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EFFECT OF PRODUCTION COST ON SECOND PAYOUT DIFFERENTIALS AMONG KENYA TEA DEVELOPMENT AGENCY MANAGED FACTORIES IN ZONE 9, KENYA

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Abstract: Tea growers in KTDA Zone 9 have been complaining with regards to green leaves payout differential received at the end of every year with majority blaming the factories for under payment. They also receive low payouts, poor extension services, limited market channels, limited credit facilities all of which are blamed on low green leaves payout. Therefore there was need to establish the effect of production cost on second payout differentials of green tea leaves among Kenya Tea Development Agency Managed Factories in Zone 9. A cross sectional research design was used in this study. The target population of the study was 86 respondents who were 56 factory management staff, 19 directors and 11 Office staff. Primary data was collected using a structured questionnaire which was pretested using 16 employees of KTDA Zone 8 managed factories and the results was analyzed using Cronbach Alpha where a coefficient of 0.827 was achieved meaning that the instrument was reliable. Content validity of the research instrument was actualized by having marketing expert and the research supervisor scrutinizes the instrument and their comments included in the final data collection instrument. Descriptive statistics were expressed in form of frequencies and percentages while inferential statistics were expressed in form of regression coefficient. The study recommends that there is need for the KTDA managed factories to explore on other alternative sources of power for instance hydro power which is relatively cheaper. There is need also to procure their firewood land to reduce on the high rising cost of firewood fuel. Outsource transport services which are usually costly to the factories to maintain will go a long way in ensuring that KTDA managed factories reduces on tea production cost hence increase of payout to farmers.

Keywords: Payout differentials, Cost of Production.

1. INTRODUCTION

Globally agriculture continues to be a major economic block in achieving the Sustainable Development Goals (SDGs). Recent statistics indicate that agricultural production will increase by 70 percent by 2050 in order to feed the world, but demographic growth, climate change and urbanization put pressure on available cultivatable land (International Farmers Cooperation, 2011). In Kenya agriculture is the largest economic sector and remains the best opportunity for economic growth and poverty alleviation on the country.

A decade ago, developing countries captured 30% of the value of the tea market compared to only 10% of what they capture today. For instance, tea sector in Kenya, contributed on average 60 percent of the foreign earnings and did so until the year 2002 when its contribution fell to below 25% (TBK, 2012). This rapid fall, brought down the social and economic welfare of more than 3,000,000 smallholder Kenyan tea farmers. For many of these tea farmers, tea means only

money in their pockets but it also translated into ability to afford education, health care, food security and improved household standards of living. While measures have been taken to improve the sector, still there are challenges that have hindered the performance of this important sector in the Kenyan economy which this study seeks to determine.

Tea like most agricultural crops is seasonal hence varies in production at different times of the year. For instance, it experiences high production between September and December (KTDA 2012) during long rains. Small scale farmers with a low capital and saving base often rely on advances and credit to supply requisite pre-harvest inputs and living expenses in many tea-producing communities, local tea buyers fill the credit gap through advance purchases at highly-discounted rates (KTDA, 2012).

Although local buyers fulfill an important role through such credit provisions, poor infrastructure development and anti-competitive practices regularly result in a net transfer of value down the supply chain, placing greater financial pressures on producers. Requirements associated with selling tea in the international markets also present significant barriers for higher revenues to smaller producers. For example, export license, minimum volume and quality requirements can operate as bottlenecks that effectively reduce the ability of producers to reap the benefits of the international trading system. Meanwhile, tariffs on processed forms of tea in importing countries also have an effect on the revenue generated by producer countries from the supply chain. The imposition of such tariffs effectively restricts producing countries access to the higher value cost associated with processing activities. Increased activity by large funds in accommodating future markets over the past two decades has led to weakening of connection between payout determination and market fundamentals (KTDA, 2012).

Despite the significant role played by tea industry in Kenya's economic development including employment creation, income generation, foreign exchange earner and the fact that Kenya has been a high quality tea producer in the world, there has been an observed decline in Kenya's tea in international market (TBK, 2012).

1.1 Statement of Problem

Farmers in KTDA Zone 9 have been complaining with regards to green leaves payout differential received at the end of every year with majority blaming the factories for under payment. The myriad of challenges which farmers are experiencing have not been dealt with accordingly and include; low farm gate payouts, poor extension services, limited market channels, limited credit limits, low level of farmer organization and low green leaves payout differentiation. Most of the factories have been experiencing problem in green leaves payment since it uses a lot of money in fuel, transportation and in building satellite factories which have affected farmers negatively. There is need therefore to establish the effect of production cost on second payout differentials among Kenya Tea Development Agency managed factories in Zone 9, Kenya.

2. COST OF PRODUCTION OF GREEN TEA LEAVES AND SECOND PAYOUT PRICING

The cost of production (COP) of Kenyan tea is considered high compared to other tea producing countries and is causing uncertainty for the future of tea farming in Kenya. The cost of production in Kenya is USD 1.33 per Kg of made tea while for other tea producing countries like Vietnam (USD 0.81 per Kg), Indonesia (USD 0.58 per Kg), Rwanda (USD 1.32 per Kg), Uganda (USD 1.20 per Kg), Tanzania (USD 1.16 per Kg), Malawi (USD 1.14 per Kg) and Zimbabwe (USD 1.11 per Kg) (KTB 2012).

The main factors contributing to the high cost of production are; high labour demand, high cost of farm inputs particularly fertilizers, high cost of energy or fuel at the factories, high cost of transport due to poor road and numerous taxes and levies. Tea is a high labour demand crop because of the activities that have to be undertaken both within and outside the factory. The expected relationship between cost management strategies and financial performance is either a positive or negative relationship. One school of thoughts argues that there is a positive relationship in that cost management strategies are considered as critical factors to increase revenue for the success of manufacturing companies (Kumar & Shafabi, 2011). Another positive relationship is that cost containment techniques such as standard costing, sourcing and budget system limit the highest cost that could be incurred and as a result for the same level of income, the expenses are lower which results to increase in profitability.

According to Groth and Kinnery, (2014), cost reduction refers to an attempt to attain lower current fixed costs and variable costs associated with an essential activity. As a result of this total output of assets is low compared to the

resulting income generated resulting to rising of (ROA) ratio hence increase in profitability. Cost avoidance which refers to the eliminated activities that generate costs of non-added values has a positive impact on profitability in that costs which increase expenditure with no future income generation are done away with hence reducing the negative impact on income. Positive elevation of Income will lead to increase in (ROA) and in profitability as well which is the measure of financial performance in this study (Nyangito, 2011). India produces approximately a quarter of the world's tea, and the tea industry is trying to modernize its practices to keep up with that demand. Plucking tea bushes will likely remain labor intensive, as machine harvesting damages the leaves.

According to the study by Dutta (2013), it proved that satellite imagery can help estate managers track the overall health of the plantations and tea leaf quality since the techniques would be cost-efficient, and reduce the labor. Estate managers cope with not only aging plantations but also the effects of climate change. Tea thrives best in humid, subtropical climates with wet growing seasons. Historically, natural rainfall watered India's plantations, but as climate change shifts rainfall patterns and amounts, some managers must either replant sturdier tea clones or install expensive irrigation systems to water their tea bushes.

Tracking the growth of replanted tea bushes is an intensive process, but it is critical if a plantation owner wants to continue producing tea. Replanting is completed one section at a time in a process that can take two years or more. Managers must remove old plants, refresh and prepare the soil, and then plant tens of thousands of new seedlings, often alongside other plants that help deter pests. Estate managers could employ remote sensing to monitor the leaf qualities from seedling plants to first harvest, and identify sections where crop yield might be highest, or where new growth might be stunted by lack of water or pest infestations. Applying remote sensing allows plantation managers to track tea quality and plant growth, and is one more tool they can be to reduce costs and this will lead to high payout to farmers (Dutta 2013).

Global issues in the tea sector are high fertilizer and pesticide application rates, energy intensive processing and decrease of biodiversity caused by mono-cropping. Fortunately, tea grown in Kenya requires low application of pesticides compared to other tea producing regions, due the particular tea breeds used in cultivation and the high altitude at which tea is grown (Agritrade, 2013). Aside from its environmental impact, cultivation of this crop has a large social impact. Social issues such as poor wages, lack of social and job security, long hours, and gender discrimination are high on the agenda of various NGOs and standard-setting organisations operating in the Kenyan tea sector (War on want, 2011).

Smallholder farms largely depend on family labour but also employ hired labour. These workers are often employed on a casual basis (Karanga, 2014). Smallholders in the Kenyan tea sector face several challenges. First of all, power in the supply chain is highly concentrated on the buyer side. This puts pressure on the payouts paid to the producers which remain low relative to the retail payout (Ethical Consumer, 2013; IDH, 2011). Secondly, smallholder yields are currently lagging those of large estates, partly due to inefficient use of resources as a result of a lower knowledge level regarding optimal input use and good agricultural practices (Owuor, 2005). These suboptimal yields affect farmer income and thus absorption capacity at farm level to increase wages and invest capital in the farm and this leads to low payout being received by farmers since a lot of their income are spent on the production chain.

3. RESEARCH DESIGN

The study utilized across sectional research design. Cross sectional research design is a type of observational study design which measures the outcome and exposures in the study participants at the same time. A cross sectional survey may be purely descriptive and used to assess the burden of a particular phenomenon in a defined population (Kothari, 2007).

The study was conducted at Zone 9 KTDA managed factories. These factories are; Motigo, Tirgaga, Kapkoros, Mogogosiek, Kobel, Boito, Kapset and Rorok which are all in Bomet County. Bomet County is located in the Central Rift region of Kenya. According to KTDA Zone 9 office records there are; 56 factory management staff, 19 directors and 11 KTDA Zone 9 senior management staff all of whom form the target population for the study.

4. COST OF PRODUCTION ON SECOND PAYOUT DIFFERENTIAL

Respondents were asked to respond to the statements on the effects of cost of production on second payout pricing. Their response were on a Likert scale of 1-5 where: 1 was strongly disagree, 2 was disagree, 3 was Undecided, 4 was Agree and 5 was Strongly agree. The results are presented in Table 4.1.

Table 4.1: Cost of production

Statement on Cost of Production	1	2	3	4	5
We have adopted new and modern technology in the production of green tea leaves and this has reduced the cost of production which have translated to high payout price	41 (50.7%)	6 (7.4%)	4 (4.9%)	6 (7.4%)	24 (29.6%)
High cost of production have been reduced thanks to the quality of resources which KTDA have deployed and this has increase the payout price	46 (56.9%)	7 (8.6%)	4 (4.9%)	6 (7.4%)	18 (22.2%)
We have adopted new and improved techniques of production hence it has reduced our cost of production leading to high price payout	38 (46.9%)	9 (11.1%)	3 (3.7%)	6 (7.4%)	25 (30.9%)
Main cost of production in the tea factory has reduced due to mass production in our zone hence increase in price payout	43 (53.1%)	9 (11.1%)	8 (9.9%)	8 (9.9%)	13 (16.0%)
The high cost of input for green tea production translate to increase in the total cost of production leading to low price payout	5 (6.2%)	4 (4.9%)	2 (2.5%)	35 (43.2%)	35 (43.2%)

Source: Research Data (2021)

Table 4.1 reveals that majority of the respondents who were 41 representing 50.7% strongly disagreed as well as 6 respondents representing 7.4% who disagreed that they had adopted new and modern technology in the production of green tea leaves and this has not reduced the cost of production which had translated to low payout price. The respondents who were 24 representing 29.6% strongly agreed as well as 6 respondents representing 7.4% who agreed that they had adopted new and modern technology in the production of green tea leaves and this has reduced the cost of production which had translated to high payout price. The respondents who were undecided were 4 representing 4.9%.

The respondents who were 46 representing 56.9% strongly disagreed as well as 7 respondents representing 8.6% disagreed that the high cost of production has been reduced thanks to the quality of resources which KTDA have deployed and this has increase the payout price. The respondents who were 18 representing 22.2% strongly agreed as well as 6 respondents representing 7.4% who agreed that high cost of production have been reduced thanks to the quality of resources which KTDA have deployed and this has increase the payout price. Respondents who were 4 representing 4.9% were undecided.

Majority of the respondents who were 38 representing 46.9% strongly disagreed as well as 9 respondents representing 11.1% who disagreed that they have adopted new and improved techniques of production hence it has reduced our cost of production leading to high price payout. The respondents who were 25 representing 30.9% strongly agreed as well as 6 respondents representing 7.4% agreed that they have adopted new and improved techniques of production hence it has reduced our cost of production leading to high price payout while 3 (3.7%) respondents were undecided.

Majority of the respondents who were 43 representing 53.1% strongly disagreed as well as 9 respondents representing 11.1% who disagreed that the main cost of production in the tea factory has reduced due to mass production in our zone hence increase in price payout. The respondents who were 13 representing 16.0% strongly agreed as well as 8 respondents representing 9.9% agreed that the main cost of production in the tea factory has reduced due to mass production in our zone hence increase in price payout. The respondents who were undecided were 8 representing 9.9%.

The high cost of input for green tea leaves production translates to increase in the total cost of production leading to low price payout. This is as per the majority of the respondents who were 35 representing 43.2% who agreed and the same number strongly agreeing. The respondents who were 5 representing 6.2% strongly disagreed as well as 4 respondents representing 4.9% who disagreed that The high cost of input for green tea production translate to increase in the total cost of production leading to low price payout. The respondents who were 2 representing 2.5% were undecided.

This implies that KTDA managed factories in zone 9 have not adopted new and modern technology in the production of green tea leaves and this has increased the cost of production which has translated to low payout price. The high cost of production has not been reduced due to the quality of resources which KTDA have deployed and this has not increase the payout price. KTDA managed factories in zone 9 have not adopted new and improved techniques of production hence it has increase cost of production leading to low price payout. The main cost of production in the tea factory has not reduced due to mass production and this has decreased in price payout. The high cost of input for green tea production translates to increase in the total cost of production leading to low price payout.

The findings that KTDA managed factories in zone 9 have not adopted new and improved techniques of production which has lead to increase cost of production thus low payout concurs with KTB (2012) which established that the cost of production of Kenyan tea is considered high compared to other tea producing countries and is causing uncertainty for the future of tea farming in Kenya. The findings that high cost of input for green tea production translates to increase in the total cost of production leading to low price payout concurs with Kumar & Shafabi, (2011) who noted that the high cost is due to high labour, high cost of farm inputs particularly fertilizers, high cost of energy or fuel at the factories, high cost of transport due to poor road and numerous taxes and levies as proposed all of which leads to reduction in payout.

The study found out that KTDA managed factories in zone 9 have not adopted new and modern technology in the production of green tea leaves and this has increased the cost of production which has translated to low payout price. This concurs with Karanga, (2014) who established that smallholder farms largely depend on family labour but also employ hired labour. These workers are often employed on a casual basis.

The findings that high cost of production has not been reduced due to the quality of resources which KTDA have deployed and this has not increase the payout price. This concurs with IDH, (2011) which noted that smallholders in the Kenyan tea sector face several challenges. First of all, power in the supply chain is highly concentrated on the buyer side. This puts pressure on the payouts paid to the producers which remain low relative to the retail payout (Ethical Consumer, 2013).

The findings that the main cost of production in the tea factory has not reduced due to mass production and this has decreased in price payout concurs with Owuor, (2015) who noted that smallholder yields are currently lagging those of large estates, partly due to inefficient use of resources as a result of a lower knowledge level regarding optimal input use and good agricultural practices. These suboptimal yields affect farmer income and thus absorption capacity at farm level to increase wages and invest capital in the farm and this leads to low payout being received by farmers since a lot of their income are spent on the production chain.

5. COST OF PRODUCTION ON SECOND PAYOUT DIFFERENTIAL

The findings showed that KTDA managed factories in zone 9 have not adopted new and modern technology in the production of green tea leaves and this has translated to low payout price. The high cost of production has not been reduced due to the quality of resources which KTDA managed factories have deployed and this has decrease the payout price. KTDA managed factories in zone 9 have not adopted new and improved techniques of production hence it has increase cost of production leading to low price payout. The main cost of production in the tea factories has not reduced due to mass production and this has decrease in price payout. The high cost of input for green tea production translates to increase in the total cost of production leading to low price payout.

6. RECOMMENDATIONS

The study recommends that KTDA managed factories need to adopt new and modern technology in the production of green tea leaves. They need to adopted new and improved techniques of production such automation of production processes so as to minimize on the production cost. There is need for the government to reduce on taxes imposed on importation of machinery. There is need for the KTDA managed factories to explore on other alternative sources of power

for instance hydro power which is usually cheaper. There need also to procure their firewood land to reduce on the high rising cost of firewood fuel. Outsource transport services which are usually costly to the factories to maintain will go a long way in ensuring that KTDA managed factories reduces on tea production cost hence increase of payout to farmers.

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