RESEARCH SERIES No. 119



UGANDA'S TEA SUB-SECTOR: A COMPARATIVE REVIEW OF TRENDS, CHALLENGES AND COORDINATION FAILURES

MUNYAMBONERA F. EZRA
CORTI PAUL LAKUMA
MADINA GULOBA

SEPTEMBER 2014



RESEARCH SERIES No. 119

UGANDA'S TEA SUB-SECTOR: A COMPARATIVE REVIEW OF TRENDS, CHALLENGES AND COORDINATION FAILURES

MUNYAMBONERA F. EZRA
CORTI PAUL LAKUMA
MADINA GULOBA

SEPTEMBER 2014

Copyright © Economic Policy Research Centre (EPRC)

The Economic Policy Research Centre (EPRC) is an autonomous not-for-profit organization established in 1993 with a mission to foster sustainable growth and development in Uganda through advancement of research – based knowledge and policy analysis. Since its inception, the EPRC has made significant contributions to national and regional policy formulation and implementation in the Republic of Uganda and throughout East Africa. The Centre has also contributed to national and international development processes through intellectual policy discourse and capacity strengthening for policy analysis, design and management. The EPRC envisions itself as a Centre of excellence that is capable of maintaining a competitive edge in providing national leadership in intellectual economic policy discourse, through timely research-based contribution to policy processes.

Disclaimer: The views expressed in this publication are those of the authors and do not necessarily represent the views of the Economic Policy Research Centre (EPRC) or its management.

Any enquiries can be addressed in writing to the Executive Director on the following address:

Economic Policy Research Centre
Plot 51, Pool Road, Makerere University Campus
P.O. Box 7841, Kampala, Uganda
Tel: +256-414-541023/4
Fax: +256-414-541022
Email: eprc@eprc.or.ug
Web: www.eprc.or.ug

ABSTRACT

This study critically reviews Uganda's tea sub-sector performance in relation to the institutional framework. The tea sector has performed far below its potential largely owing to poor coordination of activities in the sector. Uganda has about 200,000 hectares suitable for tea production, but only 14 percent (28,000 hectares) is utilised both by small holder and estate owners. Exports have stagnated at around 50,000 metric tonnes in the last 5 years. On the other hand, Kenya has succeeded in transforming its tea sub-sector is largely due to effective coordination of policies and institutions. We argue that the challenges faced by Uganda's tea sector are as a result of coordination failures in policy, institutions and programmes across the various Ministries, Departments and Agencies. Lessons learnt from Kenya points to the need of Uganda having a comprehensive tea policy and effective institutional framework to coordinate the various interventions and programmes in the sub-sector.

TABLE OF CONTENTS

ABSTRACT I
1. INTRODUCTION 1
2. PERFORMANCE OF THE TEA INDUSTRY: A COMPARISON BETWEEN UGANDA AND KENYA 2
2.1 Tea production, acreage and productivity 2
2.2 Organisation and distribution of tea stakeholders 5
2.3 Tea research and extension services 8
2.4 Tea export performance 8
2.5 Pricing 9
2.6 Processing 11
3. INSTITUTIONAL REFORMS WITHIN UGANDA'S TEA SECTOR 12
4. WHAT COORDINATION FAILURES EXIST IN THE TEA SECTOR? 13
5. CHALLENGES 14
6. CONCLUSION AND POLICY RECOMMENDATIONS 15
REFERENCES 16
APPENDIX I: THE KEY TO UN-LOCK THE UGANDAN TEA SECTOR 19
END NOTES 21
EPRC RESEARCH SERIES 22

1. INTRODUCTION

Tea is traditionally Uganda's third largest agricultural export commodity by value. As such, the Agricultural Sector Development Strategy and Investment Plan (DSIP) 2010/11 includes tea in its strategic export plan owing to its ability to earn export revenues. The DSIP plans to address production related challenges in the tea sector by reviving tea research and enhancing tea processing capacity by building new tea factories in Bushenyi and Kabale. Evidence shows that on average, 93 percent of tea products are exported while 7 percent is consumed domestically (MAAIF, 2012). More recent statistics from MoFPED (2013) indicate that Uganda earned US$ 72 Million from exporting 63,456 tonnes of tea, cultivated on 35,194 Ha, in 2012/13. This represented 2.8 percent of Uganda's total exports, 1.26 percent of global tea exports and 0.36 percent of Uganda's Gross Domestic Product (GDP).

Tea growing is envisaged as a tool to fight poverty through its ability as a source of employment to households, especially in rural areas. In 2009/2010, the tea sector employed more than 60,000 persons and was an indirect source of livelihood to close to 500,000 Ugandans (BoU, 2011). Moreover, the limited initial investment required combined with the relatively low risk of crop failure, the auxiliary services created around the factories, the steady all year income, and the market linkage in retail trade, transportation and consumption have all made tea growing an attractive activity to smallholder farmers (Oxfam, 2002). However, tea's lengthy gestation period (3 years) and land ownership have slowed down smallholder's reinvestment on tea.

Despite tea's significant potential both as a source of income and employment, the institution governing the sector are uncoordinated as they are delivered by several autonomous agencies in distinct Ministries, Departments and Agencies (MDAs) [1] and Programmes.[2] In this regard, MAAIF (2013) defines coordination failure as the existence of multiple policy frameworks and interventions spread out in various institutions, but none of the intervention or institutions systematically addresses issues of the tea sector exclusively. Put simply, coordination failure is the inability to coordinate the various institutions and interventions in a sector to pursue a common goal.

We argue that the slow growth and limited improvements in the performance of the tea sector are largely attributed to uncoordinated institutions that govern the sector leading to uncertainty in future outcomes for the old and new stakeholders. Thus, there is limited linkage of performance of tea policy in Uganda. More specifically, we compare trends in production, productivity, acreage, export, pricing and processing between Kenya and Uganda. In addition, we analyse the institutional reforms governing tea in Uganda from the 1950's to-date and also review coordination failures in the sector (1997 – to-date). We also discuss the challenges facing the tea sector.

While Uganda and Kenya-a major tea grower and exporter- have comparable agro climatic conditions suitable for tea production, the performance in Uganda's tea industry is comparatively weak given the opportunities available.[3] Findings reveal that the flaws in the coordination of interventions, and the

mal- functioning institutional frameworks that govern tea largely explain the slow growth and performance of the tea sector in Uganda. In addition, due to limited awareness of opportunities associated with tea growing, the sector has continued to attract almost no new investments by small holders and estates. Simply put, the role of government in coordinating tea activities is largely missing. Thus, we recommend for a stand-alone tea policy and an institutional framework, comparable to the Tea Board of Kenya, to harmonize public and private intervention, to coordinate collection of regular and reliable tea statistics, to regulate competition and standards, to license inputs and to ensure consumer protection in the tea sector in Uganda.

The rest of the paper is structured as follows: Section 2 provides a comparative analysis of differing trends in the tea sector for Uganda and Kenya. Section 3 discusses the various institutional reforms in the tea sector and section 4 reviews the policy framework and coordination failure. Section 5 details the challenges facing the tea sector while section 6 provides the conclusion and policy recommendations.

2. PERFORMANCE OF THE TEA INDUSTRY: A COMPARISON BETWEEN UGANDA AND KENYA

This section provides a comparative discussion of production, productivity, acreage, farmers' organizations, export trends, pricing and processing of tea in Uganda and Kenya.

2.1 Tea production, acreage and productivity

a) Production

Ugandan tea is commonly grown on the slopes of Mount Rwenzori and along the crescent of Lake Victoria areas of Bushenyi, Hoima, Kabarole, Kanungu, Kibaale, Kisoro, Mbarara, Mukono, Mityana, Rukungiri and Wakiso. These areas are consistent with tea growing requirements of a temperate climate with an average precipitation of between 1000mm and 1500mm for not less than 150 days per annum. In the above areas, temperatures average from 20^0C-25^0C, an altitude of over 1500m above sea level with rich well drained fertile soils and soil alkalinity levels of not more than PH6.

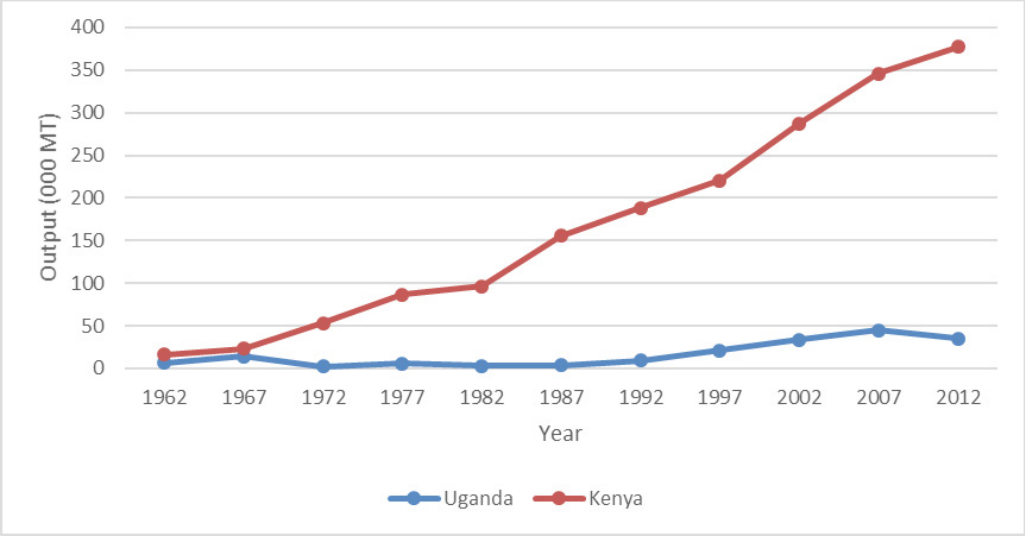
Tea production in Uganda has fluctuated over time. From Figure 1, in 1962-when Uganda gained independence, 6,319 Metric Tonnes (MT) of tea were produced with slight improvements recorded over the next 8 years. But from 1972 to late 1980s, Uganda recorded severe decline in production-approximately 80 percent drop over that period. The poor performance in tea production was attributed to the political instability of 1970's and 1980's that led to destruction of infrastructure and to disinvestment due to the abandoning of tea estates by Asians, who were the majority stakeholders. There is a notable steady recovery in production from 1987, with 2007 recording the highest level of production amounting to approximately 49,000MT. The recovery in production is attributed to the change in regime, when President Museveni took over power in 1986, which led to the implementation of several recovery reforms as will be discussed later in section 3.

From 1962-1967, Kenya's tea production levels were in tandem with Uganda's. However, Uganda's production has increasingly reduced in subsequent years. Between 1967 and 1972, Kenya's production increased two-folds and has continued to grow at a five-year average rate of 30 percent. In particular (figure 1), in 1962 Kenya produced 16,428 MT of tea which increased to 400,000 MT by 2012. The 2012 production made Kenya the world's largest net producer of tea (Tea Board of Kenya (TBK), 2014). Kenya's outstanding production performance is partly attributed to relative political stability and strong institutions such as Kenya Tea Development Authority (KTDA) and Tea Board of Kenya (TBK). In addition, the mass adaptation of high yielding clonal type of tea, expansion in acreage, improved husbandry and good conducive policies have played a key role in encouraging continued investment by small holders and estate to boost production (Mwaura and Muku, 2007).

b) Acreage

Kenya's strategy to increase the cultivated land under tea (Figure 2) largely explains the significant increase in tea output (Figure 1). Kenya has consistently increased its acreage at an average five year growth rate of 30 percent (figure 2). By 2012, Kenya registered 187, 855 Ha of land under active tea growing. With increase in the area under tea growing over the years, Kenya's production also increased by 8-folds in the same period (refer to Figure 1). In contrast, the Uganda's acreage under tea production has largely remained unchanged since 1977. Figure 2 shows that Uganda's acreage under tea stagnated at 20,896 Ha from 1977 to 2007. The poor performance by Uganda is mainly attributable to attrition of farmers and expulsion of Asian Estate owners (NPA, 2007). However, in 2007 there was an 11 percent increase in Uganda's land use from that of 1977. NPA (2007) correlates this increase in land use to the Emergency

Figure 1: Comparisons of Trends in Tea Output between Kenya and Uganda, 1962-2012 ('000 metric tons)



Source: International Tea Committee, 2012

Rehabilitation Programme (ETRP) project implemented between 1987 and 1989 that mainly targeted tea growing.

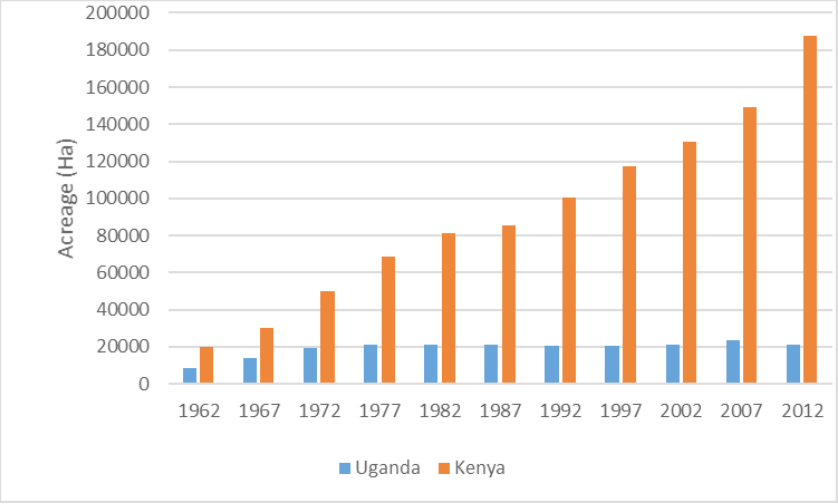
While Uganda has 200,000Ha of land earmarked as optimum for tea production in the districts of Bushenyi, Hoima, Kaborole, Kanungu, Kibaale, Kisoro, Mbarara, Mityana, Nebbi, Rukungiri and Wakiso, only 10 percent of the land is being fully utilised (MAAIF, 2005). Whereas Mitchell (2006) cites poor infrastructure in the rural areas as a possible barrier, we wonder if it's a question of coordination failure that exists that is contributing to the underutilisation of land for tea growing. Nonetheless, smallholder farmers assert that they do not own the land they cultivate. Large quantities of land belong to absentee land lords, hence smallholder farmers are not able to expand tea production nor undertake long term investments as required in tea growing.

c) Productivity

Substantial differences are noted with regard to the level of productivity between the tea sector in Uganda and Kenya. Figure 3 shows that while in 1962 there were no significant differences in productivity between the two countries (Uganda produced 0.74 tonnes/ Ha and Kenya produced 0.83 tonnes/Ha). By 1967, the differences in productivity were obvious (Uganda produced 0.5 tonnes/Ha and Kenya produced 1.6 tonnes/ Ha). Also, productivity is higher on smallholder farms than the estates in Kenya. Amde (2009) argues that this disparity, in productivity, between estates and smallholder farmers in Kenya is attributed to the ability of smallholder farmers to work in groups. Farmers groups contributes to farm productivity and incomes through assimilation of new research, technology and best farming practices (Adong, 2014).

Meanwhile, tea productivity in Uganda had dropped to 0.13 tonnes/Ha by 1972. There is a view that political instability led to attrition of farmer in Uganda. As a result of instability, the poor trend in productivity in Uganda persisted throughout the 1972-1987 period. However, with some level of political stability in 1987 and the implementation of

Figure 2: Comparisons of the Trends in Tea Acreage between Kenya and Uganda ('000 hectares) 1962-2012



Source: International Tea Committee, 2012

the ETRP and Smallholder Tea Rehabilitation Project (STRP) from 1994-2001 in Uganda productivity improved to an average of 1.6 tonnes/Ha as compared to an average 2.2 tonnes/Ha in Kenya for the 1987-2012 period (Figure 3).

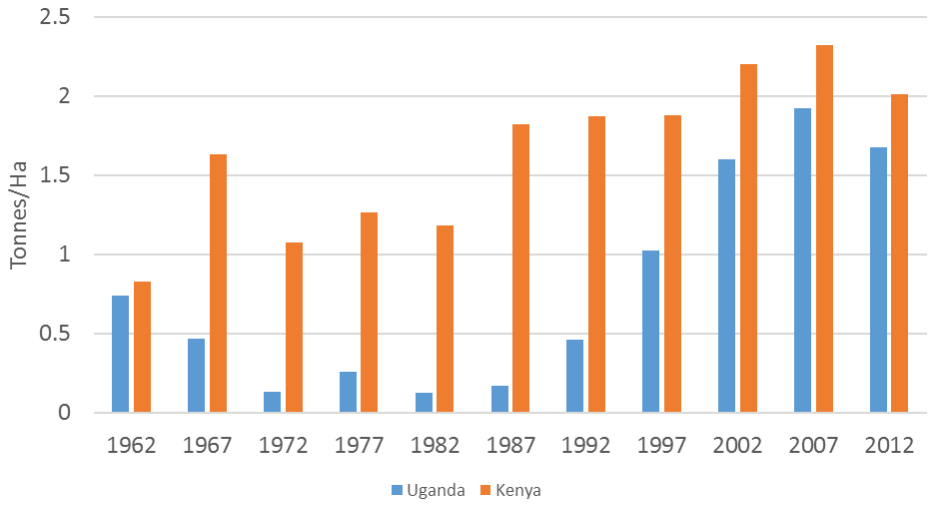
Nevertheless, MAAIF (2012) argues that other than political instability in the 1970s and 1980s, uncoordinated policies spread out in multiple agencies are largely responsible for the extensive use of non-clonal tea seedling materials, poor agronomical practices, limited use of fertilizer and gappy fields among other problems. However, poor rainfall and inadequate sun shine may also explain the comparatively low productivity of Uganda's tea sector.

2.2 Organisation and distribution of tea stakeholders

a) Organisation of tea farmers

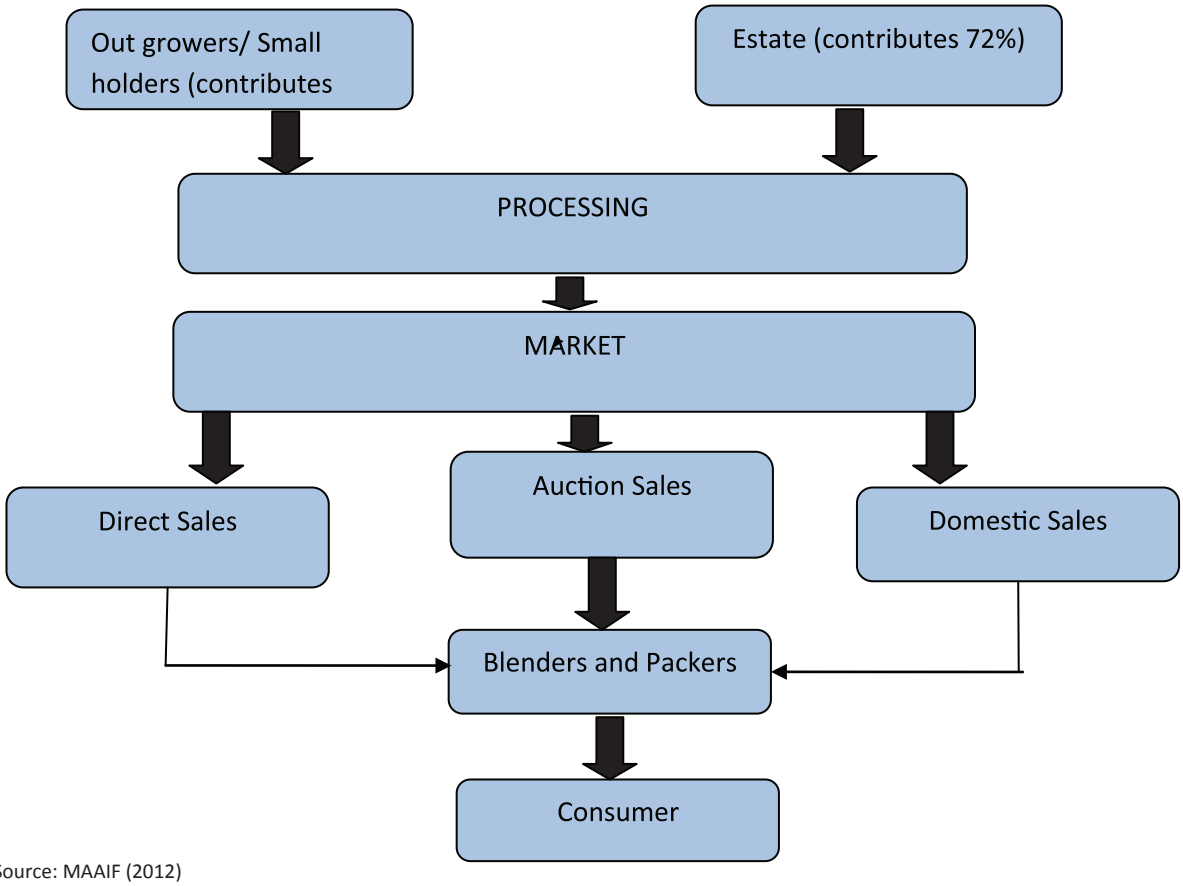
Figure 4 shows a portrait of the tea value chain and distribution of the tea industry in Uganda. Large scale estate owners in Uganda such as Madhvani Group, TAMTECO, Rwenzori Commodities, Mehta Group and others own about 16,000Ha of total land. The large estates explain 72 percent share of tea production. From Figure 4, tea brokers are the intermediaries in the tea market at export level. Tea brokers have an obligation to taste, value and bid for tea for their clients. Made (processed) tea is mainly sold in tonnes at auctions. Thereafter, the tonnage is broken into small packets after value addition; sorting, grading and packing.

Figure 3: Comparisons of the Trends in Tea productivity between Kenya and Uganda (Tonnes/hectares) 1962-2012



Source: International Tea Committee, 2012

Figure 4: Uganda's Tea Commodity Value Chain



Source: MAAIF (2012)

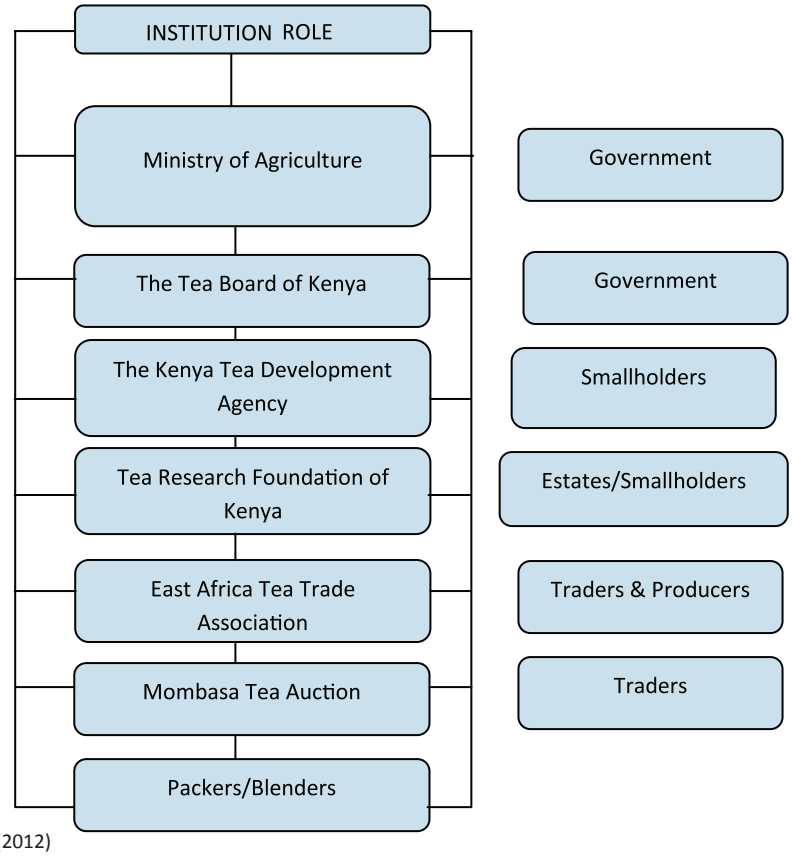
On the other hand, large scale estate owners such as Unilever Brothers are not as dominant in Kenya as they are in Uganda. For instance, Kenyan estates own 35 percent of total land under tea and produce only 38 percent of the total production (Kagira et al., 2012). Therefore, smallholders account for 62 percent of total tea production and own 65 percent of total land under tea. The Tea Board of Kenya (TBK) coordinates the tea cluster and organizes small holder farmers around KTDA. In particular, the Kenyan tea cluster is composed of the Tea Board of Kenya (a regulatory body), the Tea Research Foundation of Kenya, 65 smallholder-owned factories and 39 estate-owned factories, tea blenders and packers such as Kenya Tea Packers (KETEPA), and the Mombasa Tea Auction (an auction bourse) (Figure 5).

b) Distribution of farmers

In Uganda and Kenya, smallholders are defined as those cultivating 8 acres or less of land. Uganda's Smallholders are estimated to be around 50,000 occupying approximately 12,000Ha and producing around 28 percent of total tea production (Kiwanuka and Ahmed, 2012). In contrast, by 2013 the Kenyan tea industry was dominated by 570,000 smallholders who held leases to 65 percent of the 287, 102 Ha of land. The small holders output as a proportion of the 2013 total tea production was 62 percent (TBK, 2014).

Historically, Uganda's small holders were organized in four groups with each group owning one factory in Igara, Kayonza, Mpanga and Buhungu. In 2002, the farmers

Figure 5: Kenya's Tea Commodity Value Chain



Source: Kagira et. al. (2012)

groups had grown to 26 associations. The groups were organized around the existing 26 factories in and around western Uganda. Today, the factories are now 28 in number. Table 1 presents the distribution of the number of households involved in tea growing by district and region. Bushenyi district has the highest number of households growing about 56 percent of total tea production in Uganda followed by kyenjojo. Both districts are located in the Western part of the country. We note no representation from the Northern region in tea growing (Table 1).

Table 1: Number of Households in Uganda planting tea in 2008/2009 by district and region

	No. of Households	% of total
District		
Luwero	65	0.63
Mityana	150	1.45
Namutumba	132	1.28
Bushenyi	5,788	55.98
Hoima	381	3.68
Kabarole	437	4.23
Kanungu	1,478	14.29
Kyenjojo	1,909	18.46
Total	***10,340***	100.00
Region		
Central	215	2.08
Eastern	132	1.28
Western	9,993	96.64
Total	***10,340***	100.00

Source: UCA 2008/2009

2.3 Tea research and extension services

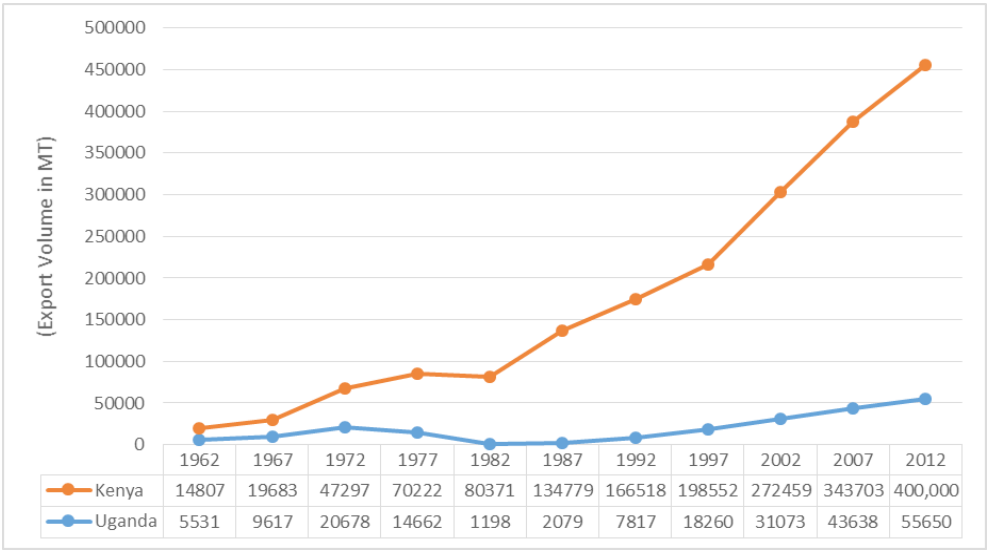
In most tea producing countries, tea research is at the centre of tea development. In 1951, the Tea Research Institute of East Africa (TRIEA) was formed to provide tea research to Kenya. But from 1957 to 1959, TRIEA's mandate was extended to include Uganda and Tanzania. TRIEA's mandate was to conduct research and propagate clonal tea in the East Africa region. TRIEA was financed by a cess charged on tea production in Kenya, Uganda and Tanzania. The collapse of the Eastern African Community (EAC) in 1975 is widely associated with the collapse of TRIEA. Since the collapse of TRIEA, tea research in Uganda has been dormant for three decades, due to limitations in tea experts, finance and infrastructure. Meanwhile, Kenya's tea research has thrived. In particular, Kenya founded the Tea Research Foundation of Kenya (TRFK) in 1980 as a successor to TRIEA. TRFK's mandate is to actively handle improvement of planting material, management, harvest, quality, and pests and disease control in Kenya's tea sector. As a means of sustaining TRFK, tea farmers in Kenya pay a tax (cess) to fund the industry's research and development. As such, TRFK's 2002 annual budget, in the amount of Ksh.52million (approximately US$619,049), was entirely funded by a cess imposed and collected by the TBK.

On a related front, tea farmers in Uganda are not well organized to collect a cess to fund activities for tea research. As a result, the two existing Ugandan research stations in Rwebitaba in Kabarole and Salama in Mukono district rely only on transfers, Ush24million (approximately US$8,948) per annum, from MAAIF. Nonetheless, the Uganda Tea Association (UTA) is exploring modalities of funding tea research in the same way the TBK does it in Kenya. However, the suspension of the agricultural extension system in 2002 weakened the Ugandan tea extension system. Unfortunately, programmes such as the National Agricultural Advisory Services (NAADS) have neither filled the gap left by extension officer attrition nor solved the problems of information gaps in the tea sector (MAAIF, 2013). Furthermore, the increase in the number of local governments without increasing the number of NAADS staff or training them on tea husbandry exacerbates the problem further (MAAIF, 2013).

2.4 Tea export performance

After Kenya (Kenya is the world's leading exporter of tea) and Malawi, Uganda is the third largest exporter of tea in Africa. Uganda and Kenya's exports, both in value and volume, continue to maintain an upward trend. Figure 6 shows that in 1962 Kenyan tea exports were 14,807MT while Ugandan exports were 5,531MT. During the political insurgency in Uganda, the differences in tea exports, between the two countries, widened further. As such, 1982, tea exports in Uganda declined to 1198 MT, while that of Kenya increased to 80,371 MT. Despite Uganda's tea industry recovering in the 1990's, the disparity between Kenya and Uganda in exports value and volume are significant. The disparities are more apparent in the 2000s with margins growing even wider. For example, in 2012, Uganda exported 55,650MT of tea, which accounts for only 1.26 percent of global tea export. Meanwhile, Kenya exported 429,000MT and earned US$1.23billion (Figure 6). Kenya's earnings were 22 percent of total Kenyan exports, 25 percent of global tea export earnings and 3.2 percent of Kenya's GDP. However, BoU (2008) point out that Kenya's

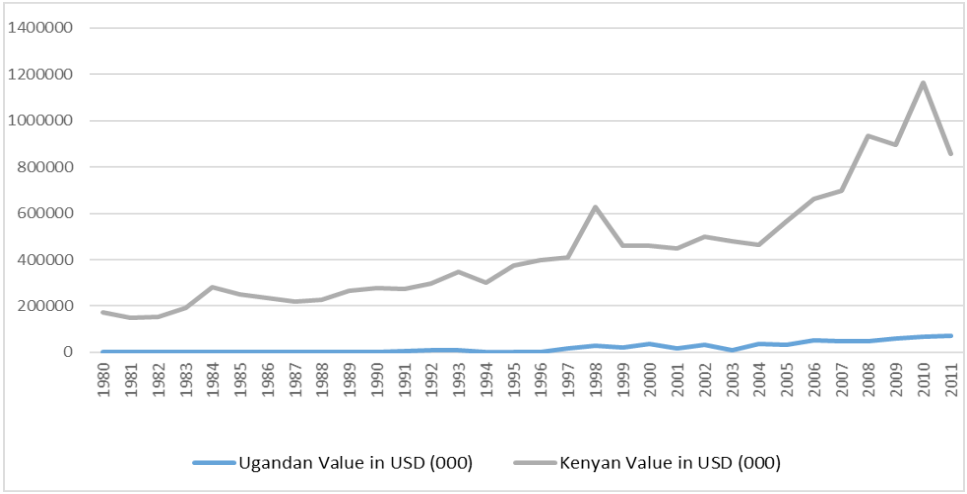
Figure 6. Tea Exports volume in Uganda and Kenya, 1962 - 2012



	1962	1967	1972	1977	1982	1987	1992	1997	2002	2007	2012
Kenya	14807	19683	47297	70222	80371	134779	166518	198552	272459	343703	400,000
Uganda	5531	9617	20678	14662	1198	2079	7817	18260	31073	43638	55650

Source: International Tea Committee (2012)

Figure 7. Tea Exports value in Uganda and Kenya, 1980 - 2011



Source: International Tea Committee (2012)

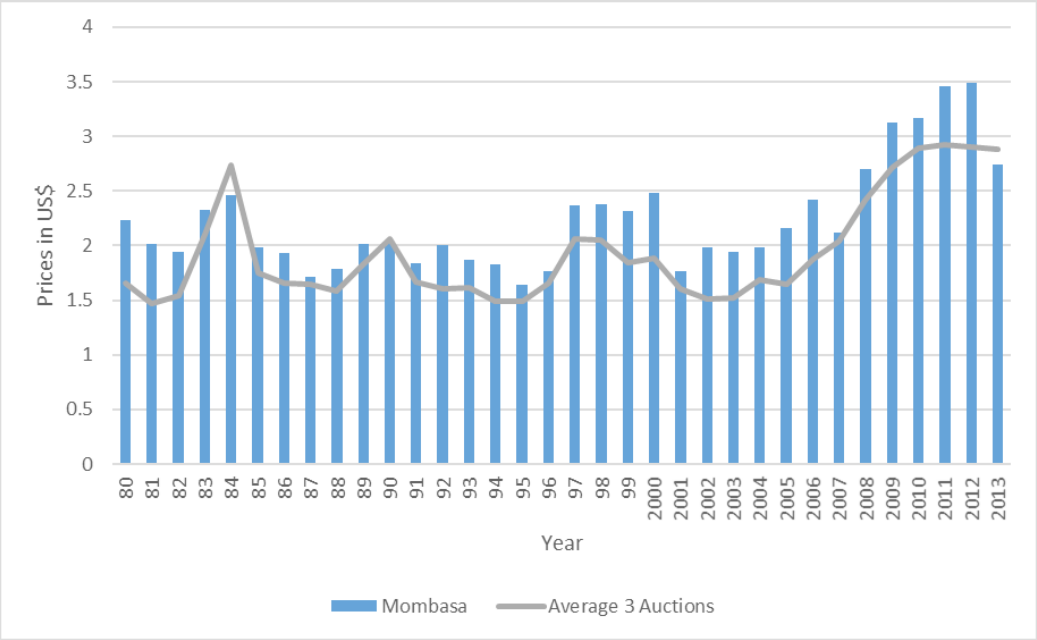
incredible export volumes are explained significantly by tea blends from foreign teas. This suggest that Uganda, Tanzania and Malawi's tea are being re- exported as "Kenya's tea".

Figure 7 shows that Kenya's tea export earnings have varied but have always been above USD 200million with a peak of USD 1.23billion in 2010. Meanwhile Uganda's earning have consistently been below the US$ 100million mark.

2.5 Pricing

Unlike coffee, there is no futures market[4] for tea, so tea is sold through auction and private deals. In the auction, tea prices are determined by supply and demand, quality and geographical location-highland tea fetch more prices (MAAIF, 2012). Consequently, there is no single price for tea. Every auction determines its own price through a reserve price and a bidding process which varies with quality and quantity. Since 1990, the average

Figure 8: Prices in Mombasa Tea Auctions and World Banks 3 Auctions Average, 1980-2013



Source: International Tea Committee, Tea Broker's Association of London and the World Bank

price of Ugandan tea has remained relatively stable-US$ 1. 50 to USD 2.00 per Kg (Figure 8). However, there were transitory upward variations in 1997, 1998, 2006 and 2007, mainly explained by reduction in supply of tea due to drought. Prices did, however, return to their historical trends in 2008. In 2011, Kenyan tea was priced at between US$ 2.92 and US$ 3.72 per Kilograms, an average of 91 percent difference when compared to the Ugandan price.

The price differences are mainly a signal of quality, impact of liberalization on the Kenyan tea sector, efficient organization of the tea sector by Kenya Tea Development Agency LTD (KTDA), and a significant degree of absence of domestic policy distortion. Generally, the relatively stable prices for both countries' teas are attributed to strong global demand for tea[5] especially in petroleum producing countries in the Middle East, Russia and Pakistan. Nonetheless, as Mitchel (2006) notes the co-movement of petroleum prices with tea prices and production, coupled with emergence of Vietnam as a major exporter could deflate prices if future demand for petroleum declines. Furthermore, Uganda produces medium (sub-prime) quality tea popularly referred to as price reducers, as opposed to premium brand of tea produced by Kenya. Price reducers are primarily used to blend premium tea. Consequently, Uganda receives a lesser price than Kenya. Therefore, Uganda can learn from Kenya whose tea is of high quality and, therefore, attract internationally competitive prices. It is also possible that the price differences between Uganda and Kenya are because speculators and middlemen at the Mombasa auction arbitrate gains from price arbitrage on Ugandan tea, and as a consequence Uganda ends up with a below the premium market rate than that offered in other auctions and sales points (BOU, 2008).

At the Mombasa Tea Auction (where over 90% of Ugandan and Kenyan tea are sold to exporters) teas are classified and priced based on quality such as strength, aroma,

Table 2: Tea Prices by grade, Mombasa Auction report Number 19/2014

	Grade			
	BP1	PF1	PD	D1
Best	2.60-2.62	1.95-1.97	2.04-2.08	2.14-2.16
Good	2.10-2.14	1.91-1.92	1.94-1.98	2.04-2.09
Good Medium	1.64-1.68	1.67-1.89	1.87-1.92	2.00-2.12
Medium	1.40-1.42	1.44-1.56	1.78-1.90	1.98-2.08
Lower Medium	1.28-1.30	1.44-1.56	1.90-1.94	1.94-2.04
Plainer	1.20-1.24	1.06-1.34	1.70-1.80	1.82-1.88

Source: Africa Tea Brokers ((All prices in US$ per kg) Cut, Tear and Curl (CTC) tea quotes)

liquor and appearance. Table 2 presents the tea prices by grade in 2014. Most of Kenyan teas are classified from ''Medium'' to ''Best'', while most Ugandan teas are classified as "Plainer" and only five or six Ugandan estates are grouped under "Lower medium" teas. Accordingly, Kenya teas attract a higher price relative to the Ugandan one – to illustrate this, there is a price differential of nearly 30% for BP1 between good and lower medium grade. Kenya has achieved quality tea through not only planting vegetative propagated highland land tea[6], but also the enforcement of internationally accepted standards such as photo – sanitary requirements along the tea value chain.

2.6 Processing

Uganda produces mainly black tea processed by smallholder-managed Cut Tear and Curl (CTC) factories. According to NPA (2007) CTC factories are preferred because they guarantee maximum cuppage per unit weight of tea. By 1968, Uganda had four CTC factories established through the Government of Uganda aided small holder scheme projects. After the liberalization of the sector in the late 1980's and early 1990's, Uganda built and rehabilitated a total of 28 factories to handle the expanded tea capacity. Likewise, Kenya processes black tea using Small holder owned CTC factories. Until recently, the Kenyan tea industry has been exploring opportunities to diversify from processing black and whole form tea, to processing green tea and tea extracts. This is as a result of the increasing demand for green tea and tea extracts in the western world (TBK, 2011). Kenya has more factories than Uganda, 65 smallholder owned and 38 large estates owned. Furthermore, Kenyan factories are not directly managed by its shareholders as is the case of Uganda. Most of the factories are managed by KTDA (a small holder owned management agency) which guarantees consistency in quality and output.

Unlike Kenya, Ugandan tea processing facilities are either unevenly distributed, or are concentrated in one area with many of the potential tea growing areas having no processing facilities. For example, while the tea growing areas of Kabale and Kisoro cover 800 acres of tea with 25 percent of the area undergoing regular plucking, there are no factories near the tea planting zones (MAAIF, 2005). Another example of incapacity is by Igara factory, which was designed to handle 30 tonnes of green leaf per day, but, by 2001, the factory was receiving as much as 100 tonnes for processing (MAAIF, 2012). Subsequently, the management of Igara factory had to commission another factory

at Buhweju to handle the extended capacity. But as productivity of the area continues to expand, it is evident that the processing facility will be overwhelmed in the near future. In 2005, MAAIF proposed that Uganda should adopt Kenya's processing model, where for every 500 Ha of tea, with 1.5 tonnes/Ha productivity, there should exist a single line CTC factory with a capacity to wither and process 750 tonnes of black tea or 3,500 tonnes of green leaf and with an average out-turn of 23.5 percent. Also, Uganda should explore avenues of growing and processing green tea which is healthier and therefore better priced. Thus, Uganda should look beyond business as usual, or even beyond the "Kenyan model".

3. INSTITUTIONAL REFORMS WITHIN UGANDA'S TEA SECTOR

Uganda has carried out several institutional reforms in attempt to enhance efficiency in delivery of tea products and services, and to reduce governance challenges towards a common goal. As such, raising small holder farmers' incomes and poverty reduction especially in the rural areas is a priority. One of the most salient reforms the Agriculture Enterprise Limited (AEL) established by an Act of Parliament of 1955, and operationalized and managed by Uganda Development Corporation (UDC). AEL accelerated the growth of tea production in Uganda by cultivating 3000 Ha of tea. The company was dissolved in 2006 for ignoring the plight of smallholders and state failure to organise the tea sector (NPA, 2007). In 1966, the government attempted to Africanize the tea sector by establishing the Uganda Tea Growers Corporation (UTGC) with the mandate to promote tea enterprise among 11,000 indigenous Ugandan smallholder farmers cultivating 9,000Ha of land. One of the major achievements of UTGC is that it was responsible for constructing the first small holder owned tea factories in Mabale (Kyenjojo), Mpaga (Kabarole), Igara (Bushenyi) and Kayonza (Kanungu). Unfortunately, UTGC was declared insolvent and was dissolved in 2005.

Between 1971 and 1973, the Idd Amin government conducted a radical reform of the sector by expelling the Asians some of whom were tea estate owners. Thus, management of the estates was handed over to indigenous small holders who were not highly skilled in the running of the tea estates. The result of this shift in the institutional framework was disastrous for the tea sector with tea production dropping drastically to 1,700 tonnes in 1975 from 13972 tonnes in 1967 (NPA, 2007). In 1986, Museveni took over as the President of Uganda; as a result, between 1987 and 1989, Government and the World Bank implemented a liberalization and privatization program. The Emergency Tea Rehabilitation Programmme (ETRP)[7]was a product of those reforms. The purpose of ETRP was to restore tea production to its status prior to economic collapse of the 1970's. In this program, land such as tea estates that had been seized in the 1970's was returned to its former Asian owners. Subsequently, tea production increased from 1,500 tonnes in 1975 to 5,600 tonnes in 1986 (MAAIF, 2005).

In 1988, the government attempted to control tea prices, by doubling producers' prices to Ush.20 (US$ 0.12) per kilogram, as an incentive to boost production. However, production remained below expectation.

For example, the 1989 output of 4,620 tonnes was below 1986 which was 5600 tonnes (NPA, 2007). From 1994 to 2001, the GOU with support from the European Union (EU) implemented the Smallholder Tea Rehabilitation Project (STRP) as an avenue for rescuing the small holders. The project was very successful in achieving its objectives. As a result, in 2005, smallholders explained 43 percent of a total tea production- 33,000tons (MAAIF, 2010).

Currently, tea activities are being coordinated through National Agriculture Advisory Services (NAADS) programme which started in 2001. NAADs was enacted by an Act of Parliament to provide agricultural related advisory and extension services to address gaps in information, knowledge and technology. NAADS tried to promote tea as an alternative to coffee, especially in areas where coffee had been affected by the coffee wilt. NAADS succeeded in propagating and distributing 23million clonal seedlings to small holders in Kabale, Bushenyi, Kabarole, Hoima, Kyenjojo and Kibale. Such activities are highly correlated with expansion of tea production to 50,000 tons in 2010. However, NAADS propagation of clonal seedlings was neither wide nor persistent and has struggled to provide effective extension services.

4. WHAT COORDINATION FAILURES EXIST IN THE TEA SECTOR?

MAAIF (2013) has defined coordination failure as existence of multiple initiatives and agencies which results in poor coordination of MAAIF, MDAs, local governments and donor support towards a common goal often creating policy uncertainty for different stakeholders. Within the National Development Plan (NDP) 2010, tea sector development through public private partnerships is earmarked as one of the strategies in pursuant of this goal. However, Uganda does not have a stand-alone (comprehensive) tea policy to operationalise this goal. By definition, there is poor coordination of the various policies scattered in various MDAs. Attempts to bring tea policies into one holistic framework in 2005, "the draft tea policy 2005", which would have eased the coordination of intervention in the sector were unsuccessful (Mitchel, 2006). To-date, the draft tea policy has not been presented and or debated in Parliament.

In 2001, most of the policies shaping the agricultural sector and the tea sector in particular were contained in a policy framework known as the Plan for Modernization of Agriculture (PMA).[8] The PMA was built on the premise that for agriculture to reduce poverty among rural households, a multi-sectoral approach was inevitable which explains its seven key pillars whose implementation mandates was spread across 13 ministries and agencies. The seven key pillars are: research and technology development, National Agricultural Advisory Services (NAADs), rural finance, agro-processing and marketing, agricultural education, physical infrastructure, and sustainable natural resource utilization and management (MAAIF, 2013). However, of the seven PMA key pillars, only NAADS was implemented in the tea sector (Mitchel, 2006). For instance in 2002, the GoU requested the National Agriculture Research organisation (NARO) to prepare a plan to implement tea research. The research budget for the first five years

was estimated at Ush.955million (US$ 531,000). Funding to implement the plan did not materialise.

Prior to 2010, the PMA secretariat reported to MOFPED and not MAAIF and yet it is the Permanent Secretary, MAAIF who was supposed to authorize expenditure of PMA secretariat and oversee the PMA budget management. This overlapping structure created conflict of interest and power struggles between MAAIF and MoFPED. As a result, sectors such as tea, which does not have its own policy framework to guide its functionality suffered as there were no central guiding framework to help streamline delivery of infrastructure and services, such as feeder roads, that could have benefited the tea sector. Lessons from PMA suggests that a multi-sectoral approach in organizing the tea sector presents several governance challenges which require a robust cross-sectoral coordination and accountability. It is evident that coordination failure arose as a result of responsibility for various interventions falling under different MDAs across government, both at the central and local governments. For example, tea requires sustainable and affordable energy (petroleum and hydro – electric power) and fertilizer. And, the policy strategy on energy and fertilizer for agricultural use is regulated by the Ministry of Energy and Minerals. However, the policy is broad and it does not specifically mention tea. In countries such as Kenya, a policy concerning energy and fertilizer use in the tea sector is placed under the direct control of an autonomous and specialised tea regulatory body with political oversight from the ministry responsible for development of energy and fertilizer. While the tea sector can be coordinated from MAAIF, there is a need to enhance efficiency and restore certainty in delivery of tea goods and services by providing regulatory oversight and operationalizing a stand-alone (comprehensive) tea policy to encourage investment by the private sector in the tea sector.

To address some of these challenges, the Agricultural Sector Development Strategy and Investment Plan (DSIP), 2010/11-2014/15 was established with the aim of achieving a competitive, profitable and sustainable agricultural sector. Tea is one of ten key enterprises identified in the Development Strategy and Investment Plan (DSIP) 2010 - 2015 as a strategic export commodity and as a tool to fight poverty in the rural areas. However, the tea sector has not been well coordinated to achieve one of the DSIP's objective of populating 200,000 Ha of land with tea bushes. Currently, Uganda's tea sector has absorbed only 10 percent of the identified land area. Although no comprehensive review of the DSIP 2007 was done, in 2012, MAAIF's internal review of the DSIP and Comprehensive Public Expenditure Review in 2007 reveals that DSIP did not effectively spell out the strategy on how the 200,000 Ha, identified for tea planting in zone 7 and zone 9, would be occupied. As such, the DSIP 2007 was weakly coordinated and it did not align spending to increasing land ownership in the tea zones.

5. CHALLENGES

Ugandan tea farmers like their Kenyan counterparts are represented by a trade union, the Uganda Tea Association. However, unlike Kenya, Uganda's tea sector has no regulatory framework to regulate competition, inputs, provide regular statistics, coordinate and harmonize

interventions into the sector. Lack of coordination of NAADS and MAAIF activities has increased uncertainty among tea sector stakeholders.

According to Mitchell (2006), the failure to coordinate tea research has manifested into other problems such as low adoption of high yielding clonal tea, low quality of tea as opposed to quantity, information gaps on existence of better variety of tea or the adverse effect of poor tea husbandry on the environment, and farmers do not know how to mitigate the effect of climate change on their crops. Moreover, the cost of inputs such as fertilizers, seedlings, farm implements and labour may drive many farmers out of business. For example, it's comparatively costly to produce a kilogram of tea in Uganda, it costs US$1.20 to produce a Kilogram of Ugandan tea.

In addition, tea is a labour intensive activity requiring many workers to pluck tea by hand during the harvest season; but, the effects of rural urban migration, low pay to farm labourers, poor working conditions, and poor social amenities in the rural areas have been driving many labourers from the tea farms. Many of the large estates have reverted to using mechanized methods which pluck tea indiscriminately, as opposed to the ''two leaves and a bud'' method preferred by tea connoisseurs. This has led to variations in tea quality hence fetching lower prices at auction houses.

Many farmers are sceptical of joining the sector because tea is a mono crop. Once tea is planted, a farmer may not practice mixed agriculture. This implies that growing tea does not only need a stable land tenure system, but it may have major short - run implications on food security and household incomes as a result of the long time lag – 3 years- between tea gestation period and production (Oxfam, 2002). In addition, infrastructural constraints turn Ugandan smallholder farmers into price takers. Tis is mainly because much of the smallholder tea output is marketed through the large tea estates and factory owners.

The use of Ugandan tea on Kenyan blends, at the Mombasa Tea Auction, denies Uganda the branding opportunity. Moreover, industry players are of the view that it will be difficult for Uganda to regain its brand, because Ugandan tea is now widely believed to be Kenyan tea. Also, it has been increasingly difficult for local Ugandan exporter to meet their order quantification as most Ugandan tea producer prefer the Mombasa auction (BoU, 2008).

The procedure of withering, crushing, fermenting, drying and sorting of tea requires 14-16 hours of uninterrupted power supply. In this case, a minute of power outage may result into inconsistent quality and lower prices (MAAIF, 2012). Standby generators have proven to be an expensive substitute; as a result, the tea factories use wood fuel as a substitute in event of power outage, this practice has led to degradation of environment and low rainfall in tea growing areas (MAAIF, 2012).

6. CONCLUSION AND POLICY RECOMMENDATIONS

In this study we critically review the trends in production, productivity, acreage, tea farmer organization, tea research, tea export performance, pricing and processing benchmarked on best practice from Kenya.

We also review the institutional reforms in Uganda from the 1950's to date and critically review the coordination failure in Uganda (1997 – to date) and examine the challenges facing the Ugandan tea sector to extract gaps and suggest reforms (the reforms are summarized on appendix 1).

We observe that the Kenya's government, through the Kenya Tea Development Agency (KTDA), has coordinated and organized its 570,000 smallholders into a dominant players. For example, smallholders hold leases to 65 percent of the 287,102 Ha of land under tea and contributed 62 percent of total tea production in 2012. This has been achieved because the KTDA provides improved technologies and planting materials, an effective extension service and provision of farm inputs such as fertilizers, herbicides and pruning knives for the smallholders.

It is evident that smallholders have the biggest potential of unlocking the growth in Uganda's tea sector because they reside or own almost all of the 200,000 Ha identified for tea in the DSIP, they have cheap and abundant family labour, they have a common interest hence they are easy to organize and they live in the same geographical location. Yet, the level of Uganda's smallholder's organization is not conducive to foster the assimilation of new research, technology and best farming practices the tea sub-sector.

Admittedly, there are institutional constraints manifested in weak enforcement of government policies and plans across MDAs in Uganda. This is illustrated by inability to promote the utilization of the 200,000 hectares of land identified for tea planting in zone 7 and zone 9. This is partly attributed to weak intra- and inter-sectoral linkages between tea sub-sector stakeholders - such as in addressing land ownership and input supply constraints. It should be noted that a comprehensive tea policy and a regulatory framework in Kenya promoted the use of land resources as a basis for tea ventures (Amde et al., 2009). This guaranteed land ownership for the smallholders as well as the estates.

Drawing from the success of Kenya's policy framework, some of the lessons Uganda could pick to transform its tea sector are passing a comprehensive (a stand – alone) tea policy which clearly defines and coordinates the roles of the different agencies in the tea sector. The stakeholders includes a wide range of competing small- holder and multinational producers, suppliers, value adding firms and regulatory agencies. The government should also explore avenues of organising a regulatory framework akin to the Tea Board of Kenya (TBK) which will regulate tea growing, research, processing, and trade and promote Uganda's tea in local and global markets. In addition, a regulatory framework would guide the government on all policy matters related to the tea industry through the MAAIF.

REFERENCES

Adong, A., (2014). Impact of households' membership of farmer groups on the adoption of agricultural technologies in Uganda: Evidence from the Uganda Census of Agriculture 2008/09". Journal of Agricultural Economic Research Policy and Practice in Southern Africa.

Amde M., Chan P., Mihretu M.and Tamiru

K. (2009) Microeconomics of Competitiveness, Country: Kenya, Cluster: Tea

Bank of Uganda (BoU) (2008). Report on the Domestic Resource Cost ratios for Selected Export Commodities 2006/07. Bank of Uganda, Kampala, Uganda.

Bank of Uganda (BoU) (2011). Report on the Domestic Resource Cost ratios for Selected Export Commodities 2009/10. Bank of Uganda, Kampala, Uganda.

Bategeka L., Kiiza J. and Kasirye I. (2013). Institutional Constraints to Agricultural Development in Uganda: EPRC Research Series No. 101

Bedford A., Blowfield M., Burnett D. and Greenhalgh P. (2002). Value Chains: Lessons from the Kenya tea and Indonesia cocoa sectors from The Natural Resource Institute, Wyvern

Byerlee. D and Echeverría R. G. (2002), Agricultural Research Policy in an Era of Privatization

Daviron B., and Gibbon P., (2002). Global Commodity Chains and African Export Agriculture. Journal of Agrarian Change, Volume 2, Issue 2, pages 137–161: DOI: 10.1111/1471-0366.00028

FAOSTAT, (2013), Food and Agriculture Organization (FAO). Available at: http://faostat3.fao.org/faostat-gateway/go/to/download/Q/QC/E

FAO (2013)a. Monitoring African Food and Agricultural Policies, Kenya: MAFAP Policy Brief

International Committee of Tea (ITC), (2012): International Tea Statistics

International Finance Corporation (2013) Shortlist for the 2013 FT/IFC Sustainable Finance Awards Achievement in Inclusive Business http://www.ifc.org/wps/wcm/connect/f097d4004ff4df23a8c0ff23ff966f85/FT-Award-Shortlist_KTDA.pdf?MOD=AJPERES

Kagira, E. K., Kimani S. W., and Kagwathi S. G. (2011). Sustainable Methods of Addressing Challenges Facing Small Holder Tea Sector in Kenya: A Supply Chain Management Approach. Journal of Management and Sustainability; Vol. 2, No. 2; 2012

Kiwanuka B., Ahmed M. (2012). Analysis of incentives and disincentives for tea in Uganda. Technical notes series, MAFAP, FAO, Rome.

MAAIF (2005). The National Tea Development Policy Draft

MAAIF (2010). Statistical Abstract.

MAAIF (2011). Statistical Abstract.

MAAIF (2012). Operationalization of the non- ATAAS component of the development strategy and investment plan: Draft analytical report on the tea value chain.

MAAIF (2013). National Agricultural Policy

MacKinnon J. and Reinnika R. (2000). Lessons from Uganda on Strategies to Fight Poverty: World Bank Development Research Group

Mitchell D. (2006). Tea in Uganda: Draft Report on Uganda DTIS Ministry of Finance, Planning and Economic Development (2013). Background to the budget 2012/13

Ministry of Finance, Planning and Economic Development (2014). Background to the budget 2013/14

MTTI (2006). Diagnostic trade integration study: Volume 2, Kampala, Uganda.

Mwaura F. and Muku O. (2007). Tea

Farming Enterprise Contribution to Smallholders' Well Being in Kenya: AAAE Conference Proceedings (2007) 307-313

National Agricultural Research Organization (NARO), Tea Research and Development in Uganda, Implementation Plan, draft, July 2002

National Planning Authority (NPA) (2007). Feasibility Study for expanding Tea Production and establishing a Tea Factory in Kabale District

Oxfam International (2002). The Tea Market – a background study. Oxfam International. London. United Kingdom. Available at. http://www.hubrural.org/IMG/pdf/oxfam_tea_market.pdf. Accessed August 2012

Rudaheranwa N., (2003). Uganda's Challenges in Complying with WTO Agreement. EPRC Research Series

Ssewanyana, S. and Kasirye, I. (2006). Understanding Food Insecurity in Uganda: A Special Study. Report prepared for USAID Uganda Country Office

Tea Board of Kenya website (2011): http://www.teaboard.or.ke/statistics/exports.html

Tea Board of Kenya website (2014): http://www.teaboard.or.ke/statistics/exports.html

Tumushabe G., Muhumuza T., Natamba E., Bird N., Welham B., and Jones L., (2013). Uganda National Climate Change Finance Analysis: Overseas Development Institute, London and the Advocates Coalition for Development and Environment, Kampala

UGATEA (2011). The tea Industry in Uganda. Uganda Tea Development Limited (UTDAL).

WTO (2006). Trade Policy Review- EAC-Kenya

APPENDIX I: THE KEY TO UN-LOCK THE UGANDAN TEA SECTOR

Policy/Country	Kenya	Uganda	Remarks
No. of Small holders	312,000	50,000	There is a need to promote small holder tea farming
Ha of land owned by smallholders	260,000	12,000	Government needs significant investment to promote small holder tea development to realize the expansion of tea output in the potential 200,000 hectares already identified by MAAIF as suitable for tea growing
Ha owned by estates	140,000	16,000	Given the nature of land tenure and farming system in Uganda, a tea estate system would be difficult to pursue in the short run. However, a smallholder system is feasible in the short term
Average total exports(tons)	377, 912	45,000	There is a need to market Ugandan tea abroad and intensify production and acreage
Quotient of total production by smallholders	62%	28%	There is still room for improvement for smallholder. Especially in new area such as Zombo
Cost of producing a KG of tea in USD	1.33	1.20	This shows that Uganda has a comparative advantage in cost of tea production compared Kenya. And should utilize this advantage to improve quantity and quality
Peak export earnings in USD (Billions)	1.23	0.093	This shows that if Uganda exploits the available 200,000 hectares of land suitable for tea, export revenue may grow to the levels of with total area of about 400,000 hectares.
Peak Prices in USD/KG	3.72	2	Uganda marketing and pricing strategy is not at the level of that of Kenya. However, there is strong correlation between the low price and low quality. Diversification from black tea to green tea would improve export returns.
Average Productivity ton/Ha	4	2.2- 3	Uganda can improve productivity by fertilizer application, planting clonal tea and irrigation.
Percentage of total production exported	95%	92%	This indicates that there is very low domestic consumption in both Kenya and Uganda. An increase in domestic consumption would boost prices in the medium term
Domestic Consumption	5%	8%	This indicates that there is very low domestic consumption in both Kenya and Uganda. An increase in domestic consumption would boost prices in the medium term.

Policy/Country	Kenya	Uganda	Remarks
Number of Tea Factories	65	25	Uganda needs to increase the number of processing facilities. For every 500 Ha of tea, with 1.5 tonnes/Ha productivity, there should exist a single line CTC factory with a capacity to wither and process 750 tonnes of black tea or 3,500 tonnes of green leaf and with an average out-turn of 23.5 percent
Processing Method	CTC	CTC	This is the most preferred green leaf production method. No changes
Tea Research System	Strong	Weak	Like Kenya, Uganda needs to charge a cess to support tea research and tea extension services. The government could also support in the short term.
Extension service	Strong and linked to research	Weak	Like Kenya, Uganda needs to charge a cess to support tea research and tea extension services. The government could also support in the short term.
Tea Association	Strong	Weak	Uganda tea association is weak and poorly funded to monitor and coordinate the activities of the sub-sector. There is a need to strengthen industry driven associations that are adequately resourced by the private sector and supported by the state.
Comprehensive Tea Policy	Strong	None	Uganda lacks a comprehensive tea policy to guide the coordination and regulation of the sub-sector programs and activities along the tea value chain. The existing regulation in tea are fragmented around the small holder farmers and estate holders with no linkage.
Marketing and pricing	Strong	Weak	There is a need to brand and market Uganda's tea in other markets other than the Arab world. Uganda needs to adhere to photo sanitary standards to continue to access international markets.

END NOTES

1 In particular, Ministry of Finance, Planning and Economic Development (MoFPED) and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

2 Such as the Uganda National Agricultural Policy (NAP) 2011, Poverty Eradication Action Plan (PEAP)1997-2008, Plan for Modernisation of Agriculture 2000-2010 and now the National Development Plan (NDP) 2010-2015.

3 As we shall see in the next section that compares tea trends in both countries and opportunities available.

4 A futures market is where coffee planted today is sold in the forward market before it matures, processed and exported.

5 Tea is the most consumed beverage after water with three billion cups of tea consumed daily.

6 Vegetative Propagated and Highland tea attracts is of high quality and thus attracts higher prices

7 Economic Recovery Program (ERP) was initially instituted to accelerate economic growth. In that framework, most of the seized foreign/Asian tea estates were returned to their former owners to promote growth in the tea sector. However, the focus of ERP shifted from economic growth to macro-economic stability and structural adjustment. It is under such a background, that programs such as Emergency Tea Rehabilitation Programme (ETRP) 1987/89 and the Smallholder Tea Rehabilitation Project (STRP) were implemented 1994/2001.

8 PMA was part of another broad planning framework formulated in 1997, the Poverty Eradication Action Plan (PEAP) 1997-2008 whose main aim was to reduce poverty by promoting employment especially in the agricultural sector, economic growth and export diversification.

EPRC RESEARCH SERIES

Listing of Research Series published since 2010 to date. Full text format of these and earlier papers can be downloaded from the EPRC website at www.eprc.or.ug

Series No.	Author(s)	Title	Date
118	Sarah N. Ssewanyana and Ibrahim Kasirye	Uganda's progress towards poverty reduction during the last decade 2002/3-2012/13: Is the gap between leading and lagging areas widening or narrowing?	June 2014
117	Mayanja Lwanga Musa and Mawejje Joseph	Macroeconomic Effects of Budget Deficits in Uganda: A VAR-VECM Approach	June 2014
116	Adong Annet, Muhumuza Tony and Mbowa Swaibu	Smallholder Food Crop Commercialization in Uganda: Panel Survey Evidence	June 2014
115	Barungi Mildred, Wokadala James and Kasirye Ibrahim	Implementing Universal Secondary Education Policy In Uganda: How Has The Public-Private Partnership Performed?	May 2014
114	Mwaura Francis, Okoboi Geofrey and Ahaibwe Gemma	Determinants of Household's Choice of Cooking Energy in Uganda	April 2014
113	Mawejje Joseph	Tax Evasion, Informality And The Business Environment In Uganda	December 2013
112	Shinyekwa Isaac & Othieno Lawrence	Trade Creation And Diversion Effects Of The East African Community Regional Trade Agreement: A Gravity Model Analysis.	December 2013
111	Mawejje Joseph & Bategeka Lawrence	Accelerating Growth And Maintaining Intergenerational Equity Using Oil Resources In Uganda.	December 2013
110	Bategeka Lawrence et ; UN Wider	Overcoming The Limits Of Institutional Reforms In Uganda	September 2013
109	Munyambonera Ezra Nampewo Dorothy , Adong Annet & Mayanja Lwanga Musa	Access And Use Of Credit In Uganda: Unlocking The Dilemma Of Financing Small Holder Farmers.	June 2013
108	Ahaibwe Gemma & Kasirye Ibrahim	HIV/AIDS Prevention Interventions In Uganda: A Policy Simulation.	June 2013
107	Barungi Mildred & Kasirye Ibrahim	Improving Girl's Access To Secondary Schooling A Policy Simulation For Uganda	June 2013
106	Ahaibwe Gemma, Mbowa Swaibu & Mayanja Lwanga Musa	Youth Engagement In Agriculture In Uganda: Challenges And Prospects.	June 2013
105	Shinyekwa Isaac & Mawejje Joseph	Macroeconomic And Sectoral Effects Of The EAC Regional Integration On Uganda: A Recursive Computable General Equilibrium Analysis.	May 2013
104	Shinyekwa Isaac	Economic And Social Upgrading In The Mobile Telecommunications Industry: The Case Of MTN.	May 2013

103	Mwaura Francis	Economic And Social Upgrading In Tourism Global Production Networks: Findings From Uganda.	May 2013
102	Kasirye Ibrahim	Constraints To Agricultural Technology Adoption In Uganda: Evidence From The 2005/06-2009/10 Uganda National Panel Survey.	May 2013
101	Bategeka Lawrence, Kiiza Julius & Kasirye Ibrahim	Institutional Constraints To Agriculture Development In Uganda.	May 2013
100	Shinyekwa Isaac & Othieno Lawrence	Comparing The Performance Of Uganda's Intra-East African Community Trade And Other Trading Blocs: A Gravity Model Analysis.	April 2013
99	Okoboi Geoffrey Kuteesa Annette &Barungi Mildred	The Impact Of The National Agricultural Advisory Services Program On Household Production And Welfare In Uganda.	March 2013
98	Adong Annet, Mwaura Francis &Okoboi Geoffrey	What Factors Determine Membership To Farmer Groups In Uganda? Evidence From The Uganda Census Of Agriculture 2008/9.	January 2013
97	Tukahebwa B. Geoffrey	The Political Context Of Financing Infrastructure Development In Local Government: Lessons From Local Council Oversight Functions In Uganda.	December 2012
96	Ssewanyana Sarah & Kasirye Ibrahim	Causes Of Health Inequalities In Uganda: Evidence From The Demographic And Health Surveys.	October 2012
95	Kasirye Ibrahim	HIV/AIDS Sero-Prevalence And Socioeconomic Status: Evidence From Uganda.	October 2012
94	Ssewanyana Sarah and Kasirye Ibrahim	Poverty And Inequality Dynamics In Uganda: Insights From The Uganda National Panel Surveys 2005/6 And 2009/10.	September 2012
93	Othieno Lawrence & Dorothy Nampewo	Opportunities And Challenges In Uganda's Trade In Services.	July 2012
92	Kuteesa Annette	East African Regional Integration: Challenges In Meeting The Convergence Criteria For Monetary Union: A Survey.	June 2012
91	Mwaura Francis and Ssekitoleko Solomon	Reviewing Uganda's Tourism Sector For Economic And Social Upgrading.	June 2012
90	Shinyekwa Isaac	A Scoping Study Of The Mobile Telecommunications Industry In Uganda.	June 2012
89	Mawejje Joseph Munyambonera Ezra Bategeka Lawrence	Uganda's Electricity Sector Reforms And Institutional Restructuring.	June 2012
88	Okoboi Geoffrey and Barungi Mildred	Constraints To Fertiliser Use In Uganda: Insights From Uganda Census Of Agriculture 2008/09.	June 2012
87	Othieno Lawrence Shinyekwa Isaac	Prospects And Challenges In The Formation Of The COMESA-EAC And SADC Tripartite Free Trade Area.	November 2011

86	Ssewanyana Sarah, Okoboi Goeffrey & Kasirye Ibrahim	Cost Benefit Analysis Of The Uganda Post Primary Education And Training Expansion And Improvement (PPETEI) Project.	June 2011
85	Barungi Mildred & Kasirye Ibrahim	Cost-Effectiveness Of Water Interventions: The Case For Public Stand-Posts And Bore-Holes In Reducing Diarrhoea Among Urban Households In Uganda.	June 2011
84	Kasirye Ibrahim & Ahaibwe Gemma	Cost Effectiveness Of Malaria Control Programmes In Uganda: The Case Study Of Long Lasting Insecticide Treated Nets (LLINs) And Indoor Residual Spraying.	June 2011
83	Buyinza Faisal	Performance And Survival Of Ugandan Manufacturing Firms In The Context Of The East African Community.	September 2011
82	Wokadala James, Nyende Magidu, Guloba Madina & Barungi Mildred	Public Spending In The Water Sub-Sector In Uganda: Evidence From Program Budget Analysis.	November 2011
81	Bategeka Lawrence & Matovu John Mary	Oil Wealth And Potential Dutch Disease Effects In Uganda.	June 2011
80	Shinyekwa Isaac &Othieno Lawrence	Uganda's Revealed Comparative Advantage: The Evidence With The EAC And China.	September 2011
79	Othieno Lawrence & Shinyekwa Isaac	Trade, Revenues And Welfare Effects Of The EAC Customs Union On Uganda: An Application Of Wits-Smart Simulation Model.	April 2011
78	Kiiza Julius, Bategeka Lawrence & Ssewanyana Sarah	Righting Resources-Curse Wrongs In Uganda: The Case Of Oil Discovery And The Management Of Popular Expectations.	July 2011
77	Guloba Madina, Wokadala James & Bategeka Lawrence	Does Teaching Methods And Availability Of Teaching Resources Influence Pupil's Performance?: Evidence From Four Districts In Uganda.	August 2011
76	Okoboi Geoffrey, Muwanika Fred, Mugisha Xavier & Nyende Majidu	Economic And Institutional Efficiency Of The National Agricultural Advisory Services' Programme: The Case Of Iganga District.	June 2011
75	Okumu Luke &Okuk J. C. Nyankori	Non-Tariff Barriers In EAC Customs Union: Implications For Trade Between Uganda And Other EAC Countries.	December 2010
74	Kasirye Ibrahim & Ssewanyana Sarah	Impacts And Determinants Of Panel Survey Attrition: The Case Of Northern Uganda Survey 2004-2008.	April 2010
73	Twimukye Evarist, Matovu John Mary Sebastian Levine & Birungi Patrick	Sectoral And Welfare Effects Of The Global Economic Crisis On Uganda: A Recursive Dynamic CGE Analysis.	July 2010
72	Okidi John &Nsubuga Vincent	Inflation Differentials Among Ugandan Households: 1997 – 2007.	June 2010
71	Hisali Eria	Fiscal Policy Consistency And Its Implications For Macroeconomic Aggregates: The Case Of Uganda.	June 2010
70	Ssewanyana Sarah & Kasirye Ibrahim	Food Security In Uganda: A Dilemma To Achieving The Millennium Development Goal.	July 2010



Economic Policy Research Centre
Plot 51, Pool Road, Makerere University Campus
P.O. Box 7841, Kampala, Uganda
Tel: +256-414-541023/4, Fax: +256-414-541022
Email: eprc@eprc.or.ug, Web: www.eprc.or.ug