returns in the preceding study areas might shot to 6.43, 6.04, 12.70, 1.50, 18.25, 1.98, 3.11, and 3.77 respectively (Table 4). While, the overall surveyed manager-owners' gain may change from 0.16 under the unilateral mode to 68.8 if invest collectively (Table 3 and 4).

However, the estimates for MSEs in Morogoro rural and Mlandizi areas are less compared to those of other regions. The reason for less values of discounted ROI in 14 future years for such areas may be high investment costs. This justifies argument of USGS (2009) that, even outstanding ROI may be doomed to failure if investment costs are very high. Generally, ROI results presented above illustrates that the manager-owners' of surveyed MSEs can gain more when invest together as a single enterprise than independently. That means collaborative investments for study entrepreneurs are positive, much more attractive, and economical profitable compared to individual operating investments. Thus, results suggest that collective action would be profitable to study entrepreneurs than existing individual working mode of the Tanzanian fruit and vegetables processing MSE's sub-section.

Table 2a. Some descriptive statistics of sample MSEs in study locations (n=140)

Study regions / locations	General academic qualification education levels in any discipline (%)					Distances to service points (in Km)				Local government business office		Marketplaces of PFVP	
	Primary	Ordinary secondary	Advanced secondary	Diploma	Degree	Min	Max	Min	Max	Min	Max	Min	Max
Dar es Salaam / Kinondoni district	7.46	16.42	11.94	7.46	0.00	0.50	45.00 (9.77)	0.50	61.00 (12.74)	0.20	38.00 (9.28)	0.50	40.00 (12.22)
Dar es Salaam / Ilala district	13.43	13.43	1.49	0.00	0.00	0.50	30.00 (6.16)	1.50	40.00 (9.08)	0.50	40.00 (6.87)	0.50	40.00 (9.97)
Dar es Salaam / Temeke district	11.94	11.94	3.00	1.49	0.00	0.50	30.00 (9.24)	0.50	25.00 (9.18)	0.20	15.00 (6.06)	2.00	25.00 (10.00)
Morogoro / Urban	25.00	57.10	3.60	3.60	10.70	0.50	30.00 (5.52)	0.50	20.00 (5.45)	0.50	10.00 (4.71)	1.00	20.00 (5.68)
Morogoro / Rural	60.00	40.00	0.00	0.00	0.00	1.00	40.00 (30.20)	9.00	38.00 (31.00)	21.00	45.00 (33.80)	10.00	50.00 (36.00)
Coast / Kibaha ward	41.20	41.20	0.00	5.90	11.80	0.50	40.00 (9.97)	0.50	36.00 (15.91)	1.00	31.00 (3.91)	1.00	30.00 (7.12)
Coast / Mlandizi ward	54.50	45.50	0.00	0.00	0.00	0.50	32.00 (6.27)	0.50	45.00 (22.59)	0.00	4.00 (91.29)	1.00	4.00 (1.41)
Tanga / Municipal (urban)	33.30	55.60	0.00	11.10	0.00	0.50	360.00 (87.50)	0.50	520.00 (69.00)	0.50	310.00 (64.19)	1.00	290.00 (50.13)
Tanga / Rural / (Lushoto and Muheza districts)	0.00	66.70	33.30	0.00	0.00	0.50	3.00 (1.88)	1.00	3.00 (2.00)	1.00	2.00 (1.63)	2.00	3.00 (2.25)

Note: Figures in brackets indicate mean values ,Source: Field data, 2011

Table 2b. Other descriptive statistics of sample MSEs in study locations (n=140)

Study regions / location	MSE's Access to valuable market information (dummy) (in %)		MSE's Year round supply of PFVP (dummy) (in %)		MSE's Access to business services improvement (dummy) (in%)		MSE's Linkage to (non-) government supportive Bodies (NGOs&Gov) (dummy) (in %)			Number of MSEs in a village doing same FVP business (counts) (in %)		Manager-owner's experience in business activities (year(s)) (in %)	
	Yes	No	Yes	No	Yes	No	Gov.	NGOs	Non	Min	Max	Min	Max
Dar es Salaam / Kinondoni district	34.50	65.50	55.20	44.80	79.30	20.70	69.00	17.20	13.40	0.00	1.00 (0.34)	4.00	39.00 (21.12)
Dar es Salaam / Ilala district	31.60	68.40	73.70	26.30	52.60	47.40	42.10	26.30	31.60	0.00	1.00 (0.32)	7.00	42.00 (22.95)
Dar es Salaam / Temeke district	36.80	63.20	36.80	63.20	36.80	63.20	42.10	31.60	26.30	0.00	1.00 (0.37)	8.00	43.00 (23.47)
Morogoro / Urban	21.40	78.60	78.60	21.40	50.00	50.00	32.10	67.90	0.00	0.00	10.00 (4.71)	4.00	46.00 (22.64)
Morogoro/ Rural	20.00	80.00	20.00	80.00	20.00	80.00	0.00	100.00	0.00	0.00	2.00 (1.20)	10.00	40.00 (26.80)
Coast / Kibaha ward	35.30	64.70	41.20	58.80	35.30	64.70	58.80	23.50	17.60	0.00	6.00 (2.24)	1.00	49.00 (25.24)
Coast / Mlandizi ward	0.00	100.00	54.50	45.50	72.70	27.30	54.50	36.40	9.10	0.00	4.00 (2.18)	20.00	44.00 (29.91)
Tanga / Municipal (urban)	11.10	88.90	44.40	55.60	22.20	77.80	77.80	22.20	0.00	0.20	7.00 (3.11)	3.00	38.00 (22.56)
Tanga / Rural (Lushoto and Muheza districts)	0.00	100.00	0.00	100.00	0.00	100.00	100.00	0.00	0.00	7.00	10.00 (8.33)	13.00	18.00 (22.67)

Note: Figures in brackets indicate mean values, Source: Field data, 2011



Table 3. Average simple ROI results for sample MSEs in study regions and locations (n=140)

ROI for Sampled MSE's operational stages and overall	Regions and study locations of this research								
	Dar es Salaam			Morogoro		Coast		Tanga	
	Kinondoni	Ilala	Temeke	Urban	Rural	Kibaha	Mlandizi	Urban	Rural
At initial stage	0.12	0.32	0.16	0.18	0.25	0.38	0.49	0.43	0.13
Cumulative at middle stage of operation	0.11	0.12	0.24	0.23	0.17	0.57	0.29	0.37	0.17
Cumulative at assessment stage	0.14	0.09	0.25	0.07	0.07	0.64	0.19	0.39	0.20
Study areas overall	0.12	0.11	0.22	0.10	0.11	0.59	0.28	0.39	0.18
Regional overall	0.13			0.10		0.53		0.24	
Overall sampled	0.16								

Source: Field data, 2011

Table 4. Discounted ROI for 14 experimental years in study regions and locations (n=140)

Study regions / locations	Discounted ROI on average for surveyed manager-owners														
	Time horizon in years (Y)														
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Overall
Dar es Salaam/ Kinondoni district	0.00	4.22	7.09	9.65	11.94	13.98	15.80	17.43	18.88	20.18	21.33	22.37	23.29	24.11	15.02
Dar es Salaam/ Ilala district	0.00	2.26	3.38	4.38	5.27	6.07	6.78	7.42	7.99	8.49	8.95	9.35	9.71	10.03	6.43
Dar es Salaam /Temeke district	0.00	2.17	3.21	4.14	4.97	5.71	6.37	6.97	7.49	7.96	8.38	8.76	9.09	9.39	6.04
Morogoro/ Urban area	0.00	3.69	6.09	8.23	10.14	11.84	13.36	14.72	15.94	17.02	17.98	18.84	19.61	20.30	12.70
Morogoro/ Rural area	0.00	1.13	1.25	1.35	1.44	1.53	1.60	1.67	1.72	1.77	1.82	1.87	1.90	1.93	1.50
Coast/ Kibaha ward	0.00	4.96	8.49	11.64	14.45	16.96	19.20	21.20	22.96	24.56	26.00	27.27	28.40	29.41	18.25
Coast/ Mlandizi ward	0.00	1.24	1.45	1.64	1.81	1.96	2.10	2.22	2.33	2.42	2.51	2.59	2.66	2.72	1.98
Tanga Municipal	0.00	1.50	1.94	2.34	2.69	3.01	3.29	3.54	3.77	3.97	4.15	4.31	4.45	4.58	3.11
Tanga rural/Lushoto and Muheza districts	0.00	1.65	2.23	2.74	3.21	3.62	3.98	4.31	4.61	4.87	5.10	5.31	5.49	5.66	3.77
Overall surveyed manager-owners	0.00	22.82	35.13	46.11	55.92	64.68	72.48	79.48	89.69	91.24	96.22	100.67	104.6	108.13	68.8

Source: This research's field data, 2011

## Conclusions

On one hand, the results of ROI analyses above witnesses that, on average the study MSEs financial return is less under their existing unilateral operational mode. On other hand, it was found that surveyed manager-owners' investments could have been transformed to valuable outputs if invested collectively. This basically brings an impression that, there is a need of re-organising resources and specialisation in their activities to enable acquire tools; make processing activities and products supply easier; improve qualities activities; and ultimately minimise harshness of faced challenges.

But, organisation and specialisation of activities alone is not enough, the studied entrepreneurs also have to plan and coordinate its productive as well as marketing activities. This perhaps implies there should be connection of resources and capabilities that mutually influence each other to explain their competitiveness advantage and performance. The results herein advocates consolidation among entrepreneurs is essential to obtain certain size capital to invest and become more economically viable. In Tanzania where infrastructure, energy, and technology are still insufficient, the great success of smallholder entrepreneurs can be achieved through cooperation environment. Therefore, the preceding discussions impressed this paper to suggest formation of cooperatives for study entrepreneurs for their better returns, thus success.

## Recommendations

From the above findings this study recommends the following;

Small -scale enterprises' policy should emphasis cooperatives formation and encourages collective endeavours of small-scale entrepreneurs in Tanzania, who are willing to operate collectively.

Tanzanian central government through local government should give top priorities to cooperating smallholder entrepreneurs.

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