POVERTY IMPACT OF SOCIAL AND ENVIRONMENTAL VOLUNTARY STANDARD SYSTEMS IN KENYAN TEA

Tanya Stathers, Charity Gathuthi
with advisory and statistical inputs from Valerie Nelson, Adrienne Martin, Helena Posthumus, Uli Kleih and field assistance from Edwin Kamau, Anthony Gichohi, Mercy Kokonya, Noah Umidha, Virgina Irimu, Arnold Muhoro

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Contents

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We would like to gratefully acknowledge the participation of all the KTDA producer organisations, outgrower groups and tea estate companies who took part in this study and who due to the nature of the study, will remain anonymous. We understand how busy your schedules are and we thank you for recognising the value of an independent impact study such as this, and for allowing us to talk freely with your managers, workers and members during our visits. We hope that this report is of use to you, in providing greater understanding of the impacts these standards are having on producers in the Kenyan tea sector. We also hope that sharing these findings will help to contribute to on-going policy debates and ultimately to socially and ecologically sustainable tea systems.

Studies using the same methodology have been conducted to assess the poverty impacts of social and environmental voluntary standard systems (SEVSS) in the tea estate sector in India, and in the cocoa sector in Ghana and Ecuador. A comparative analysis report will also be available shortly. Please see the project website for more information: www.nri.org/projects/tradestandards/index.html or contact the project leader, Valerie Nelson at v.j.nelson@gre.ac.uk.

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For further information regarding this Kenyan tea study, please contact Tanya Stathers t.e.stathers@gre.ac.uk

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Acronyms and Abbreviations

AGM	Annual General Meeting
ai	active ingredient
AIDS	Acquired Immuno Deficiency Syndrome
BP1	Broken Pekoe 1
CBA	Collective Bargaining Agreement
CDF	Community Development Fund
CFU	Controlled Fermentation Units
CIAT	International Centre for Tropical Agriculture
COLI	Cost of Living Indices
COTU	Central Organisation of Trade Unions
CSR	Corporate Social Responsibility
DFID	Department for International Development
DSO	Direct Sales Overseas
EATTA	East African Tea Traders Association
Est	Estate
ETP	Ethical Tea Partnership
FFS	Farmer Field School
fgd	Focus Group Discussion
FKE	Federation of Kenyan Employers
FT	Fairtrade
FUM	Factory Unit Manager
FY	Financial Year
GHG	Green House Gas
GL	Green Leaf
HACCP	Hazard Analysis Critical Control Point
HEP	Hydro Electric Power
HH	Household
HIV	Human Immuno Virus
H&S	Health and Safety
ISO	International Organisation for Standardisation
OG	Outgrower
KEBS	Kenya Bureau of Standards
KETEPA	Kenya Tea Packers
KPAWU	Kenyan Plantation & Agricultural Workers Union
KTDA	Kenyan Tea Development Agency
KTGA	Kenya Tea Growers Association
Ksh	Kenyan Shilling
M	Men
M&S	Marks and Spencer
Mgmt	Management
MSA	Mombasa Auction
MTH	Mechanical Tea Harvester
NC	Non-certified
NEMA	National Environment Management Authority (Kenya)
NHIF	National Hospital Insurance Fund
NPK	Nitrogen Phosphorous Potassium fertiliser
NRI	Natural Resources Institute
NSSF	National Social Security Fund
PD	Pekoe Dust
PES	Payment for Ecosystem Services
PF1	Pekoe Fanning 1
PO	Producer Organisation
PPE	Personal Protective Equipment
Q&A	Question and Answer
RA	Rainforest Alliance
SACCO	Savings and Credit Cooperative Organisation
SEVS	Social &Environmental Voluntary Standards
SH	Smallholder
SCSKASC	Steering Committee of the State-of-Knowledge Assessment of Standards and Certification
STD	Sexually Transmitted Disease
TBK	Tea Board of Kenya
TESA	Tea Extension Services Assistant
UNIDO	United Nations Industrial Development Org.
VCT	Voluntary Counselling and Testing (for HIV)
W	Women
WHO	World Health Organisation

Exchange rates

2012	Ksh 84.2 per USD (Max: 88.4; Min: 82.26)
2011	Ksh 88.9 per USD (Max: 106; Min: 80.7)
2010	Ksh 79.1 per USD (Max: 82.1; Min: 75.4)
2009	Ksh 77.3 per USD (Max: 81.1; Min: 74.3)
2008	Ksh 69.0 per USD
2007	Ksh 67.5 per USD
2006	Ksh 72.1 per USD
2005	Ksh 75.6 per USD

Source: Central Bank of Kenya website (October 2012); mean exchange rates http://www.centralbank.go.ke

Executive Summary

Background

Social and environmental voluntary standard systems (SEVSS), such as Fairtrade and Rainforest Alliance certification, are becoming increasingly common in global value chains. However, there is limited systematic evidence available on the impact and development potential of such standards.

The objective of this DFID funded four year study from 2009 to 2012 was: *'to systematically examine the impact of voluntary social and environmental standards on poverty and livelihoods, particularly for the most disadvantaged workers and producers in developing countries'.*

Two commodities were selected for inclusion in the study – tea and cocoa – and each was studied in two countries (Kenya, India and Ghana and Ecuador respectively). This report presents the findings of the poverty impacts of SEVSS in Kenyan tea.

The Kenyan Tea Context

Tea was introduced into Kenya from India in 1903, and started being planted commercially by British companies such as Brooke Bond (later acquired by Unilever). Following World War II, Kenyans demanded increased participation in the production of their country's main export crop and the private tea companies established smallholder schemes. In 1964, the Kenya Tea Development Authority (KTDA) was established to protect and support small holders, KTDA built state-owned tea factories which bought green leaf (GL) from smallholder farmers and controlled its processing and marketing. KTDA was privatised in 2000 as part of the structural adjustment programme and became the Kenya Tea Development Agency. Since Kenya's independence tea production has expanded rapidly from 18,000 tonnes and 24,448 hectares in 1963 to 370,000 tonnes and 149,000 hectares in 2007 (KNBS and TBA), and 377,00 tonnes in 2011 (Tea Board of Kenya, 2012).

After China and India, Kenya is the world's 3rd largest producer of tea, and is the world's leading exporter of tea. 62% of Kenyan tea is now produced by 560,000 registered smallholders, and several million people in Kenya depend on the crop for their livelihoods. There are currently 65 tea processing factories owned by the 54 KTDA managed/ smallholder owned tea companies (making KTDA the largest tea management agency in the world), and ~39 privately owned tea plantations/large-scale estate companies including multinationals, such as Unilever Tea, Finlays, Williamson Tea, Eastern Produce etc. Increasing labour, electricity and fuelwood costs, and climate change are perceived as major future challenges in the Kenyan tea sector for both large-scale estates and smallholder producers.

Tea is still Kenya's major export product, worth Ksh102 billion in 2011. Kenya's made tea sales prices have been increasing and reached USD$3.074/kg in August 2012. However, Kenya's tea market is narrow, with 71% of it being exported to just four countries, Pakistan, Egypt, UK and Afghanistan. The most profitable stages in the tea value chain (blending, packing and marketing) occur outside Kenya and are dominated by Unilever, Van Rees, James Finlay and Tata Tetley.

External social and environmental standards in the Kenyan tea sector include the Ethical Tea Partnership (ETP), Fairtrade (FT), Rainforest Alliance (RA) and Utz. Most of the tea factories also have ISO 9001 Quality Management Systems and ISO 22000 Food Safety Management Systems certifications. These certification standards are currently viewed by the sector as major drivers of change, with RA certification having increased particularly rapidly from just 4 of the 65 KTDA factories in 2009 to all but 8 being close to completing RA certification in March 2012. Most of the larger private estates are also RA certified or working towards it. Lipton's pledge to source all the tea for its tea bags from RA certified farms by 2015 has driven this rapid increase in RA certification.

When voluntary standards started two decades ago, it was assumed that the implementation of these systems would lead to the desired positive impacts. Over time it became clear that 'compliance' and 'impacts' were not synonymous. While audits monitor compliance, it is important that impacts are independently assessed, this is typically done through surveys and interviews, but there are opportunities for triangulating such methods with quantifiable measurements of physical factors.

Method

This study is based on three field surveys (baseline, light monitoring and final) with non-certified and Fairtrade (FT) or Rainforest Alliance (RA) certified Kenyan tea smallholder producer organisations and tea plantation estates between 2010 and 2012.

Quantitative (formal questionnaires) and qualitative (checklists) research tools and methods were developed for the baseline study, and adapted as necessary to capture additional information during the light monitoring and final surveys. Interviews were held with managers, groups of farmers and workers (disaggregated by sex), and key informants (e.g. community leaders, trade unions, researchers familiar with the subject, certification standards staff, and KTDA head office). The questionnaire survey was conducted with 897 respondents in the baseline and 700 in the final survey. The respondents included smallholder farmer members of the 7 focal KTDA companies, or outgrower farmers or estate workers from the focal estates.

Between 2010 and 2012, Rainforest Alliance (RA) certification expanded rapidly within the Kenyan tea sector. This made it difficult to maintain the clear comparison between certified and non-certified tea producers over the course of the study, as in 2010 most of the non-certified smallholder tea producer groups and tea estates in Kenya began working towards achieving RA certification.

At the start the study focused on: seven smallholder KTDA POs (three were FT certified, three were non-certified (all based in the East of the Rift valley) and one was RA certified (and based in the West of the Rift valley)); two outgrowers organisations (one FT certified and one non-certified (both in the West of the Rift valley)); and three estates (one dual (FT&RA) certified; one RA certified and one non-certified (all based in the West of the Rift valley)).

However, by the time of the final field survey significant changes in the certifications of these focal organisations had occurred and the dual certified estate dropped out of the study which also prevented the research team from accessing their non-certified outgrowers. The certifications of the focal organisations by the time of the final study were: seven smallholder KTDA POs (two were FT and RA certified, one was FT certified but working towards RA certification, three were non-certified but in the advanced stages of preparing for their RA certification audit); one FT certified outgrowers organisation working towards RA certification; and two estates (both RA certified).

During the analysis of the quantitative and qualitative data comparisons were made between the different certifications, with the stage of certification change being taken into consideration in the interpretation of the results. Parametric tests (t-test) and non-parametric tests (Mann-Whitney test and Wilcoxon test) were used for continuous and categorical variables respectively to test the significance of differences between the various categories. For the comparison of results between the baseline and final surveys differences in 'static' characteristics, were tested using the T-test or Mann-Whitney tests. For some 'impact' variables, where it is expected to see change over time, the double-difference method was used to test whether the change is significantly different between the certification types.

The qualitative data arising from all the management, focus group and key informant interviews was tabulated prior to analysis. Important details relating to changes occurring in the pre-and post certification pipeline periods could be obtained from this data, along with descriptive reasons for changes, differences in opinions amongst groups, gendered perspectives, and management versus farmer member or estate worker perspectives.

During the study hypothetical theory of change diagrams were developed for the different certification types, focusing on the possible pathways of poverty impact flowing from the different standards. After the final survey, actual impact pathway diagrams were developed for the different certification types, detailing which inputs of the standards led to what outputs, outcomes and impacts.

Certification impacts on Kenyan Tea Smallholders

Overview of the focal smallholder producer organisations

The study worked with seven KTDA smallholder producer organisations (POs) and one outgrower organisation between 2009 and 2012. Initially this represented three non-certified KTDA POs, three FT certified KTDA POs and one RA certified PO and one FT certified outgrower organisation. However by March 2012 of the seven KTDA POs two of the FT certified POs were also RA certified (one was also Utz certified) and the outgrower organisation plus all the others except the already RA certified KTDA PO, were in the process of working towards RA or RA plus Utz certification by 2013. Membership of these KTDA POs ranges from 5,600 to 14,270 farmers, >70% of whom are male. Membership is increasing due to sub-division of the already small tea farms during inheritance. The FT outgrower organisation has 10,900 members, 78% of whom are male. The majority of the focal KTDA's were situated in the East of the Rift valley, only the RA-only certified KTDA PO and the FT outgrowers were situated in the West of the Rift valley.

Certification impacts on tea smallholders

Tea farming families are perceived as wealthier than the non-tea farming families in the area; having better houses, the ability to educate their children, better food and livestock. The wealth level of the tea farming families is influenced by the number and management style of the tea bushes they own. Tea farming is their main income earning activity, supplemented by dairy, horticulture and maize farming. The regularity of the year round monthly initial payment for green leaf (GL) is important in enabling tea smallholders to meet regular food, health and farming costs. Larger expenditures are paid for using the annual GL bonus payment. In the Kenyan tea zones most households grow tea, and adults from any households that do not have tea farms typically work as tea pluckers earning Ksh6-8/kg GL. However, the majority of pluckers are neighbouring tea smallholders (particularly women) who pluck on their neighbours' tea farms in between plucking rounds on their own farms.

It is typically the husband who is the registered member of the Producer Organisation (PO), and there can be problems regarding the fact that the tea income is paid into the registered member's account while much of the labour involved in producing the GL is provided by the wife. Financial planning training provided by RA to both men and women, is helping to address this problem and joint budgeting and expenditure decision-making is reported to be increasing. The male farmers said the women refuse to pluck the GL if they do not share the tea income. Diversification activities promoted by the certification standards have also provided alternative opportunities for women to earn income, in addition to plucking their neighbours GL which they do in return for daily cash payments that they use for meeting household food purchases. Increased food crop production as a result of these diversification activities also helps reduce expenditure on some food items.

The strict quality criteria, increased plucking frequency and crop husbandry trainings associated with the FT and RA certifications have led to improved GL quality and higher yields which translates to higher tea incomes particularly when the tea prices are high.

The amount outgrowers receive for the GL varies between estates, the FT certified outgrowers in this study were receiving a total of Ksh43.5/kg GL in FY2010/2011, while other non-certified outgrowers selling to RA certified estates were only receiving a total of Ksh17.5/kg GL. The KTDA members were receiving a total payment of between Ksh48-57/kg GL during the same period. The GL price difference between outgrowers and KTDA members is typically explained as being due to

the outgrowers being able to sell lower quality GL to the estates and therefore being able to pluck a lot more GL per day than if they had to follow the stricter KTDA plucking criteria.

Tea smallholder farmers in Kenya are perceived as relatively well off compared to other smallholder farmer types. Although the rising costs of food and agricultural inputs in Kenya and high world market tea prices are obscuring income benefits, farmers are gaining some income benefits as a result of certification. These income benefits are typically being invested in their children's education, better food, household and farm improvements, livestock, small shops, motorcycles and clothes.

Tea smallholders were generally aware of the content of standards in relation to tea production issues, quality and hygiene, relationships with management, working conditions and child labour, but did not know how much of their tea was sold as certified or whether certification had affected the marketing of their PO's tea, and there was some confusion about the principles of Fairtrade. Their hired labourers had heard of certification, but most did not know the details. The FT certified smallholders were aware of the FT Premium payment arrangement and most knew what community projects had been funded using the FT Premium funds. Although farmers' views about FT were positive, a few confused Fairtrade as being a good company (as opposed to a certification system). RA was strongly associated with 'being a body that encourages environmental conservation, proper waste management, rainwater harvesting, safe handling and storage of chemicals, and use of protective clothes'.

The cost of certification compliance for farmers can be divided into long-term investments and more regular (about every 3 years) investments. Long-term investments include the construction of chemical stores and household roof rainwater harvesting tanks and gutter systems and tree planting. Regular investments include a Personal Protective Equipment (PPE) kit which typically includes an apron, gumboots, gloves, and mask, many farmers perceive the kit as unnecessarily expensive as there are cheaper alternatives such as old fertiliser sacks which can be worn as aprons. Most farmers had also attended meetings and trainings in order to learn about the certification schemes. Farmers felt the benefits of being certified outweighed the costs.

In addition to improved GL quality and yields, adoption of more sustainable agricultural tea management practices and training in diversification activities, certification has also influenced many other aspects of tea smallholders' livelihoods. Improved incomes have enabled them to invest more in their children's education, with FT Premium investments also contributing through construction of improved school facilities (e.g. a primary school, school classrooms, roofs, latrines, kitchens, dormitories, teachers housing). The FT Premium funds have also been invested in building new dispensaries and maternity wings which have had positive maternal and child health impacts and saved women time from walking to distant health care services. Health benefits were also described as a result of farmer training on and implementation of safe use and storage of chemicals, with respiratory, skin and stomach problems having decreased. Pesticides are not used on tea, but many tea households spray their livestock and horticulture. Farmers say improved incomes and crop diversification activities are having nutritional benefits. Waste management has resulted in a cleaner and less hazardous environment, and the treatment of factory wastewater, soil erosion practices and protection of the riparian strips has reportedly led to improved water quality and flows in the nearby rivers. Increased natural forest and wildlife protection, tree planting activities and community awareness raising on environmental protection are enhancing the resilience of local ecosystems on which livelihoods depend. Improved collection centre facilities (e.g. concrete benches, water and electricity) help maintain GL quality post-harvest, together with increased farmer understanding of the importance of using baskets as opposed to sacks, and not overloading the baskets when plucking and transporting GL. There have been some changes regarding increased women's representation in PO collection centre committees, and in members' voice and representation in their POs. Increased interaction between PO staff and members have resulted in improved relationships and a greater feeling of ownership of the POs by their shareholder farmer

members. POs report an increasing although small trend in the number of women being given small areas of tea bushes by their husbands or fathers to register in their own names due to generally increased awareness on gender issues and women's right to own land. The increased income of tea farmers renders it easier for them to access larger loans from banks and SACCOs.

Tea smallholders say that certification has led to them treating their hired labourers better, by providing them with food and decent housing if they live with the host farmer, paying them regularly and helping them in emergencies. The RA audit process inspects every single member of the POs farm each year and workers payment records are checked during this. The hired pluckers report having received training from their certified host farmers on GL plucking criteria, maintenance of the plucking table, and budgeting. Some of them have attended certification linked training sessions on diversification, environmental protection, tea quality and husbandry, soil conservation, and chemical handling. However, they want the certification schemes to provide more training on livelihood diversification and to make the host farmers provide plucking aprons and pay their hired labourers an annual bonus. Tea smallholders and key informants reported that child labour was not a problem in smallholder Kenyan tea production, and that education was seen as the main priority for children and with the introduction of free primary education a few years ago it is rare to find children not in school during term time. Children do however, help their families pluck tea after school and in the holidays, there appeared to be confusion amongst farmers as to whether the certification standards allowed this or not.

FT certification results in buyers who want to declare their tea as FT certified paying the FT producer an additional premium of USD$0.5/ kg FT made tea. This FT premium is kept in a special account and managed by the POs FT Premium committee who ask the community to suggest and prioritise the development projects which it is used to fund. While the FT Premium investments depend on the amount of funds received, projects amongst the focal POs have included construction of: a new school, 3 classrooms, 2 teachers houses, 1 kitchen, 1 girls dormitory; 5 dispensaries, 2 maternity wings; secondary school bursaries for needy children; 3 water projects; concrete benches, water and electricity at collection centres; and partial purchase of a tea processing factory. This expenditure has led to increased access to schooling, health care, water, improved collection centres, and footpaths for tea farmers and the community. It has brought major time savings for women, and cost savings for members who no longer need to pay personal contributions to community projects. RA certification does not bring funds for such tangible developments and farmers associate it more with increased human and environmental health and knowledge due to its emphasis on less environmentally damaging farming methods, safer chemical use, and improved waste management.

Tea smallholders perceive the following as current challenges to tea production: increasing climate related yield losses; low initial monthly payment amount; high and increasing input costs e.g. fertiliser and labour; shortages of plucking labour and youth disinterest in tea farming work; old tea clones which have lower yields than the new clones now being produced; gender issues regards access to tea income; very small existing size of tea farms and the inheritance practice of sub-dividing land between the children; and delayed leaf collection by the PO.

Certification impacts on tea smallholders producer organisations

Several of the PO managers reported that their mindset has been changed due to certification regarding the importance of good relations with their members and staff, record keeping, and environmental and energy conservation. Management transfers between KTDA POs are common. When managers from FT or RA certified POs are transferred to non-certified POs this can help speed up the certification preparations, while when managers from non-certified POs are transferred to certified POs there are significant transaction costs as managers become familiar with the certification standards. The FT certified outgrowers association is recruiting an extension/ environmental officer to help them with farmer training as they prepare for RA certification.

Several of the POs have invested their tea income in substantial new processing equipment (e.g. boiler, CFU, drier, witherer, pre-sorting machine) during the last two years as a result of their certification linked heightened awareness on the importance of higher quality GL and in order to improve energy and cost efficiency. This increased automation in the factory has led to staff cuts. Most of the certified POs have recently replaced the old wooden GL sorting benches in the collection centres with concrete sorting tables which keep the GL cooler and are more easily cleaned. In FT certified POs the FT Premium has been used for these investments while in RA certified or those POs preparing for RA certification, a combination of farmers' contributions and PO funds have been used. Other improvement at the collection centre level include the introduction of electronic weighing scales which KTDA is encouraging as they increase transparency, accuracy and trust between members and the PO.

Managers at the RA and FT certified POs explained that due to certification they have become more proactive on enforcing high H&S standards amongst workers in the factory (e.g. ear protection, safety boots, gloves, masks, dust coats, emergency stop switches, training workers in fire-fighting skills, vaccinating all workers against typhoid, training workers on public health issues which are also relevant for their home lives, ensuring workers use hand washing and footbath facilities, regular and documented H&S committee meetings). Certification has also led to the introduction of staff training (in computers and driving) and credit programmes. Managers and factory workers said this resulted in workers feeling appreciated, becoming more motivated, fewer accidents and better relations between manager and workers.

Certification has also resulted in improved employment terms and conditions for factory workers, such as one rest day per week, paid sick leave and extended paid maternity leave. Enforcement of working hours and overtime limits mean that factory staff now know when their shift will finish, and are therefore able to better plan their home lives better, and are now paid on time and in cash. Most of these H&S regulations and working conditions are covered by existing legislation but were not being implemented prior to certification and regular auditing for compliance.

FT and RA certification were felt by managers to have increased their members' understanding of the point of electing responsible representatives, and of participating in meetings such as the AGMs. They also felt the annual certification audits and strict guidelines on FT Premium use have helped strengthen the culture of accountability. The increased training at the POs on the various topics (e.g. crop husbandry and GL quality, RA and FT certifications, H&S) related to the certification process has led to increased interaction and understanding between managers and members at the POs.

PO managers felt that certification training has increased women's participation in PO activities, with RA specifying that 30% of lead training farmers must be women and the FT Premium Committee also having to have female members. More women are being elected into collection centre committees, but there are none at board level yet. Women have benefitted from many of the FT Premium projects, and RA has raised awareness about the dangers of women doing chemical spraying, and increased women's knowledge of environmental and financial management issues during its training. However, most POs said they did not have a gender policy and were not aware of how many of their members were male or female.

Overall, members were generally satisfied with the services provided by their PO, with the GL price being the aspect they were least satisfied with. A wide range of training sessions had been provided by the POs to their members, these included: tea husbandry (from nursery to plucking and marketing); farming of other crops (maize, coffee, tissue culture bananas, fruits, vegetables); safe use and disposal of chemicals and use of PPEs; savings; record keeping; financial management; first aid; HIV/AIDS awareness; medical insurance; construction of low energy stoves; solid waste management; bee keeping; fish farming; rabbit keeping; pig farming; livestock keeping; on-farm tree planting and tree nursery management; home hygiene and sanitation; protection of water catchment areas and riparian strips; cleanliness at the collection centre; healthy nutrition; food

security; and latrine building. Although the first KTDAs to become RA certified did so following a three-year-long FFS programme funded by Lipton and DFID, it is now KTDA and not RA who are introducing the FFS approach. Whilst RA perceive FFSs to be an excellent training and empowerment approach, they need to ensure that every single farmer registered at the PO has been trained and audited prior to certification, which would take too long using an FFS approach (which could initially cover only about 420 farmers per year with the current 7-8 Tea Extension Services Assistants per factory). RA is therefore using a lead farmer training approach in order to ensure all the several thousand members have received training on the main certification principles and criteria prior to RA certification. Farmers are still keen for more training to be provided by their POs.

Certification helps to attract new buyers; this is particularly the case for RA certification. Lipton is an important buyer of Kenyan tea and their statement that by 2015 they will only purchase sustainably produced tea has driven the rapid expansion of RA certification in the Kenyan smallholder tea sector. While the expansion of the FT certified tea market has not been as rapid as FT producers had hoped, they have managed to complete valued and important community projects using their FT Premium funds. It was suggested that when world tea market prices are high, the addition of the FT Premium amount of USD$0.5/kg makes tea purchases extremely expensive for buyers. The focal FT certified POs all sold less than 10% of their FT made tea as FT declared tea which earned a FT Premium and many of these purchases are retrospectively certified. However, FT Africa staff report that other buyers are actively sourcing FT produced made tea in order to reduce supply chain risks but are not marketing their packaged tea as FT certified and therefore not paying a FT Premium for it. Only one RA buyer was paying an additional payment of USD$0.1/kg for RA declared tea. However, managers felt that even in the absence of a fixed premium the increased quality, yields and associated sales price and wider market access achieved by RA certified KTDA POs bring in important extra income.

Both certification standards emphasise increased efficiency during tea processing, this has resulted in workforce reductions; investment in new more automated machines such as controlled fermentation units; cladding of boilers; and improved drying and storage of furnace fuelwood.

The high recurrent certification and audit costs, are viewed by many POs as a burden along with the significant time costs of documentation, awareness raising, training and planning. POs are keen for the development of an umbrella certification process to help reduce the costs of multiple certifications (e.g. FT, RA, Utz, ISO). In addition to the recurrent costs, in preparation for certification the POs also had to cover the costs of: staff and farmer preparation meeting; replacement of asbestos roofing sheets and glass in the factory; waste water treatment systems; changing rooms and child care facilities; tree nurseries and firewood sheds. A few buyers have provided sponsorship to POs whose tea they buy, in the form of funding for farming training and to cover the farm audit costs, in order to help them become RA certified and secure the sustainability of their supply chain and their trading relationship.

However, the majority of Kenyan smallholder tea is sold through the Mombasa auction with no direct interaction between the buyers and the producers. Buyers do not typically place advanced orders or share their sourcing plans. Direct overseas sales increase both the transparency and prices obtained for made tea.

KTDA members are shareholders in their factories, and on average 75% of KTDA POs revenue is paid to the farmers. Outgrowers typically receive a lower per kg GL price than KTDA members as the outgrowers just supply the raw GL materials and are not shareholders in the factory. However the focal FT outgrowers association in this study has been using its FT Premium to purchase a tea processing factory from the multi-national company that they supply GL to, they plan to then hire managers of that company to continue managing the factory and receive shares as a result of the value added through processing of their GL into made tea.

PO management identified the main challenges for their organisations in the future as including: energy costs and availability; climate variability and change; value chain and markets e.g. volatile

prices and dependency on particular export markets plus lack of bargaining power; lack of clarity on policies and interference by government; structural issues such as youth exiting agriculture, land fragmentation, and gender discrimination.

Training and investments in sustainable agricultural practices and wildlife and riparian strip protection, tree planting, rain water harvesting, waste management, and more efficient energy use represent important investments in ecosystem services for the future. The managers' views on environmental protection impacts were similar to those mentioned above by the farmers.

A summary of the actual certification driven changes and pathways of impact found in Fairtrade and Rainforest Alliance certified Kenyan tea smallholder systems are presented in Figures a and b below.

It is estimated that about 480,000 (85%) of the 560,000 KTDA smallholder tea farming households are already RA certified, with a target of 100% by end of 2013. About 18% of KTDA smallholder tea farming households are already FT certified, it is likely that many of these FT certified POs have now additionally become RA certified. 7 outgrower organisations in Kenya are reported as FT certified, and 17,752 tea outgrower households are reported to have been RA certified by Dec 2012. If the certification driven changes found in this small study are being duplicated by all the other certified tea smallholders, certification will undoubtedly be leading to important socio-ecological benefits for Kenya's tea smallholders and surrounding communities.

Figure a. Actual impact pathway for Fairtrade certified tea smallholders in Kenya

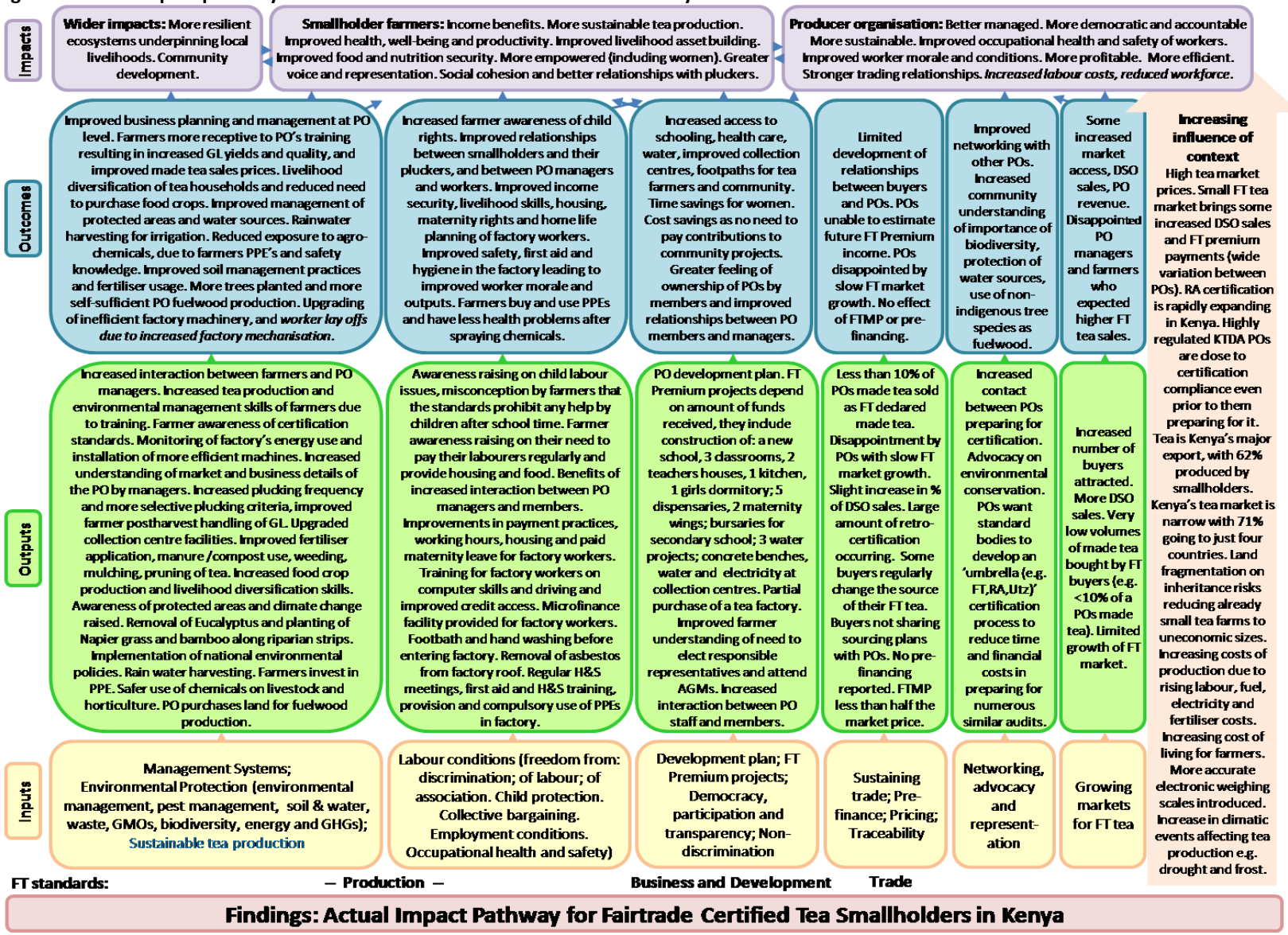
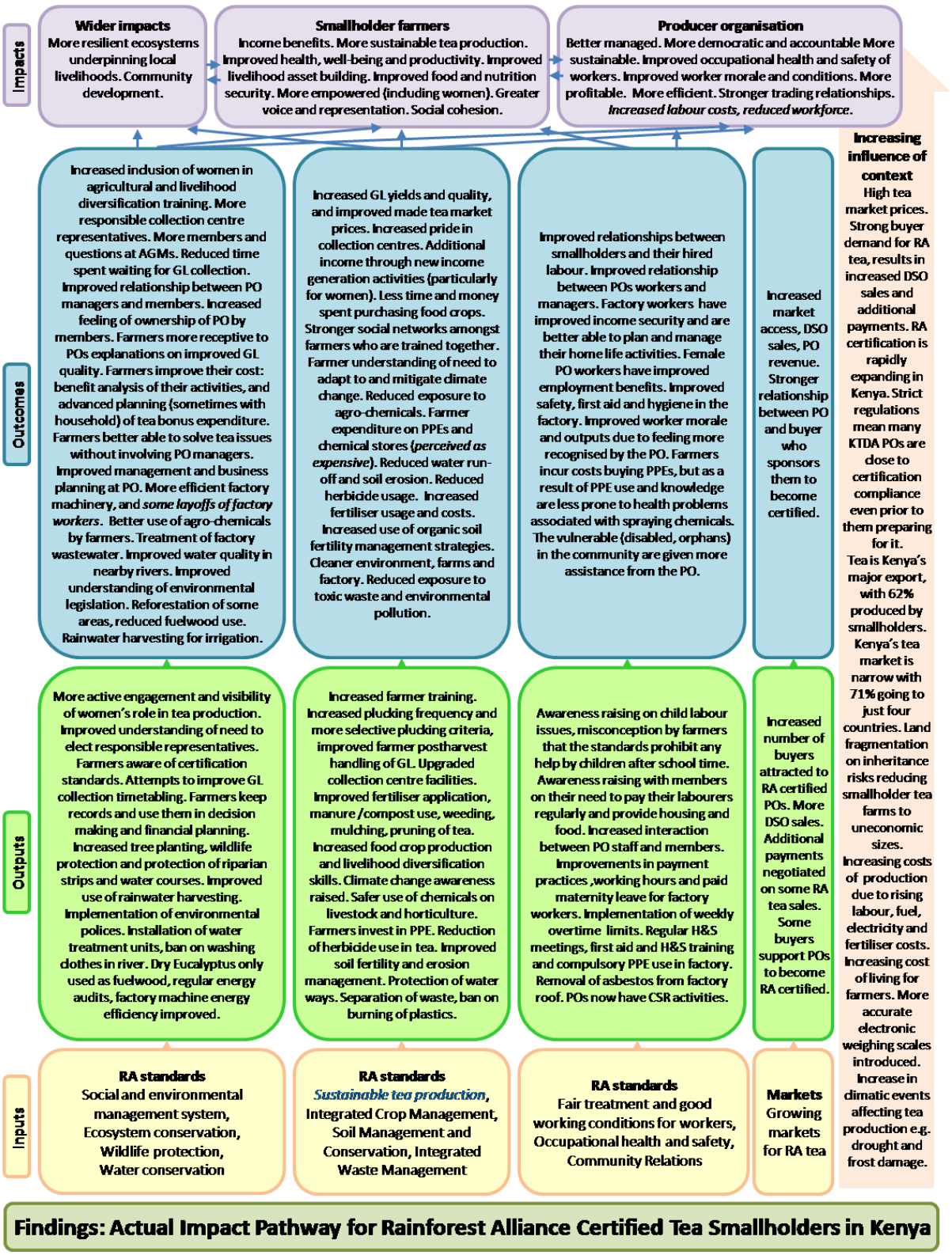


Figure b. Actual impact pathway for Rainforest Alliance certified tea smallholders in Kenya



Certification impacts on Kenyan Tea Estates

Overview of the focal estates

Two Rainforest Alliance (RA) certified estates located in the West of the Rift valley participated in this study. They each have more than 1,400 ha of their own tea fields and also purchase green leaf (GL) from outgrowers. Both the estates chose to become RA certified for market access reasons, one of these estates (RA 1) obtained RA certification in 2009 prior to the baseline study, the other (RA 2) a few months after the baseline in 2010. A dual certified (FT and RA) estate of 5,000 ha which had obtained FT certification for a quarter of its tea fields in 2007, and had later obtained RA certification for all its tea fields, participated in just the baseline survey of this study.

The tea estate workers are typically classified as either graded or ungraded, and the ungraded workers may be permanent or seasonal. Graded jobs include supervisors, clerks, drivers, medical staff and nurses and these positions are all permanent. Ungraded workers include: pluckers; *kandoo/general work* (weeding, pruning, planting, maintenance, cleaning etc); factory workers who do the spreading, cutting, fermenting, drying, sorting, packing, maintenance, quality control; cleaners and office workers. For ungraded jobs there is no stepwise graduation, they all earn the same amount no matter how long they have been doing the job. Workers say it is very difficult for seasonal workers (e.g. pluckers) to become permanent workers, and that seasonal workers can be on a series of short contracts (of up to 6 months in length) for many years. The salaries for each worker category are negotiated in a collective bargaining agreement (CBA) between the Kenyan Tea Growers Association (KTGA) and the Kenyan Plantation Agricultural Workers Union (KPAWU) every two years. Seasonal workers pluck about 40-50% of the estates' GL, 50% of whom are women, amongst the permanent pluckers only about 30% are female. About 80% of factory workers are male.

The workforce at both focal estates had decreased in size over the last 10 years. At the earlier RA certified estate, the number of field workers had decreased due to both the introduction of mechanised plucking five years ago and to natural attrition of hand pluckers. While their factory workforce had increased to cover the 40% increase in GL which they now process due to increased GL purchasing from outgrowers and the use of mechanical tea harvesting (MTH) machines which lead to larger amounts of GL being harvested each day.

Certification impacts on tea estate workers

RA standards criteria are having impacts on GL quality, tea husbandry practices, GL handling and transport. While stricter plucking criteria may result in a higher quality of GL, they can also result in reduced GL volumes and higher costs of production. However, the more frequent plucking rounds (e.g. every 7 days) introduced as a result of certification enables pluckers to pluck higher quantities of GL than previously. The GL quantities are highly weather dependent, and drought and frost can seriously reduce GL yields and pluckers and estates incomes, even leading to worker lay-offs on some occasions. The interaction of these factors influences the effects of certification on GL yields and workers incomes, making it difficult to generalise.

Tea estate workers reported that their tea estate income was their most important source of income, comprising about 74% of their total household income. Most workers have rural homes and farms which they invest some of their tea estate incomes in, and from which they access food crops and sales incomes. CBA negotiations ensure that workers wages increase by about 10% per year. Plucking rates increased from Ksh7.67/kg GL in Dec 2009 to Ksh9.28/kg GL in Dec 2011 following strong union negotiations and given the increasing cost of living and current high market price of tea. Workers estimated that their annual tea income was Ksh100,000 (USD$ 1,125) in 2011, with workers at the earlier RA estate earning significantly more (~Ksh110,000 per annum) than those at the more recently RA certified estate (~Ksh89,000 per annum). However, they still struggle to meet

their basic needs, with November to January being the most difficult period of the year financially due to school fees being due and planting inputs required.

Certification standards limiting overtime to two hours per day or 12 hours per week, have reduced incomes for guards, factory and office workers at the estates. While some female workers appreciated the additional rest and family time this provided, other workers were struggling financially as a result of these changes, especially those who had taken out loans based on their wage plus overtime incomes and were now unable to repay them. Pluckers are not affected as they are paid per kg and typically determine their hours to maximise their plucking returns. Some estates have had to change from two twelve hour shifts per day in their factories to three eight hour shifts, and have had to hire more factory workers as a result. In some cases it appears overtime is still happening but workers are receiving time-off-in-lieu instead of payment for it.

In general workers were satisfied with the amount and quality of food they ate, and typically ate two meals throughout the year. The increase in the number of meals taken per day during the long rains and the dry season in the last two years was greater at the earlier RA certified estate.

RA certification preparations have helped ensure estate workers are aware of their rights. Sexual harassment is now a sackable offence and is reported to have decreased. Women's safety has also been increased by installing outside lighting in the living camps. Gender awareness is increasing in Kenya, and women now play a greater role in tea estate workers' committees, and a few managers are female. However, there are very few female field supervisors which women workers say prevents women's issues from being addressed by estate management. Whilst manual plucking is done by men and women, other jobs such as factory work, pruning, and mechanical tea harvesting (MTH) operation are typically seen as men's jobs. Due to RA certification awareness raising, one RA certified estate has been trying to increase the number of female factory workers it employs. Estate managers said there had been no forced labour or child labour on estates for many years, and RA certification has not influenced this.

Most workers voluntarily belong to the Kenyan Plantation Agricultural Workers Union (KPAWU), however, there has been limited interaction between the certification bodies and KPAWU regards tea labour issues despite the significant potential synergies. Union officers highlighted the trend of shrinkage of the tea estate workforces and increasing casualisation of employment and the often poor treatment of workers hired by contractors. Although managers at RA certified estates explained that any contractors they use have to meet the RA standards criteria. In addition to belonging to the Union, workers on most estates also organise funeral groups, hospital bill groups, savings groups, and bursary groups. They also have living camp committees, and due to RA certification the factory workers have committees for health and safety, food safety, fire-fighting and first aid, while field workers have a first aid committee.

Both permanent and seasonal workers at the RA certified estates have contracts. The workers work 6 days per week, with pluckers typically plucking from 7am to 4pm. Due to RA certification, factory workers now work an 8 hour shift as opposed to a 12 hour shift, and the estates have had to hire and house extra factory workers due to this change. Overtime has been limited to 2 hours per day or 12 hours per week. Despite the existing CBA agreements, estate workers report that it took certification to lead to the actual implementation of 3 months maternity leave, 2 weeks paternity leave, paid sick leave, and lighter duties for nursing mothers.

RA certification has also led to the provision of jugs of water in the tea fields for pluckers, who were previously just provided with one cup of porridge each day.

RA certification is credited by estate managers and workers with having had major impacts on occupational health and safety including the introduction of health and safety committees, risk assessment, personal protective equipment for workers, worker training on health and safety and first aid. As a result accidents in the fields and factories have reduced. It has also led to estates

providing more ablution blocks in the living camps and toilet blocks in the tea fields. The RA driven health and hygiene education programmes and cleaner living camps are thought to have led to a reduction in malaria and typhoid incidences and increased worker productivity and reduced sick leave payments for estates. Female pluckers report being less exhausted from carrying GL due to closer weighing stations, and they say domestic violence has decreased as a result of workers adopting RA values. However whilst most workers feel their health has improved in recent years, the MTH operators feel theirs has deteriorated due to the exhausting nature of the MTH work.

Certification has also led to improvements in workers' housing, including: repairs, repainting, changing of chimneys to reduce indoor smoke, these renovations have led to reduced crowding in houses, additional washing and toilet facilities have been built to meet the RA criteria. In the dual certified estate the FT Premium was used to invest in improving workers housing. However KPAWU officers warned that while workers houses may look beautifully newly painted on the outside, the inside can often remain in poor condition and workers can often live in very crowded uncomfortable conditions.

All the estates were now providing educational bursaries for some workers' children to go to secondary school as a result of certification, and one RA certified estate had also engaged the district education officer and parents and brought in new teachers which had dramatically increased the pass rates obtained by pupils. Childcare facilities and expertise has been increased on the estates due to RA and FT certification, the clinic on one of the RA estates has started running childcare courses for mothers which have been well received.

RA certification had increased the amount and type of training being offered to workers. Training topics included RA and ISO certification, tea production and plucking practices, health and safety, fire fighting, HIV/AIDs, hygiene, public relations and family life education. Pluckers seemed to have attended very few trainings, their per kg payment arrangement may make it difficult for them to attend training. Workers requested further training in the same topics, and also in financial management, livestock keeping, business skills and planning, tailoring, tree planting, improved cohesion amongst neighbours and sustainable household level agriculture.

Workers felt that certification had brought many positive changes to their lives including: cleaner living camps; improved housing; improved medical services including maternity and VCT units; security lighting; the enforcement of extended maternity leave, paternity leave and paid sick leave; more free time to spend with their family and look after the house due to working fewer hours; a healthier environment (rivers, river banks, forests, springs); improved waste systems; and improved communication and interaction between different levels of employees. However, they still felt their incomes were too low.

The workers did not want their children to work on tea estates when they grew up, due to the work being so laborious and the pay so low. They are investing in educating their children in order that they can find jobs off the tea estate.

Certification impacts on the tea estate companies

Estate managers credit their RA certification status with having improved: their market access, visibility and reputation; the environment on the estate; their management systems particularly the documentation, record keeping and traceability aspects. Some buyers have paid an additional payment for the RA certified made tea, which helps the estate meet the costs associated with becoming and remaining RA certified. One estate explained that prior to certification they had sold only 4% of their made tea through direct sales overseas (DSO), but in the year following RA certification they had sold 30% as DSO and this increase was due to the buyers wanting RA certified tea. DSO tea sales typically fetch an additional USD$0.15-0.3/kg than sales through the Mombasa auction. The DSO buyers are mainly from the UK and include Lipton, Tetleys, Betty Taylors of Harrogate, Keith Spicer, James Finlays, Twinings, and Thompson Lloyd & Ewart. Certification has

resulted in some buyers actually visiting the estates to personally check on the working, living and hygiene standards, which may result in stronger trading relations. In contrast the dual certified estate managers complained about the lack of growth in the FT certified tea market.

However, the more selective plucking criteria required by the certification bodies results in reduced GL volumes and increased costs of production, but also improves the quality of the GL and the price that the resulting made tea then fetches. The more frequent plucking rounds are said to lead to both higher quality GL and increased GL yields. The certification driven increased number of weighing points and improved leaf shed facilities (e.g. cement floors, raised concrete benches, and electronic weighing scales), and improved hygiene, motivation and training of factory workers all have positive impacts on the made tea quality.

RA certification has also led to the promotion of improved tea husbandry practices including: more frequent plucking rounds, manual weeding, leaving of the prunings as mulch on the bushes, maintenance of a flat plucking table to maximise yields, better fertiliser placement practices, and reduced fertiliser application times and practices, planting of flowers along the edges of tea plots to reduce soil erosion, creating drainage ditches to prevent soil run off from the tea fields. In the factories RA certification has influenced the increased use of PPEs and H&S training and accidents have reduced.

At the earlier RA certified estate plucking machines are being used on 24 of the 29 fields which has led to a reduction in the workforce size. One plucking machine operated by 4 people (typically 3 men and a woman) can pluck (500-600kg GL/ day) the equivalent amount of GL as 9 to 17 hand pluckers. Plucking machine use is also encouraging a trend of masculization of the plucking workforce. Workers dislike the plucking machines as they threaten jobs, and because the machine operators suffer serious health issues, and the GL may be contaminated with chopped up pieces of chameleon which affects the taste and quality of the resulting made tea and potentially the reputation of the estate. Managers at this RA certified estate saw opportunities for reducing the costs of production by increasing the number of plucking machines used. While the more recently RA certified estate managers said they were going to remain with manual plucking as the GL quality was so much higher but wanted to increase the efficiency of the machines in their factory, in order to reduce production costs. Future challenges to tea estate production are identified as increasing labour, electricity, fuel wood costs and climate change. Some estate managers thought that in future, political issues might also arise regards ownership of such large areas of land.

The certification requirements to handle and process certified and non-certified products separately increase costs, and together with demands from buyers for made tea which combines both the estate and the outgrowers' clones in order to maximise its flavour, act as a strong incentive for estates to help their outgrowers become certified. 55% and 33% of the made tea at the earlier and more recently RA certified estates respectively is from GL purchased from outgrowers. The earlier RA certified estate has 135 registered outgrowers, 87 of whom the estate helped to become RA certified in January 2012, the other outgrowers are now working towards certification. Additionally this estate has 17 smallholder outgrower groups who have signed a joint contract to supply a certain amount of GL to the factory. None of the outgrowers at the more recently RA certified estate are RA certified, although there are plans underway to help them become RA certified. Some estates seem to be assisting the larger outgrowers whom they purchase the most GL from, to become certified first; this practice may have exclusionary effects.

The management workload associated with becoming and maintaining certification is costly for the estate. Although certification processes including the increased number of worker committees have led to a more open and participatory style of management and improved relations between management and workers. The introduction of training programmes for workers (particularly factory workers) is appreciated by workers, and managers felt that certification led to workers being more enlightened about tea quality, H&S and workers rights and responsibilities, which then makes

management work easier. The acquisition of appropriate PPEs (particularly for factory workers), and increased training on occupational health and safety aspects is appreciated by workers, and has reduced worker accidents in the field and factories. Training for all workers on health and hygiene has been appreciated, and workers credit it and the now cleaner environment with having reduced incidences of malaria and typhoid, resulting in increased worker productivity and reduced sick leave payments. However, the certification related overtime limits have negatively affected the incomes of factory and office workers, guards and drivers, and resulted in the estate having to hire and house additional workers. Although some workers, particularly women, are pleased to have to work less and have extra time to spend with their children and on their household activities.

The RA certification standards have deterred tea estate pluckers from being helped by their older children and instead these children have now been enrolled in secondary school. Estate managers reported there was no use of child labour on their estates, and that this went for their contractors as well who are also audited for RA standards.

Neither estate had calculated the costs associated with becoming and maintaining their RA certification. Some major costs include: infrastructure changes, awareness raising, signage, worker training, outgrower training, audits, documenting, waste management systems, shower and chemical store construction, marking out the protected areas, and bin partitioning in the factory to help with product traceability. Other recurrent costs include management of the systems, auditing and certification and communication systems. The earlier RA certified estate explained that its audit and certification costs for the estate and 87 outgrowers came to USD$13,000/yr in 2011. They try to recover these costs through additional payments from buyers for the RA certified tea.

RA certification has also led to improved relationships between some tea companies due to them now having certification issues to compare and talk about, e.g. how to manage the RA overtime rule. Companies visit each other to learn about preparations for outgrower RA certification, and RA held a workshop for estate managers to share their experiences on this issue.

Estate managers and workers credit RA with having helped them improve the environment on the estate. In addition to reducing soil erosion and use of industrial fertilisers in their tea fields, the certified estates have both implemented and done local community awareness training on other environmental conservation practices, such as: setting up tree seedling nurseries and providing these to the local community, planting trees and protecting the riparian strips, using only Eucalyptus as fuel wood for the furnace and drying it well to maximise its calorific value, implementing hunting and fishing bans on the estate and setting aside designated land for wildlife protection, treating all wastewater, monitoring river water quality for evidence of chemical or soil run-off, monitoring siltation in dams, reducing their water and energy usage, reducing herbicide use, separating and disposing of waste carefully, improving the operating efficiency of their machinery.

Some of the RA certification standards require specialised technical expertise (e.g. in soil conservation knowledge) to determine which practices should be applied in their specific situation, and not all estates have such expertise. Managers suggested it would be helpful if RA provided a field officer to assist those preparing for RA certification in deciphering the RA standards and suggesting necessary changes to practice as opposed to just coming to audit the estate.

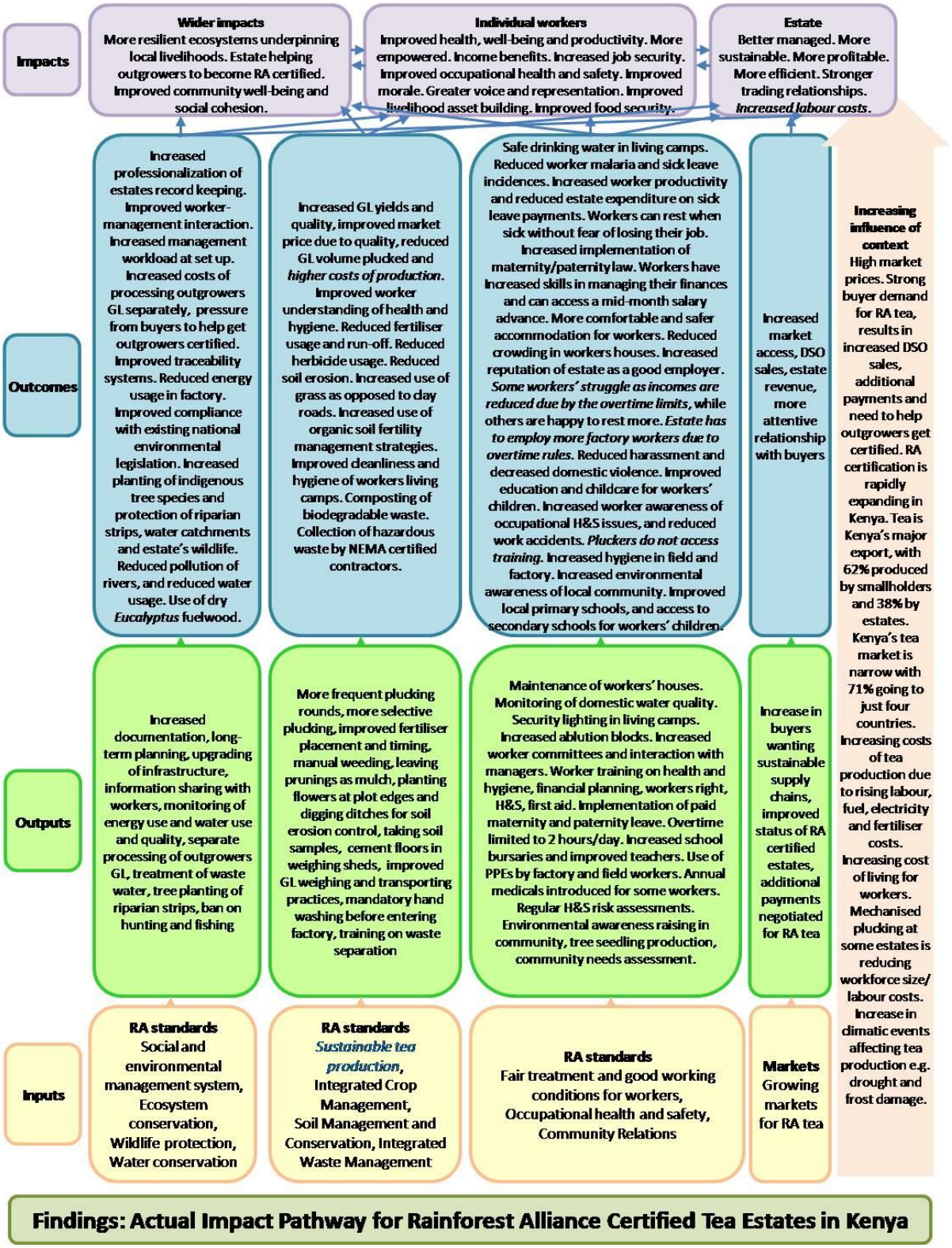
These environmental activities are leading to benefits for the wider community, including cleaner rivers and increased environmental awareness, local communities also benefit from the certification driven investments in primary and secondary schools. Improvements to workers living and working conditions on certified estates are driving other tea estate workers on non-certified estates to demand better services and working conditions.

Untangling which changes are attributable to what can be a complex process. This study found that whilst national policies and regulations may already exist they may not be being implemented until the estate becomes certified and is then forced to implement them due to the regular monitoring by

the certification audit. Examples include the extension of paid maternity leave to 3 months, introduction of paid paternity leave, paid sick leave, and protection of riparian strips.

A summary of the actual certification driven changes and pathways of impact found on Kenyan tea estates is presented in Figure c below.

Figure c. Actual impact pathway for Rainforest Alliance certified tea smallholders in Kenya



1. INTRODUCTION

As social and environmental voluntary standard systems (SEVSS), such as Fairtrade and Rainforest Alliance, become increasingly common there is a need to understand better what differences they are making to the livelihoods of workers and smallholder producers in global value chains. To date, there is limited systematic evidence available on the impact and development potential of such standards and donors, the media, NGOs, academics and development practitioners are keen to change this situation.

DFID has funded this four year project to assess the poverty impact of voluntary standards. The project is led by the Natural Resources Institute (NRI), of the University of Greenwich, working in collaboration with in-country partner organisations. In Kenya the lead partner organisation is Matrix Consulting.

The overall objective of the study is: *'to systematically examine the impact of voluntary social and environmental standards on poverty and livelihoods, particularly for the most disadvantaged workers and producers in developing countries'.*

The study was designed to compare certified and non-certified tea producer groups and estates over a period of time (longitudinal study), using data collected during the baseline study (early 2010), light monitoring exercise (early 2011) and final field study (early 2012). A wide range of factors were examined which could affect tea smallholders and estate workers, including the voluntary standards certification requirements and external factors such as changes in the legislation, or commodity price fluctuations. Using the initial findings a theory of change was developed in 2011 to hypothesise the ways in which the particular standard systems in question would lead to poverty impact amongst workers and producers (e.g. through the provisions of their standards, as well as additional support in terms of training and capacity building, sharing of market linkages, use of Fairtrade premiums etc).

Some of the key questions on impact which have been explored include:

- To what extent do voluntary standards have an impact on poverty?
- Do they reach the most disadvantaged groups?
- To what extent do both men and women participate and experience benefits?
- What types of impact are experienced by individual producers/workers; producer organisations and estates?
- Which elements of the standards are creating positive impact?
- What are the wider impacts, for example, on markets, communities, policy, migration patterns and rural social change?

The project does not only focus on tea in Kenya. At its commencement, sampling frameworks were developed to enable the selection of commodities, locations, and participating organisations. Two commodities were selected – tea and cocoa – and each was studied in two countries (Table 1.1). Despite tea and cocoa being widely certified, existing studies of voluntary standard impact were rare outside of Latin America. This was an important factor in their selection for this study. The researchers sought to cover smallholder, outgrower and hired labour and large-scale estate workers wherever possible. In some instances access was not secured because the relevant organisations did not agree to participate or because the required comparison was not available.

Table 1.1 Study sample

Country	Commodity	Sector	Participating groups
Kenya	Tea	*Smallholders*	Certified (FT and RA) and Non- Certified
		Outgrowers	Certified (FT) and Non-Certified
		Estates	Certified (FT and RA) and Non-Certified
India	Tea	*Estates*	Certified (RA) and Non-Certified
Ghana	Cocoa	*Smallholders*	Certified (FT) and Non- Certified
Ecuador	Cocoa	*Smallholders*	Certified (FT and RA) and Non- Certified

Key: FT = FLO Fairtrade; RA = Rainforest Alliance

The research project assessed both the positive and negative impacts of the standards using qualitative discussions with managers, workers, farmers, farmer's hired labourers, community leaders, and other key stakeholders and informants in addition to quantitative data collection through the use of questionnaires with large numbers of individual smallholders or estate workers. This report presents the findings of the Poverty Impacts of Social and Environmental Voluntary Standard Systems (SEVSS) in Kenyan Tea.

2. METHOD

The '*Poverty impact of social and environmental voluntary standard systems in Kenyan tea*' study was based on three field surveys with non-certified and Fairtrade (FT) or Rainforest Alliance (RA) certified Kenyan tea smallholder producer organisations and tea plantation estates. The baseline survey in March 2010 (see Kleih *et al*., 2010), the light monitoring study in March 2011 (see Stathers *et al*., 2011) and the final survey which was conducted during January and February 2012. Quantitative (formal questionnaires) and qualitative (checklists) research tools and methods were developed for the baseline study, and were adapted to capture additional information, including detailed production costs, during the light monitoring. The final field survey used similar questionnaires as the baseline study and more developed checklists in order to assess the degree of change within and across the certified and non-certified groups and to build up an understanding of the processes of change which had occurred.

Between 2010 and 2012, Rainforest Alliance (RA) certification expanded rapidly within the Kenyan tea sector. This made it difficult to maintain the clear comparison between certified and non-certified tea producer groups over the course of the study, as in 2010 most of the non-certified smallholder tea producer groups and tea estates in Kenya began working towards achieving RA certification. The findings explain how this has been managed in the analyses in order to learn more about the changes that the processes of working towards, achieving and maintaining RA or FT certification bring to smallholder producers and tea estate workers.

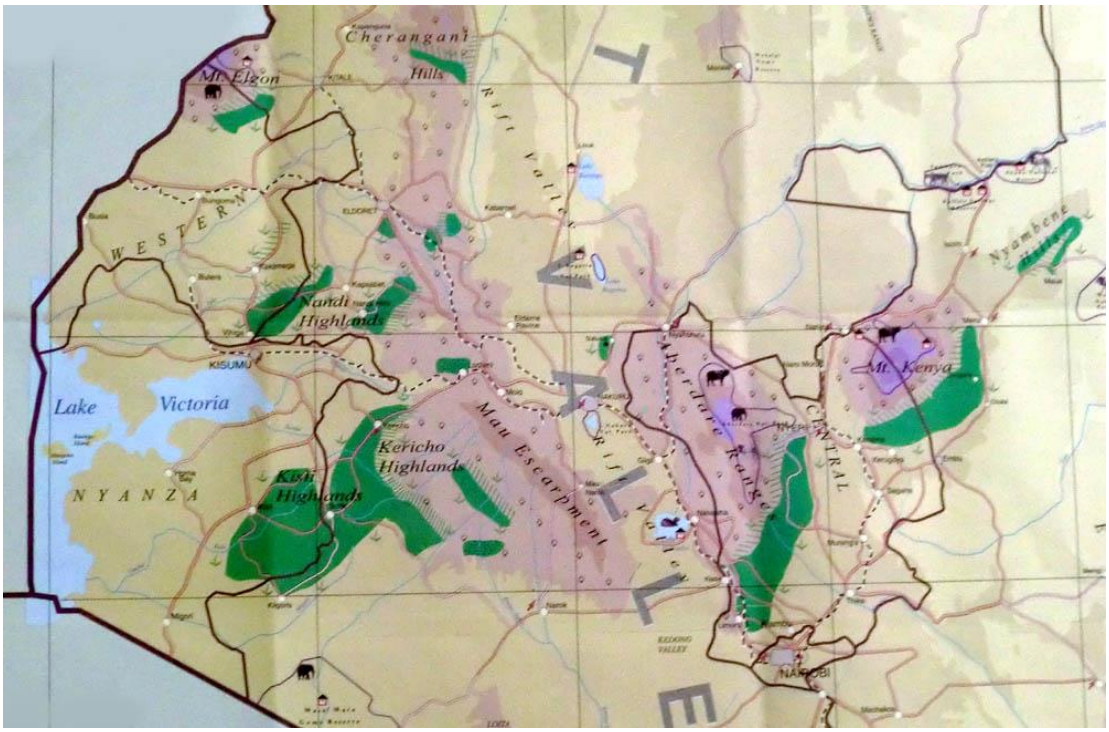


Figure 2.1 Map showing the Kenyan tea growing regions (in green) East and West of the Rift Valley
(Source: photo of KTDA Map)

Participating organisations*:* In order to understand changes over time as a result of the certification standards, the final study worked with the same organisations that participated in the 2010 baseline study.

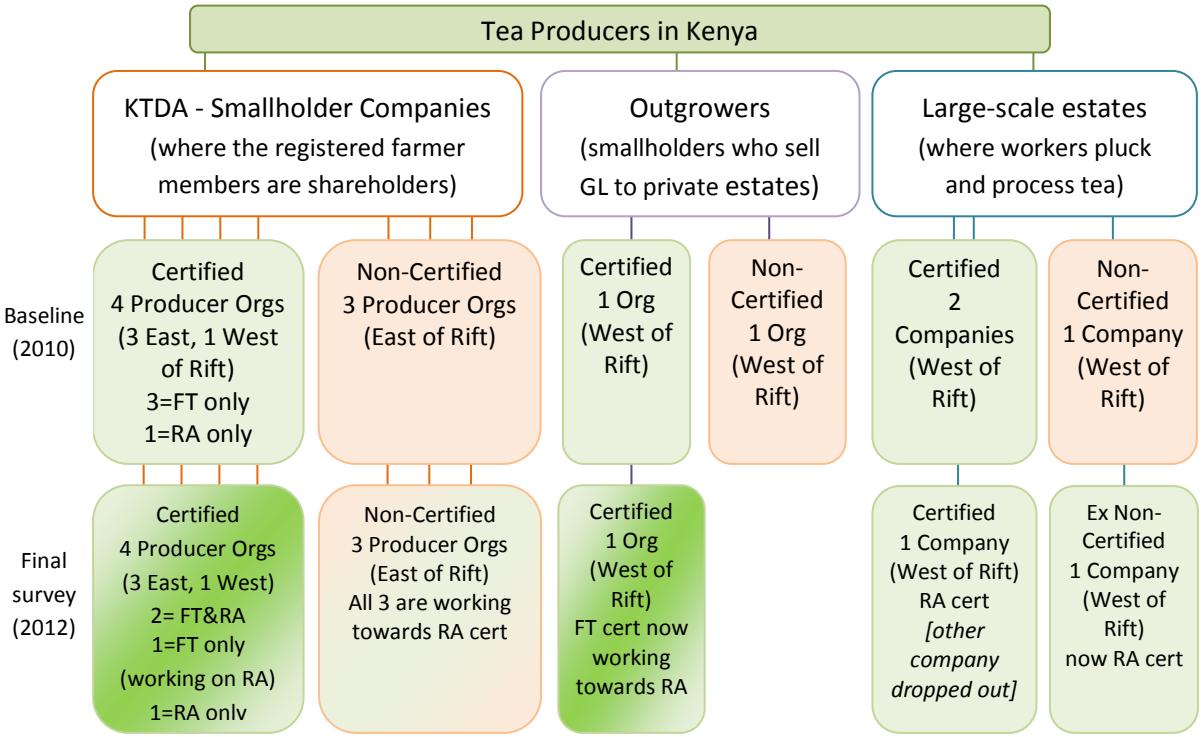
At the start of the study, KTDA agreed to participate if they could provide a short list of KTDA POs for the study to select the focal KTDA POs from. The short-list included five FT certified and five non-certified KTDA POs all located in the East of the Rift Valley (see Fig 2.1), from which three of each were selected for the study. Criteria used by KTDA for short-listing POs were mainly linked to the

economic performance of the PO (e.g. price obtained for their made tea). The six POs sampled included two well-performing POs and four medium performing POs. The three FT certified and three non-certified KTDA POs were presented in pairs belonging to the same region, which was expected to facilitate data collection. In addition KTDA selected the FT certified POs based on the level of FT Premium payments they were receiving in order to have a range. Budgetary and logistical considerations also played a role in selecting the final six KTDA companies based in the East of the Rift valley. The decision to include the RA certified KTDA PO in the West of the Rift valley occurred slightly later when it proved difficult to identify RA certified estates willing to participate in the study. All seven focal KTDA POs were visited during the baseline and the final survey, and five were also visited for the light monitoring.

Three estates participated in the baseline survey, and two in the final survey, and the non-certified estate became RA certified shortly after the baseline. An additional non-certified estate was visited during the light monitoring to help provide context.

However, as mentioned above, several of the 'FT only' certified smallholder producer organisations (POs) at baseline stage had additionally become RA certified by 2012, and all of the non-certified POs were in the advanced stages of working towards their RA certification (see Table 2.1). The non-certified estate had also become RA certified during 2010. These changes made the originally planned comparison of certified versus non-certified organisations problematic for some categories. Additionally, despite many requests the dual (FT&RA) certified estate pulled out of participating in the final study. Further, as the non-certified outgrower group included in the baseline were the outgrowers for this same estate, the study team were also unable to collect comparative data from them in the final survey. An overview of the types and numbers of organisations involved in the baseline and the final study is shown below, highlighting the increasing trend of RA certification during the study (Figure 2.2).

Figure 2.2 Overview of the Kenyan tea producing organisations involved in the baseline and final SEVS impact study



Key: GL = green leaf; FT=Fairtrade; RA=Rainforest Alliance. Note: in addition to certification status changes by 2012, one estate company dropped out and this meant it was also not possible to access the non-certified outgrowers who supply them and who were part of the baseline.

All data was analysed in a confidential manner, and codes have been used to identify just the certification status and organisation type (e.g. smallholder SH, outgrower OG or estate Est).

***Research tools*:** The Kenyan baseline and final studies used both qualitative and quantitative research methods (see Table 2.1 for an overview).

Qualitative research methods used: At each smallholder PO or estate in-depth management interviews were held; followed by single sex focus group discussions (FGDs) with PO members/ smallholder tea farmers or estate workers. During the baseline study interviews were also held with key informants linked to certified smallholders or estates (e.g. factory unit managers, premium committee members, buying centres, supervisors); community leaders linked to certified smallholders (e.g. area chiefs, headmaster, elder); and case studies with the hired labour on certified smallholder farms or ex-workers from certified estates. In the final survey, additional focus group interviews were held with hired workers of smallholder tea farmers, and factory workers at the smallholder POs. The focus groups typically comprised 10-15 people, who were representative of the typical age range and gender of that focus group. The management interviews usually included at least three of the PO's managers (field, factory and either the accountant or human resources). At the estates the focus groups were organised to include a good representation of: pluckers (who make up the bulk of the workforce) and permanent and temporary/seasonal workers. Men and women's focus groups were held separately. Management were not present during the estate workers' discussions. A field extension worker was often present during the smallholder farmer focus group discussions. Management and key informant interviews were conducted in English, while the focus group discussions were done in Swahili or Kikuyu.

A few knowledgeable key informants (e.g. academics familiar with the subject, certification standards staff, KTDA Head Office, and trade union staff) were also interviewed during the light monitoring and final surveys. Separate checklists for each of the interview groups were developed by the NRI study research team (Valerie Nelson, Adrienne Martin, Uli Kleih and Tanya Stathers) in advance of the field work, and for the final study relevant data collected during the baseline for each specific organisation was incorporated in the checklist to ensure the information collected in 2012 built on that discussed in 2010. Due to their length, these checklists and the questionnaire are not included in this report, but can be obtained from the project website www.nri.org/projects/tradestandards/index.html or by email from t.e.stathers@gre.ac.uk.

In between the baseline and the final survey, a light monitoring visit was made to seven of the organisations, to provide feedback from the baseline survey, fill any outstanding information gaps, and to maintain contact with the participating organisations. During the light monitoring visit qualitative key informant interviews were also held at an additional non-certified estate working towards RA certification with management, estate workers and outgrower groups to deepen the contextual understanding of the study.

Quantitative research methods used: The questionnaire survey was conducted with 897 respondents (from 12 organisations) during the baseline survey, and 700 respondents in the final survey (see Table 2.1 for breakdown). The respondents included smallholder farmer members of the 7 focal KTDA companies, or outgrower farmers or estate workers from the two focal estates. The questionnaires cover a number of indicators including: tea income and its importance to the household's livelihoods, green leaf production and prices, food security, recent changes in their tea production systems, investment of tea income, certification knowledge, tea smallholders hired labour arrangements, perceptions of the services provided by their producer organisations or employers, recent changes in household assets and situations. The questionnaire interviews were done in either Swahili or Kikuyu languages as appropriate.

Table 2.1. Overview of data collected during the Baseline, Light Monitoring and Final Survey

Type	East or West of the Rift valley	Code	Certification at		Jan-Feb 2012 Final Field Survey						Mar 2011 LM		Feb 2010 Baseline survey data							
			Baseline (2010)	Final (2012)	Management Int	Women FGD	Men FGD	SH Hired labourers	SH factory workers	Questionnaire	Management Int	Mixed FGD	Management Int	Mixed FGD	Women FGD	Key Informant	Community Leader	Household Case Study	Hired Labour/ *Ex worker*	Questionnaires
Certified smallholder orgs.	East	FT-SH-A	FT (2006)	FT & RA (2011)	✓	✓	✓	✓		50			✓	✓	✓	✓ (1M) Tea factory	✓ (1M) Headmaster	✓ (1M)	✓ (1M) ✓ (1F)	50
	East	FT-SH-B	FT (2007)	FT & RA & Utz (2011)	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓ (1M) Factory Unit Mgr	✓ (1M) Area Chief	✓ (1M)	✓ (1M) ✓ (1F)	50
	East	FT-SH-C	FT (2007)	FT & working towards RA	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓	✓ (1M) Premium Com	✓ (1M) Member	✓ (1M)	✓ (1M) ✓ (1F)	50
	West	RA-SH-A	RA (2009)	RA	✓	✓	✓	✓	✓	100	✓	✓	✓	✓	✓	✓ (1M) Buying Centre	✓ (1M) Elder	✓ (1M)	✓ (1M)	100
	West	FT-OG-A	FT (2007)	FT & working towards RA	✓	✓	✓			100	✓	✓	✓	✓	✓	✓ (1M) Committee chair	✓ (1M) Chief	✓ (1M)		100
Non-certified smallholder orgs.	East	NC-SH-A	/	working towards RA	✓	✓	✓	✓		50			✓	✓	✓			✓ (1M)		50
	East	NC-SH-B	/	working towards RA	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓			✓ (1F)		50
	East	NC-SH-C	/	working towards RA	✓	✓	✓	✓	✓	50	✓	✓	✓	✓	✓			✓ (1F)		50
	West	NC-OG-A	/		X	X	X	X	X	X	X	X	✓	✓	✓			✓ (1M)		100
Certified Estates	West	FT &RA-Est-A	FT & RA		X	X	X	X	X	X	X	X	✓	✓	✓	✓ (1M) Supervisor		✓ (1F)	✓ *(1M)*	100
	West	RA-Est-A	RA (2009)	RA	✓	✓	✓			100			✓	✓	✓	✓ (1M) Assistant Chief		✓ (1F)	✓ *(1M)*	100
Non-certified Estate	West	NC-Est-A	/	RA (2010)	✓	✓	✓			100	✓	✓	✓	✓	✓			✓ (1F)		100

Key: SH=smallholder, OG=Outgrower, Est=Estate, NC=NonCertified, RA=Rainforest Alliance, FT=Fairtrade

Sampling of respondents for the individual questionnaires:
Smallholders*:* During the baseline survey, the enumerators were dropped at various collection centres in at least 3 of the 6 electoral zones of each of the focal KTDA Producer Organisations (POs). These enumerators sampled every 5th household that they came across creating a total sample of 50 questionnaires per FT or non-certified KTDA PO, and 100 questionnaires at the 1 RA certified KTDA PO (see Table 2.1). To replicate the exact sample of households visited in the baseline during the final survey would not have been possible within the time and resources available. So using a list of which collection centres the baseline survey respondents took their GL to, and what gender they were, a sampling plan for the final survey was created. For example, if in the baseline survey 5 people (3 women, 2 men) were interviewed who took their GL to Collection Centre X, then during the final survey one of the enumerators was dropped in the catchment area of farms which deliver their GL to Collection Centre X, and starting at a randomly selected house, the enumerator carried out the interview and then went to every 5th house making sure they interviewed a total of 3 women, 2 men from that collection centre area. If the house was empty or the residents did not want to be interviewed the enumerator then walked to the next house. As the tea farms are typically in fairly steep areas, the farmers usually locate their houses not far from the roads which run along the ridges of the hills with their tea farms running down into the valleys on each side.

Outgrowers: A similar sampling method was used for the 100 outgrowers interviewed per focal organisation during the baseline survey, and was repeated for the final survey.

Estate workers: Using the baseline survey data a table for each company was created detailing which types and genders of workers were interviewed there. This table was used in the final survey to ensure the types and gender of the 100 workers interviewed per company were comparable to those who had been interviewed during the baseline. For example: if 12 male permanent factory workers, 6 female permanent hand pluckers were interviewed in the baseline we repeated that selection. For the pluckers interviews, the enumerators would go into the tea field and randomly select the pluckers (making sure they covered the same number of men and women as in the baseline), for the administration clerks and factory workers, the Companies' managers organised which of these would be interviewed first, then when that interview finished that worker fetched the next worker.

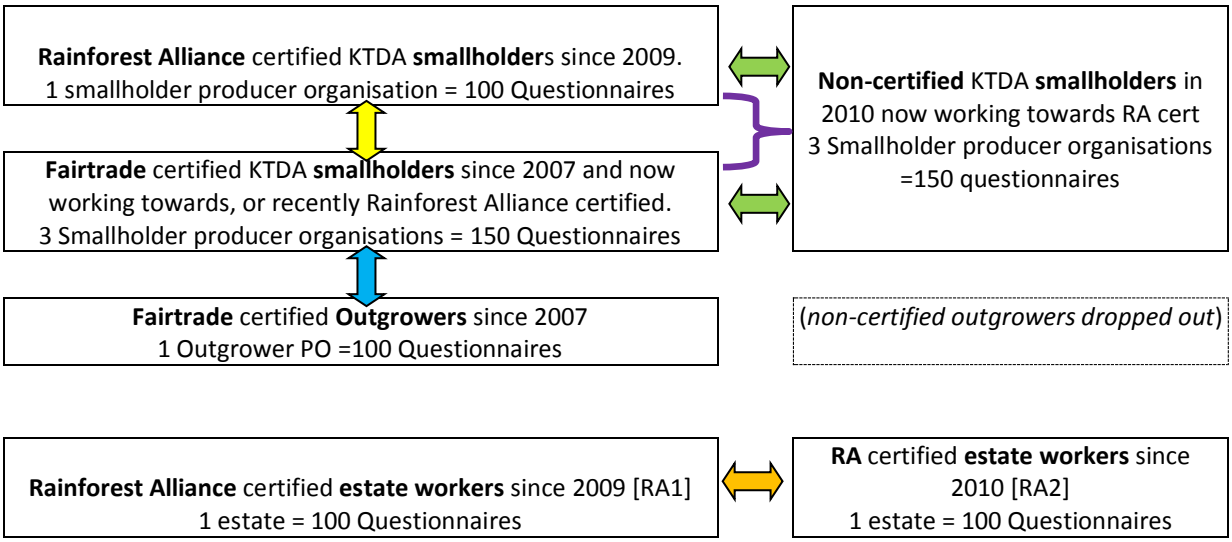
Data analysis:
The quantitative analysis of the smallholder and outgrower questionnaire data (see Fig 2.3) was conducted examining comparisons between:

- KTDA non-certified smallholders and KTDA certified smallholders *[purple bracket];*
- KTDA non-certified smallholders and KTDA RA certified smallholders *[green arrow]*;
- KTDA non-certified smallholders and KTDA FT certified smallholders *[green arrow]*;
- KTDA RA certified smallholders and KTDA FT certified smallholders *[yellow arrow]*;
- FT certified outgrowers and KTDA FT certified smallholders *[blue arrow]*.

Due to the increasing trend of RA certification within the focal organisations, the initially planned comparison of certified versus non-certified required some modification by the time of the final survey. A comparison of certified and non-certified outgrowers was not possible in the final survey as the non-certified outgrowers could no longer be accessed since the dual certified estate they were supplying with green leaf (GL) had dropped out of this study.

Comparisons between the questionnaire data collected from the two estates were made, although the 'non-certified estate' had become RA certified in July 2010 shortly after the baseline. This 'cross over' regarding certification status makes it difficult to attribute impacts to certification since it blurs the distinction between the 'intervention' and the 'control' group. As a result for estates the comparison focused on the different lengths of certification ('RA since 2009' [RA1] versus 'RA since 2010' [RA2]) as opposed to certified versus non-certified *[orange arrow]* (Fig 2.3).

Figure 2.3 Overview of quantitative analyses comparisons



The questionnaire data was entered into a pre-designed Access database, checked and cleaned, and then analysed using SPSS.

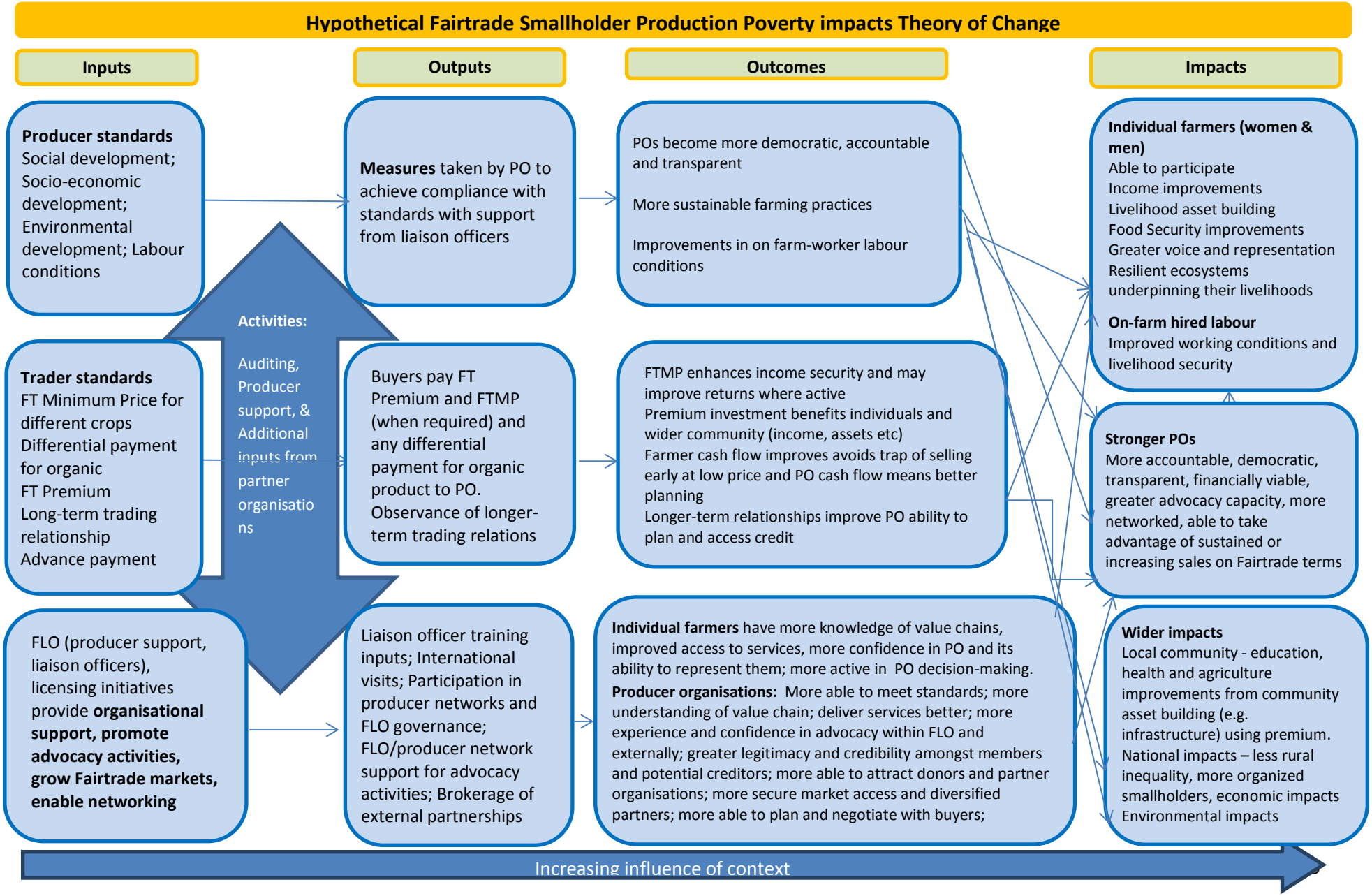
Parametric tests (t-test) and non-parametric tests (Mann-Whitney test and Wilcoxon test) were used for continuous and categorical variables respectively to test the significance of differences between the various categories. Where the data was not normally distributed, the results were checked with non-parametric tests.

For the comparison of results between the surveys done in 2010 and 2012, different methods are used. To test any differences in 'static' characteristics, the T-test or Mann-Whitney tests are used. For some 'impact' variables, however, it is expected to see change over time, and the double-difference method is used to test whether the change is significantly different between certified and non-certified smallholders. The Double-Difference (DD) method, in contrast to PSM, assumes that unobserved heterogeneity in participation is present, but these factors do not change over time. DD compares treatment and comparison groups in terms of outcome changes over time relative to the outcomes observed for a pre-intervention baseline. The value and significance of DD is determined by estimating a regression model with the outcome as dependent variable and dummies for the time and programme, and an interaction term for the two dummies (which gives the value for DD), as independent variables.

The qualitative data arising from all the management, focus group and key informant interviews was tabulated prior to analysis to aid comparisons similar to those shown in Fig. 2.3. Important details relating to changes occurring in the pre-and post certification pipeline periods could be obtained from this data, along with descriptive reasons for changes, differences in opinions amongst groups, gendered perspectives, and management versus farmer member or estate worker perspectives.

Theory of change: At the start of the study a basic theory of change was constructed to assist in identifying the potential avenues and areas of impact, and impact chains for each of the standard systems. This was used in designing the research tools. In November 2011, detailed hypothetical theory of change diagrams related to the FT and RA standards for tea smallholders and estate workers were constructed by Valerie Nelson and Adrienne Martin. These hypothetical theory of change diagrams focused on the possible pathways of poverty impact flowing from the different standards (see Fig. 2.4 and Appendix 1), they drew on the Kenyan baseline findings, and informed the reshaping of the checklists and analysis and reporting of the final survey. The actual impact pathways found during the study are shown in Sections 5 (smallholders) and 7 (estates) and a more detailed explanation is provided in Appendix 3 and 4.

Figure 2.4. Hypothetical theory of change for Fairtrade Smallholder Producers Poverty Impacts



Timing: The final and baseline field surveys took place over a 4 week period, and the light monitoring over a two week period. Two days were spent with each tea producing organisation to introduce and plan the survey operations (including the identification and training of any additional enumerators required), and to conduct the 4-5 focus group meetings, and the 50-100 individual questionnaire interviews.

Study team: For the final survey the field research team was comprised of Tanya Stathers (NRI), Charity Gathuthi, Edwin Kamau, Anthony Gichohi, Noah Umidha, Virgina Irimu, and Arnold Muhoro (for Matrix Consulting). The qualitative interviews were done by T. Stathers, C. Gathuthi, N. Umidha and typed up the same evening to enhance accurate recall. The qualitative data analysis and overall data synthesis and reporting was done by T. Stathers. Additional enumerators were trained at each site to help conduct the questionnaires. The questionnaire data entry and checking was done by Matrix Consulting, and analysis by Helena Posthumus. Advisory inputs were given by Valerie Nelson and Adrienne Martin. Logistical support was provided by Dunstan Ngumo, Graham Alder and Stephen Kinanga of Matrix Consulting, and Peter Kihara the field study driver.

Limitations of method: Robust design of impact evaluations requires access to information which informs sampling decisions. At the outset of the study in 2009, standard systems lacked basic data on the locations, contact details, size of the producers and estates certified to their standard systems and where organisations were planning to become certified (which would have affected sampling). This meant that the research team had to construct a matrix with fragmented information and this took longer than had been expected. Delays were also encountered, because of the competition between standard systems or trade initiatives and their associated researchers for certified organisation cases. In order to avoid duplication it was necessary to spend quite a long time communicating with different researchers and standard systems to try and establish possible countries and commodities for inclusion within our study. Limited resources were made available for the planning of such a complex study. The project team had been requested to cover six countries and commodities in the first instance, but requested to reduce this number. The delays early in the planning stage also meant that four country studies had to be conducted simultaneously at the end of the financial year, which added complexity. The consequence was that there was only a two year period between the baseline and the final survey, reducing the opportunity to track change over time.

In Kenya, the study happened to overlap with a period of major change regarding tea certification. During 2010 most of the non-certified estates and smallholders KTDA POs started to prepare for RA certification[1] following the announcement by Lipton that by 2015 it would only be purchasing RA certified tea. This meant that the planned comparison between the original certified and non-certified tea producers in both the smallholder and the estate sector over time was modified into a more complex comparison or 'pipeline' approach, comparing POs and estates at different stages and lengths of certification. However, given that this trend of multiple certifications seems to be increasing, the research team had the opportunity to unpack the views of different stakeholders on the changes occurring. The merits of different approaches and assumptions had to be carefully considered in the data analysis for these cases.

It was unfortunate that the FT&RA dual certified estate decided to drop out of the study after the baseline, which also removed their outgrowers from the study too. The initial reason given by the estate managers included a statement that research on poverty impacts was only of relevance to smallholders and not to estate workers. There is a notable hesitancy amongst many large multi-national tea estates in Kenya to participate in research studies related to the impacts of these SEVSS,

[1] In 2009, only 4 of the >60 KTDA POs were RA certified. By March 2012, only 8 of the >60 KTDA POs were not already RA certified or in the advanced stages of their preparations for RA certification.

it is not clear whether this is due to fears of opening up, concerns about lost productivity time or research fatigue. This lack of cooperation meant that time had been spent during the baseline on conducting surveys which could not be fully used in the final analysis and indicates a lack of openness and accountability to consumers. In contrast, it was notable how open the KTDA smallholder POs and the 2010 RA certified estate were to the survey and to the opportunity of learning and making improvements.

It should be noted that the February-April period is the low season for GL production, and many of the estates send most of their permanent workers on annual leave during that period (which typically coincides with a between contracts period for seasonals), and temporarily shut down one of their factories etc. As a result few seasonal workers were interviewed and the permanent workers interviewed were selected from the few who remained at the estate and were not on leave. While the study team ensured the number and gender of factory workers and administrative clerks versus pluckers interviewed was comparable between the baseline and the final survey, it would in retrospect have been better to have slightly increased the number of factory workers and reduced the number of administrative clerks interviewed in order to provide a more proportional sample of the worker categories on the estates. Additionally on one estate which has a lot of mechanised tea plucking, it was notable that no mechanical tea harvester (MTHs) workers had been included in the baseline questionnaire survey, and so they were not included in the final questionnaire survey either. However, they were actively included in the workers' focus group discussions during the final survey to attempt to gain some of the necessary information regarding changes affecting them.

All focus group discussions and workers' individual interviews were undertaken with the producer organisations (PO) management's knowledge, and were often organised by the management. Some other studies (e.g. SOMO, 2008) have interviewed estate workers off-site to try to minimise information control by management. This was not done in this study due to: its large-scale; the desire to understand the reasons why PO and estate managers make changes and if they have, and what their views are; the intention of keeping that all interview/discussion data anonymous; and interest of the POs and estates involved for the opportunity to learn about strengths, weaknesses and opportunities through the study's findings. In the current study the PO managers were not usually present during the farmers' or workers' focus group discussions, and the research team felt that in general the participants spoke freely, although at one estate one worker appeared to have been included in the women's focus group as a management informant.

A full value-chain analysis was not funded as part of this project, although some limited value chain interviews have been conducted for UK-Kenya tea value chains which are relatively short. Questions were also asked in the management interviews and of workers and smallholders about the value chain – e.g. their knowledge of where tea goes once they deliver the green leaf, about how pricing is determined and their ability to bargain or not, the auction system/ direct sales, and about markets and changing market requirements etc. This study focused only on one end of the tea value chain, the producers' end. It is likely that in order for the findings to help influence changes which increase the ability of SEVSS to impact on poverty, the interest and actions of other actors within the value chain will be needed.

Changes in personnel within the research team affected the study.

3. THE KENYAN TEA CONTEXT

Tea was introduced into Kenya from India in 1903, and started being planted commercially in the 1920's with the British Brooke Bond company (later acquired by Unilever) dominating production and marketing. Following World War II, Kenyans demanded increased participation in the production of their country's main export crop and the private tea companies established smallholder schemes. In 1964, the Kenya Tea Development Authority was established to protect and support small holders and develop a niche for them in the international tea markets. The KTDA built state-owned tea factories which bought green leaf (GL) from the smallholder farmers and controlled its processing and marketing. KTDA was privatised in 2000 as part of the structural adjustment programme and became the Kenya Tea Development Agency.

Since Kenya's independence tea production has expanded rapidly from 18,000 tonnes and 24,448 hectares in 1963 to 370,000 tonnes and 149,000 hectares in 2007 (KNBS and TBA), and 377,00 tonnes in 2011 (Tea Board of Kenya, 2012).

Tea is still Kenya's major export product, worth Ksh102 billion in 2011, followed by horticulture, apparels, coffee, tobacco products, iron and steel, animal and vegetable oils, essential oils and soda ash (Kenya National Bureau of Statistics, 2012; Export Promotion Council, 2012). In addition to these traditional export crops (tea, coffee) and non-traditional crops (horticulture), manufacturing and services are becoming increasingly important as export earners in the country. However, Kenya's import bill (particularly for oil) has increased faster than its export income, with imports rising by 23% in 2011 (World Bank, 2012).

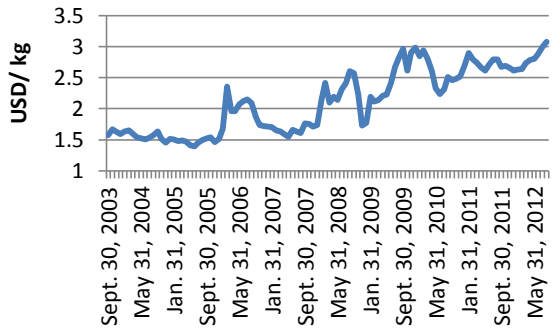


Figure 3.1. Mombasa made tea prices

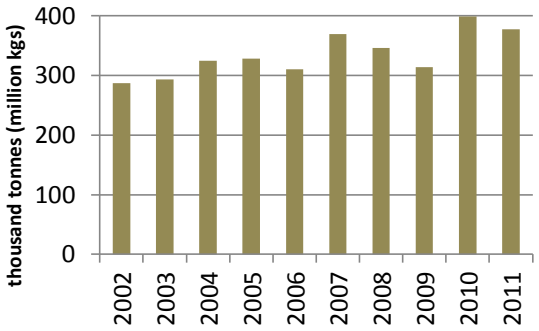


Figure 3.2. Kenyan made tea production figures
(Source: Tea Board of Kenya)

Kenya's made tea prices have increased substantially reaching USD$3.074/kg in August 2012 (Figure 3.1), while production figures have been more variable (Fig. 3.2). As a rain-fed crop, tea production is highly susceptible to weather and affected by both drought and frost in Kenya.

After China and India, Kenya is the world's 3rd largest producer of tea (producing 9% of the worlds tea) (Fig. 3.3), and is the world's leading exporter of tea. 62% of Kenyan tea is now produced by around 560,000 registered smallholders, and several million people in Kenya depend on the crop for their livelihoods. There are currently 65 tea processing factories owned by the 54 KTDA managed/ smallholder owned tea companies (making KTDA the largest tea management agency in the world), and ~39 privately owned tea plantations/large-scale estate companies including multinationals, such as Unilever Tea, Finlays, Williamson Tea, Eastern Produce etc. Most of the large estate companies have several processing factories and increasing numbers of smaller private tea processing factories are opening in response to the favourable tea prices of recent years. The large-scale tea producing companies are members of the Kenya Tea Growers Association (KTGA), and in addition to processing the GL plucked by workers on their own estates they also purchase GL from surrounding small tea growers known as 'outgrowers'.

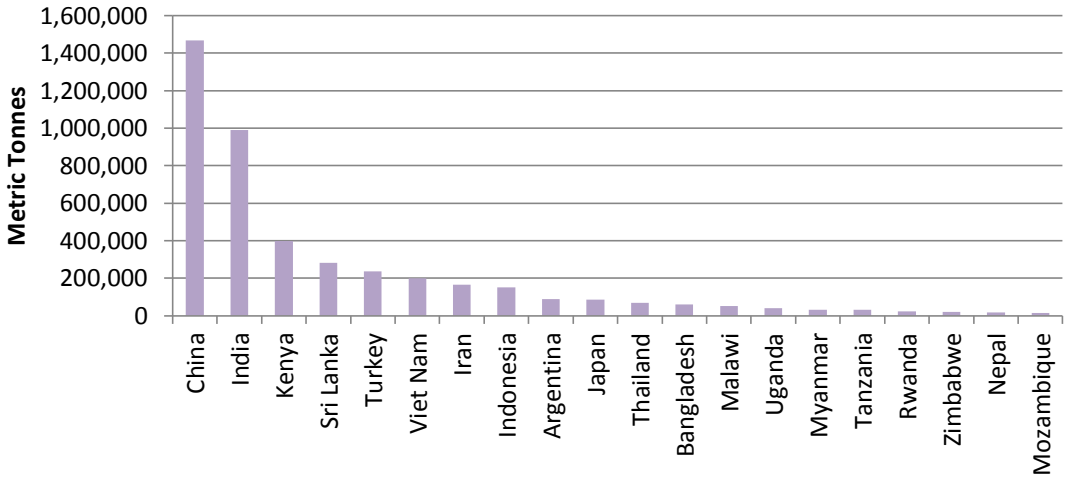


Figure 3.3. Comparison of annual made tea production across the world in 2010 (Source: FAOSTAT, 2012)

Kenya's tea market is narrow, with 71% of it being exported to just four countries, Pakistan, Egypt, UK and Afghanistan (Fig 3.4), making it vulnerable to political change in these countries.

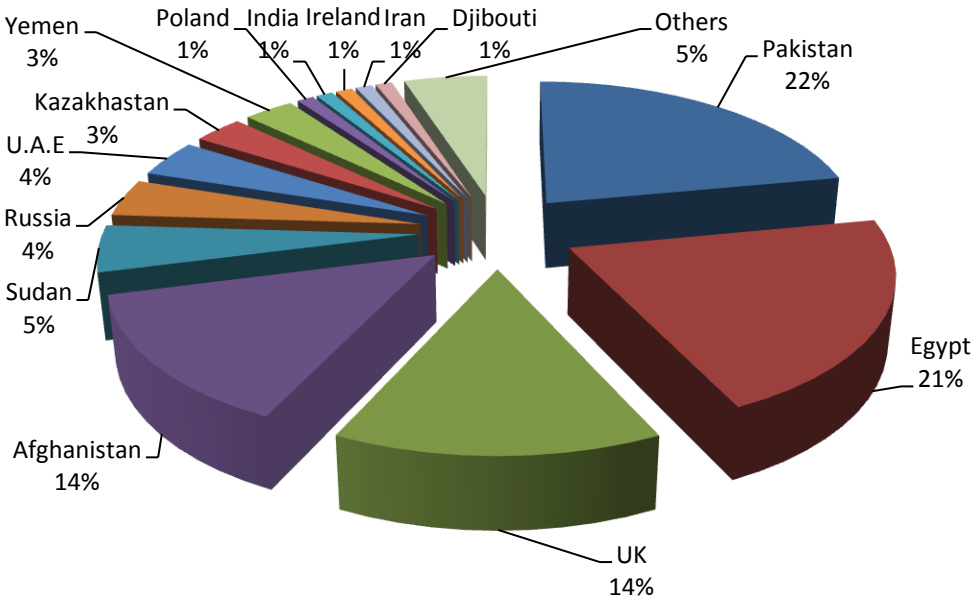
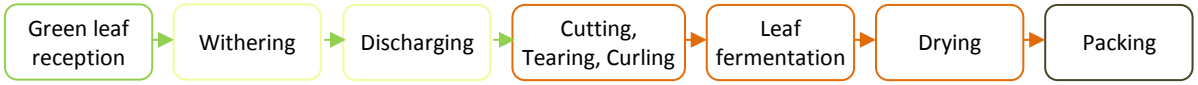


Figure 3.4. Kenyan tea export destinations in 2010 (Source: UNDP, 2011)

In 2008, standard blends (i.e. tea packaged without distinctive elements) were retailing in the UK at the equivalent of $13.98/kg, while the average export auction price in Kenya in 2007 was USD$1.75/kg, about 13% of the retail price of standard tea (Lightyears IP, undated). Unilever, Van Rees, James Finlay and Tata Tetley dominate the most profitable activities (blending, packing and marketing) in the tea commodity chain. However, experts believe there is potential to sell some of the current Kenyan tea exports as named region teas or single origin premium teas where the average retail prices are much higher still (e.g. USD$20.95/kg and USD$67.85/kg respectively in 2008) to significantly increase Kenya's tea export income.

The prices smallholder tea farmers are paid for their GL varies by location throughout Kenya and is determined by the quality, the efficiency of the factories operations and the final market price. The key steps in made tea processing are:



KTDA smallholder farmers are reported to receive the highest total price per kg for GL in the world (Fig 3.5). However, it should be noted that as shareholders in their factories, the KTDA farmers report a price which includes both the initial payment of Ksh12/kg GL plus the second or bonus payment which is calculated following the sales of the made tea. In many countries farmers will not be shareholders in their factories and will just receive an initial payment for sale of GL, highlighting the importance of helping smallholder farmers to start to move up the value chain. Typically about 75% of a KTDA PO's annual revenue is returned to the farmer members (Fig 3.6). In Kenya, the wages which tea estate workers are paid per kg for plucking tea and as a daily rate for other jobs (e.g. factory workers in estates and KTDA factories) are determined through a collective bargaining agreement (CBA), while those of workers employed by farmers on small tea farms are determined through the open market.

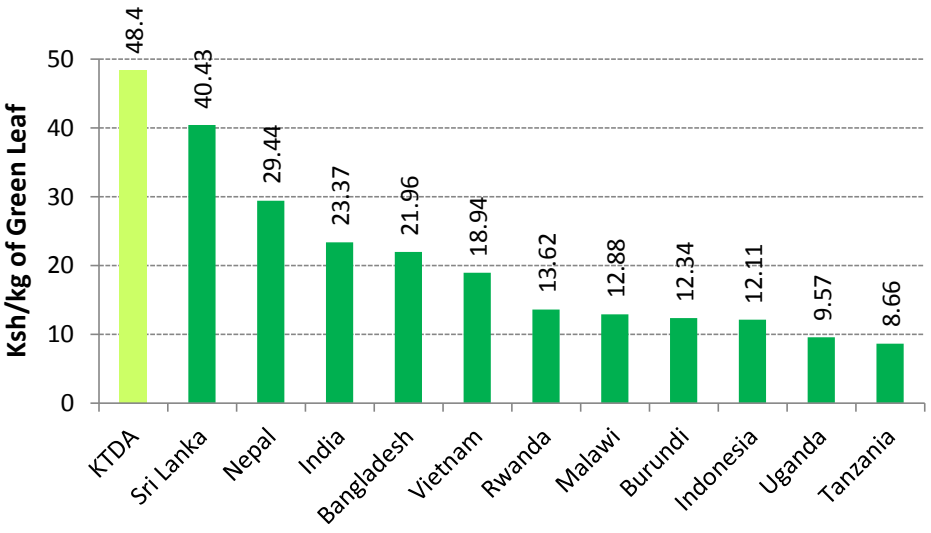


Figure 3.5 Green leaf payment rates by country (Ksh/kg in FY 2010/2011) (Source: KTDA, 2011)

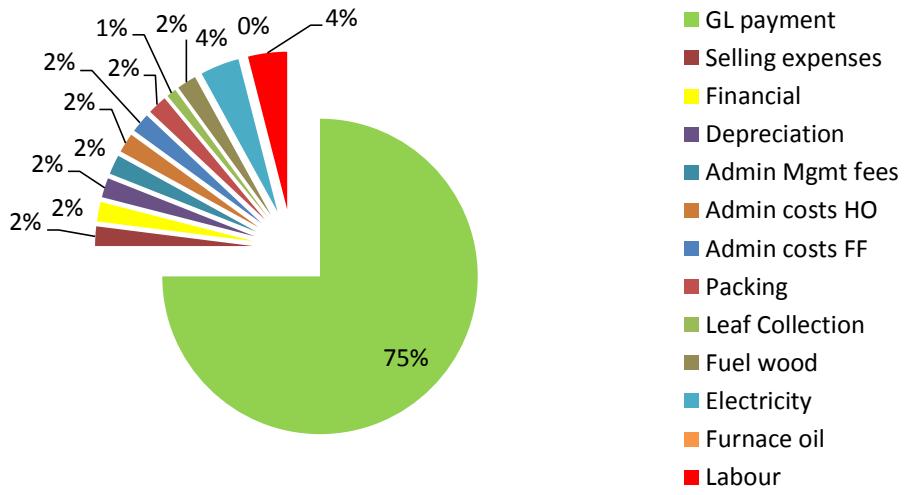


Figure 3.6 Typical expenditures categories of KTDA Producer Organisations (FY10/11) (Source: KTDA, 2011)

Increasing labour, electricity and fuel wood costs, and climate change are perceived as major future challenges in the Kenyan tea sector for both large-scale estates and smallholder producers.

External social and environmental standards in the Kenyan tea sector began with the Ethical Tea Partnership (ETP)[2] in the later 1990s, followed by Fairtrade (FT) from 2003 and Rainforest Alliance (RA) from 2007 and more recently Utz certification. Most of the tea factories also have ISO 9001 Quality Management Systems and ISO 22000 Food Safety Management Systems certifications. These certification standards are currently viewed by the sector as major drivers of change, with RA certification having increased particularly rapidly from just 4 of the 65 KTDA factories being RA certified in 2009, to all but 8 of them being already or close to completing RA certification in March 2012. RA staff estimated that about 300,000 tea farmers in Kenya were already RA certified by June 2012, with many more at the advanced stages of RA certification preparations. Most of the larger private estates are also RA certified or working towards it. The market has driven this rapid increase in RA certification in Kenya, with Lipton's pledging to source all the tea for its tea bags from RA certified farms by 2015. Unilever (whose brands include Lipton) buys around 12% of the world's internationally-traded tea – and is the world's largest private buyer of Kenyan smallholder tea. The sheer scale of Unilever's purchasing power means that its brand's policies can drive major market changes in tea producing countries. Additional buyers who have committed to sourcing tea sustainably include Tetleys, Twinings and Mars, and RA staff suggest ~60% of the tea sold in the UK is now RA certified. However, it is interesting that these buyers have such influence throughout the Kenyan tea sector when >80% of the tea produced in Kenya is sold to Egypt, Afghanistan, Pakistan, Sudan, Russia, UAE, Kazakhastan, Yemen, Poland, India, Iran, Djibouti (see Fig 3.4) where product certification status is not currently important for consumers. Although Unilever, Tata Tea and Twinings are currently focusing on sustainability issues only for their affluent Western consuming markets, they have a dominant presence worldwide and could potentially substantially accelerate the demand for certified tea in various other domestic markets (TCC, 2010). KTDA are promoting RA certification amongst their POs as they want 100% of their tea to be produced sustainably. The huge surge in RA certification has created challenges with regard to having sufficient auditors. This is an important issue when auditor competence has been identified as one of the most significant challenges to the integrity and credibility of voluntary standards and certification (Steering Committee of the State-of-Knowledge Assessment of Standards and Certification (SCSKASC), 2012).

Globally by 2010, 7.7% of the tea produced for export was compliant with one or other sustainability standard (FT, organic, ETP, RA, Global GAP, Utz), with 70% of this tea being produced in Africa (Potts *et al*., 2010). Given the rapid increase in RA tea certification since then, the figure will now be higher.

The FT certified tea market is not expanding as rapidly in Kenya, despite the fact that Fairtrade reports increased sales of FT tea and in the UK the major supermarkets are developing their own label Fairtrade products which compete with the original ethical brands such as CafeDirect, Tradecraft and Equal Exchange (Mintel, 2005 as cited in Dolan, 2010).

Producers and buyers are not the only key stakeholders engaged in the certification standard systems; standards are often developed by NGOs who see their promotion as a less confrontational form of environmental and social activism (SCSKASC, 2012). Donors have also collectively invested more than $150 million in the leading certification organisations and processes (Clay, 2005 cited in SCSKASC, 2012).

When voluntary standards started 2 decades ago, it was assumed that the implementation of these systems would lead to the desired positive impacts. Overtime it became clear that 'compliance' and 'impacts' were not synonymous (Nelson *et al*., 2002; Tallontire *et al*., 2012; SCSKASC, 2012). While audits monitor compliance, it is important that impacts are independently monitored; interviews during surveys are typically the main tool used for this, but there is recognition of the limitations in such methods and the need for triangulating such methods with quantifiable measurements of physical factors (e.g. environmental or social indicators).

[2] Ethical Tea Partnership was formed in 1997 when a large number of tea companies took the decision to monitor and assure their own supply chains, they were initially called the Tea Sourcing Partnership. Their ETP Global Standard (1873) (http://www.ethicalteapartnership.org/about/history/) aligns closely with those of FT and RA.

In 2011, the UNDP Human Development Index (a basic measure of well-being, incorporating the three human development dimensions of health, education and income) for Kenya was 0.509. This positions the country at 143 out of 187 countries, placing Kenya above the regional sub-Saharan African average HDI of 0.463. Key human development indicators for Kenya are shown in Table 3.1.

Table 3.1. UNDP Kenya Country Profile of Human Development Indicators

Health: Life expectancy at birth (years)	57.1
Education: Mean years of schooling (of adults) (years)	7.0
Income: GNI per capita in PPP terms (constant 2005 international $)	1,492
Inequality: Inequality-adjusted HDI value	0.338
Poverty: Multi dimensional poverty index	n.a.
Gender: GII: Gender Inequality Index, value	0.654
Sustainability: Adjusted net savings (% of GNI)	13.1
Demography: Population, total both sexes (thousands)	41,609.7
Composite indices: Non-income HDI value	0.584
Human Development Index Ranking	143

Data source: http://hdrstats.undp.org/en/countries/profiles/ken.html

However, development within the country is uneven. The focal smallholder tea growers East of the Rift valley in this study are located in Central Province, while the focal smallholders and outgrowers are located in Rift Valley Province, and the focal estates in Nyanza Province. While the map below provides a general impression of how overall poverty differs between these areas (Fig. 3.7), it should be noted that in reality hotspots of poverty are not concentrated and thirty four districts in Kenya were reported to have at least one location with more than 70 percent poverty incidence (Ndenge *et al.*, 2003).

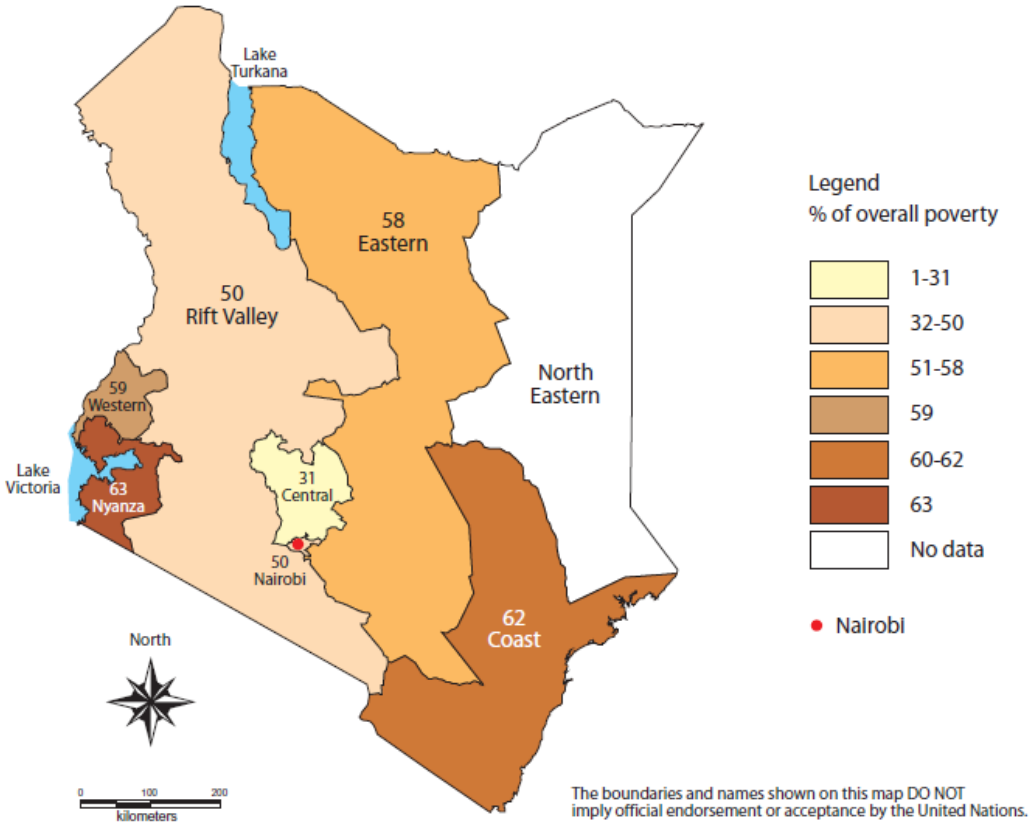


Figure 3.7. Kenya: Incidence of poverty by province

Data source: UNDP, 2006

4. ASSESSING THE POVERTY IMPACT OF VOLUNTARY STANDARDS IN KENYAN SMALLHOLDER TEA

4.1. The Focal Organisations and their Certifications

Seven KTDA smallholder producer organisations (POs) and one outgrower organisation were included in this study from 2009 to 2012 (see Fig 1.1 and Table 1.3). During this period the number of KTDA smallholder POs with Rainforest Alliance (RA) certification has increased rapidly.

At the start, the study included 3 FT certified KTDA POs, 1 RA certified KTDA PO, 3 non-certified KTDA POs, 1 FT certified outgrower organisation and 1 non-certified outgrower group. By March 2012 of the seven focal KTDA POs, two of the FT certified POs were also RA certified (one of them was also Utz certified) and the FT outgrower organisation plus the three non-certified KTDA POs, were in the process of working towards RA or RA plus Utz certification and expected to be RA certified by 2013. All the focal KTDA POs also have ISO 9001 and ISO 22,000 certification, due to buyers demand.

This RA certification trend in Kenyan tea is strongly market driven, in response to buyers such as Lipton who pledged that by 2015 all the tea they purchased would be from RA certified farms. Several interviewees remarked on the standards not really being voluntary as they were so closely linked to access to markets. The KTDA PO managers explained that KTDA was also encouraging and almost making it compulsory for all KTDA POs to be RA certified as they felt RA certification improved the quality of the made tea and therefore the price, and was beneficial for the environment and long-term production of tea in Kenya. In some cases key buyers are financially supporting KTDA POs with whom they already have links, to become RA certified by funding specific aspects of the certification process such as farmer awareness raising and farm audits. RA standards require that RA certified and non-RA certified GL is processed separately. As a result RA certified estates are typically supporting their outgrowers to achieve RA certification so they will no longer need to separate the GL from their different sources.

The membership size of the focal KTDA POs ranged from 5,600 to 14,270 people in 2012, with green leaf (GL) production from a range of 10 to 29 million tea bushes being supplied to each PO. At many of the KTDA POs membership numbers had increased since 2009, and the managers explained this was mainly due to the sub-division of existing members tea farms. Where a PO is FT or RA certified, all its members are certified. Once a PO has become certified, any new farmer wanting to join has to first comply with the certification standards. Surprisingly, most of the managers of the POs had no knowledge of what proportion of their registered members were female or male, and said their database of members did not capture the relevant data. However, the few POs who had looked at the gender profile of their membership, reported that ≥72% of their members were male. Management at a PO East of the Rift Valley explained that most of their women members had inherited their membership numbers as a result of being widowed. The outgrower managers said 22% of their 10,908 members were women, and that this figure had increased since 2009 due to some men giving their wives tea bushes to register in their own names. This was being done through a letter and did not involve actually transferring the land title for the area under those bushes to their wives.

Whilst there are now some women representatives in most of the KTDA collection centre committees, none of the elected board of directors were women at any of the focal POs. There are however a few female managers at the focal KTDA POs, particularly in the processing section.

The term outgrower encompasses a wide range of tea farmer types. The FT outgrowers in this study were mainly smallholder tea farmers delivering up to 40kg GL per day to weighing sheds built by the estate they supply. However, outgrowers can also be large-scale farmers with their own pick-ups delivering 1,000-2,000kg GL per day directly to an estate's factory.

Clockwise from top left hand corner: Female tea farmer sorting through the green leaf she has delivered to the collection centre while waiting for the weighing clerk to arrive; offloading the green leaf at the tea factory; weighing clerk recording the green leaf weight from the electronic weighing scales to his blue tooth hand held data entry device, which links to the receipt printer; smallholder tea farming landscape; trucks delivering green leaf to the factory; tea farmers airing green leaf on the concrete benches in their collection centre; smallholder tea farmer.

4.2. Impacts on Individual Tea Producing Households

4.2.1. Socio-economic differentiation

The focus group participants explained that tea farming families were wealthier than non-tea farming families, with the wealth level being influenced by the number of tea bushes owned and the way the bushes are managed which affects their productivity. The regularity of the year round monthly initial payment for their GL is perceived as extremely valuable in meeting regular food, health and farming costs. These respondents explained that tea farming households in general have better houses e.g. timber or stone structures with good sanitation, can educate their children, buy food and own good livestock due to their tea income. These larger expenditure items are typically paid for using the annual GL bonus payment that registered members receive.

In the tea zones, adults from households that do not have tea farms typically work as tea pluckers for those households who have tea farms, and are perceived by many as disadvantaged. However in several areas it was mentioned that in these tea growing zones the majority of households have tea farms. It should be noted that it is common for tea owning farmers to also work as tea pluckers on their neighbours' tea farms in order to earn additional cash, this is typically done once they have finished plucking their own tea bushes and are waiting for their bushes to re-shoot in order to start their next plucking round.

Those who work as tea pluckers but do not own tea farms, may have their own homes or live and eat with their host farmer, some additionally farm and sell cabbages on small plots that they hire, others do various casual labour jobs (e.g. dig trenches, tend livestock, carry water up the hill side for home use). Tea pluckers on smallholder farms East of the Rift Valley earn Ksh8/kg GL, or for casual labour a daily wage of Ksh150 (if female) or Ksh200 (if male), with the difference being due to the more physical type of work given to male labourers. Tea pluckers on smallholder farms West of Rift only earn Ksh6/kg GL. Tea farmers with less than 1,000 bushes (~¼acre) and large numbers of dependents are also perceived as poor as they struggle to meet their needs.

At one PO, managers felt that those households living in the lower altitude tea zones were more disadvantaged than those in the higher zones due to the higher zones having forest resources.

Orphans are perceived as some of the poorest members of the community, and often have to work as casual labourers for their guardians until they are 18 years old and can then register their deceased parent's tea farm in their own name and farm it. Disabled individuals are also perceived as some of the most vulnerable in the community and some respondents felt women were generally more disadvantaged than men.

Respondents reported a variety of ways in which certification was assisting the vulnerable among tea communities. Managers at one PO explained that as a result of RA certification they had started CSR activities investing in institutions which cared for vulnerable disabled people. These same managers felt that women were generally more disadvantaged than men, and that the training in livelihood diversification activities being encouraged by certification had benefitted women by providing them with additional income opportunities (e.g. bee and poultry keeping). In the West of the Rift Valley, managers felt RA certification had helped pluckers by enforcing good labour conditions including regular payment. The investment of FT Premium funds in new dispensaries had improved maternal and child health of all those living close to them. The FT outgrowers' managers explained that the FT premium funded school bursaries were targeted towards the children of disabled, widowed or terminally ill families or to orphans (however during a previous visit they mentioned the key criteria for bursary recipients as the child's academic performance, whether applicant is a member or not, number of children in the HH, and whether they have ever had a bursary before). In 2010 the FT outgrowers used the FT Premium to support 99 students and in 2011 a further 150 students.

The questionnaire data showed that the tea farming households interviewed in the West of the Rift Valley (e.g. RA-only certified KTDA PO and FT outgrowers) were typically larger than the tea households in the East of Rift Valley (Table 4.1). The head of households for the RA only certified KTDA households in the West of Rift were significantly younger than the non-certified and FT certified KTDA households in the East of Rift, and tea farms were also older in the East of Rift (non-cert and FT cert) compared to in the West of Rift (RA cert and FT outgrowers). Smallholder tea production was promoted much earlier in the East of the Rift valley than in the West. Many of the FT outgrowers group's tea farms in the West of the Rift valley are situated on reserves which used to be estate land, squatters were settled on this land and then started growing tea on it.

Table 4.1. Comparison of household characteristics amongst the focal POs in 2012

Household characteristics	**Total**	**KTDA members**			**FT certified outgrowers**
		Non-certified	**RA certified**	**FT certified**	
N	500	150	100	150	100
Head of household is male (%)	77%	78%	83%	66%	86%
Age of head of household (years)	50.5	53.9	46.0	51.7	48.1
Education level head of household (ranking)	3.85	3.91	4.02	3.75	3.73
Head of household is literate (% respondents)	88%	84%	91%	90%	90%
Size of household (# members)	4.20	3.77	4.60	3.41	5.62
Number of adults (>18yrs) in household	2.82	2.73	2.98	2.51	3.27
Number of non-resident members	0.59	0.45	0.49	0.70	0.75
Average age of tea farm (years)	25.4	32.9	16.6	30.1	16.0
Distance from home to tea collection centre (km)	0.66	0.74	0.71	0.57	0.61
Knows clone of tea (%)	37%	23%	45%	7%	95%

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.2. Income and livelihoods

4.2.2.1. Tea income: Tea farming is the main income earning activity in certified and non-certified tea smallholder and outgrower farming households. Other common livelihood activities include: tea plucking for neighbouring tea farmers, livestock keeping (e.g. dairy cattle, poultry, rabbits, goats, pigs), cultivation of maize, cabbages, kales, round/Irish potato, beans, arrow roots, sweet potato, fruits (e.g. bananas, avocadoes, passion fruit, tree tomato, plums, pears), sugar cane, other horticultural crops, Napier grass, production of blue gums, cypress, *Grevillea* and wattle trees for sale as timber, firewood and charcoal. Some of the men explained that they have recently started fish farming as part of a government economic stimulus project. Depending on the agro-ecozone they live in they may also farm some coffee.

Whilst their tea farming is the main income source, many of the households also sell milk from their dairy cattle and women frequently mentioned income from sales of cabbages, arrow roots, tomatoes and food crops. Some women mentioned the importance of the income they earn from plucking tea for other farmers, particularly as they control access to and expenditure of this plucking income. The range of livelihood activities were similar in certified and non-certified tea households.

Tea income comes in the form of an initial monthly payment plus an annual bonus or second payment for all KTDA producers and for the focal outgrower organisation, although some other outgrower groups only receive an initial monthly payment. The regularity of the monthly payment is important for purchasing household food items, and the large annual bonus payment is typically used for paying school fees and for other household development projects (e.g. changing from timber to stone construction, adding water tanks, new bathroom, extending number of dwellings or rooms, water and electricity connections), land payment for new farming or building plots, dowry payment, livestock purchases, opening new businesses such as a motorcycle taxi or small shop, buying manure, buying vegetable seeds, clothing, mattresses, medicines and purchasing shares. The

bonus is also important for paying off the debts they have accrued during the year. The per kg bonus amount is calculated by the PO at the end of each financial year based on the sales prices obtained for the made tea and the POs costs and investments. Reduced factory and PO costs result in increased incomes for members.

4.2.2.2. Gendered aspects of tea income expenditure decision-making: In some households the family make a budget together to plan how they should spend the bonus. RA was mentioned as having provided household financial planning training to both men and women, this training was highly valued by both the men and women who during the focus group interviews said that previously they had no knowledge of how to budget. Another RA certified focus group explained that they compared RA to the "new constitution of Kenya" as the RA certification process brought training not only on tea husbandry and environmental protection but also on other issues related to household affairs. One FT&RA certified women's focus group said they felt there was a need for more transparency concerning loans so that the whole household knew when someone had taken a loan out from the SACCO or Greenland Fedha, as opposed to it only being revealed when the bonus was paid. Participants' in another FT certified women's focus group felt that the bonus payment could benefit the household more if women were formally given a share of the household's tea bushes and could therefore control the use of the income from those bushes. Participants' in a non-certified men's focus group explained that they have to plan the expenditure of the bonus with their wives otherwise their GL will not be plucked by their wife and they will not get any tea income at all. These same men explained that whilst they themselves did not drink, they were aware of cases where men went and stayed at the trading centre after the bonus had been paid in order to consume alcohol, and other cases where men were too scared to return home as their wives would question them about where the bonus money was.

4.2.2.3. The influence of tea husbandry on incomes: The FT certified farmers felt that their tea income had increased in the past two years due to the crop husbandry training they had received, particularly that associated with increased frequency of plucking, better application of fertiliser and the associated improved GL quality. It should be noted that the KTDA monthly payment had increased from 10.5Ksh/kg GL in 2009 to 12Ksh/kg GL, and high tea prices had also translated to increased bonus payment rates (see Tables 4.2 and 4.5). However high inflation meant the cost of living had also increased, as had the cost of fertiliser which reduced their profits. Certification was viewed as having helped them become more aware of the need to treat their pluckers better and build good housing for them to help retain hired pluckers. The use of the FT premium funds for community projects such as school latrines, classrooms, dispensaries, foot paths etc (see Section 4.2.4 for more details on FT Premium use), has resulted in individual household savings as they would have previously been expected to financially contribute towards these projects. In the West of Rift Valley, farmers in the focus groups said that prior to RA certification their tea income was not high and that it had increased due to them adhering to the regulations which had improved quality and yields. However, the non-certified farmers said their tea incomes had also gone up as a result of good tea prices, good weather and their increased GL yield and quality which had resulted from the training their POs had organised, and due to their POs having reduced operational costs e.g. through introducing the electronic weighing scales which reduced labour requirements. The non-certified farmers said the increased trainings and FFS that their POs had organised were part of the RA certification preparations. The electronic weighing scales which have been introduced at most KTDA POs in the last few years have also brought significant gains to farmers. Farmers at NC-SH-C explained that the electronic weighing scales are more accurate and record the exact weight of the GL plus bag, and as the scales are linked to the factory's computer (via blue tooth VPN link) they have reduced clerical errors. Farmers at FT-SH-C explained since October 2010 when the electronic weighing scales were introduced a basket of GL that used to be weighed as 15kg started to weigh 20kg. With the increased income resulting from this more accurate weighing and payment, they said farmers have bought new plots of land, improved their diet i.e. bought more meat, and there is more peace at home as there are fewer domestic fights when there is money.

Table 4.2. Comparison of average GL production, income, productivity and price by certification type and year.

		KTDA members			Outgrowers		*Significance of pairwise comparisons*								
	Total	Non-cert	RA	FT	Non-cert OG	FT OG	KTDA: Cert vs Non-cert	KTDA: Non cert vs RA	KTDA: Non-cert vs FT	KTDA: RA vs FT	FT KTDA vs FT OG	All: Cert vs Non-Certs	All: RA vs FT	All: Non cert vs FT	All: Non cert vs RA
N	*500*	*150*	*100*	*150*	*100*	*100*									
Total GL production/farm (kg) - 2007	3,310	2,405	2,469	3,720	4,400	4,940	/	/	/	/	/	ns	***	*	ns
Total GL production/farm (kg) - 2008	3,459	2,537	2,573	3,773	4,694	5,258	/	/	/	/	/	ns	***	ns	ns
Total GL production/farm (kg) - 2009	4,069	2,188	2,656	3,965	/	8,460	***	ns	***	*	***	***	/	/	/
Total GL production/farm (kg) - 2010	4,457	2,435	2,936	4,070	/	9,590	***	ns	***	*	***	***	/	/	/
Total GL production/farm (kg) - 2011	4,778	2,506	3,166	4,202	/	10,659	***	*	***	*	***	***	/	/	/
Total tea income (ksh/yr/HH) - 2007	/	48,465	/[c]	82,080	81,405	60,007									
Total tea income (ksh/yr/HH) - 2008	/	61,962	/[c]	100,464	103,914	72,519									
Total tea income (kshs/yr/HH) - 2009	137,642	80,725	100,043	153,948	/	235,556	***	ns	***	**	*	***	/	/	/
Total tea income (kshs/yr/HH) - 2010	181,373	115,457	127,817	185,212	/	328,719	**	ns	***	**	**	***	/	/	/
Total tea income (kshs/yr/HH) - 2011	258,082	129,737	158,756	218,973	/	608,199	***	ns	***	*	***	***	/	/	/
GL productivity (kg/acre) - 2009	3,577	3,391	3,117	4,228	/	3,340	ns	ns	ns	*	*	ns	/	/	/
GL productivity (kg/acre) - 2010	3,909	3,646	3,528	4,360	/	4,009	ns	ns	ns	ns	ns	ns	/	/	/
GL productivity (kg/acre) - 2011	4,116	3,715	3,865	4,426	/	4,504	ns	ns	*	ns	ns	*	/	/	/
GL productivity (kg/bush) - 2009	1.22	1.1	0.9	1.36	/	1.5	ns	*	ns	***	ns	ns	/	/	/
GL productivity (kg/bush) - 2010	1.33	1.2	1	1.45	/	1.69	ns	*	ns	*	ns	ns	/	/	/
GL productivity (kg/bush) - 2011	1.39	1.21	1.09	1.47	/	1.86	ns	ns	*	***	ns	*	/	/	/
Total GL price (ksh/kg) - 2007		19.58	/[c]	22.28	18.23	12.15									
Total GL price (ksh/kg) - 2008		23.46	/[c]	26.91	22.08	13.80									
Total GL price (ksh/kg) - 2009		36.53	36.37	34.85	/	26.36									
Total GL price (ksh/kg) - 2010		46.66	42.79	44.73	/	32.95									
Total GL price (ksh/kg) - 2011		51.77	50.01	50.96	/	57.68[b]									
Area under tea (acres) (baseline)[a]	1.625	1.6	1.175	2.15	1.025	1.925	/	/	/	/	/	**	***	***	***
Area under tea (acres) (final 2012)	1.34	0.78	0.97	1.22	/	2.7	**	ns	**	-	***	***	/	/	/

*Significance of differences between groups (based on t-test and Mann-Whitney tests): - not significant, * P≤0.05, ** P≤0.01, *** P≤0.001, / = Not compared or no data*

[a]Due to the question being asked in hectares during the baseline there are some concerns regards reliability of this data

[b]The outgrowers' bonus had not been announced at the time of survey, and farmers overestimated this figure, the total GL price was actually 45ksh/kg

[c]The RA farmers gave only the initial monthly price and not the total price in 2007 and 2008, the data was therefore misleading and has been removed

The questionnaire data collected during the baseline and final survey on total GL production per farm, total tea income, GL productivity, GL price and area under tea is shown in Table 4.2. A number of pairwise statistical comparisons were done between different certification grouping, and the results of these are shown in the last nine columns on the right hand side of the table. Annual total GL production is higher on the certified tea farms than the non-certified tea farms. With the FT farms having the highest production and particularly the FT outgrowers' farms. However, as the acreage under tea is also higher on the certified (and particularly so for the FT outgrowers) than non-certified farms, it is not surprising that they produce more GL. As a result of the higher GL production, annual tea income is also significantly higher amongst certified than non-certified households. The kg per bush GL productivity showed that although the FT KTDA farms and the FT outgrowers had the highest per bush GL yields, which were significantly higher than the RA certified per bush yields, in general the per bush yields of certified farms were not significantly different than those of non-certified. It should however be remembered that the agro-ecological conditions of the RA certified farms in the West of the Rift valley are unlikely to provide KTDA acceptable GL yields as high as in the KTDA POs in the East of Rift valley, and also that the FT certified outgrowers in the West of the Rift valley will be able to deliver a lower quality of GL to the estate they supply than farmers supplying a KTDA factory and therefore will automatically record higher per bush productivity. Further analysis found that although the total GL production per farm increased for all certification types between 2007 and 2011, the increase was only significant for the FT outgrowers whose reported production had more than doubled from 4,940kg GL per household in 2007 to 10,659 kg GL per household in 2011.

A significantly greater improvement in overall household income during the 2 years prior to 2012 than during the 2 years prior to 2010 was perceived by tea farmers of all the certification types except the RA KTDA and the FT Outgrowers both of whom had already perceived high improvements in income in the two years prior to 2010 (Table 4.3). Double difference analysis confirmed that the change in perceived improvement between 2012 and 2010 was greater for the non-certified KTDA than the certified KTDA farmers and than the RA KTDA or the FT KTDA farmers (p=0.000), and greater for the FT KTDA farmers than the RT KTDA or FT outgrowers (Table 4.4).

Table 4.3. Perceived change in household income during the previous two years

Perceived change in household income during the previous two years	in 2010	in 2012	Sig
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement			
All producers (n=497 in 2010, 500 in 2012)	0.29	0.76	***
Non-certified KTDA smallholders (n=150)	-0.40	0.69	***
Certified (RA or FT) KTDA smallholders (n=250)	0.51	0.77	***
RA-certified KTDA smallholders (n=100)	0.75	0.83	ns
FT-certified KTDA smallholders (n=150)	0.33	0.73	***
FT-certified outgrowers (n=97 in 2010, n=100 in 2012)	0.81	0.83	ns

Sig = Significance of differences between groups (based on Mann-Whitney test): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2010 Baseline and 2012 Final SEVSS Survey Questionnaire Data

Table 4.4. Double difference analysis of the change in perceived changes in household income during the previous two years from 2012 and from 2010

DD: perceived change in household income	DD	P-value
DD perceived change in household income certified KTDA vs non-certified KTDA smallholders	-0.827	0.000
DD perceived change in household income RA-certified KTDA vs non-certified KTDA smallholders	-1.005	0.000
DD perceived change in household income FT-certified KTDA vs non-certified KTDA smallholders	-0.681	0.000
DD perceived change in household income FT-certified KTDA vs RA-certified KTDA smallholders	0.323	0.026
DD perceived change in household income FT outgrowers vs FT-certified KTDA smallholders	-0.385	0.009

Data source: 2010 Baseline and 2012 Final SEVSS Survey Questionnaire Data

The focus group participants were keen for the monthly GL payment amount to be increased from the current Ksh12/kg GL to around Ksh15-20/kg GL to enable them to meet their household's basic needs without having to take out loans from banks at high interest rates each month. [*N.B. The KTDA initial monthly payment rate was increased to Ksh14/kg GL with effect from April 2012*]. When asked whether this would not just result in the pluckers putting up their plucking rate proportionally, the farmers explained that they mainly rely on household labour for plucking so would not be heavily affected by a plucking rate increase. They also felt the high cost of fertiliser was preventing them from applying the recommended rates to their tea bushes. The FT certified outgrowers felt that reducing the number of brokers or increasing direct sales would help improve their incomes - these outgrowers receive a higher initial monthly payment than farmers supplying KTDA, but the total payment may be less.

Details of the initial monthly payments and annual bonus payments for growers GL are provided in Table 4.5. It can be seen that the KTDA GL payment prices for the financial years 09/10 and 10/11 were much higher than the payments received by the outgrowers from the estates. As described in the estate section of this report, the estate management (and other stakeholders) argue that this is because their quality criteria are so much lower than the KTDA factories' quality criteria a producer can therefore pluck and sell twice as much GL to an estate as s/he could to a KTDA factory explaining why the outgrowers accept a lower total GL price. It should be noted that the initial payment is higher for outgrowers than KTDA members, and this can also attract farmers towards selling their GL to estates if they want the cash more quickly (see section 6.3.5 for further information on outgrower estate relations). Officially farmers are only allowed to be registered at one PO, and therefore should not be able to sell to either an estate or a KTDA depending on the rates, but it does happen sometimes. During interviews with a few large-scale outgrowers in 2011 it became evident that they were not aware that the KTDA per kg GL total price was significantly higher than the one they were receiving from their estate.

Table 4.5. Comparison of initial monthly and annual bonus GL payments at different POs

Type	KTDA smallholder POs														Outgrowers					
Location	E		E		E		W		E		E		E		W		W		W	
PO Code	FT-SH-A		FT-SH-B		FT-SH-C		RA-SH-A		NC-SH-A		NC-SH-B		NC-SH-C		FT-OG-A		Supplying RA estate A		Supplying RA estate B	
GL payment rates (Ksh/kg GL)	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus	Monthly	Bonus
FY 09/10	10.5 Jul –Dec 12 Jan - Jun	37.66	10.5 Jul –Dec 12 Jan - Jun	33.1	10.5 Jul –Dec 12 Jan- Jun	30	10.5 Jul –Dec 12 Jan - Jun	31.5	10.5 Jul –Dec 12 Jan - Jun	37.12	10.5 Jul –Dec 12 Jan - Jun	37.1	10.5 Jul –Dec 12 Jan - Jun	30.1	18	18.6	13	5.68	15.5	0
Total 09/10	48.91		44.35		41.25		42.75		48.37		48.35		41.35		36.6		18.68		15.5	
FY 10/11	12	45.15	12	36.1	12	36.6	12	38	12	40.5	12	42	12	37.1	18 Jan –Sep 20 Oct - Dec	25	14.5	6.4	17.5	0
Total 10/11	57.15		48.1		48.6		50		52.5		54		49.1		43.5		20.9		17.5	
Total 11/12	53.04		51.55		52.54		48.98		49.49		57.68		52.43		N/A		N/A		N/A	

Key: E = East of Rift; W=West of Rift. Monthly = Initial monthly payment, Bonus = Annual bonus or second payment, Total = Monthly plus Bonus payments

Data source: 2011 Light Monitoring and 2012 Final Survey Interviews

Farmers in the focus groups felt the training received as a result of the certification standards had resulted in them harvesting much higher yields of GL, due to them plucking 3 times per month[3] as opposed to just once or twice, and due to their improved fertiliser application and use, weeding, mulching and pruning. RA certification was additionally perceived to have had a major impact on water and environmental quality, and on the farmers' better understanding and use of chemicals and protective equipment[4]. The associated beneficial human health impacts meant more time and energy could be invested in tea (see section 4.2.2.8). Drought in 2011 had reduced yields. In the East of Rift Valley the area of tea farmed by households has not increased as land pressure is high, although some households lease tea farms from owners who are employed in urban areas. In the West of Rift, tea expansion is still occurring and tea income is used to purchase tea seedlings and set up nurseries for this.

Management at one of the dual certified PO's and at the RA only certified PO explained that due to the increase in direct overseas sales (as a result of the tea being FT or RA certified), even their remaining tea sold via Mombasa auction which did not receive a FT premium payment or direct sales price, was also sold at a higher price due to the reduced quantities of it available at the auction, which raised the competition for it and pushed its price up. Their farmers were benefitting from that increased sales price. The RA only certified PO management also explained that their status of being one of the earlier RA certified POs, had attracted attention from buyers and increased competition for their tea, which resulted in the buyers offering to pay an additional payment amount (typically USD$0.1/kg) for the RA tea. Lipton and Taylors of Harrogate were buyers that RA certified PO managers mentioned paid an additional payment for RA tea, but they suggested there were other buyers who also did so.

Management of the FT certified POs explained that the FT Minimum Price for black tea for Eastern Africa of USD$1.4/kg at auction or USD$1.5/kg FOB was irrelevant in Kenya currently as it is set at less than half the current Kenyan tea market price (USD$3.07/kg – Aug 2012 Mombasa Auction price)[5]. They also explained that only very low volumes of tea were being bought as FT declared tea and therefore receiving the FT Premium. FT Africa staff explained that they were dissuading any POs interested in becoming FT certified from doing so until the FT declared market for Kenyan tea increased.

4.2.2.4. Livelihood diversification Those certified farmers interviewed in the focus groups in the East of Rift Valley region felt FT and RA certification crop production training had helped them produce more food crops, which resulted in them having to spend less time in the markets searching for food products. Maize and potatoes were mentioned as well as cabbages, kales and tomatoes. Those in coffee zones mentioned that coffee farming had also been increasing in the last year although they did not associate this with their tea certification. However limited land availability was a major constraint to

Smallholder tea farms

[3] Research work in Kenya shows that GL quality definitely improves with more frequent plucking rounds (Owuor *et al*., 2009). However, there are conflicting findings regarding yield and increased plucking frequency; in Malawi and some Kenyan trials yield was found to decrease (Palmer Jones, 1977; Tanton, 1979; Owuor *et al*., 2000); while in other Kenyan trials it increased yield (Odhiambo, 1988; Owuor & Odhiambo, 1994). Shorter plucking frequencies improve GL quality, but blanket recommendations regarding its effect on yield should be avoided, and replaced with experimentation with the specific clones and environment.

[4] Rainforest Alliance's Tea Implementation Guide for smallholders in Africa http://www.sustainableagriculturetraining.org/wp-content/uploads/library/Tea%20Implementation%20Guide.pdf

[5] The FT Minimum Price and FT Premium Table version dated 9 Jan 2012 states the Kenyan tea FTMP as USD$1.7/kg at auction or USD$1.8/kg FOB.

crop expansion. The non-certified focus groups in the East of the Rift Valley suggested the lack of water and dried up rivers limited the production of other crops. In the West of Rift, farmers in the certified focus groups suggested that the area under other crops had either remained the same or decreased due to households wanting to prioritise and extend their tea crop. But some farmers suggested the increased income from tea was resulting in greater investment in fertilisers and certified seed for maize, beans and bananas. Managers of the FT outgrowers group explained that their crop diversification programme focuses on promoting traditional vegetables which are more nutritious than kales and cabbages.

PO managers felt that the diversification activities (particularly training in different topics) promoted by the certification standards helped women have alternative income earning opportunities although they acknowledged there was also extra work involved; they were aware that women often plucked tea on their neighbours' farms to earn cash income. They felt there were signs that more tea bushes were being transferred into women's names often by their fathers and that the certification standards were supporting this through raising awareness about equity and gender issues. The Factory Unit Manager (FUM) at one non-certified PO said he had not really thought about the fact that all the tea income was being paid into the husbands' account while the wife was doing much of the actual tea farming work and, he suggested that to change this culture one would have to work with the churches getting them to include the issue of joint decision making and shared family income in their sermons in advance of the bonus payment time. A dual certified PO manager said he felt the certification trainings could further emphasise financial management and finances at home, he felt that FT and RA were helping to interpret the new constitution which had many changes in it regarding women now being able to own property. FT/RA could help support campaigns on informing farmers about their rights.

4.2.2.5. Factors preventing farmers from escaping from poverty: PO managers explained that the old notion that 'tea is everything' has decreased and as a result tea farmers are engaging in a wider range of livelihood activities. As a result of certification related crop diversification training, households are growing many of the food items they previously had to buy and so are more self-sufficient and cushioned from inflation. RA's integrated crop management and soil conservation criteria encourage the planting of buffer crops such as Napier grass around the tea bushes, which can be fed to dairy cows so that farmers do not have to buy milk. RA related training on building farmers' skills in record keeping has enabled them to better assess whether activities are economically profitable or not. Both certification schemes have encouraged women to join groups and have their own income generating activities. Managers also felt there is better sharing and joint planning of the tea income within households now.

4.2.2.6. Tea farmers' ability to cover their basic needs: The increased tea prices have helped tea farmers better cover their basic needs, although there has also been significant inflation, particularly regarding food and agricultural inputs such as fertiliser. The RA training on financial management has helped certified tea households use their tea income better, and the diversification and food security training promoted by FT and RA into other crops and livestock activities has helped tea families produce more of their food products and earn extra income.

The questionnaire data found tea farmers were on average consuming 2.21 main meals per day with no significant differences regarding this between the different certification types (Table 4.6). All respondents were satisfied with the quantity and quality of food they were eating. This supports the perception that smallholder tea farmers are typically food secure and relatively well off compared with other non-tea farming smallholders. When the protein consumption comparison between spouses was analysed by the gender of the respondent, men in the East of Rift felt they were consuming a bit more protein than their wives, while men in the West felt the opposite, neither finding was statistically significant.

Table 4.6. Food consumption practices among Kenyan tea farmers with different certifications

	Total	KTDA members			FT certified outgrowers
		Non-certified	RA certified	FT certified	
N	500	150	100	150	100
How many meals do you consume per day on average	2.21	2.17	2.20	2.25	2.22
-1 = less; 0 =same; 1 = more					
Protein consumption compared to spouse	0.03	0.11	-0.15	0.11	0.00
Carbohydrates consumption compared to spouse	0.08	0.04	0.19	0.05	0.10
1= very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied					
How satisfied are you with the amount of food you eat	3.87	3.82	3.92	3.85	3.94
How satisfied are you with the quality of food you eat	3.70	3.45	3.95	3.67	3.85

Data source: 2012 SEVSS Final Survey Questionnaire Data

However, both the non-certified and the certified KTDA farmers reported taking slightly fewer meals per day in 2012 than in 2010, although the decrease was only statistically significant for the non-certified farmers and the RA certified farmers (Table 4.7). Despite the decrease in the number of meals per day, the certified KTDA farmers were significantly more satisfied with the amount of food they were taking in 2012 than 2010. The increase in satisfaction with the quality of food they were consuming in 2012 than in 2010 was significantly greater for certified than non certified KTDA farmers (p=0.011).

Table 4.7. Comparison of the number of meals consumed per day by tea smallholders in 2010 and 2012

Number of main meals eaten per day	in 2010	in 2012	Sig
All producers (n=497 in2010, 500 in 2012)	2.31	2.21	***
All KTDA producers (n=400)	2.31	2.21	*
Non-certified KTDA smallholders (n=150)	2.29	2.17	*
Certified (RA or FT) KTDA smallholders (n=250)	2.32	2.23	ns
RA-certified KTDA smallholders (n=100)	2.47	2.20	***
FT-certified KTDA smallholders (n=150)	2.22	2.25	ns
FT-certified outgrowers (n=97 in 2010, n=100 in 2012)	2.33	2.22	ns

Data source: 2010 Baseline and 2012 Final SEVSS Survey Questionnaire Data

In general the questionnaire data found the farmers in the East of the Rift Valley, whether certified or not felt that their tea incomes covered a large proportion of their basic needs (school expenses, clothes, health, water etc) (Table 4.8). All certification types felt their tea income covered between ½ and $^{1}/_{3}$ of their household food expenses. All certification types reported being able to cover a significantly higher proportion of their food, clothing, school, and health basic needs in the 2012 final survey than in 2010 baseline. This increased ability to cover these basic needs was not significantly higher amongst the certified than the non-certified tea farmers.

Table 4.8. Comparison of coverage of household expenditures by tea income amongst different certification types

	Total	KTDA members			FT certified outgrowers
		none	RA	FT	
N	500	150	100	150	100
1 = in its entirety; 2 = three-quarters or less; 3 = half of it; 4 = a quarter or less; 5 = no contribution					
Food	2.29	2.30	2.22	2.25	2.41
Clothing	2.29	2.24	2.65	1.95	2.53
School expenses	1.99	1.81	2.59	1.78	1.97
Health costs	2.24	2.07	2.94	1.91	2.30
Water	2.86	2.90	3.83	2.34	3.45
Energy	2.55	2.40	3.19	2.28	2.65
House rent or mortgage	3.78	3.73	3.90	3.76	3.78

Data source: 2012 SEVSS Final Survey Questionnaire Data

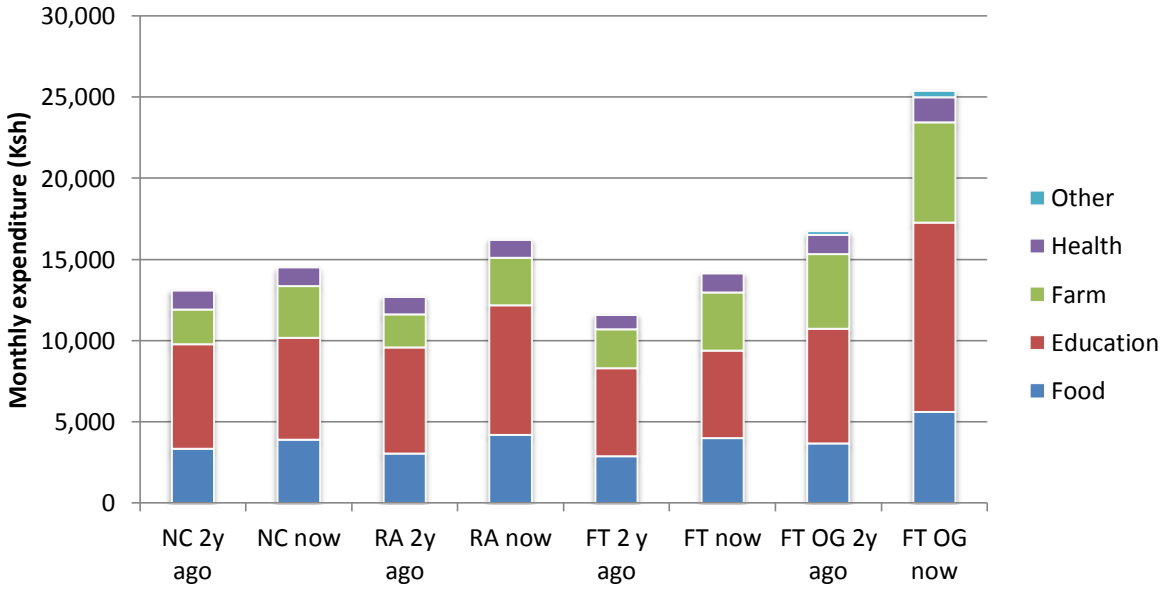
4.2.2.7. Investment of tea income: The farmer focus groups and PO management said that farmers were investing their tea income in the following: i) Educating their children; ii) Better food; iii) Extending, improving and maintaining their houses; iv) Their tea farming; v) Other agricultural activities such as horticultural production, poultry, rabbit, goat keeping; vi) Buying dairy cattle; vii) Buying building plots; viii) Water storage tanks and gutters; ix) Water and electricity/solar connections; x) New business ventures; xi) Clothing; xii) Motorcycles.

In the West of Rift where land pressure is lower than in the East, farmers were also extending their tea acreages. The FT certified outgrowers are additionally using their FT Premium in purchasing a tea factory.

Farmers explained that due to certification trainings they now managed their tea crop better, plucked more frequently and so delivered higher quality and yields of GL which results in higher quality and priced made tea and therefore higher incomes. Crop diversification training helped reduced their food expenditure. As many of the non-certified POs are already engaged in the process of preparing for RA certification, many of them have been offering their farmers the same trainings as in the certified POs. Additionally global tea prices have increased during the last few years so all tea farmers have benefitted from that although input and living costs such as fertiliser and food have also increased. The FT farmers explained that by using the FT Premium funds for community projects they had not had to make personal contributions to those projects and thus had saved money.

The questionnaire data found that a significantly higher proportion (84-93%) of certified households than non-certified households (77%) reported having tea income to invest. Children's education was seen as the most important investment area. Household estimates of their monthly expenditure now on food, education, farm, health and other, now and two years ago are shown in Figure 4.1. All certification types reported an overall increase in their monthly expenditure in the last 2 years. The FT outgrowers current expenditure levels were significantly higher than the other certification types. The FT outgrowers had a significantly bigger increase in food and education expenditure in the last two years than the FT KTDA households. The non-certified and FT KTDA households had significantly bigger increases in farm expenditure than the RA households.

Figure 4.1 Comparison of average monthly expenditure in 2012 and that recalled for 2010 among different certification types



Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.2.8. Livelihood Assets:

Human assets:

Health: The increased attention to household hygiene and sanitation, use of PPEs and safer use of chemicals (e.g. reduction in number of farmers keeping agrochemicals under their beds, safer use of pesticides on their dairy cattle and vegetables which has led to reduced skin/ inhalation/ headache and stomach problems (pesticides are not used on tea)) due to certification training and regulations has improved both farmers and factory workers health. Pluckers' health has also been protected through RA trainings and regulations on the safe use of chemicals.

Additionally although not related to certification, under KTDA there is a health insurance scheme called Majani Insurance Brokers funded by BRITAK Insurers, which offers farmers a health insurance policy (*Kinga ya mkulima*), whereby each registered members household contributes Ksh155/ month and then if they fall ill they can get treatment. More farmers have joined this scheme in the last 2 years, and it has led to a reduction in the taking of loans to cover medical costs. Pluckers are not eligible to join the scheme which is just for registered KTDA members.

In several FT certified POs, FT Premium funds have been used to help bring water nearer to the members' households and to build, staff and supply the drugs in more closely located dispensaries. Farmers then pay 10Ksh for a membership card, after which the drugs and consultation are free. Even non-tea farmers such as pluckers can benefit from this.

Increased tea income (as a result of high tea prices, and improved GL quality and crop management due to trainings related to the certifications) is used to purchase better food which improves farmers' health. All these human health impacts mean farmers can invest more time and energy in tea.

Training: PO managers and farmer focus groups explained that as part of their RA and FT certification activities farmer training on the following topics had occurred: proper tea husbandry (including plucking, pruning and planting); sustainable agricultural practices; safe use and handling of chemicals; crop diversification; livestock keeping; financial planning and record keeping; HIV awareness; health and safety; waste management; and environmental protection. However even at the time of the baseline, farmers at non-certified POs said their POs provided training on general tea farming/ management; plucking; tea processing procedures; tea as a business (cost reduction); record keeping; HIV awareness; home economics; and diversification into other agricultural activities. Managers at certified POs felt the previous over reliance on tea farming had decreased amongst members due to the certification schemes emphasis and training on livelihood diversification with members now earning additional income from livestock, horticulture, fish farming, bee keeping, rabbit farming and poultry. These livelihood diversification opportunities help reduce the pressure to subdivide tea farms into uneconomically small sized plots, as they provide younger family members with income sources.

Pluckers can attend FT or RA trainings but in the East of Rift Valley area are said to often prefer to use the time to pluck GL, while in West of Rift they apparently do attend the RA trainings.

Empowerment: The male outgrowers felt FT certification status and preparations had increased their negotiating power with the estate they supply GL to, which now listened to their grievances, repaired roads, increased the number of collecting sheds, the outgrowers can now negotiate the prices with the estate management and the GL price they receive has increased significantly. Their community can now access closer medical services from the new dispensary; and the women fetch water from closer water points thus saving energy and time, "*they no longer have to work like donkeys / Haifanya kazi kama punda tena.*"

Education: As a result of the FT premium fund investments the male FT outgrowers say their children are now more educated because the school is now nearby and because some children receive

bursaries. FT Premium fund investments in schools have not only benefitted tea farming households, but tea pluckers and others in the local community who can access them.

Natural assets:
Livestock: The FT outgrowers FT Premium funded AI project has improved their cow breeds which now produce more milk. A new national crop and livestock insurance scheme has been introduced recently, but is not related to the certification schemes.

Financial assets*:* Tea farmers have been able to access loans through banks and SACCOs for some time, the currently high tea prices are said to make lending institutions more willing to lend to tea farmers. However a new subsidiary company of KTDA called Greenland Fedha has recently been established and offers KTDA members cheaper credit interest rates e.g. 11.7% as opposed to 20%. Greenland Fedha use M-pesa payment methods which are very popular with farmers. However Greenland Fedha has not yet developed a school fee payment product, which some of the banks and SACCOs have. The amount of credit offered to farmers is based on the GL quantity they have delivered. Greenland Fedha can also supply PPEs at a subsidized price. The high tea prices mean that farmers have been able to clear any outstanding loans they have which makes it easier for them to access new loans. KTDA farmers also access fertilizer on credit from KTDA, and payment for it is then deducted gradually from their GL delivered payments.

The questionnaire asked about the changes experienced in various assets comparing now (2012) and two years ago (Table 4.9). FT outgrowers (OG) reported the largest yield increases, and all the certified farmers reported larger yield increases than the non-certified farmers, however this was only statistically significant for the FT OG and RA certified farmers. The non-certified and FT certified KTDA farmers had the greatest increase in number of training events in the last two years, which is likely linked to their preparations for RA certification. RA and FT OG reported the greatest increases in cash savings during the last two years. The FT and FT OG farmers reported the greatest increase in number of TVs during the last two years.

Table 4.9. Change in household assets between now (early 2012) and two years ago

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	500	150	100	150	100
Land owned	0.04	0.02	-0.08	0.02	0.23
Land rented	-0.01	-0.03	0.01	0.02	-0.03
Land planted to tea	0.02	-0.01	0.04	-0.02	0.12
Yield of tea	556	185	496	343	1493
Area of other crops	0.02	0.02	-0.03	0.03	0.04
Number of cows	0.20	0.03	0.19	0.19	0.47
Number of chickens	-1.08	-3.55	-10.45	6.88	0.03
Number of goats	-0.06	-0.02	0.11	-0.15	-0.17
Number of training events	0.99	1.79	0.02	1.29	0.31
Number of bikes	0.05	0.06	-0.04	0.03	0.18
Number of motor bikes	0.00	0.00	0.03	0.04	-0.08
Number of ox/donkey carts	0.00	-0.02	0.03	-0.01	0.02
Number of radios	0.24	0.23	0.17	0.33	0.17
Number of TVs	0.27	0.18	0.07	0.43	0.38
Credit	12513	2587	13448	10491	29500
Cash savings	2648	-7317	9633	1908	11720

Data source: 2012 SEVSS Final Survey Questionnaire Data

A significantly larger proportion of RA and FT OG farmers than non-cert and FT reported an improvement in the environment during the last 2 years (Table 4.10). All farmer types felt there had been an improvement in the post-harvest handling facilities for tea (e.g. collection centres, clerks, weighing scales) during the past two years.

While the questionnaire found that all communities felt that their communications (roads, telephones), health services, education services and households services (electricity, water) had improved in the last two years, a larger proportion of RA than non-certified households felt health and education had improved. Education services were ranked as the most important service for the community, followed by health and then infrastructure.

When asked in the questionnaire about what changes there had been in their households access to services in the last two years, most households felt there had been improvements generally (Table 4.11). The greatest improvements were in road access, schooling facilities, medical facilities, better farming access and mobile phone. Roofs and house quality improvements were not as high amongst non-certified as certified households.

Table 4.10. Other change experienced during the last 2 years

	Total	KTDA members			FT certified outgrowers
		Non-cert	RA	FT	
N	500	150	100	150	100
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement					
Credit including farm inputs on credit	0.36	0.35	0.50	0.30	0.32
Payments due to quality tea	0.75	0.70	0.82	0.67	0.86
Access to training	0.59	0.62	0.61	0.55	0.60
Extension services	0.63	0.71	0.62	0.54	0.67
Transport of produce	0.84	0.81	0.80	0.83	0.91
Crop husbandry	0.69	0.69	0.61	0.66	0.83
Production facilities for tea	0.71	0.67	0.73	0.65	0.82
Post-harvest handling facilities for tea	0.91	0.95	0.88	0.91	0.87
Diversification of farming enterprises	0.59	0.59	0.49	0.52	0.77
Value addition on farm	0.60	0.65	0.60	0.49	0.68
Environment	0.49	0.33	0.72	0.29	0.79
Safe use of pesticides	0.20	0.16	0.06	0.04	0.63
Producer organisation or estate	0.73	0.70	0.63	0.71	0.89
Social development projects	0.89	0.87	0.81	0.95	0.90

Data source: 2012 SEVSS Final Survey Questionnaire Data

Table 4.11. Changes in household access to services during the last two years

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	500	150	100	150	100
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement					
Roof	0.24	0.07	0.42	0.17	0.41
House quality	0.29	0.15	0.42	0.21	0.48
Drinking water	0.34	0.25	0.26	0.38	0.52
Electricity	0.31	0.26	0.28	0.32	0.42
Better farming methods	0.63	0.55	0.61	0.59	0.82
Road access	0.74	0.71	0.70	0.78	0.77
Mobile phone	0.60	0.53	0.66	0.46	0.84
Extension services for tea	0.52	0.60	0.57	0.40	0.53
Medical facilities	0.69	0.54	0.95	0.73	0.62
Schooling facilities	0.71	0.61	0.93	0.64	0.77
Membership of groups	0.37	0.43	0.30	0.29	0.49
Social security	0.26	0.22	0.24	0.27	0.32
Health insurance scheme	0.40	0.38	0.52	0.35	0.41
Access to credit provision facilities	0.53	0.44	0.62	0.41	0.76
Household food consumption	0.46	0.39	0.53	0.41	0.55

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.2.9. The Future: All but one of the 12 smallholder farmer focus groups interviewed in the East of Rift Valley area gave a unanimous 'no', when asked during the final survey if they wanted their children to work in tea when they were older. They said the returns from their small tea plots were not sufficient, and their land size was now so small they could not economically sub-divide it any further and there was no land to expand on. All of them were educating their children in the hope that they would be able to get jobs outside the tea farm. They felt that if their children were educated there were jobs for them such as: motorbike taxi jobs, construction work, small businesses, matatu industry workers, green grocers and hawkers. However, some farmers said that it is still necessary to have cash to pay bribes to help your child to obtain employment.

The one male farmer focus group that did want their children to take over their tea farms when they died said this was because '*tea is a green gold*' and they hoped their children could be even better farmers than themselves. The farmer focus groups in the West of the Rift Valley were unanimous in agreeing that they did not want their children to go into tea farming. They wanted them to have better jobs such as becoming lawyers, doctors, lecturers, engineers, District Commissioners and Presidents. The farmers did not link these ambitions to certification. The 2012 questionnaire interviews also revealed an optimistic outlook that tea households' children would grow up to be better off than their parents, and that the parents would also continue on the trend of improving well-being (Table 4.12). There was also a strong feeling that women had become better off within the community than 2 years ago.

Interestingly at the time of the baseline survey in 2010, all the focus groups in the East of the Rift Valley said they would like their children to work on tea production when they are older so that they could be financially independent and continue from the point that their parents have reached. One mixed focus group explained, '*We do not want our efforts to go to waste after we are unable to tend to the crop ourselves. Things are starting to get better in the tea industry*.' It is interesting that despite the continued increase in tea prices, the view by early 2012 was in such contrast to this. During the baseline the KTDA focus groups in the West of the Rift Valley said they did not want their children to go into tea production because of limited land for expansion and poor tea prices. The FT outgrowers said they would prefer their children to work elsewhere or in the tea factory as their tea farms were too small to economically survive further sub-division amongst their children.

Table 4.12. Comparison of means – Changes in wellbeing

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	500	150	100	150	100
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement					
In the past 2 years, did you become	0.36	0.23	0.45	0.30	0.58
In the near future, will you become	0.64	0.59	0.61	0.63	0.73
In the past 2 years, did the women become	0.68	0.64	0.67	0.73	0.67
How will you children be in comparison to you	0.80	0.74	0.86	0.80	0.84

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.3. Tea Production

4.2.3.1. Tea yields: During the focus groups, farmers estimated their per bush yields by dividing their total number of kgs of GL/year by the number of bushes they have. Their yield estimates were typically between 1-2kg GL/ bush/ year, but varied between farmers, which they explained was due to the age/type of clones, the management practices (particularly fertiliser use), and the climate. In the focus group discussions most of the smallholder farmer households had between 1000-2000 tea bushes (~1/2 acre). See subsection further below for Costs of Production data. In the final survey, the research team copied the official GL delivery records for each month from July 2010 to June 2011 for at least 140 registered farmers per focal KTDA PO in order to get a better understanding of yields and therefore incomes, because the figures collected during the light monitoring survey

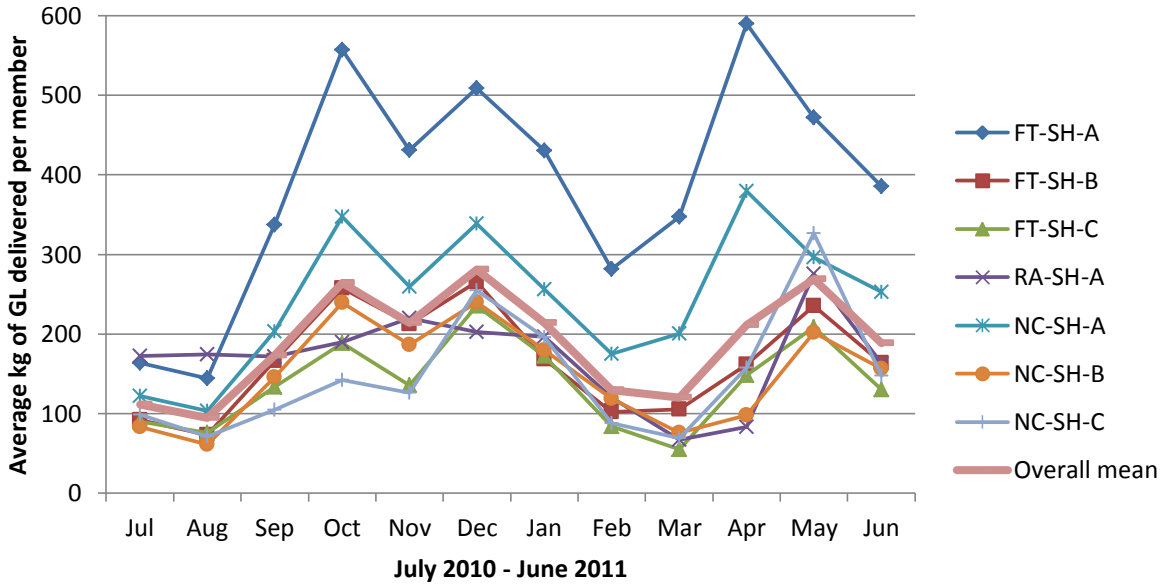
revealed large discrepancies between farmer and PO management figures on yield and plucking time inputs. The average yield and income figures based on these records are calculated in Table 4.13. Average tea incomes amongst these 1560 smallholder tea growers ranged from Ksh86,892 to Ksh265,663 per year with an average of Ksh118,796. The recorded per bush yields were lowest in the West of Rift at 0.82kg GL/bush/year, while farmers at some of the POs in the East were producing nearly double this yield. The average number of bushes per registered member typically ranged between 1,600 and 2,500 with the exception of the dual cert FT-SH-A where members typically had >4,000 bushes and therefore larger tea farm areas. The minimum number of bushes shows that despite regulations of minimum holdings of 500 bushes, some members in fact have far fewer bushes than this, the maximum bushes also reveals that there are a few large land holders amongst the members with up to 60,000 tea bushes. Using the same records it was possible to analyse the monthly distribution of GL delivered, this data is shown in Figure 4.2, lowest GL deliveries are during the months of February and March and July and August.

Table 4.13 Analysis of actual GL delivery records from the focal KTDA POs for FY 10/11

PO Code	East/ West	N	GL Prod/Bush (kg/bush/yr)	Mean No. Bushes/ member	Max No. bushes/ member	Min No. bushes/ member	Mean total GL kg/yr/p	GL total price Ksh/kg	Mean income/ member/yr (Ksh)	Max income/ member/ yr (Ksh)	Min income/ member/ yr (Ksh)	% female members
FT-SH-A	East	147	1.17	4,311	44,371	553	4648.51	57.15	265,663	2,976,894	37,101	26.53
FT-SH-B	East	309	1.53	1,609	12,282	457	2003.01	48.1	96,345	902,397	33,577	34.30
FT-SH-C	East	294	1.17	1,778	60,000	300	1787.91	48.6	86,892	3,412,533	17,063	36.50
Mean FT	*East*	*750*	*1.32*	*2,205*	*60,000*	*300*	*2437.21*	*50.07*	*125,826*	*3,412,533*	*17,063*	*33.64*
RA-SH-A	West	183	0.82	2,549	12,037	106	2046.46	50	102,323	494,767	4,357	27.80
NC-SH-A	East	226	1.56	2,025	12,180	364	2933.34	52.5	154,001	994,345	29,716	31.41
NC-SH-B	East	258	1.34	1,609	11,712	378	1787.91	54	96,547	845,617	27,292	31.01
NC-SH-C	East	143	1.12	1,853	7,109	141	1782.34	49.1	87,513	389,937	7,734	29.40
Mean Non Cert (NC)	*East*	*627*	*1.37*	*1,815*	*12,180*	*141*	*2199.51*	*52.34*	*115,196*	*994,345*	*7,734*	*30.79*
Overall Mean	*/*	*1560*	*1.28*	*2,088*	*60,000*	*106*	*2295.83*	*50.97*	*118,796*	*3,412,533*	*4,357*	*31.81*

Data source: KTDA GL delivery records database for FY 10/11

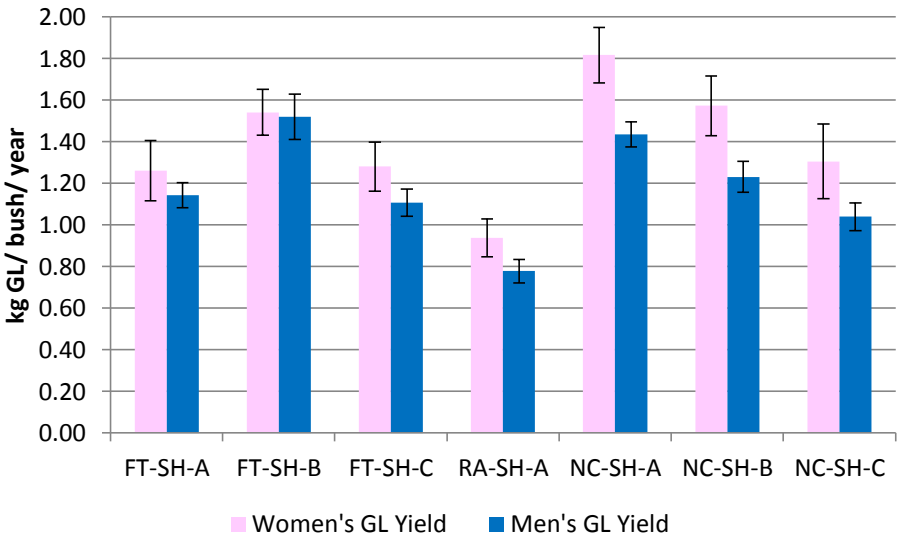
Figure 4.2. Comparison of the average kgs GL delivered by members at different POs during a year



Data source: KTDA GL delivery records database for FY 10/11

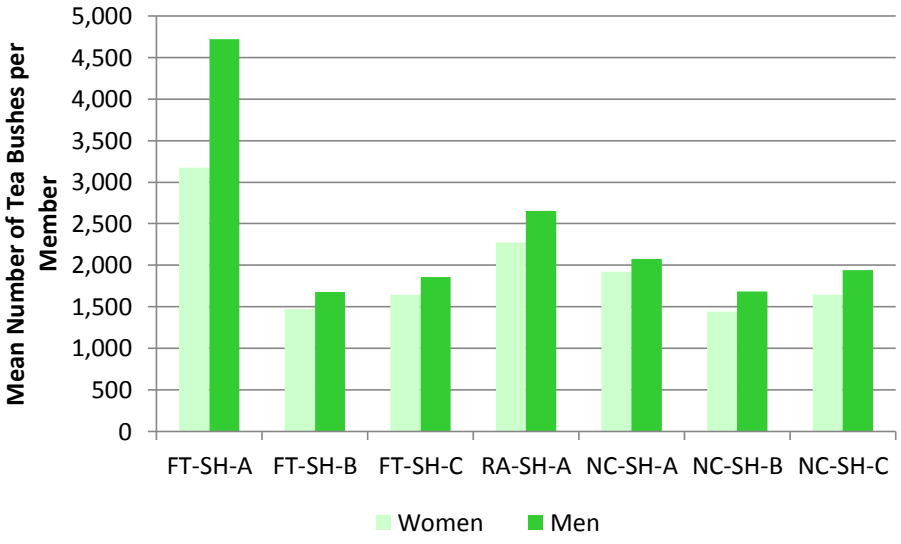
Although the management of most of the POs said they did not know the proportion of their registered members who are female, from the GL records it was possible to analyse this using the registered names. It can be seen that women infact make up between 26.5 and 36.5% of registered members at these collection centres (Table 4.13). When the GL delivery record data on yield and number of tea bushes owned is analysed by gender, it is interesting to note that at all the POs women members had higher per bush tea yields than men, although the difference was not statistically significant (Fig. 4.3). Male members however, owned more tea bushes than female members (Fig 4.4).

Figure 4.3. Comparison of GL yields obtained by male and female KTDA PO members (± SEM)



Data source: KTDA GL delivery records database for FY 10/11

Figure 4.4. Comparison of number of bushes owned by registered male and female KTDA members



Data source: KTDA GL delivery records database for FY 10/11

The questionnaire survey also collected information from farmers regarding their number of bushes and annual kgs GL produced for each of the 50-100 farmers who were interviewed per PO (Table 4.14). The number of tea bushes and area were found to be significantly higher amongst those interviewed in the FT certified POs than the non-certified POs in the East of Rift. It is notable that the numbers of tea bushes owned by the FT certified farmers is higher than the average figures (2,205

bushes) calculated from the GL delivery database records (see Table 4.13). This difference suggests that FT farmers with larger than average tea farms were interviewed in the survey or their recall of the number of bushes they own was not accurate, or that the GL records were taken from collection centre areas where farmers have smaller tea farms. The FT certified outgrowers in the West reported the largest tea areas (2.70 acres and 7,847 bushes) of all those interviewed. The tea fields in the East of the Rift Valley (Non-cert and FT cert) were significantly older than in the West (RA cert and FT OG). Very few farmers whether FT certified or non-certified in these older East of Rift tea zones knew what tea clone they were growing. Almost all the tea was grown on land owned by the household, but only 70% of households had official land title for the fields. Land title holding was higher amongst the FT certified households. All households interviewed had tea collection centres situated less than a km from their homes. FT households were slightly closer to their tea collection centres than RA or non-certified households. Interestingly all certification categories reported an increasing GL production trend from FY 2009 to 2011 (Table 4.14). The questionnaire data showed that in the East of Rift Valley area reported GL yields were significantly higher for the FT certified farmers than the non-certified farmers. The FT certified farmers in the East also had significantly higher per bush yields than the RA certified farmers in the West, although the FT outgrowers had the highest per bush rates, which is likely mainly due to the lower quality standards accepted at the estates compared to KTDA which enables outgrowers to pluck higher quantities of GL per bush than KTDA farmers can.

Table 4.14 Comparison of tea farmer land sizes, tea bush numbers, ages and yields from questionnaire responses in the 2012 final survey

	Total	KTDA members			FT certified outgrowers
		Non certified	RA certified	FT certified	
N	500	150	100	150	100
Total size of household farmland (acres)	3.02	2.16	3.26	2.48	4.86
Area under tea (acres)	1.34	0.78	0.97	1.22	2.70
Number of tea bushes	4027	2222	3290	3779	7847
Average age of tea field (years)	25.4	32.9	16.6	30.1	16.0
Knows clone of tea they grow (%)	37%	23%	45%	7%	95%
Land owned (% respondents)	98%	100%	100%	99%	93%
Land title (% respondents)	70%	65%	61%	74%	80%
Distance from home to nearest tea selling point (km)	0.66	0.74	0.71	0.57	0.61
total tea production (kg GL) - 2009	4,069	2,188	2,656	3,965	8,460
total tea production (kg GL) - 2010	4,457	2,435	2,936	4,070	9,590
total tea production (kg GL) - 2011	4,778	2,506	3,166	4,202	10,659
tea productivity (kg GL/acre) - 2009	3,577	3,391	3,117	4,228	3,340
tea productivity (kg GL/acre) - 2010	3,909	3,646	3,528	4,360	4,009
tea productivity (kg GL /acre) - 2011	4,116	3,715	3,865	4,426	4,504
tea productivity (kg GL/bush) - 2009	1.22	1.10	0.90	1.36	1.50
tea productivity (kg GL/bush) - 2010	1.33	1.20	1.00	1.45	1.69
tea productivity (kg GL/bush) - 2011	1.39	1.21	1.09	1.47	1.86

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.3.2. Tea quality: Both certified and non-certified smallholder farmers perceive their attention to tea quality as having increased in the last two years, this has occurred through: more frequent plucking (every 7 days) which results in younger, smaller and softer GL; more attention to maintaining the plucking table and following the strictest two leaves and a bud interpretation for GL; improved manure application from one's own livestock activities; increased and more targeted

fertiliser application; proper pruning and mulching; and higher tea prices which act as an incentive to improve quality and production. The certified smallholder farmers associate their increased attention to quality as being due to the additional agronomic and plucking training which has been provided since they started preparing for certification and additionally for FT farmers due to their raised awareness about the higher market prices that better quality GL can fetch, and the associated FT Premium funds. The non-certified smallholders explained that the extensionists at their POs have provided more training focused on GL quality and in some cases this is in preparation for RA certification and through the FFS. All focus group participants (certified and non-certified) explained that increased income is the primary incentive for improving their GL quality.

4.2.3.3. Costs of production: Comparative costs of production for the different certification types were calculated during the light monitoring study in Feb 2011 (see Stathers et al., 2011 for full details) and are shown in Table 4.5. The data showed outgrowers were getting lower returns from their tea production than the KTDA smallholder tea growers, with gross margins of Ksh79,190 - 92,725 acre/year and Ksh172,000 - 183,081 acre/year respectively. The total per kg green leaf (GL) price received by outgrowers (Ksh30.08-36.00/kg GL) was much lower than that received by the KTDA smallholders (Ksh43.5-46.55 /kg GL). Some producers are happy to settle for lower total GL prices if the monthly payment is proportionally higher, or if the payment is fairly immediate as they don't like waiting for the once a year bonus payment from KTDA. However, managers at one estate reported paying their outgrowers just a monthly payment of Ksh17/kg GL and no bonus. They explained that outgrowers were happy to take this price because the GL quality criteria at the estate are so much lower than those at KTDA factories that they can pluck at least twice the volumes of GL and so receive a similar daily or per bush income as KTDA smallholders although the per kg GL rate is much lower. Given that these outgrowers purchase GL from other tea growers who are not registered as outgrowers with the estate, these other tea growers are likely to receive an even lower per kg GL payment. Estate managers explained that the Tea Board of Kenya states that double registration (e.g. being registered as a shareholder member at a KTDA factory and simultaneously registered as an outgrower for an estate factory) is illegal. However, it is likely that this does occur in some situations enabling the farmer to take advantage of which of the quality, price and payment combinations best suits them.

PO managers and farmers suggest certification is helping them improve the quality of their GL and thus their made tea which then impact on the sales price, however farmers at non-certified POs receive similar prices to certified farmers for their GL (see Table 4.15 and Table 4.2). Farmers and PO managers gave very different yield estimates, and so the research team collected GL records during the final study to get a better idea of yield at the different POs (see Table 4.13 and Fig 4.3).

Of the variable costs, plucking labour and NPK fertiliser are the biggest expenditure items. In the financial year 2010, plucking labour rates on smallholder farms ranged from Ksh4.5 to 8 /kg GL plucked and delivered to the collection centre (during FY 2011 they ranged from Ksh5.5 to 8/kg). Sometimes during the low season (~4 months per year) a per day payment rate is used instead of the per kg rate to attract pluckers during the period when it is not easy to pluck many kgs per day, especially on smaller farms. In most of the smallholder situations the labourers (who are usually neighbouring tea farmers) typically also share a leftover meal with the host household. Other tea farming activities include pruning a third or a quarter of the tea bushes each year, a small amount of weeding around the edges of the field and fertiliser application usually once a year. Most households have three or four plucking baskets. Plucking is typically done from 7 or 8am till midday or 2pm, with the end point usually being dictated by when the factory's vehicle arrives at the collection centre. During plucking some kind of apron (e.g. a used fertiliser sack or a more expensive version) is worn to stop the moisture from the tea bushes penetrating one's clothes. The personal protective equipment (PPEs) kits being recommended by the certification schemes are viewed by many farmers as expensive with several items being unnecessary and not used. Most tea households own a pruning knife (often a machete with its upper side sharpened), and two pairs of gumboots.

Table 4.15. Informed average annual cost of smallholder tea production per acre in Kenya (Financial Year 2010)

Type	NON-CERT KTDA	FT CERT KTDA	RA CERT KTDA	FT CERT OUTGROWERS	NON-CERT OUTGROWERS
Certification	Non Cert	FT (since 2007)	RA (since 2009)	FT (since 2007)	Non Cert
Location	East of Rift	East of Rift	West of Rift	West of Rift	East of Rift
REVENUE					
Yield (kg GL per acre per year)	4944	5320	5460	4400	4000
Total price per kg of GL (Ksh/ kg GL)	46.55	43.70	43.50	36.00	30.08
Revenue (Ksh/acre/yr)	*230,132*	*232,484*	*237,510*	*158,400*	*120,320*
VARIABLE COSTS					
Family labour, plucking (Ksh/acre/yr)	16,800	16,800	36,000	40,800	0
Hired labour, plucking (Ksh/acre/yr)	21,600	20,160	2,000	0	24,300
Family labour, other (Ksh/acre/yr)	600	600	600	600	600
Hired labour, other (Ksh/acre/yr)	3,208	3,100	1,400	1,000	1,750
Food for workers (Ksh/acre/yr)	3,450	4,140	440	40	0
Fertiliser NPK (Ksh/acre/yr)	9,955	10,787	11,364	15,000	9,500
Other fertiliser (Ksh/acre/yr)	0	0	0	4,000	0
Chemicals for weed control (Ksh/acre/yr)	0	0	0	0	1,000
Implements (Ksh/acre/yr)	2,475	2,475	2,625	4,235	3,980
Total variable costs (Ksh/acre/yr)	*58,088*	*58,062*	*54,429*	*65,675*	*41,130*
FIXED COSTS					
Cost of land with tea bushes (Opportunity cost, using foregone interest (10%) on value of investment)	120,000	105,000	45,000	50,000	150,000
Infilling costs (Ksh/acre/yr)	575	550	1,300	550	270
Cost of certification compliance (annualised 10 yr investments) (Ksh/HH/yr)	0	0	1,770	584	0
Cost of certification compliance (annualised 3 yr investments) (Ksh/HH/yr)	0	488	878	833	0
Total fixed costs (Ksh/acre/yr)	*120,575*	*105,992*	*48,775*	*51,891*	*150,270*
Gross margin (Ksh/acre/yr)	**172,044**	**174,422**	**183,081**	**92,725**	**79,190**
Net margin (Ksh/acre/yr)	**51,469**	**68,430**	**134,306**	**40,834**	**-71,080**
Total production costs *(variable plus fixed)* **per kg of GL (Ksh)**	**36.14**	**30.84**	**18.90**	**26.72**	**47.85**
Total variable production costs *(variable only)* **per kg of GL (Ksh)**	**11.75**	**10.91**	**9.97**	**14.93**	**10.28**
Farmers net cash income (Ksh/acre/yr)	**187,729**	**190,626**	**215,906**	**132,234**	**79,520**
Typical tea area farmed (acres)	*0.33*	*0.25*	*0.6*	*1.5*	*4*

The cost of land differs dramatically between locations (particularly East and West of the Rift valley, but also within the East of the Rift valley area). However in the majority of cases farmers have inherited their land and tea bushes and therefore no payments (cash or otherwise) for using the land are involved in their day to day production costs. The KTDA smallholders in the East are farming very small areas of tea, often just ¼ or ⅓ of an acre (~1000-2000 tea bushes depending on the spacing of bushes used and land area), while those in the West typically have tea farms twice the size.

Annual certification compliance costs were found to be highest for the RA certified smallholders. Long term investments included the construction of chemical stores and household roof rainwater harvesting tanks and gutter systems and tree planting. The FT outgrowers in the West were also constructing chemical stores in order to comply with the certification. Some of the FT certified KTDA smallholders, the FT outgrowers and the RA certified KTDA smallholders, estates and POs working towards RA certification had also had to invest in PPE kits in order to be compliant. These kits typically included an apron, gumboots, gloves, mask, helmet – and cost between Ksh1,608 and 3,500 per household.

4.2.3.4. Challenges to tea production:

- Climatic factors such as both frost and drought are serious risks for tea producers. Frost problems are not common, for example around Thika they had last suffered from frost damage 20 years ago, but this year had a 30% tea crop loss due to frost damaging the green leaf. Prolonged dry spells are more common. Farmers' only suggestions for addressing these problems were to irrigate the tea bushes so that they flushed again more quickly after such damage. Hailstones which damage the tea crop were also reported from one of the West of Rift Valley sites. PO management are promoting mulching and manuring of bushes in areas prone to dry spells to help retain more soil water.
- The low initial monthly payment amount (Ksh12/kg GL FY 2010/2011 with bonus rates ranging from Ksh36-45/kg GL in FY 2010/2011 amongst the focal POs) was also viewed as a major challenge preventing farmers from being able to hire sufficient labour to pluck all the available GL at times. They felt that the certification standards provided useful knowledge, but unless it was combined with greater access to cash (e.g. higher initial monthly payment amount or final tea prices) they could not always apply the knowledge.
- Input costs have increased e.g. Fertiliser (~Ksh2,500/ 50kg bag in FY 2010/2011 as opposed to Ksh1,800 in FY 2009/2010) [so they are learning how to use organic farmyard manure instead], PPEs (~Ksh2,000/set), and plucking rates (Ksh7-8/kg GL plucked and transported plus lunch in FY 2010/2011 in East of Rift) are perceived by some to be very expensive.
- Plucking labour can also be scarce and expensive in some tea areas. Tea bushes can be left to overgrow because of this labour shortage in some areas. Despite high unemployment, many youth are said not to want to pluck tea. There is a KTDA policy banning the use of plucking machines as they produce very low quality GL.
- In the East of Rift Valley area many of the tea farms are planted with very old tea bushes which were said to be lower yielding than the new clones now being produced. When farmers need to gap fill they use the new higher yielding clones. Some of the old tea bushes also seem to be susceptible to diseases such as one that dries the bush up from the bottom upwards and another that occurs after pruning. Their tea extension officers have told them to uproot any such infected bushes and then leave the gap empty for at least 6 months before planting a new tea plant.
- Women felt that loans and the tea bonus payments should be accessible to both men and women and not just men, as tea is plucked and managed by both. They also felt that when agricultural officers are developing the individual tea farm leasing agreements, joint agreement by both the husband and wife should be required.
- PO management additionally mentioned how serious the land division issue was with tea farms now reaching very small sizes which made it difficult to keep them economically viable.

There was a high convergence of opinions regarding the tea production challenges reported by the farmer focus groups and PO management and between certified and non-certified POs (Table 4.16).

Table 4.16 Tea production challenges mentioned during different interviews

Farm Level	Non-Cert KTDA (n=3 POs)			RA KTDA (n=1 PO)			FT KTDA (n=3 POs)			FT OG (n=1 PO)		
Tea Production	FGD		Mg	FGD		Mg	FGD		Mg	FGD		Mg
Challenges	M	W	mt	M	W	mt	M	W	mt	M	W	mt
Labour costs increasing and supply shortage	*	**	***	*	*	*	*	*	***			
Rising cost of inputs e.g. fertiliser		***	*	*		*	**		*			*
Climatic impacts & changes	*		**				*		*	*	*	*
Delays at collection centre during peak GL season	**	*	*		*		**	*	*			
Initial GL payment too low	*	**		*	*	*	*	*		*		
PPEs are expensive	*	*		*			**					
Small farm size									**			
Tea diseases							*	*				
Youth do not want to pluck tea			*						*			
Land competition for other crops									*			
Poor tea husbandry												*
Bush drying due to poor pruning							*					
Tea clones are very old							*					
High cost of planting new tea												*
GL theft from collection centre		*										
GL rejection due to poor quality											*	
GL collection centre too far	*											
Low factory mechanisation								*				
Loans & lease agreements made for men not jointly for household								*				
Fluctuating tea prices, payments												*

Key: FGD = focus group discussion; M=Men; W=Women; Mgmt=Management; OG=Outgrowers

4.2.3.5. Challenges at the local collection centre level:

- Delayed leaf collection by the POs trucks was still a major challenge, particularly during the peak season. The delay then results in the GL withering at the collection centre, and farmers and pluckers wasting time waiting at the collection centre. The farmers suggested that more collection clerks should be employed, or a system instituted whereby the farmers can deliver their GL and have it weighed immediately allowing them to then leave (as opposed to waiting for the truck and then weighing and loading the sacks). Some collection centres do not have a timetable system, which makes it even harder for farmers to estimate at what time they need to go to the collection centre. [*Note: management at one PO explained they have 14 sets of electronic weighing scales (each costing Ksh375,000) to cover their 65 collection centres, they used to have 40 dial scales*].

Green leaf collection centre

- In contrast, non-certified outgrower interviewed during the baseline complained that their estate would collect their GL before 10am in the morning, making it very difficult for them to pluck many kgs.

- Theft of GL by pluckers while it is waiting to be weighed at the collection centre has been a problem at one PO.
- Overcrowding of some collection centres results in some GL having to remain in its basket instead of being poured on the bench and it then turns brown and may be rejected. The PO is trying to encourage their farmers to build new collection centres to reduce this problem and this would also help reduce the distance to the collection centre, although only one focus group (a non-certified one) mentioned distance to the centres as a problem.
- Payment of electricity bills and lack of water is a problem at some collection centres.
- The deduction of a standard 2kg from each GL batch to cover the weight of the sack is felt by farmers to be too high and does not reflect the true weight of the sack.
- At one of the non-certified POs collection centres the female focus group explained that the centre was not painted, the roofing was in a poor state, there was no water connection, the benches were poor, and there was no fence.
- The FT certified outgrowers reported that the GL at a collection centre can sometimes all be rejected due to poor quality sometimes as a result of delayed collection. They said the use of more frequent plucking rounds had helped reduce the problem.
- PO management at some non-certified POs said leadership wrangles in the collection centres were problematic.
- PO management at some FT certified POs reported that there were still problems with inconsistency between farmers' GL figures and factory GL figures and receipting problems causing some mix ups.
- PO management explained there were occasional incidents of GL hawking where women (wives of the registered members) sell some of the GL they have plucked directly to middlemen or other farmers for cash in order to buy food. This coping strategy is due to socio-cultural factors whereby male tea farmers frequently deny their wives access to the tea income and so the women find other means of accessing the cash they require.

The challenges at the local collection centre level reported by the men and women farmer focus groups at each PO and the PO management and between certified and non-certified POs were virtually identical. Certified POs and those preparing for certification have tended to invest in upgrading their collection centres (concrete benches, painted walls, water point, electricity etc) in order to improve their GL quality, they use the PO funds or FT premium funds for this upgrading work. The poor facilities at one non-certified POs collection centre were highlighted by both the farmers and management.

4.2.4. Farmers' knowledge of certification

4.2.4.1. Members' understanding of certification: The dual (FT&RA) certified smallholders focus group members associated FT certification with progress and investments in community infrastructure which improve well-being, examples included the nearby dispensaries and secondary schools built using FT premium funds. They were aware that the FT premium fund was generated through an additional payment of USD$0.5/kg of certified made tea bought. These farmers explained that FT premium funds had also been used to help restart important stalled projects such as electrification, roads and roadside drainage, as well as for: footpaths, supporting community group projects (e.g. goat keeping, rabbit keeping, beehives), levelling school playing fields, paying bursaries for some needy children, purchasing land for fuel wood production for the factory, erecting bus stops/shades. These FT premium funded projects meant the farmers did not have to make their own contributions to the projects and so retained more of their income.

It was notable that whilst the men's focus group of FT certified outgrowers were aware of community projects funded by the FT premium and increased tea income resulting from tea crop training, the women's focus group were not even sure whether their outgrowers organisation was FT certified or not, nor whether any projects they knew of were associated with this. During the

earlier baseline survey women farmers explained that they knew the tea had to be of good quality if it were to fetch the good prices paid by FT and that the farmers had to be clean while delivering the GL to the collection centres. A few FT certified farmers confused FT as being a good tea buying company. Managers at one FT certified PO explained that at first their members had misunderstood and thought FT was a NGO giving charity, and then started to dislike it because of this misunderstanding, but were now appreciative and happy with it.

During the baseline, the FT farmers explained what they had to do differently in order to be FT certified, this included: using better farming methods in order to produce better quality GL; farming more organically; following high standards of cleanliness during production; meeting the set standards by following instructions and training provided by the PO; maintaining good working relationships with the management; not encouraging child labour; keeping the factory in a hygienic condition; and their factory must provide good working conditions for employees. They mentioned the time needed to attend meetings as being the only cost.

The focus group farmers interviewed tended to associate RA certification more with improved human and environmental health, and increased knowledge especially in soil erosion management, water source protection, safe use of chemicals, use of PPEs, waste management, fairer treatment of workers, wildlife protection, and indigenous tree planting. Farmers were aware that sales of RA declared tea did not automatically result in a RA premium fund. Whilst the FT farmers also associated FT with environmental protection, sustainable agriculture and kitchen gardens, they tended to mainly describe the more tangible FT premium investment projects when asked about FT.

Both certification standards are associated with agricultural training which has increased GL yield and quality and food crop diversification. None of the farmers were aware of how much their PO paid annually to be certified[6].

The final survey questionnaire data revealed that 99-100% of the members interviewed from certified organisations were aware of the correct certification status, although several of the RA-only certified PO members thought their PO was also FT certified. A few (5-7%) of the non-certified farmers wrongly thought that their organisations already had either RA or FT certification, this confusion is likely due to the advanced stage of RA certification preparation that several of these non-certified POs are in.

The non-certified farmer focus groups had all heard of RA (note: all 3 of the non-certified POs are already working towards RA certification), but only one of them of FT. They were aware that RA certification would help expand their market, and involved water harvesting, soil erosion control, waste management, tree planting and organic farming.

Several community leaders interviewed during the baseline study said certified farmers farm in a different way, '*The certified ones pluck better quality tea, their collection centres are cleaner as they are fenced, painted and some have water. They also take better care of their farms*'.

At the baseline stage, those smallholders' hired labourers who were interviewed from certified farms, all knew that their employers were certified. They explained that FT certification meant; the factory tea was sold at a better price and so the farmers earned more; a certain percentage of the FT tea sales was returned to the factory and used to fund development projects and had provided schools with latrines and renovated several collection centres; helped factory workers. Those from RA certified farms said RA certification educated them on health and safety, tree planting, waste disposal, how to store baskets and the benefits of using protective clothing when working. Section 4.3.2 has more details of how pluckers feel certification has impacted on them.

[6] See Section 4.5 for PO managers' figures on annual certification costs

Vernacular and English language awareness raising posters and wall art on Rainforest Alliance principles

4.2.4.2. Changes in farmers' knowledge of the tea value chain: Very few of the farmers knew what % of their POs made tea was sold as FT declared made tea and therefore received a FT premium payment. One group [FT SH A] said it was only ~10% of the total made tea produced that was sold as certified declared made tea. Few farmers knew how becoming certified had affected the marketing of their POs tea. However, the FT outgrowers have invested a large proportion of their FT premium funds in purchasing a tea processing factory from the estate they supply, and plan to hire the estate's factory managers to keep managing the factory for them once they own it. They have already started earning dividends by being members of this tea factory.

4.2.4.3. Farmers' perspectives on certification related changes in their POs: All the certified smallholder focus groups could describe positive changes in their POs during the last two years, including: changing of the asbestos roof to reduce worker exposure; increased automation/ mechanisation in the factory improving its efficiency and therefore farmers profits; more regular GL collection; improved collection centres and hygiene (general cleanliness, concrete sorting benches instead of wooden ones, water and toilets); increased numbers of collection centres; expansion of factories processing capacity; reduced litter; digital weighing scales which have improved efficiency and reduced farmers losses. Farmers from the non-certified POs which are all preparing for RA certification said their POs had also changed during the last 2 years, including: more efficient collection of GL which meant farmers no longer had to sleep in the buying centres while waiting; improved relations with the tea extension officers; more agricultural training; prompter payment of monthly earnings; cleaner factory and environment; and improved withering facilities in the factory.

In addition to the development impacts of the FT premium funded projects, households have saved through not having to make individual contributions to these projects, and local jobs have been created during the construction activities of school classrooms, dispensaries etc. The FT farmers felt the whole community had benefitted from the FT premium fund investments (details in Section 4.7).

Social cohesion of members was also reported to have increased due to the RA supported FFS activities bringing people together for regular training and learning activities.

4.2.4.4. Decision-making on the use of the FT premium funds: The FT certified PO managers explained that decision-making regarding the use of the FT Premium was done by the FT Premium committee. The projects were initially identified by the PO members, proposals for each catchment zone were then developed, screened and prioritised for each zone, and then a project committee would oversee the implementation of the approved projects. The projects are audited by internal and external auditors, and those who are given money but do not spend it well are not given any more money. Questions on the use of the FT Premium are allowed during the AGMs.

Farmers and managers at one of the FT certified KTDA POs explained that their FT Premium Committee was composed of: six elected zonal farmer representatives (e.g. each catchment zone chooses a representative), three of whom are female; two factory workers (one female, one male); and four directors (all male). At another FT certified KTDA PO the farmers explained that their FT

Premium Committee was composed of one person per electoral zone plus three directors, two factory workers, and two management staff, making a total of 14 members, with the chairperson being a woman at that point in time. At FT certified outgrowers, the farmers said their FT Premium committee was comprised of four men and three women. However the management said there are 14 members including four directors, three staff from the multi-national estate they sell their GL to; and seven farmer representatives. Two of their 14 members were women. These POs said FT Premium committee meetings took place every quarter although additional meetings could be held if the need arose.

While decision-making processes on the use of the FT premium fund were felt to be transparent, with initial suggestions being given by members in community meetings, some of the men felt there was a need to support projects which were more strategic and longer term as opposed to purchasing food for one hungry household etc. The FT outgrower association through the Premium Committee enables each of its areas to decide how to spend the FT premium funds on their priority issues. A group of FT outgrower farmers from 8 collection centres had decided to use their share of the FT Premium to purchase a truck and pay a driver and turnboy/assistant to help with GL collection as transport costs had been increasing so rapidly. They are paying back the loan at 1% interest. This arrangement has meant farmers now set the collection time and so can maximise their GL plucking time. Managers at one FT certified PO said they now do a needs assessment followed by a prioritisation to decide which projects to use the FT Premium for, as per the amendments to the guidelines, and the other FT certified POs said they also follow the instructions. It appears that those KTDA POs who have not received large amounts of FT premium funds have tended to focus them on improving the collection centres in order to help improve the GL quality.

When farmer focus groups were asked if there was anything they would like to change about FT or RA, one group said they felt the prioritisation of the FT premium projects could be done more strategically, another group said they wanted the FT premium to be directed more towards paying school fees, another group wanted further training on quality tea production.

The FT certified outgrowers emphasised how important the long-term commitment of the FT certification was, and they liked the way FT followed up regularly on whether their standards were being implemented unlike other bodies who lay down policies but fail to implement them as they never make follow ups.

PO managers were asked to describe the negative and positive aspects of their FT Premium use. Negative issues included initial issues regards overlapping with other bodies' responsibilities, lack of understanding by farmers regards decision making processes and impatience for the FT premium projects to reach their areas. Positives included: these funds being able to be matched with existing but often insufficient funds of local government or the factory enabling complementary activities at a wider scale; their use in building skills needed for diversifying livelihoods; physical improvements to schools; bursaries for school children; increased tree planting and environmental activities; awareness raising on the importance of accountability and transparency in processes including farming households own records; food safety issues associated with more hygienic concrete benches and water at collection centres; better health facilities; training opportunities for factory staff.

The questionnaire respondents' understanding of the use of the FT Premium and their views on what it should be spent on, and whether they personally had benefited from it are shown in Table 4.17. The FT outgrowers collection sheds are maintained by the estate they sell GL to, so shed maintenance would be less of a priority for them. The FT OG had also received much greater sums as FT Premium than most of the FT KTDA POs. The increase in the number of respondents who had personally benefitted from the different uses of the FT Premium between 2010 and 2012 is shown clearly in Fig 4.5. Although it should be noted that the option of 'used for GL collection centres' was only included in the 2012 survey.

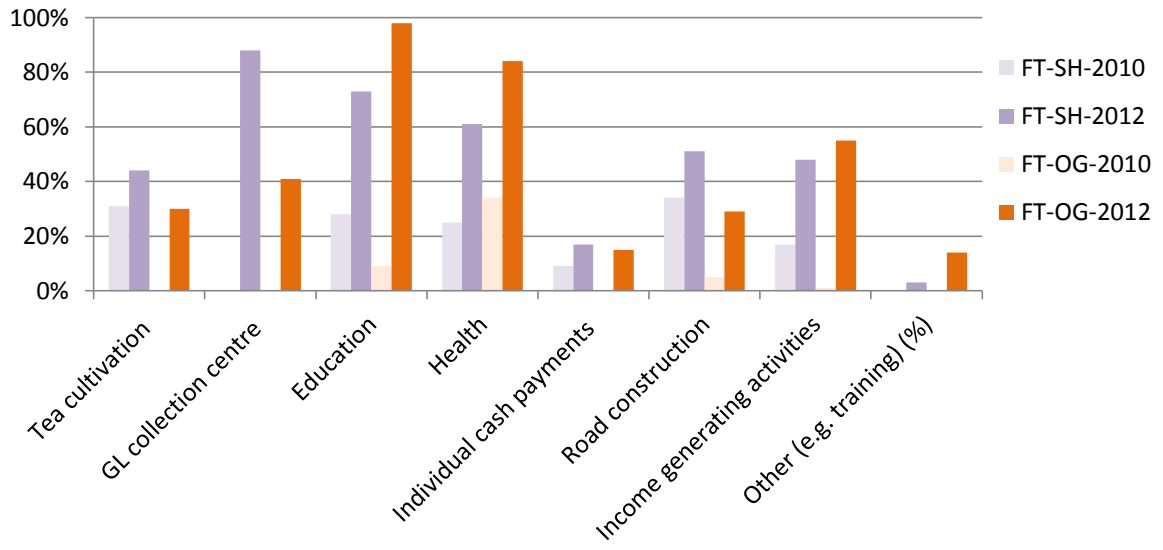


Figure 4.5. Percentage of respondents who had directly benefitted from the different uses of the FT Premium by 2010 and by 2012 Data source: 2010 Baseline and 2012 SEVSS Final Survey Questionnaire Data

Table 4.17. Comparison of use of FT premium (% respondents)

	Total	FT certified KTDA members	FT certified outgrowers	Sig
N	250	150	100	
Do you know about? (% respondents)				
Premium used for tea cultivation (%)	39%	44%	30%	*
Premium used for green leaf collection centre (%)	70%	88%	41%	***
Premium used for education (%)	83%	73%	98%	***
Premium used for health (%)	70%	61%	84%	***
Premium used for individual cash payments (%)	16%	17%	15%	ns
Premium used for road construction (%)	43%	51%	29%	***
Premium used for income generating activities (%)	51%	48%	55%	ns
Premium used for other (e.g. training) (%)	7%	3%	14%	*
Ranking importance: 1 = most important, 2 = second most important, etc				
Importance of tea production	2.05 (n=65)	2.02 (n=42)	2.09 (n=23)	ns
Importance of green leaf collection centre	1.70 (n=122)	1.59 (n=91)	2.00 (n=31)	*
Importance of education	1.76 (n=190)	1.94 (n=108)	1.51 (n=82)	***
Importance of health	1.97 (n=155)	1.98 (n=90)	1.97 (n=65)	ns
Importance of individual cash payments	2.18 (n=45)	1.93 (n=30)	2.67 (n=15)	**
Importance of road construction	2.32 (n=65)	2.30 (n=43)	2.36 (n=22)	ns
Importance of income generating activities	2.54 (n=87)	2.56 (n=45)	2.52 (n=42)	ns
Importance of other	1.53 (n=17)	1.25 (n=4)	1.62 (n=13)	ns
Did you benefit from the premium? (% respondents)				
Did you benefit from: tea production (%)	28%	28%	27%	ns
Did you benefit from: green leaf collection centre (%)	57%	68%	41%	***
Did you benefit from: education (%)	56%	45%	72%	***
Did you benefit from: health (%)	51%	40%	68%	***
Did you benefit from: individual cash payments (%)	17%	17%	16%	ns
Did you benefit from: road construction (%)	32%	32%	32%	ns
Did you benefit from: income generating activities (%)	37%	33%	43%	ns
Did you benefit from: other (%)	59%	31%	81%	**

Sig = Significance of differences between groups (based Mann-Whitney test): n = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

Examples of FT Premium funded investments: Teachers' housing to attract good teachers; fencing, electricity and water installation at collection centre; concrete sorting benches.

4.2.4.5. Overview of FT Premium fund amounts received by different POs and their expenditure: Managers at FT certified POs shared details of the amount of FT Premium their PO had received since it became certified, the wide range in amounts received between different years and POs is clearly evident in Figure 4.6 below. The annual variation is due to the differing amounts of FT declared tea sold. The overall amounts of FT declared tea sold by different POs differ significantly between POs and are linked to historical and new trading relationships (note: KTDA's marketing department is responsible for linking buyers to KTDA POs, although some POs have begun their own additional marketing strategies), the quality criteria of the POs made tea, the price of the POs made tea, and market demand for FT declared tea. Examples of how two of the POs have spent their FT Premium are given in Figures 4.7 and 4.8.

Figure 4.6. Comparison of FT Premium amounts received per year by the different focal POs

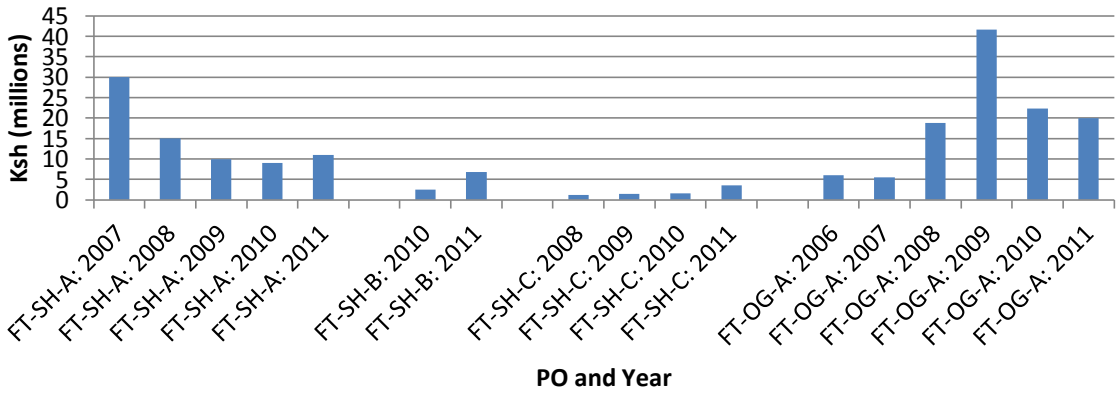


Figure 4.7 Expenditure of the FT Premium by KTDA PO [FT-SH-A] (2007-2011)

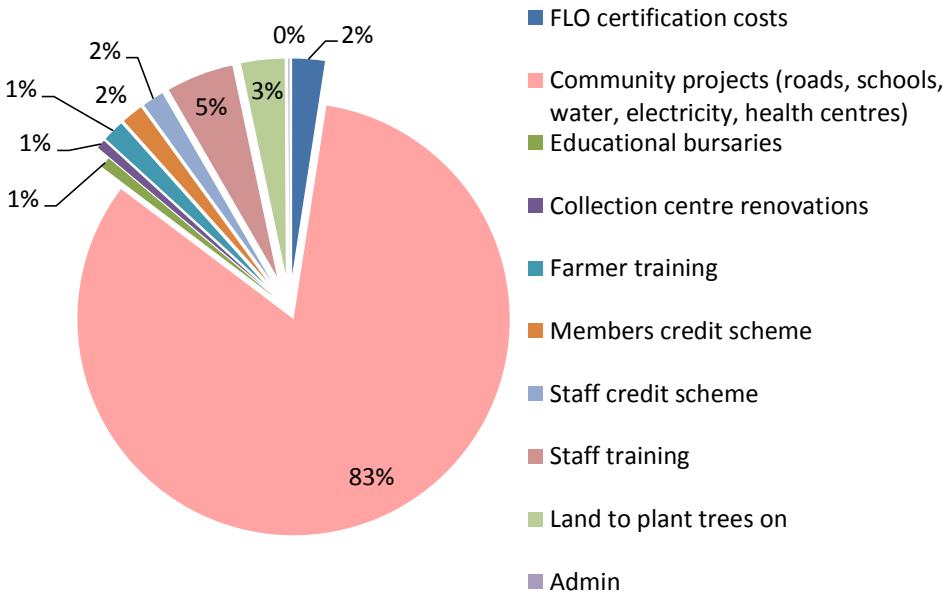
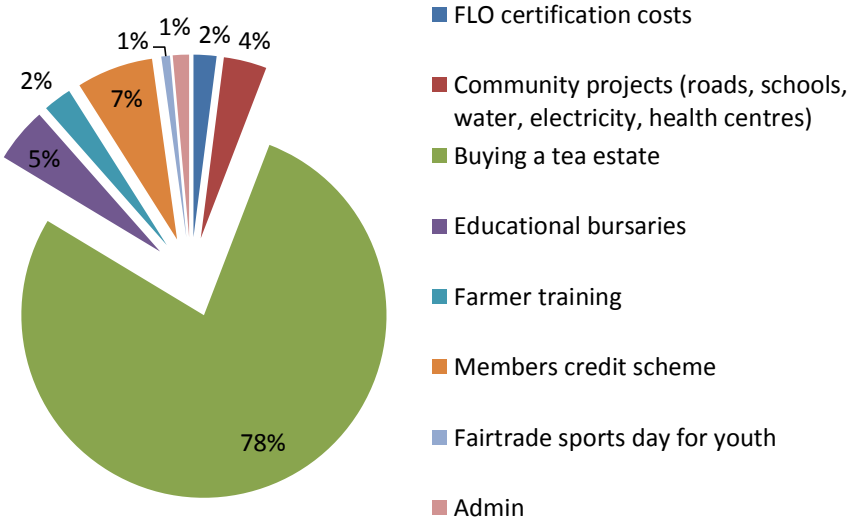


Figure 4.8 Expenditure of the FT Premium by a FT certified outgrower organisation (2006-2011)



Managers at the FT certified POs felt the FT Premium had made a positive difference to members and staff lives in the last two years, including: children no longer having to walk 7kms to get to primary school; improvements in women's health and opportunities as a result of not having to walk far to get water now; factory staff can now access loans at very low interest rates; increased group formation; increased farmer-to-farmer learning occurring as skills are shared; reduced contributions to community projects; access to educational bursaries for needy children; nearby dispensary's mean women do not have to walk so far with sick children; a new girls dormitory at a boarding school has increased the safety and given more study time for female students.

The FT Premium investments are viewed by PO managers as being long lasting, and already having impacts on the next generation through easier access to education and health care opportunities. The concrete sorting tables and other collection centre improvements are durable.

Managers explained that some farmers' expectations of the returns from FT certification were initially too high compared to the limited amount of FT declared tea purchased and the large number of collection centres and members in each PO.

The 2012 questionnaire data showed that all respondents felt there had been improvements in social development projects during the previous two years (Table 4.18). FT certified KTDA farmer and outgrowers felt there had been the greatest improvements, and RA KTDA farmers the least improvements. Further analysis revealed that both certified and non-certified KTDA farmers felt there had been significantly greater changes in improvements in social development projects during the two years prior to 2012 than there had been during the two years prior to 2010, but double-difference analysis found this change in the perceived rate of improvement was not greater for the certified farmers (p=0.970).

Table 4.18. Tea farmers' perceptions of changes in social development projects in the 2 years prior to 2012

	Total	KTDA members			FT outgrowers	KTDA Certified (RA or FT)	Signficance of pairwise comparisons				
		Non-cert	RA	FT			KTDA Cert vs Non-cert	KTDA RA vs Non-cert	KTDA FT vs Non-cert	KTDA RA vs FT	FT KTDA vs FT Outgrowers
N	500	150	100	150	100	250					
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement											
Social development projects	0.89	0.87	0.81	0.95	0.90	0.89	ns	ns	ns	**	ns

Sig = Significance of differences between groups (based on T-test, Mann-Whitney test and Wilcoxon test): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001 Data source: 2012 SEVSS Final Survey Questionnaire Data

4.2.4.6. RA additional payments and financial returns: Whilst there are no rules stipulating that buyers should make an additional fixed premium payment for RA certified tea (although RA staff suggest to buyers they should pay a premium, and to producers that they should ask for a premium), several of the POs have been obtaining additional payments of USD$0.1/kg RA declared made tea from some buyers. However some PO managers explained that it is the wider market access that brings the financial returns as opposed to an actual premium or additional payment. Where an additional payment had been received it was distributed to the members along with their bonus. RA staff reported that >Euro100,000 was paid as additional payments for RA certified tea in 2011. There will be less incentive for buyers to pay additional payments once all the POs are RA certified.

4.2.4.7. Costs to farmers due to certification: The cost of certification compliance for farmers can be divided into long-term investments and more regular (about every 3 years) investments. Long-term investments include the construction of chemical stores and household roof rainwater harvesting tanks and gutter systems and tree planting. The RA only certified smallholders in West of Rift had constructed chemical stores to ensure that chemicals and food did not get mixed up, and were harvesting rainwater from their roofs. The FT outgrowers in the West of Rift also reported constructing constructed chemical stores in order to comply with the certification criteria – unlike RA their FT certification had involved a staggered compliance agreement over time so that not all farmers had to be compliant in the first few years. The FT certified KTDA smallholders, the FT outgrowers and the RA certified KTDA smallholders had also had to invest in PPE kits in order to be compliant. These kits typically included an apron, gumboots, gloves, mask, helmet – and cost between Ksh1,608 and 3,500 per household. However farmers mentioned that some items in the PPE were not used, despite the fact the kit was perceived as a very expensive investment for households, several farmer groups mentioned that there were much cheaper local alternatives that should qualify as PPEs such as old fertiliser sacks worn as aprons instead of having to purchase special aprons. Most farmers had also attended meetings and trainings in order to learn about the certification schemes but they had not estimated the cost of these events. During the final survey the RA certified farmers explained that they felt the benefits of being RA certified surpassed the costs. The FT certified farmers also felt that the benefits outweighed the costs, particularly those

associated with the FT Premium investments which they felt were empowering farmers through enabling them to suggest, prioritise and then implement important community projects such as the construction of: schools, dispensaries, piped water connections, teachers housing in order to attract good secondary teachers to their rural area, artificial insemination (AI) project, and other community developments. The female FT certified outgrowers' focus group during the final study however, were neither informed about FT nor knew which projects had been supported by FT premium funds.

4.2.5. Gender and diversity impacts

In East and West of Rift Valley areas, none of the directors of the focal KTDA POs were women. However, some of the managers are women, and there are now a few women represented on some of the collection centre committees. The fact that most of the registered members are still male hinders women's representation as one has to be a registered member to vote and hold a position. FT was identified as having made it a policy that women be represented on the FT Premium Committee, however certification was not identified as having any other impact on women's representation in the POs. Some women in the focus groups explained that men often prevented their wives from attending meetings while other men and women said that women from those areas do not volunteer for leadership positions. The FT certified outgrowers were not aware of any plucking sheds where women were on the committee.

FT and RA certification were identified as having raised awareness about the importance of joint planning and decision making within households and the importance of household budgeting, and together with the gender policy in the new Kenyan constitution and the awareness raising of churches on gender issues and human rights this was said to be bringing change. In the West of the Rift Valley, a women's focus group explained that younger couples had a culture of talking much more and sharing decision making and as a result were dynamic, whilst in the past women were not allowed to even ask men about the household income. A female FT outgrowers focus group within said they wanted FT certification to enable women to attend meetings, which they said would involve holding meetings at times when women could attend e.g. when their children were on holiday and could take over their chores temporarily.

The FT Premium funded community projects were said to have benefitted all in the community. The increased tea production resulting from the enhanced agricultural training of the certification process has brought increased income which has eased some domestic stresses and enhanced joint decision making in many households and has brought increased domestic peace. The use of FT premium funds removed the need for individual contributions to community projects.

Youth have benefitted educationally through bursaries and school buildings. The new culture of PPE use has benefitted men and youth as they are now protecting themselves when using chemicals. In the West of Rift, youth who did not own land or tea bushes were involved in tea nurseries and selling tea seedlings to the tea farmers.

Even non-members of the POs are viewed as having benefitted from the FT premium projects through educational bursaries, schools, clinics, improved access roads, firewood sales to the PO, electricity, water, employment opportunities at the factory, and through the knowledge and action which accompanied RA and FT certification on environmental management, domestic hygiene (e.g. simple water technologies for hand washing), livelihood diversification opportunities, and the associated increased tea incomes of members and increased frequency of plucking means tea farmers now hire more plucking labour and buy other products and services from non-members.

4.3. Impacts on smallholders' hired labour

4.3.1. Farmers' perspectives on their pluckers and how certification has affected pluckers

Hired pluckers

The farmer focus groups explained that those working on their tea farms are mainly their family (husband and wife), plus they hire their neighbours and some hired labourers to help pluck particularly during the peak season. The neighbours are typically locals, while the hired labour in the West of Rift Valley area is likely to come from Kisii and Luo communities and are between 18 and 40 years, and in the East of Rift Valley from Kisii, Nyanza, Luhya, Meru, Mbeere, Kirinyaga, Akamba, Turkana and some Rwandans and Ugandans and are between 18 and 60 years. In addition to plucking and carrying the GL to the collection centres, the neighbours will also pluck their own tea bushes and the hired labourers may do other casual labour jobs such as looking after livestock, preparing land, weeding, spraying etc and might have small scale businesses selling maize, cabbages or bananas. Women labourers may also do laundry and domestic chores. Pluckers are paid in cash, and will typically work 6 days a week although this depends on the amount of GL, size of farm and how many farmers they work for. For tea plucking work in the West of Rift Valley they are paid Ksh6/kg for plucking and transporting the GL to the collection centre and waiting for it to be weighed and then loading it onto the truck. In the East of Rift Ksh8-10/kg GL, or Ksh3000-4000/month for a range of jobs or a daily rate dependent on the task (a mixture of tasks may be assigned during the low season when there is little GL to pluck).

The RA certified farmers said as a result of the certification they now treat their hired labour better, by providing food, clothing and help in emergencies. RA farmer training covers the need to pay hired workers a minimum wage, and the auditors always check the payment books. Neighbouring farmers also help exert pressure when problems arise as they do not want their PO to lose its certification. The FT certified outgrowers said they are now more aware of making sure they do not hire anyone under 18, and of paying their labourers fairly and respecting their rights. One focus group of dual cert (FT&RA) smallholders said they have to provide drinking water, medical cover and electricity to their hired pluckers, some farmers said they actually think the pluckers live better than they do now. They also give their pluckers a share of the tea bonus to show they appreciate them. RA has helped them learn to treat their workers like themselves. Another focus group of dual certified smallholders said they provide food and soap to their workers and have improved their working relationship. The FT only certified smallholders said they had not changed the way they hire or pay workers as a result of being certified. Tea farmers said the certification regulations on fair treatment of workers and the regular audits (note each members farm is audited each year for RA) have resulted in the provision of better accommodation, food and clothing for hired workers and more regular wage payments.

About 75% of the FT and NC questionnaire respondents have someone (family or hired labour) working for them plucking tea, while only 59% of the RA only certified respondents do (Table 4.19). Between 31-57% of the GL is plucked by hired workers. When a family member was helping pluck tea, it was typically the spouse (68-84% of responses), or the daughter (10-22% of responses). If family members pluck tea it was reported that they are typically paid in kind (35%) or given no payment (36%) (Table 4.20). When hired labourers are used they typically (82% of times) come from the village where the tea field is located, except amongst the FT OG in the West of Rift where only 68% of hired labourers typically come from the same village and 19% come from another region. In contrast to the family labour, 97% of the hired labourers are paid in cash with the others receiving payment in kind or a mixture of cash and payment in kind (Table 4.21). The per kg and daily payment rates described by the questionnaire respondents are given in Table 4.22. These differ considerably for the per kg hired labour rates in the West of Rift valley amongst the RA certified KTDA and FT OG in comparison to the rates described by the focus groups and management in those areas – it seems

likely the questionnaire respondents have described the higher rates used to pay estate workers in those areas not smallholder hired labour rates.

Table 4.19. Smallholders hired labour - comparison of means between certification types

	Total	KTDA members			FT certified outgrowers
		Non- cert	RA	FT	
N	500	150	100	150	100
Does anyone work for you on tea (% respondents)	72%	75%	59%	74%	76%
Who plucks your GL					
Yourself (% respondents)	65%	65%	67%	75%	49%
Family members (% respondents)	57%	60%	55%	59%	52%
Hired workers (% respondents)	62%	61%	42%	66%	75%
Others (% respondents)	1%	0%	0%	1%	3%
Percentage GL plucked by yourself (%)	32.4%	30.4%	39.8%	35.7%	23.2%
Percentage GL plucked by family members (%)	25.9%	31.1%	29.1%	23.1%	19.3%
Percentage GL plucked by hired workers (%)	41.4%	38.4%	31.2%	40.9%	57.0%
Percentage GL plucked by others (%)	0.2%	0%	0%	0.3%	0.6%

Data source: 2012 SEVSS Final Survey Questionnaire Data

Table 4.20. Forms of payment for family members plucking GL (frequency table %)

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	300	95	58	97	50
In cash	33 (11%)	10 (11%)	3 (5%)	8 (8%)	12 (24%)
In kind	105 (35%)	32 (34%)	30 (52%)	33 (24%)	10 (20%)
Combination of in cash and in kind	55 (18%)	19 (20%)	8 (14%)	21 (22%)	7 (14%)
No payment	107 (36%)	34 (36%)	17 (29%)	35 (36%)	21 (24%)

Note: There are no significant differences between different categories regarding forms of payments for family members.

Data source: 2012 SEVSS Final Survey Questionnaire Data

Table 4.21. Forms of payment for hired workers plucking GL (frequency table %)

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	308	90	44	99	75
In cash	299 (97%)	85 (94%)	42 (96%)	97 (98%)	75 (100%)
In kind	3 (1%)	1 (1%)	1 (2%)	1 (1%)	0 (0%)
Combination of in cash and in kind	6 (2%)	4 (5%)	1 (2%)	1 (1%)	0 (0%)
No payment	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Note: There are no significant differences between the different categories regarding forms of payments for hired workers.

Data source: 2012 SEVSS Final Survey Questionnaire Data

Table 4.22. Plucking payment rates - comparison of means between different certification types

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
For family members (per kg)	6.74 (n=62)	7.32 (n=19)	5.22 (n=9)	7.93 (n=15)	5.95 (n=19)
For hired workers (per kg)	7.44 (n=221)	6.65 (n=89)	9.93 (n=30)	6.66 (n=78)	9.79 (n=24)
For hired workers (per day)	7.19 (n=62)	5.90 (n=21)	7.75 (n=20)	6.33 (n=12)	8.43 (n=21)

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.3.2. Pluckers' perspectives on their work and the impacts of certification on them

A hired plucker focus group

When focus groups of hired pluckers were interviewed at each PO, a very similar picture to that given by the smallholder farmers was obtained. They explained that tea plucking was their main source of income, but that some of them also earn money through cultivating and selling other crops such as maize and cabbages, weeding work, fetching water and firewood, tending livestock and for women domestic duties. Most of them had completed primary education, and some had done several years of secondary school. Their number of dependents varied with their situation, some 20 year old men had no children, but might send money (Ksh500/week) back to their parents during the peak plucking season, older and female pluckers tended to have several children with some having as many as 10. Those who were not locals had found their way to these tea farms through searching for plucking work or by being brought by a friend or relative.

The number of years these pluckers had been plucking tea varied with their age, with some having only done it for 2 years while others for 40 years. In addition to plucking and carrying the GL to the collection centre they also apply fertiliser, weed and if male often help with the pruning. During the peak season (7 months of the year) they typically pluck 6 days per week from 8am to 4pm, but during the low season months they may only work 2wks/month as pluckers, they do not work on Sundays or public holidays and can ask for off days in the low season. They are all paid in cash at a rate of Ksh8/kg GL in East of Rift and Ksh6/kg GL in West of Rift during the peak season and may pluck up to 50kg GL per day, but during the low season some prefer to be paid a daily rate of Ksh150-250/day as there is very little GL to pluck. The payment arrangements differ with some being paid each day after delivering the receipt from the collection centre, and others preferring to be paid on a weekly or monthly basis, the plucker decides how s/he wants to be paid.

These pluckers felt that they are the poorest members of the community as they rely upon their plucking income and do not earn an annual bonus like the tea farmers. Some of their employers pay them when they are sick and help them with loans. The pluckers said that migrant pluckers '*marimia*' are the poorest. The best farmers to work for are perceived to be those that are honest, those who help them when in need, those who provide incentives (e.g. sugar, flour, lunch, a place to live), those who provide a small bonus payment, and those whose GL weighs more as a result of the bushes being better fertilised. The pluckers working for farmers from the dual certified POs said that the certifications had helped improve employer - employee relationships.

When the GL yield is good (during peak season), the pluckers will typically be plucking on 3 tea farms per month (although this depends on the size of the farm), once they finish one, they move onto the next. While some pluckers are related to their host farmers this is not the norm - infact in the West of Rift Valley area pluckers said they do not work for their relatives as their relatives do not pay cash.

On the non-certified farms, those pluckers who were not also tea farmers tended not to have heard of FT or RA, while those who have their own tea bushes were familiar with the certification standards and implications. On the dual certified and RA farms the pluckers knew about FT and RA standards, while at the FT-only certified PO the pluckers did not know about the certifications and said they rarely talk with their employers, although they did know that FT had constructed concrete sorting tables, water tanks and electrification at the collection centres.

On the dual certified and RA certified farms the pluckers received training from their host farmers on GL plucking criteria and how to maintain the plucking table, advice on how to spend their money/ wages, and advice on educating their children. Some of the pluckers from the two dual certified, RA certified and one non-certified POs also attend FT/ RA field days and trainings, or trainings from the factory on general knowledge i.e. diversification of farming so as not to rely on tea, farm

management, environmental management and conservation, how to improve tea quality, tea husbandry, soil conservation, chemical handling, weeding without damaging the tea bushes roots, fertiliser application. Pluckers for the FT-only certified PO and two of the non-certified POs farmers said they never get training from their employer, but that the POs extension office sometimes provides training when they are at the collection centre, although most pluckers do not attend as they would rather be plucking GL in order to earn income. When asked what kind of training they felt would be useful to them the pluckers explained that they would like training on: weeding; proper fertiliser application; poultry keeping and sales; savings and planning; business; kitchen gardens; livestock keeping; and crop diversification.

The pluckers said that the only chemicals used on the tea were fertilisers and they did not feel these affected their health in any way. Across the certified and non-certified tea farms some pluckers use PPEs to protect their hands when applying fertiliser, while others just use their bare hands. A few farmers also use the herbicide Round Up. At the RA-only certified PO, the pluckers said their host farmers make them use PPEs (owned by the farmer) and check that pluckers are taking precautions.

The pluckers felt that the FT selection of premium projects process could be improved through a more strategic needs assessment process and prioritisation as opposed to just using a quick majority decision without allowing people to consider the options properly. They also suggested that FT should provide educational bursaries for their own children to go to secondary school. They suggested the certification schemes should focus more on livelihood diversification and particularly on agricultural irrigation opportunities. Pluckers for farmers of the RA certified PO want RA to: make it compulsory for pluckers to wear plucking capes/aprons and other PPEs; encourage the host farmers to provide food; encourage the farmers to pay their pluckers a bonus.

The pluckers did not want their children to do tea plucking work; they hope that with the education they are getting they will get other jobs. They know of pluckers whose children now work as drivers, teachers, bank staff, agricultural staff, or lawyers.

4.3.3. Children's involvement in tea labour

Child labour was discussed with all the farmer focus groups, PO managers and key informants. All the groups of tea farmers interviewed said there was no child labour in tea production, and that it had been eliminated by a combination of government policies (e.g. Labour Act of 2003) and social activism. FT and RA certification standards have re-emphasised the importance of prohibiting child labour. The farmers explained that the children are in school most of the time, which is Kenyan law since free primary education started in about 2005 accompanied by the slogan that every child must go to primary school, and even during the holidays many have extra tuition. The farmers said it is now rare to see children loitering in the streets during term time, and the community no longer allows people not to have their children in school. If a household has orphaned children living with them, these orphans also have to go to school. Any tea pluckers would apparently be reported if they brought their children to the tea fields with them to help pluck.

However, one focus group suggested that the certification standards in addition to highlighting the prohibiting of child labour should support this by helping develop alternative activities for youth e.g. funding for secondary school attendance, agricultural clubs etc.

Children do however help their families to pluck tea in the holidays and at weekends. The farmers stated very firmly that this was about training your child in order that they know how to pluck tea, as opposed to using child labour to pluck your tea. They said children want to help their parents in the holidays as they know the plucked GL is what pays their school and other costs, and they enjoy learning how to do adult work. Generally when children finish Form 4 (4 years of secondary school education) or are above 18 years old they are allowed to start to pluck tea for work. But most of the farmers' children don't want to pluck tea for a living, particularly in the East of the Rift Valley where many of the tea farmers' children are already working in Nairobi.

The PO managers' views were very similar to those of the farmers regards child labour. They explained that guided or controlled child work during the school holidays, to assist their parents on their farm, is recognised by the education and agricultural policies as acceptable as long as the parent or guardian is present. However it is unheard of to have children working in a tea factory as an ID card is required in order to be employed and ID cards are only issued by the government to those of 18 years old or older. Child labour and education are covered in the farmer trainings they organise.

While there is clearly a very high level of awareness regards the prohibition of child labour in tea farming amongst farmers and PO managers, it is important to monitor whether rising labour costs and the labour shortage challenge in some areas of the country increase the temptation for some farmers to use child labour.

4.4. Impacts on factory workers

Focus groups of factory workers at five of the focal smallholder KTDA POs were interviewed, one PO was dual certified (FT&RA), one was FT certified, one was RA certified, and two were non-certified but working towards imminent RA certification. Each focus group was composed of five or six factory workers, two of whom were female.

Most of the factory workers in the focus groups at the certified POs also had tea bushes or their families did, but this was not so common amongst the factory workers interviewed from the non-certified POs. The factory workers are typically 25 – 50 years old and tend to come from the surrounding areas. Most factory workers are male, although there have been efforts to increase the number of female workers. In the RA certified factory, 90% of the factory workers were on seasonal contracts. Smallholder tea farmers generally view factory work as more prestigious than plucking or farming tea. A few mentioned that although they hope their children would manage to get other jobs and would not therefore have to farm tea, if they managed to get a job in the tea factory that would be good.

Anticipated changes at factory level due to FT and/or RA certification include improvements to: occupational health and safety; factory operating efficiency; waste management; decent work terms and conditions; staff training and skill development opportunities. Discussions with workers regarding recent changes and whether certification had influenced them gave the following information (Table 4.23).

Factory workers

Table 4.23. Recent change affecting tea factory workers and the reasoning behind them

Topic	Recent changes and reasoning for them
Occupational health and safety	Workers in FT and/or RA certified factories explained that due to certification the full range of PPEs were now provided (e.g. nose masks for sorting workers, ear muffs for packing and boiler workers, gum boots for those in washing. Use of these PPEs is now compulsory when working, and the workers felt it had improved their personal safety. Workers in the dual certified factory said they now had occupation health and safety systems in place including trained first aiders within the organisation. Additional extractor fans had been installed to help remove dust in the RA factory. RA preparations at one non-certified factory had led to a washing machine being used to wash the workers dust coats, instead of them having to take them home, and each staff now has a locker for their dust coat. Factory workers at another non-certified factory reported a recent increase in staff training in first aid, due to ISO criteria.
Quality management and factory operational efficiency	Workers at the RA certified factory explained that due to RA certification they had increased segregation of their products, e.g. by sorting their GL into good and poor quality GL and then putting it into separate different drums. Due to RA certification their boiler is now run on firewood only, using *Eucalyptus* or *Grevillea* species which produce better heat generation. Use of indigenous tree species as firewood is banned, in order to help conserve the natural forest. Following RA certification standards has led to the factory receiving an additional payment from buyers who want to purchase RA declared made tea. RA preparations mentioned by workers in non-certified factories included: the introduction of controlled fermentation units (CFUs) which reduced the physical workload of workers; foot baths at the entrance to the factory to reduce contamination risks. These non-certified workers said they would like to see further mechanisation in the factory.
Waste management	Workers at the dual certified PO explained that RA certification had led to increased emphasis on the protection of water bodies and treatment of any waste water. FT and/or RA certification lead to increased cleanliness of the factory and separation and special disposal of the different types of waste (e.g. paper, polythene and metals).
Decent work - terms and conditions	Workers in the FT certified factories explained that certification had enhanced the relationship between workers and management, with workers now having a voice, and feeling more free to talk about issues. Due to FT certification workers in two FT certified factory mentioned that they now receive 6 paid days off after every 3 months of work (which counts as their break of service between contracts), with each working days shift being 8 hours long. They are also now paid their overtime amounts in cash and on time. The dual certified workers said such changes were due to both FT and RA standards. Workers at the RA certified factory said prior to certification it could take one year before workers received their overtime payment. Due to FT certification, casual workers at one FT factory are provided with free housing which has both water and electricity services. Workers at the dual certified factory say due to certification (RA &FT) they can access microfinance credit facilities and borrow amounts up to Ksh1.3 million at 5% interest to help meet costs such as school fees. Workers at one FT factory said FT certification had led to paid sick leave for workers. Non-certified workers preparing for RA certification said it had already resulted in the introduction of paid sick leave. RA certification had led to the removal of the undertime system (whereby if you worked a shift less than 8 hours you had to keep a tally of hours and combine them till they reached 8 in order to receive payment) at the RA certified factory. They can now be paid for an 8 hour shift when they have only worked 6 hours. These workers are happy to now have a set 8 hour shift length, as in the past shift could last for up to 12 hours and you never knew what

	time you would return home. They said that knowing their shift was a maximum of 8 hours helps them focus on their work and manage their personal life better. Due to RA certification factory workers now get one paid rest day off per week, while in the past they did not even always get one day off per month. This weekly rest day allows them to achieve their home activities. Management explained that the PO had had to back pay this rest day for previous years. RA certification stipulates a limit of 4 hours overtime / week. Workers at the RA certified factory said their salaries had increased to a level which they could now live within, this was mainly due to Union negotiations but also to RA standards helping enforce it. Management confirmed that RA certification had contributed to factory workers wages being increased to Ksh529/day making the minimum factory wage Ksh17,000/month plus overtime. They said the factory workers had also received 1 months extra salary this year due to the good bonus earned by the PO. Female workers at the RA certified factory explained that seasonal or permanent workers were now eligible for 90 days paid maternity leave, which RA certification had helped enforce. RA preparations at one non-certified factories were said to be resulting in casual workers hoping to be employed permanently. Workers at FT certified factories said they would still like to see further changes made to allow: workers pay to be linked to their experience; casual workers being categorised according to their skills; casual workers to be given medical allowances; casual workers to be given paid annual leave. Workers at the RA certified and non-certified factories said they would still like to see further changes made to allow: casual workers who have worked at the PO for as long as 8 years on a series of 3 month long contracts and who would prefer to be permanent given permanent contracts which would then entitle them to an annual medical, a house allowance and increased job security. Workers at a non-certified factory wanted new uniforms.
Professional development opportunities	FT certified factories had used some of the FT Premium to support computer skills, driving and financial investment training amongst staff, and staff welfare projects such as fish farming and bee keeping. RA certification preparations had enabled factory staff to visit other already RA certified factories and receive training on health and safety and computer skills. Workers at the RA certified factory said due to RA certification they now knew how to preserve rivers and plant indigenous trees which will help with future water conservation. The workers at the non-certified factories said they would like to receive more training on FT, RA, first aid and computer literacy. The workers at one FT certified factory said they wanted to earn increased FT Premium to help finance further staff development opportunities.

None of the workers reported any negative changes during the last two years.

4.5. Impacts on producer organisations

4.5.1. Management systems

4.5.1.1. Management changes: Management at a dual (FT&RA) certified PO explained that due to changes brought about by FT and RA certification there was now a more open and participatory style of management and improved relations between management and members/ factory staff. Due to FT and RA certification they have introduced training and credit programmes for staff which makes the staff feel appreciated and increases their motivation. The awareness raising the management have done with their farmer members following FT and RA criteria makes it easier for them to now explain issues related to GL quality. RA training has helped farmers sort out many of their own issues (such as: leadership wrangles, using recommended tea farming practices etc.) now instead of having to involve management staff. There are now KTDA RA coordinators based in the East and West of the Rift valley who help support RA standards compliance amongst the RA certified KTDA POs. KTDA POs now use special software for capturing all the necessary RA data requirements from their members.

Several of the PO managers reported that their mindset has been changed due to certification regarding the importance of good relations with their members and staff, record keeping, and environmental and energy conservation. All KTDA managers (from certified and non-certified POs) have received a pay increase in the last 2 years. Managers, who simultaneously act as the Board of Directors at the FT outgrower organisation, explained that they are currently recruiting an extension/environment officer to help them with farmer training. They are also planning to increase their Board of Directors from 5 to 7 to ensure that at least 2 women are represented.

The RA-only certified PO management explained that as a result of RA certification their PO now paid their factory workers one rest day each week and had paid this retrospectively for previous years, they had also increased the workers' wages.

It should be noted that managerial turnover is high in KTDA POs, as KTDA regularly transfer managers between POs. Many of the managers we met during the baseline in 2010 had been transferred, in some POs the entire management team had changed between 2010 and 2012. Where managers are being transferred to certified POs from non-certified POs there are significant transaction costs as the new management become familiar with the certification standards. Alternatively when managers of certified POs move to non-certified POs their experience is valuable as these POs prepare for certification.

4.5.1.2. Technical capacity: The training associated with FT and RA has led to increased knowledge concerning GL and made tea quality amongst the farmers, the factory workers and the managers of the certified POs. Several of the POs have invested their tea income in substantial new processing equipment (e.g. boiler, CFU, drier, witherer, pre-sorting machine) during the last two years as a result of their certification linked heightened awareness on the importance of higher quality GL and in order to improve energy and cost efficiency. This increased automation in the factory has led to staff cuts - the controlled fermentation unit (CFU) for example has reduced workers from 16 to 3 during peak periods and to one during low season, which cuts costs.

Training linked to certification standards (FT, RA and ISO) on improving the GL quality through better postharvest handling, have improved farmers understanding of the importance of cleanliness and hygiene at the buying centres. The installation of concrete sorting tables instead of the old wooden benches has also improved GL quality as they are more easily cleaned and keep the GL cooler. In FT certified POs these concrete sorting tables have been installed using FT Premium funds, while in non- certified and RA certified POs the PO uses its own income along with the collection centre farmers' contributions.

Training associated with FT and RA has also raised awareness about climate change amongst managers and members.

The electronic scales, automated receipting and blue tooth data recording systems which KTDA has been encouraging all its POs to adopt for weighing farmers' GL, have increased transparency, accuracy and trust between members and the PO. This is viewed by members as a major improvement which has positively affected their incomes. Although members still feel the 2kg deduction from each load weighed to compensate for the sack's weight is too high, especially in the dry season.

4.5.1.3. Organisational financial capacity and stability: The current high tea prices result in a good income for the POs and less need for financial borrowing at high interest rates. The FT certified POs are able to share the cost of farmer training between the POs own resources and the FT Premium funds. The dividend received by the FT outgrower organisation from their shares in the tea factory they are purchasing has already helped make them more financially stable. However, alongside the rising tea prices, the costs of raw materials such as packaging materials have gone up due to exchange rate changes, and diesel, fuel, firewood and labour prices have also increased.

4.5.2. Occupational health and safety

Managers at the dual certified POs explained that certification had led to increased PPE ownership and use amongst farmers. The farmers had also been trained on hiring workers (e.g. ensuring workers wear polythene protection aprons during plucking, not taking away the ID cards of their workers, fair and regular payment, ensuring workers were 18 years old or over) which managers felt had improved conditions for smallholders' hired labourers. At the RA certified PO in the West of the Rift Valley some households share PPE sets to help reduce the costs, this works as PPEs for applying chemicals are not used very frequently, gumboots which are in daily use would not be shared. RA certification stipulates that any chemicals are stored in a locked chemical store separate from the house and this is checked during the annual audit process.

Managers at the RA and FT certified POs explained that due to certification they have become more proactive on enforcing high H&S standards amongst workers in the factory (e.g. wearing ear protectors for work in the noisy areas of the factory such as the packing and firewood cutting sections in which noise levels are >85db, wearing of safety boots, having emergency stop switches, training workers in fire-fighting skills, vaccinating all workers against typhoid, training workers on public health issues which is also relevant for their home lives). Managers said this resulted in factory workers becoming more motivated and fewer accidents, such as fingers getting caught in fast moving machinery occurring, which has also led to reduced need for compensation payouts by the factory. They have to do regular H&S training and have a H&S committee who produce H&S action plans and reports which are audited. Although the factory should have had such H&S plans and training previously as part of the statutory and legal labour laws, they were not implemented until the certification systems led to auditing and ensuring compliance. Improved H&S results in increased profits for the PO, as less productive time is lost, and fewer compensation payouts are required. RA and FT audits inspect the minutes of the H&S committee meetings. RA certification requires that each members' farm and household is audited including their agricultural and environmental H&S practices.

At the FT certified outgrowers, 50 members had received first aid training. The outgrowers are slowly purchasing the PPEs, but would prefer to obtain them on credit and then slowly pay for them through deductions. These FT certified outgrowers explained that separate chemical stores were only required by farmers who used pesticides, and the auditors interpreted this as large farmers and so only checked for this on farms of >5 acres of land. But the outgrower organisation has designed some chemical stores for Ksh2,000 and is experimenting with a drum version which they hope will be cheaper and therefore affordable to those smaller scale farmers.

At the non-certified POs who are preparing for imminent RA certification, they have been adding new pit latrines, purchasing a washing machine to wash factory workers PPEs so they do not have to take them home with them, and improving the tap water supply.

4.5.3. Democracy, transparency and accountability

4.5.3.1. Democracy: Each KTDA PO typically splits its catchment area into 6 electoral zones, and will have a total of 60-120 collection centres. Each collection centre elects 5 committee members (women are now elected at some of the collection centres as gender awareness is increasing in Kenya, but it is not mandatory to have a gender balance). Each electoral zone elects one director and these 6 then form the POs Board of Directors (there were no female Directors amongst the focal POs).

FT and RA were felt by managers to have increased their members' understanding of the point of electing responsible representatives, and of participating in meetings such as the AGMs. However, one key informant highlighted the problem that Directors are often still more accountable to the company than the members. During the baseline survey, managers explained that FT had influenced the frequency with which they held elections and meetings, with elections now being held on an annual basis. These managers felt FT had led to increased attendance by members at AGM and FT Premium meetings, and that the training sessions related to FT and RA certification had led to more participation by members in the organisations activities.

However, managers at one non-certified PO explained that their voting was now done by secret ballot using shares, with the number of shares a member has being dependent on the amount of GL they deliver, e.g. 60kg GL/share. Thus members with more tea bushes have more voice.

The FT Premium Committees follow the FT guidelines regarding elections and composition. Managers at some of the certified POs felt there was now more openness in information sharing. Members know that they must participate in order to help the FT Premium funds be used for meaningful community projects. However in some cases the FT Premium committee can cause problems through creating a different locus of power within the KTDA PO. Managers explained that having the Directors and then the FT Premium Committees could sometimes be difficult to manage. One key informant also suggested that sometimes people on the FT Premium Committee ensure that funds are used in their areas to develop community projects and then the following year, try to get elected as a Director in that catchment area pointing to the investments made as a result of the premium.

The FT outgrower group managers explained that they are planning to install software which allows an SMS to be sent to all their members to notify them of meetings, so all will be informed.

4.5.3.2. Transparency: The annual FT and RA audits have helped strengthen the culture of accountability within certified organisations. Regular feedback is an in-built part of the FT Premium management system. The clear guidelines given regarding the decision-making processes and use of the FT premium enhance the transparency with which it is used, as many in the community are aware of which projects will be funded, when and for how much.

The RA-only certified PO managers explained that the POs accounts are explained more clearly to the members now, and that members now ask what the Board of Directors expenditure was spent on etc. The managers felt that education of the youth was behind these changes, and was encouraging more openness and accountability in systems. The electronic scales used for weighing the GL delivered by members, which are being encouraged by KTDA, increase transparency, accuracy and trust.

Electronic weighing scale in use

4.5.3.3. Legitimacy in the eyes of members: The increased training at the POs on the various topics (e.g. crop husbandry and GL quality, explanation of RA and FT certifications, H&S training for members done by existing PO staff or hired experts) during the preparations for and continuation of RA and FT certification led to increased interaction and understanding between managers and members at the POs. Managers felt members had a greater sense of belonging to the certified POs

now. The improved GL quality and yields have led to financial benefits for members, and the RA-only certified PO in the West of Rift Valley area explained that the currently high bonus payments and improved collection schedules had attracted back many of their members who had started taking their GL to the surrounding private factories. Managers at one dual certified PO said that in the past pluckers were the ones attending the trainings but now the farmers themselves came. One non-certified PO had just completed a survey to find out why only 8% of members had attended the recent AGM. The non-attendees had apparently explained that as they were happy with the way things were going they had not seen the need to attend.

4.5.4. Gender aspects

Women's participation: PO managers felt that women's participation in PO activities had increased in the last two years. The farmer field schools (FFS) (which are associated by PO managers and members with both RA and KTDA policy[7] but are now funded using the POs budget, although they undoubtedly contribute to RA certification preparations they are not infact the main training approach being used for RA preparation) have many women members in them. The lead farmer training approach being promoted and supported by RA specifies that 30% of all lead farmers must be female. The FT Premium committees also have female members and this has apparently led to more women being elected in the collection centre committees as well. There are no women at board level yet in any of the focal POs, and the managers felt that political and cultural factors prevent this (e.g. corruption is endemic and influences decisions with a gender dimension as women are not usually in a position to buy votes). PO managers felt Kenya's new constitution had already helped to change men's mindsets, bringing major changes in gender relations in the country. Other observations and discussions suggest both men and women's mindsets are beginning to change, although this varies by location, age-range, and other socio-economic factors.

The FT certified outgrower organisation explained that they were planning to increase the size of their Board of Directors from 5 to 7 people and make sure at least 2 of the 7 positions are held by women who will be selected from amongst the plucking centre committees. They explained they are also trying to encourage youth to join their activities, and were aware that they could link up with other initiatives more easily if they were gender aware. In most of the KTDA POs a few of the managers are now female.

Roles: RA was said to have raised awareness about the dangers of women doing chemical spraying when they are also the main food preparers and may also be pregnant or breast feeding. The RA-

[7] Tea FFS were first used in Kenya during a joint KTDA/DFID/Lipton funded project (from 2006 to 2009) in four focal POs. Stakeholders viewed the FFS as a highly successful mechanism for both empowering the tea farmers involved and improving the productivity, quality and sustainability of tea farming. Although not originally part of the plan, at the end of the project it was decided that the due to the FFS groups' progress their POs should apply for RA certification, which all the focal FFS POs achieved. Based on the FFS groups' progress KTDA also decided that the FFS approach should be adopted as the main extension approach within all their POs, and KTDA invested in training their Tea Extension Services Assistants based at the POs in facilitation and FFS skills to help with this. FFS is now the official extension approach used in KTDA POs. However FFS are usually long-term groups of farmers who identify topics they want to learn more about and then conduct experiments on those topics, and additionally may use the FFS funds to hire in speakers on other important topics (e.g. HIV/AIDS, malaria prevention, child nutrition etc). These deep long-term training approaches such as FFS can only involve relatively few farmers especially during the early years when few facilitators are trained. The number of facilitators increases each year as some of the farmer graduates are selected from each FFS group to become farmer facilitators of future tea FFS. The RA certification process requires that every single registered member of the PO receives training on a range of topics (tea husbandry and GL quality, environmental conservation, RA standards etc), and so the FFS approach would be too slow for RA certification preparations as only a few farmers are trained each year. So RA use a lead farmer training approach, and they run residential intensive training courses for their lead farmers who then return to their collection centres and train all the members of that collection centre. So while FFS was originally associated with RA certification as the first few KTDA POs to become RA certified had been part of an FFS project, and while there is FFS training occurring at most KTDA POs now and it undoubtedly contributes to dissemination of RA standard requirement and skill building amongst farmers, and FFS graduates are typically being chosen as the lead farmers to train other farmers during the preparations for RA certification, it is not infact the training approach being used by RA certification preparations which have to reach all the several thousand members of the PO as opposed to just a few hundred.

certified POs managers additionally explained that the PPEs being issued for chemical spraying are not female friendly. PO managers felt that RA training had also helped women become more knowledgeable about environmental issues. The FT outgrower managers explained that the FT Premium had been used for projects such as water tanks which have greatly reduced the time spent by women collecting water. Such community projects and their FT status have attracted support from other donors who are also keen for the outgrowers to improve the gender balance of their board.

Workplace discrimination: KTDA labour rules include a non-discrimination policy, however the number of female staff in KTDA POs is low although increasing. Government policy and the new Kenyan constitution require that one third of employees should be female.

Most of the certified POs did not have a gender policy, and are not aware how many of their members are male or female.

4.5.5. Services provided by Producer Organisations

4.5.5.1. Services provided to members: Management at one dual certified PO explained that due to RA certification, the FFS approach was now being used as the main farmer training approach.

Green leaf transport and processing

Managers at a non-certified PO described the FFS approach as being introduced as part of KTDA farmer training policy. GL collection and farmers understanding of the GL quality criteria had improved through better communication and due to the introduction of the more accurate and faster electronic weighing scales which KTDA has driven. It should be noted that KTDA policies are being influenced by observations KTDA is making about impacts of certifications on tea productivity, and so it is often difficult to untangle what is being influenced directly by certification preparations from what is being influence by KTDA policy changes which may also be being influenced by the certification standards.

Managers at another PO felt that FT had helped the PO deliver better services to its members, and gave the example that some of the FT premium was being used as a revolving loan fund for members which they really appreciate. The FT Premium fund has provided capital to cover the costs of more farmer training.

Managers at the RA-only certified PO explained that due to RA they now use a timetable to schedule the collection times at the different collection centres, and that if the truck is late the Field Services Manager can now call the collection centre committee to alert them.

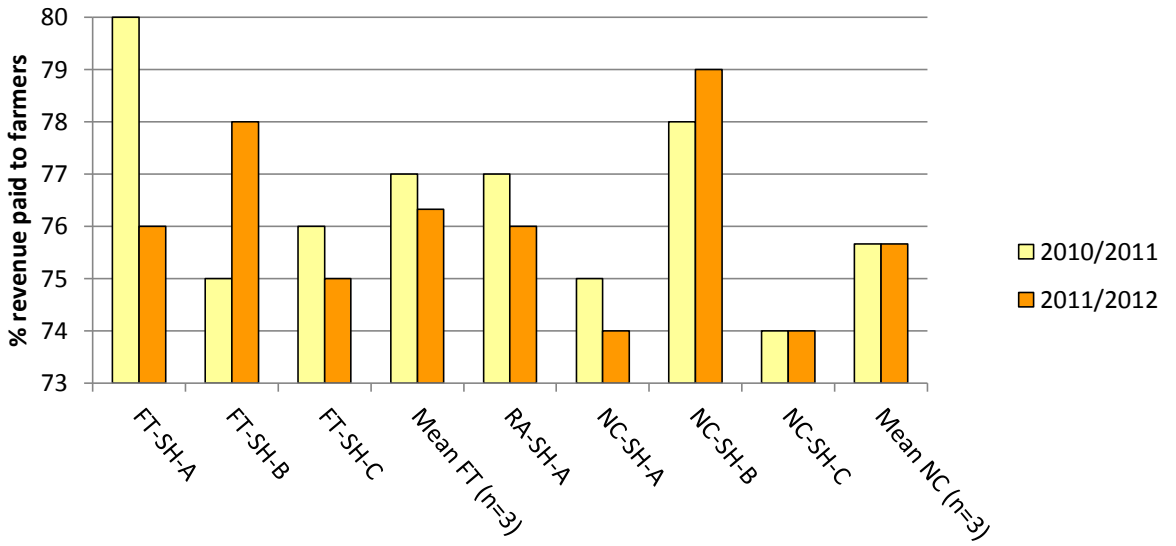
One of the non-certified POs explained that they do quarterly customer satisfaction surveys with their members to help improve their services.

The 2012 questionnaire asked members about their perceptions of a number of aspects of their PO (Table 4.24). Overall members were generally satisfied with the services provided by their PO. The GL price provided by the PO was the aspect they were least satisfied with - shortly after the final survey the initial KTDA GL payment was raised from Ksh12/kg to Ksh14/kg, although the overall payment farmers receive for their GL is influenced by global tea prices, the quality of the GL and the operational efficiency of their factory. RA farmers were more satisfied with their POs financial management and the way their tea was sold than the non-cert or FT certified farmers, this may

reflect greater GL quality (and therefore price increases) amongst these RA farmers who started from a lower level of GL quality than the other FT and non-certified farmers, combined with greater improvements in operational efficiency of the factory. On average 75% of KTDA POs revenue is paid to the farmers, although this ranges from 60-82% depending on the PO. KTDA data on this study's focal POs for the financial years 2010/2011 and 2011/2012 show a range between 74 and 80%, with the farmers at the non-certified POs on average receiving a slightly lower % of their POs total revenue (Figure 4.9). However, each POs strategy regarding how much of the revenue to return to the farmers each year will be dependent on their expenditures, total income, workforce size and factory capacity and operational efficiency an overview of average % expenditures is given in Figure 3.6. A comparison of the responses given by farmers for their perceptions of these aspects of their POs in 2012 and in 2012, found that for all aspects farmers were more satisfied in 2012 than they had been in 2010. These improvements in satisfaction were statistically significant for all aspects except certified KTDA farmers' views of their POs future plans. For financial management, technical assistance, maintaining quality of tea, how their views are understood, communication of information and future plans non-certified KTDA farmers were significantly more satisfied with their POs improvements in the last two years than certified KTDA farmers were.

Table 4.24. Members perceptions of their producer organisations performance

	Total	KTDA members			FT certified outgrowers
		No certification	RA certified	FT certified	
N	500	150	100	150	100
1=little satisfied, …, 5 = very satisfied					
GL price provided	2.26	2.36	2.26	2.31	2.04
Leadership	3.51	3.42	3.73	3.58	3.31
Financial management	3.39	3.26	3.78	3.29	3.34
Technical assistance	3.47	3.65	3.52	3.64	2.91
Maintaining quality of tea	4.15	4.40	4.47	4.16	3.42
Way tea is sold	3.87	3.83	4.36	3.67	3.69
How your views are understood	3.41	3.22	3.82	3.40	3.30
Communication of information	3.88	3.89	4.09	3.95	3.57
Future plans	3.80	3.83	4.03	3.49	3.93
Use of Fairtrade premium	4.10			3.86	4.41



Data source: KTDA Tea Growers Payment Statements

Figure 4.9. Percentage revenue paid to farmers by the focal KTDA POs

4.5.5.2. Training provided by PO: A wide range of training sessions had been provided by the POs to their members, these included: tea husbandry (from nursery to plucking and marketing); farming of other crops (maize, coffee, tissue culture bananas, fruits, vegetables); safe use and disposal of chemicals and use of PPEs; savings; first aid; HIV/AIDS awareness; medical insurance; low energy jiko construction; solid waste management; bee keeping; fish farming; rabbit keeping; pig farming; livestock keeping; on-farm tree planting and tree nursery management; home hygiene and sanitation; protection of water catchment areas and riparian strips; cleanliness at the collection centre; healthy nutrition; food security; record keeping; and latrine building.

The male focus group at one dual (FT&RA) certified PO explained that their PO usually organised 3 field days per year for every 2 electoral zones and these trainings occur during that field day. Additionally farmers at some of the collection centres are part of a FFS group of ~30 members and they then follow a season long training programme which covers agroforestry, financial management, proper tea farming, and livestock farming. Some farmers mentioned that voluntary training opportunities are provided on 2 days per month for a one year period. Tea Extension Services Assistants at many of the POs also make farm visits to some members' farms during which they can advise farmers on crop management aspects. The FFS training groups prioritise the training topics on which they wish to have inputs. The grouping of farmers into the FFS has made it easier for other stakeholders (e.g. Ministry of Agriculture) to interact with them for training purposes. Managers at one non-certified PO explained that in preparation for certification they have trained lead promoter farmers who then train other farmers, and that this approach has been very effective in bringing about behaviour change. The FT outgrowers' managers explained that they keep gender sensitive records of who attends the training.

Training for factory staff in driving and computer skills was also provided by some of the FT certified POs using the FT Premium funds.

Interestingly RA staff explained that although the first KTDAs to become RA certified did so following a 3 year FFS programme funded by Lipton and DFID, it is now KTDA and not RA who are introducing the FFS approach. RA need to ensure that every single farmer registered at the PO has been trained and audited prior to certification, which would take too long using an FFS approach (which could cover ~420 farmers per year only with the current 7-8 Tea Extension Agents per factory). So whilst RA appreciate that the FFS approach is a thorough training approach which really builds farmers understanding of and skills in sustainable agricultural practices, and empowers farmers, RA are mainly supporting a parallel lead farmer training approach. It should be noted that none of the KTDA factories mentioned this lead farmer training approach, so it is likely the KTDA management and farmers are referring to it as FFS, even though it is a much faster and less intensive training process. RA are trying to use FFS graduates as the lead farmers where possible, and 30% of lead farmers must be female. Lead farmers must be literate, good at expressing themselves and good at training, and are typically from the buying centre committee. RA staff explained that the lead farmer training approach, builds on a training needs assessment, followed by a week-long intensive training of the lead farmers (by Partner Africa), who then train their neighbouring farmers. The trainers continue to follow up until the factory is ready to be audited. Each lead farmer trains 300 farmers, although they are now reducing this to 1:150. This training is done over a month at the collection centre. Everything RA is promoting is based on learning from the original 2006-2009 FFS schools who worked together with the Tea Research Institute. The lead farmers are given a lunch allowance of Ksh250 per day to cover their training responsibilities. The budget for these lunch allowances and the training comes from public-private-partnership (PPP) funding such as IDH (Holland), DFID, FICA (Flemish Govt), complemented by funding from buyers (e.g. BTH, Lipton). The training these farmers provide is mainly on best farming practices. The Lead Farmers are given training materials such as the 'Tea Implementation Guide'. It costs about $1.50/ farmer to train them using the lead farmer approach. The lead farmers also inspect the PO members' farms each year as part of the internal audit process required for RA certification, and are paid Ksh50 for each of the 150 farms they inspect.

4.5.5.3. Ideas for future activities that members would like their POs to do: Farmer focus groups suggested in future their POs should address a range of issues associated with: the collection centres; operational efficiency of the PO; infrastructure investments; farmer training and payments; climate impacts; agricultural inputs; value addition and marketing; transparency and health care. Details of their suggestions are given below (note: *[ ] denotes their certification status*):

Collection centres: 1) Employ a clerk at each collection centre and someone to load the tea onto the truck so that when members deliver their GL, it can be weighed and recorded immediately and then the members do not have to waste time waiting at the collection centre for the scales and the truck[FT,NC]. 2) Operate using an accurate collection schedule[FT,RA,NC]. 3) Increase the number of weighing scales to one per collection centre so that farmers do not have to wait so long[RA]. 4) Use light weight weighing nets, as opposed to deducting 2kgs from each batch to cover the sisal sacks which farmers do not believe weigh that much [RA]. 5) Construct more tea collection centres [NC]. 5) Ensure all collection centres have concrete benches [FT]. 6) Install cold storage at collection centre to maintain freshness and weight of GL[NC].

Operational efficiency: 1) Plant more trees for firewood and buy land to plant firewood trees on[NC]. 2) Completion of hydro electricity generating project to reduce costs since electricity is one of the biggets items of expenditure [NC]. 3) Ensure the factory has sufficient capacity for processing all the members GL[FT,NC]. 4) Increase mechanization in the factory to keep costs down and profits up [NC]. 5) Reduce the number of directors from 6 to 3, and the number of meetings they have to keep costs down [RA, NC]. 6) One group suggested their PO should get rid of the tea extension officers as they do not provide useful services [FT].

Infrastructural investments: 1) Constructs a hospital[FT]. 2) Construct nursery schools[FT]. 3) Road maintenance so that transportation is not so slow[FT]. 4) Construct community water tanks[FTOG]. 5) Build laboratory facilities at a secondary school[FT OG]. 5) FT premium investments should be specific to each community as they do not all have the same needs[FT OG].

Farmer training: 1) Increase the amount of farmer education, expand the FFS to encompass more farmers[FT,RA,NC]. 2) Offer educational tours to learn about agricultural and income generating activities of other farmers [NC]. 3) Run training on topics such as: cookery, soap making, livelihood diversification [NC, FT,FTOG].

Payment changes: 1) Increase the initial monthly GL payment rate[FT,RA,NC,FTOG]. 2) Receipt of the initial monthly payments before the 20th of each month[NC].

Climate impacts: 1) Help farmers irrigate their tea bushes so they are less dependent on an increasingly unreliable rainfall[FT]. 2) Set up a crop insurance scheme for their members so that if the farmers lose their crop to frost they can still receive some income[FT] 3) Supply farmers with irrigation water tanks for crop diversification activities[NC].

Input provision: 1) Help members obtain cheaper inputs e.g. fertilizer, and inform farmers in advance of the fertilizer cost as opposed to just cutting it from their payment slips, and ensure they are delivered in time (e.g. before the rains) [FT, RA,NC]. 2) Control pluckers wage rates [NC].

Value addition and marketing: 1) Start moving up the value chain, e.g. labelling and packaging their made tea [NC]. 2) Sell more tea through direct sales to increase profits and reduce cuts by middle men [RA, FT, FTOG]. 3) Sell all of their tea as FT declared tea and receive a FT premium on all of it[FT OG]. 4) Reduce the price of factory door sold made tea to Ksh200/kg to make it more affordable to the producers[NC].

Transparency: 1) Inform members before buying new vehicles or buildings[NC].

Health care: 1) offer health facilities and health insurance to members[NC].

4.5.6. Growing markets and value addition

4.5.6.1. Access to markets and market information: Managers at the dual certified POs explained that their recently acquired RA certified status has attracted new buyers. The RA only certified PO confirmed that more buyers are purchasing RA certified tea. The ISO certification also increases their credibility with buyers. KTDA does the promotion and marketing activities for the KTDA POs unless they have already established direct contacts with buyers. The East African Tea Traders Association also plays a role in marketing. Managers at one PO described new emerging markets in Russia and Nigeria. Awareness of the need to widen their markets increased amongst POs

during the last couple of years when civil unrest in Pakistan and Egypt led to reduced tea purchasing. Managers at several of the focal KTDA POs explained that their PO had moved up the KTDA quality ranking, as a result of listening to feedback from brokers and producing the GL necessary to ensure they can produce the made tea grades which are selling at the best prices. While it is likely that certification has contributed in making these POs more market aware and in raising the GL quality produced by their farmers, the managers did not directly link this change to certification.

While there are also buyers interested in the FT certified tea, there are fewer of them and the quantities of tea bought as FT declared tea (and hence eligible for the FT Premium payment) are still small from many of the FT certified POs. None of the focal FT certified POs had sold more than 10% of their made tea as FT declared made tea during the financial year 2011 (Figs. 4.10 and 4.11). Much of the FT declared tea that is sold, is bought through direct sales overseas (DSOs) which are more profitable for the PO than sales through the Mombasa auction. In an example of adding value, Marks and Spencer is working with one of the dual certified POs to help them package some of their tea at source.

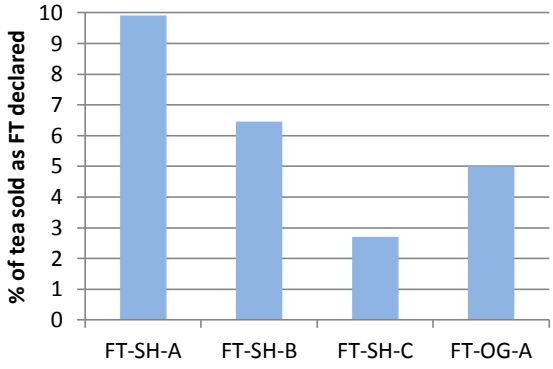


Figure 4.10. Percentage of POs made tea sold as FT declared tea in FY 2011

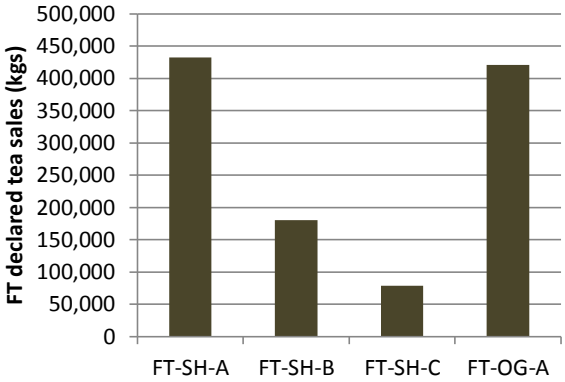


Figure 4.11. Quantities of FT declared tea sold by focal POs in FY 2011

The FT certified outgrowers pointed out that the contract to supply FT tea to Sainsbury's had recently changed hands and this had reduced their sales as the previous supplier had bought a lot of their FT tea for this contract, but the new supplier has not been purchasing similar quantities from them. This sudden switching of supplier is an interesting feature of mainstream FT, and contrasts strongly with other FT models which develop long-term relationships and commitments with their producers. Cafe Direct are helping link these FT certified outgrowers to buyers in the UK. The FT certified outgrowers are developing a brief to help share their story and market their FT tea to new buyers.

For Fairtrade, the challenge is that the currently high tea prices make it very expensive for buyers to add an additional USD0.5/kg made tea onto the buying price and the FT certified outgrowers suspected that this is reducing FT sales as well. FT Africa staff explained that although the purchasing of 'FT declared tea' (and therefore payment of the FT premium) is still minimal in Kenya, there are numerous tea buyers who actively source FT certified POs to buy their tea from even though they do not buy it as 'FT declared tea' and therefore do not pay a FT premium for it, and do not label their products as having been FT produced. The incentive for these buyers was said to be a 'feel good factor' and some kind of reputational risk management because it provides greater protection from scandals, which might arise if the tea factory they bought from was found to be exploiting workers or children etc.

One non-certified PO which is preparing for imminent RA certification explained that they have increased the amount of their made tea which they sell to one particular buyer from Pakistan who wants a particular quality/taste attribute in the tea. Another non-certified PO that is also preparing

for RA certification, explained that it is the consistent high quality of their tea which enables them to maintain their original buyers.

Most of the certified PO managers felt there was reasonable transparency in the FT value chain, although it was felt to be rather one sided (e.g. transparent from producer to buyer, but not very transparent from buyer to consumer or from buyer to producer). They were aware the FT buyers were audited, but felt the transparency could still be improved, for example the website that was supposed to show the FT buyers, was not working. They explained that farmers were now more aware of how the tea price was arrived at and the influence of the exchange rate on that. One key informant felt strongly that the certification focus needed to look more widely across the value/supply chain, to ensure that the social and ecological values are held at each level of the chain as opposed to just at the producers' level. This key informant felt that buyers in the North needed to allow more of the sales price to trickle through to the producers, and that greater transparency across the value chain was required if this was to happen, which would require the buyers to open up their books to enable a true evaluation of the supply chain.

While the requirement for certification was viewed by PO managers as the main trend currently affecting tea market access, other important issues included food safety standards particularly regards critical limits for pesticides and hygiene standards (e.g. *E. coli* counts in processed tea). Their tea products are tested for these factors by both government (e.g. KEBS and government chemists) and private labs. They felt that as the certification bodies tend to be in Europe, and attention to hygiene and pesticide levels is very strict. They explained that ISO certification mainly focuses on the product, while FT, Utz, RA certification look more widely at all aspects of the tea production and processing system.

4.5.6.2. Value addition: One of the triple (FT, RA & Utz) certified POs is working directly with Marks and Spencer on packaging of tea at source. The PO said their Utz certification had helped them prepare for these value addition activities. One key informant explained that this shortening of the tea supply chain helps to improve accountability, and shows these buyers are interested in ensuring that producers are benefitting more from increased tea sales prices etc. as opposed to just the buyers benefitting.

The FT outgrowers are using their FT Premium funds to purchase a tea processing factory from the multi-national company that they supply GL to, they are at an advanced stage of this process and plan to have completed it by July 2013, although the USD:Ksh exchange rate fluctuations have made the process more expensive than originally expected. One group of the FT outgrowers have used a loan from the FT Premium to purchase a collection truck which helps them add/retain value and they are in the process of acquiring a tea factory (which they will keep under its current estate management) which will then move them up the value chain.

4.5.6.3. Developing larger FT tea markets: Managers held mixed views regards the growth of the FT tea market. While the FT outgrowers felt the FT tea market had grown quite rapidly, other FT certified PO managers felt the FT tea market growth trends had been disappointing.

PO managers felt that by raising awareness amongst buyers and consumers of the positive impacts of FT certification and particularly of the FT Premiums from the point of view of tea producing communities they would be encouraged to purchase more FT declared tea. It would help POs if buyers could project their future FT tea requirements. The PO managers again highlighted their concern that if your tea quality and therefore market price is high, the additional FT premium payment makes the tea extremely expensive for buyers who might then purchase cheaper teas. One PO felt it was the job of Fairtrade to develop the markets as the POs have no ability to do that, but another has set up its own website to encourage buyers to communicate directly with them. Some POs have managed to make contact with FT buyers through the Fairtrade conferences which some buyers also attend. The FT certified outgrower managers have attended meetings with buyers such as Sainsbury's and CafeDirect and are also developing a small marketing brief on their history and

use of FT Premium as an advertising material. Some of the POs also have stands at the Nairobi and Nakuru trade shows.

When asked why some FT certified POs sold large amounts of FT declared tea while others only sold small amounts, the managers said they felt it could be due to: existing relationships between the buyer and the PO; some POs selling their tea at lower prices and/or therefore buyers not finding it so expensive to add the premium on top of their tea price. The FT outgrowers thought they might sell a lot of FT declared tea because their tea is sold as produce from 6 separate factories as opposed to just one, and some buyers may prefer to spread their purchasing across different factories.

FT Africa staff explained in November 2011 that they were discouraging any further applications from tea POs for FT certification until the FT tea market had increased.

4.5.7. Advocacy and networking

4.5.7.1. POs advocacy involvement: At local level the POs have advocated against child labour, and for environmental protection, improved GL quality and safe use of agricultural chemicals by farmers in their catchment zones. The buying centre committees can bring issues up to the Board of Directors who can then raise them with KTDA Head Office, e.g. the state of the roads. KTDA Head Office staff – usually attend the AGMs of the POs in order to get feedback from the members. The outgrowers raise issues concerning the initial monthly payment amount with the estate they supply, and have had some success in getting it increased.

FT has national and regional level meetings which bring together FT certified tea, coffee and flower sectors. The FT producers raised issues at these meeting about: payment of the premium; the current low level of the FT Minimum Price compared to market prices; certification fees; and the standards (e.g. they wanted some more aspects of the standards to be achieved in a more gentle progression e.g. X within in years 1-3, Y within years 4-6 etc). In the last FT Africa meeting it was reported that the Kenyan government was planning to tax the FT premium. The FT POs used FT Africa to talk to the Government about this, but no decision has yet been reached. FT Africa mentioned they were doing a lot of advocacy work on climate change awareness, including with the Tea Board of Kenya.

4.5.7.2. Networking: There are FT forums in which the FT POs can network with other FT certified companies within and outside the tea sector. The FT Premium committees from different POs sometimes visit each other. There is a 'Fairtrade Tea Product Network' which represents FT certified tea POs in Kenya, Tanzania, Rwanda, Malawi, Uganda. Networking and information sharing are their main activities. For example, in July 2011 they had met in Mombasa and shared notes on what they were each doing regarding climate change adaptation, and were arranging a visit to see some of each others' farmers' adaptations. They reported that the peer-to-peer learning and monitoring is very effective. KPMG were invited to another meeting to explain carbon credits to the PO representatives. The FT Africa staff explained that the FT Africa Network is focused on ensuring producers are on the FLO board and have the capacity to articulate grass roots issues.

The tea FFS are reported by PO management to have led to the development of stronger linkages with the Ministries of Agriculture, Health, Planning, Forest, and Gender. Since becoming certified, the RA-only certified PO's farmers have worked with GTZ on low energy cooking stoves to reduce firewood and smoke associated health problems. Provincial Administration and River Basin Authority and NEMA are working with them on reducing and measuring river pollution and water usage. The FT outgrowers feel their FT certified status has exposed them to the rest of the world, including the Bill and Melinda Gates Foundation's rural development project, climate change meetings and the district commissioner, who also now attends their meetings which they view as a positive development. KTDAs catalogue about their 65 factories indicates which of those POs are certified and with which certifications. As part of KTDA, all the KTDA POs have a strong network. Many of the KTDA factories thinking about becoming RA certified visit the originally certified RA factories to learn

from them. The tea extension agents from RA certified POs have been training their counterparts in the non-certified POs preparing for RA certification. Farmers from non-certified POs have also been to visit the RA certified farmers. The RA-only certified PO has received visitors from the Indian Tea Board through their Lipton contacts.

4.5.8. Management perceptions of certification

4.5.8.1. How becoming certified has helped the PO: Becoming RA or FT certified has helped the PO: bring services and knowledge closer to the farmers; to train its farmers on tea practices which enable them to deliver higher quality GL which results in the PO marketing higher quality made tea which brings increased income for the PO and its shareholders (the farmers).

The FT Premium has been used to: build staff canteens and other facilities and to provide professional training for staff e.g. in driving which helps the PO; renovate the factory e.g. remove asbestos materials; improve the environment and landscaping and roads around the factory (a requirement of FT); invest in important community development projects such as new classrooms and other school facilities, new dispensaries, water tanks and pipes, provision of educational bursaries which improve the POs reputation amongst the local community.

The RA and FT standards criterion and associated training have helped to: improve the relationships between managers and workers in the factory; improve farmer organisation; protect water catchment areas and enhance environmental management; help enhance HH food security of members through crop and livelihood diversification training. FT certification has helped the outgrowers association become more informed about tea prices and how much their tea fetches.

4.5.8.2. Organisational costs incurred by certification: It was interesting that most of the POs had not compiled records of what it had cost them to prepare for and achieve certification, most saw it as a necessity for market access and so just focused on achieving it. When we probed further on this they were able to provide some figures of related infrastructure expenditure items and estimates of staff time, although it is likely these are incomplete. It should be noted that not all POs will have had to incur all these costs as it will be dependent on the state of their existing facilities prior to certification. Pre-certification costs can typically include:

- staff and farmers' preparation meetings (cost estimates ranged from Ksh200,000 to Ksh2,800,000) [for FT and RA];
- replacement of asbestos roofing sheets with iron sheets in the factory, installing bird proofing; changing glass windows in factory to Perspex (cost estimates ranged from Ksh 1.5million to Ksh10million) [for FT, RA and ISO certifications];
- improvements to factory effluent treatment, drainage and waste disposal (cost estimates ranged from Ksh2million to Ksh10million) [for FT and RA];
- upgrading or installation of changing rooms and crèches (cost estimate Ksh2million) [for FT and RA];
- upgrading and maintaining hard landscaping (cost estimate Ksh7 million) [for FT]
- tree nursery establishment.

Many of these improvements are relevant to the achievement of ISO, FT and RA certifications. Following these preparations there are then the annual recurrent costs of certification. The non-certified POs preparing for RA certification explained that the preparation costs (training, awareness raising, tree nurseries, infrastructural improvements) were high and they did not have a sponsor to help cover the costs. Lipton and DFID sponsored the preparation and certification costs of the first few RA certified POs in Kenya. The non-certified POs are assuming that once they become RA certified it will open up new markets for them that may come with additional payments for their RA certified made tea which will help cover the certification associated costs. Managers at a triple (FT,RA,Utz) certified PO explained that as Lipton buys 1 million kgs of made tea / annum from them,

they had to become RA certified before 2015. They are hoping they can recoup the RA certification costs through additional sales of RA tea at good prices, they are also hoping their Utz certification will open up new German/Dutch and Chinese markets for them.

Managers at a dual (FT & RA) certified PO explained that the FT certification and audit costs alone were Ksh300,000/year, and the RA certification and audit costs were Ksh400,000/year. They were fortunate that one of their buyers (Taylors of Harrogate) gave them Ksh800,000 to cover the RA certification preparations. This PO includes the other costs such as improvements to their infrastructure under their normal operational costs budget, and many of them are relevant for several of the different standards, for example:

- Replacement of asbestos roofing and replacement of glass with Perspex = Ksh10million to date (for ISO, RA & FT)
- Non-breakable lights in the factory (ISO 22,000)
- Ground and surrounding maintenance and hard paving Ksh7 million (FT)
- Staff welfare benefits (e.g. sick leave, pro rata leave) have cost an increase of Ksh0.30-0.50/kg made tea (FT & RA)
- Training costs of staff – Ksh 100,000 (RA & FT)
- Changing room – Ksh 2million (FT & RA)
- Effluent management – Ksh 10 million (FT & RA)

The RA-only certified PO explained that they now have a budget line of Ksh800,000/yr for certification (RA & ISO) associated costs such as: organisational audit; individual farm audits; certification costs; training; awareness raising; water sample analysis; shed building for scrap metal; firewood sheds (their target is to keep 6,000m^3 firewood under sheds).

At the RA-only certified PO the accountant provided figures for the RA certification costs which another KTDA PO had just circulated, this document included: USD$38,150/yr (~Ksh3.2million/yr) as the Africert auditors fee plus USD$5,738 (~Ksh490,000/yr) for the RA certificate. The RA audit and certification costs are directly related to the number of members in the PO, and RA staff explained that the annual audit costs the equivalent of ~USD$1.5/ farmer.

Managers at a triple certified PO explained that they had managed to combine the RA and Utz audit and by doing so reduced the cost by Ksh300,000, although they still had to pay Ksh1million.

The FT outgrowers explained their annual certification costs were about Ksh616,000/yr, which included: FT certification fees = Ksh316,000/yr (Euro 2,925/yr); FT audit costs =Ksh50,000/yr; Trainings associated with FT certification = Ksh250,000/yr. They use the FT Premium to cover these costs now.

When the certified POs were asked whether these costs were covered by increased income as a result of being certified, most of the POs agreed that they definitely were now. The RA certified PO explained that becoming RA certified increased their made tea price by Ksh3/kg, which when multiplied by the 20,000,000kg of made tea they produce annually meant they received an extra Ksh60million. Other POs explained that due to certification they sell more tea through direct overseas sales, which means less is sold via the Mombasa auction and the reduced volumes available then lead to higher prices being obtained on the auction, so although they did not have a figure they said their income had increased as a result of certification. Fairtrade provides help to FT certified POs in meeting the initial certification costs and continues to help those POs whose FT Premium incomes do not cover their annual FT certification costs.

4.5.8.3. Management views of the pros and cons of certification: The table below sets out the PO managers' views of the pros and cons of tea certification standards (Table 4.25). In summary the certification pros for PO members include improved: agricultural practices, incomes, food security, waste management, safety when handling chemicals and training. While the certification cons

include: the standards being viewed as too strict particularly regarding children helping their families to pluck tea; expense of PPEs and chemical stores, and FT minimum price being so low it is currently irrelevant in Kenya. Only pros of certification were mentioned for the local community including improved: interactions between members; collection centres; empowerment of communities due to control of and access to FT Premium funds; environmental protection; awareness of child rights; treatment of tea workers; educational, health and road services. From the POs perspective the certification pros include improved: worker morale; POs reputation; market access; networking; organisational skills and regular monitoring by the certification bodies. While the cons include: low volumes of tea being bought as certified declared tea; members initially feeling these standards were being forced on them against their wills; certification associated costs such as workers increased benefits, management preparation time; worries about potential decertification implications and suggestions that the Kenyan government might tax the FT Premium community development funds.

Table 4.25 PO Managers' views of the pros and cons of tea certification standards

Pros	Cons
For PO members • Improved farming practices (FT & RA) • Increased awareness by farmers regarding proper tea handling (FT & RA) • Increased tea incomes (FT & RA) • Increased food security of members due to focus on livelihood diversification (RA) • Improved waste management (RA) • Farmers now know how to handle and store chemicals safely and have PPEs (RA &FT) • Improved capacity building via training and communication (FT & RA) *For the local community* • Improved interactions between members (RA & FT) • Improved collection centres due to investments from FT Premiums (FT) • Empowerment of communities through their participation in deciding on and implementing the community development projects (FT) • Improved environmental protection (e.g. riparian strips and water quality) and awareness regarding child labour issues (RA & FT) • Fairer treatment of workers in the tea factories and farms (FT & RA) • Improved educational and health facilities (FT) • Good investment in roads due to use of FT Premium (FT) • Bursaries for needy students funded by FT Premium (FT) *For the PO* • Improved factory worker morale which results in improved made tea quality and prices (FT & RA) • Improved image of certified POs (FT &RA) • New market buyers attracted by certified teas (FT&RA) • Improved networking with other POs (RA & FT) • Improvements in business planning and management at organisational level (FT) • Regular and long-term monitoring by standard bodies on the implementation of the standards (FT&RA)	*For PO members* • The standards are sometimes too strict for smallholder farmers (FT) • Very strict laws on child labour which are not necessarily contextually appropriate (FT&RA). *Child labour is not generally perceived to be an issue in Kenyan tea, but school children typically help pluck tea during their holidays and sometimes before school.* • PPEs and chemical stores are expensive investments for farmers (RA & FT) • FT minimum price is too low compared to world market prices (FT) *For the local community* • *For the PO* • Only ~10% of the made tea is receiving additional payments/ premiums although it is all produced as certified tea (FT & RA) • Initial acceptance problems by members, some say '*this is neocolonialisation or direct imperialism'* as all growers who are members have to comply even if some do not want to (RA) • High cost of certification compliance for the PO e.g. workers benefits (FT & RA) • Very time consuming process and audits (FT&RA) • There are lots of repercussions if you get suspended for any reason (FT) • Possibility that the Kenyan Government taxes the FT Premium (FT)

4.5.8.4. Management awareness of other certification schemes: Managers at one of the dual (RA&FT) certified POs said they were aware that some other tea factories had Utz certification, and that KTDA was suggesting they become ISO 14,000 certified which is an environmental standard. There is a great degree of overlap between the FT and RA certifications and so it is considered fairly easy to become RA certified if you are already FT certified. Although there are the additional costs of RA certification such as those associated with the training of every single member of the PO on the main principles and criteria of RAs Sustainable Agriculture Network (SAN) standard (this training is typically done over the course of 1 month, by lead farmers who themselves attend a 3 day intensive course before training their cohort of 150 members each); and the auditing of every single members farm (collecting information about: the location and layout of each members farm; what farming methods are being used; whether they have their PPEs; how much fertiliser they applied; whether they paid their workers a decent wage and on time; member's record keeping in relation to their tea activities etc). RA staff explained that POs can become certified if they get over 80% score overall and 50% in each criteria[8], provided they do not have critical non-compliances (e.g. there are critical criteria which the PO must comply with). The PO should continuously improve over time, especially on their non-compliances. The RA certification cycle is 3 years (although an audit is done every year), and so non-compliances usually need to be resolved within 3 years. Non-compliance is likely to move from "minor" to "major" if the PO does not improve, thus lowering their score and threatening their certification. If a PO is decertified from RA, it takes immediate effect and they cannot reapply for certification before a period of 36 months has passed.

We did not hear of any RA certified POs who were then preparing to also become FT certified, and as mentioned earlier FT Africa is hesitant regarding supporting any more POs to become FT certified until the FT declared tea market increases. Several of the currently non-certified POs around Mt Kenya in the East of Rift are preparing for both RA and Utz certification. Most of the KTDA POs already have ISO 9001 and 22000 certifications. The FT outgrowers are preparing to become RA certified.

The POs wish there was a way the different certification schemes could work together so that it would be less expensive for the POs, especially as there is so much overlap between the standards. One PO reported that the Tea Board of Kenya were developing a new umbrella certification to help reduce the certification costs for POs. Currently in Kenya FT uses its own auditors, RA has audit firms such as Africert, which since June 2012 has become an accredited RA certification body, meaning they can both audit and certify POs[9]. RA will therefore be competing with Africert as certifiers, and hope this will help reduce costs and localise the whole certification process. In Malawi, Utz and RA are jointly audited, and this has happened in a few cases in Kenya as well. FT Africa explained that they had begun working with RA and Utz to recognise what is different about each of the certification standards so that auditing could be more efficient e.g. if the RA audit has already been done, then the auditor knows that they only need to look for certain additional factors for the FT audit etc. FT Africa recognised the burden these multiple audits put on POs.

[8] See RA group standards http://sanstandards.org/sitio/subsections/display/10

[9] See http://sanstandards.org/sitio/subsections/display/60 for details of Sustainable Agriculture Network Accredited Certification Bodies

4.5.9. Tea Production and Sales

4.5.9.1. Tea production: Managers of the certified POs felt that tea yields had gone up as a result of the improved tea husbandry (e.g. increased plucking frequency, adhering to plucking standards, tipping, pruning, fertiliser and manure use) resulting from FT and RA training. Managers also said that members were healthier due to using PPEs and so spent more productive time in their tea fields. FT certified PO management felt that the FT Premium payments indirectly motivated farmers to produce better quality tea which then attracts more buyers.

The RA-only certified PO's managers explained that prior to RA certification their factory used to receive ~14M kg GL/ year but now receive 19M kg GL/ year. This increase is likely to be due to a combination of the improved tea husbandry which RA training has encouraged and which has helped increase farmers' GL yields and quality, and to the high tea prices which motivate farmers' to pluck more frequently and take better care of their tea bushes. Farmers at this RA-only certified PO had kept yield records while they were participating in the FFS from 2006-2009 (Table 4.26), they explained that the significant yield increases they had experienced were due to more frequent plucking e.g. every 7-8 days, use of plucking sticks to maintain the table, tipping in height, and leaving the prunings in the field. At this PO farmers typically have 4,306 tea bushes per acre. Per bush GL yields therefore increased from 1.2kg/bush in 2003/04 to 2.5kg/bush in 2009/10. These FFS participants have much higher GL yields than the average 0.82kg/bush recorded from GL delivery records (Table 4.13), suggesting there is plenty of potential for the PO to improve yields through further training.

Table 4.26. Increasing tea yields of RA certified farmers trained using the FFS approach in 2006-09

Year	Tea Yields (kg/acre/year)
2003/04	5,178.5
2004/05	5,722.0
2005/06	5,655.0
2006/07	8,039.0
2007/08	7,654.5
2008/09	8,945.5
2009/10	10,846.0

The FT certified outgrowers explained that the FT Premium means they now have a budget to use to train their members on improved tea husbandry. They explained that they are also about to hire a staff member to cover extension and environmental issues, and through agricultural training hope to be able to close some of the yield gap between the multinational estates which harvest 4,000kg GL/ha/yr on average and their own harvest of 1,500 kg GL/ha/yr.

Managers of non-certified POs explained that the current high tea prices were leading farmers to rehabilitate and take better care of their tea bushes. However they felt that yield changes due to changes in crop husbandry practices would typically take 2-3 years to become evident. Climate was identified as the major factor influencing tea yields, with yields being reduced due to long dry spells and frost. One key informant working on climate change issues questioned how sustainable the tea practices being introduced actually were given the climate projections[10], and wondered whether enough was being done to plan for alternative livelihoods should it become impossible to produce tea profitably in some regions in the future.

4.5.9.2. Tea sales: There are four major sales routes for Kenyan made tea, these are the Mombasa auction, Direct Sales Overseas (DSOs), KETEPA and local sales, and factory door sales (which are typically bought in small packs of 250 or 500g by the PO members so they can brew tea). For KTDA POs the majority of their made tea is sold through the Mombasa auction (74-83%), with 10-20% through DSO, 2-7% through KETEPA and local sales, and 1-3% through factory door sales (Fig. 4.12). By contrast 60% of the outgrowers made tea is sold through DSOs and only 40% through the Mombasa auction. Certified tea is more likely to be sold through direct sales overseas routes. Prices differ depending on the grade of the tea being bought, the buyer and the sales route.

[10] See, for example. CIAT (2011). Future climate scenarios for Kenya's tea growing areas. Cali, Managua. pp33.

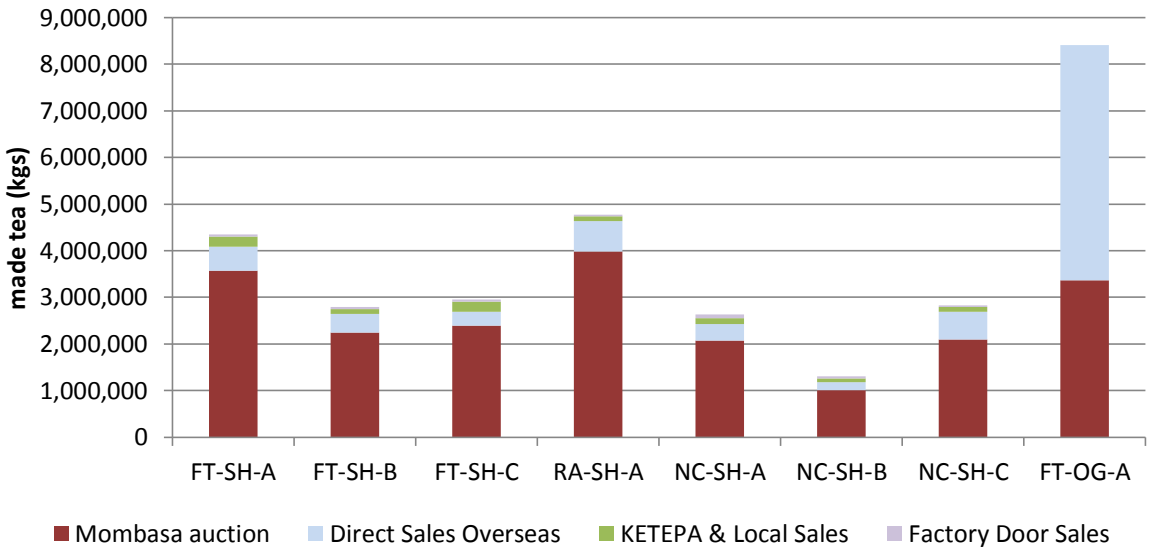
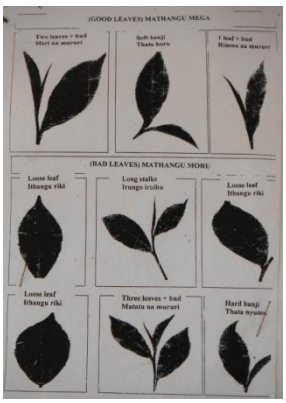


Figure 4.12. Comparison of proportions of made tea sold through the different routes at the focal POs during FY 2010/2011.

Data source: Management Interviews, Final Survey 2012

4.5.9.3. Tea quality: Managers feel that the existing KTDA quality standards were already good, but that the FT and RA engagement has helped POs towards getting their members to achieve these standards through training them on better tea farming practices.



Leaf quality descriptors

In preparation for and maintenance of their RA certification POs have tried to improve members GL quality through a number of avenues such as: awareness campaigns in the farmer field schools (FFS) and expecting FFS members to train others in order to try to reach coverage of a third of members; FFS has enabled farmers to learn about plucking regimes and quality (i.e. that plucking every 7 days gives higher yields than plucking every 10 days. Previously, the farmers did not believe this until they tried it). FT certified POs have organised extending similar training topics through their Tea Extension Services Agents (TESAs). Fertiliser application training has also helped to improve the quality of the GL by ensuring farmers use the right quantities and it is now mandatory that all farmers apply fertiliser. Farmers are now plucking four times per month so the two leaves and a bud are softer than if they plucked less frequently, which improves quality. Training has been given on high leaf quality as per KTDA standards (e.g. 75kgs of every 100kgs of GL must be of the two leaves and a bud criterion). Another improvement has been the introduction of more regular spot checks of leaf quality at the factory and informing the weighing clerk if the quality is too low to enable follow up checks. Farmers have been supported to visit the factory so they can understand what happens if you deliver poor quality GL and buying centre committee members at some POs have participated in a bench marking trip to some of the high performing POs to help them encourage their fellow farmers to improve the GL quality. Prompter collection of GL has been enabled by improving timetabling and communication between the GL collection trucks and buying centres and policies introduced that require all members to have plucked their tea by the 10th of every month to help spread the factory's GL intake more evenly and to ensure farmers pluck more regularly. Some POs have introduced awards for the best performing farmer or collection centre.

In terms of environmental standards the certification schemes went beyond the existing KTDA regulations particularly regarding the treatment of effluent, protection of riparian areas, tree planting, wildlife protection, safe use of chemicals, waste separation, sustainable firewood use including use of drying sheds (see Section 4.6 for details). Although KTDA has recently incorporated

several of these environmental criteria into its own policies. RA also prohibit the contamination of tea products through other farming activities such as use of agrochemicals on fruits (e.g. tree tomatoes) or cabbages or livestock grown within the tea bushes or close to them. Managers and farmers generally view RA certification as having had more influence on environmental protection than FT. This may be because many of the environmental protection criteria are 'critical criteria' (e.g. must be achieved) for the initial RA certification, while the FT standards strengthened their environmental criteria more recently in May 2011 and many of them only need to be achieved within 3 or 6 years after the initial FT certification.

4.5.9.4. Mechanisation: Increased mechanisation in the factories was viewed as a positive change that has increased the POs efficiency and profits obtained by the smallholder farmers. The POs percentage expenditures on different items is shared with the members each year in the AGM and annual report, and managers are trying to increase efficiency in order to return a greater percentage of the revenue to their members and to compete with the other KTDA POs (see Figures 3.6 and 4.9). One farmer focus group explained that "*increased mechanisation in the factory has stopped the factory workers from having to work like slaves and has improved the tea quality and therefore farmers' income*". Typical factory mechanisation included installation of: controlled fermentation units (CFUs) and wayfeeders in the factories; electronic weighing scales, automatic receipting and blue tooth record synchronisation (Virtual Private Nature) technologies which link to the main payment database in the collection centres, which are reported to be more accurate than the manual previous recording system. As a result, these improved systems of recording quantities have reduced the losses farmers used to incur through faulty recording and inaccurate weighing.

Pruning machines are not common in the smallholder context as they as costly and a farmer will only prune each bush once during a three year period with, farmers at the RA-only certified PO experimented with pruning machines during the initial FFSs, and the PO has a pruning machine which those farmers who were trained can hire. Use of plucking machines is not allowed amongst KTDA members as it reduces the GL quality significantly.

In terms of packaging, one dual certified PO has formed a partnership with a UK retailer (Marks and Spencer) to locally package their made tea, and this has introduced new types of process and mechanisation.

However, despite this positive feedback, the risks to employment from mechanisation were also noted farmers. Two of the non-certified farmer focus groups highlighted the fact that reducing the labour requirements at the factory through increased mechanisation was reducing their children's job opportunities.

The FT outgrower managers explained they had heard about one large scale farmer (with 108 ha of tea, and who is not one of their members) who laid off his whole plucking workforce and replaced it with plucking machines. However, his GL is very low quality and he only receives a second payment of Ksh6/kg from the estate, as compared with the outgrowers second payment of Ksh18/kg GL. The outgrower group managers say it does not make economic sense for smallholders to pluck mechanically, but that on the estates plucking machines will seriously affect labour especially if tea prices come down as the labour rates are fixed in the CBA. Most of the estates have already reduced their permanent pluckers and mainly employ seasonals to help reduce labour costs (see Section 6.1 for more details).

4.5.10. Main organisational challenges for the future

PO management identified the main challenges for their organisations in the future as including: energy costs and availability; climate variability and change; value chain and markets e.g. volatile prices and dependency on particular export markets plus lack of bargaining power; lack of clarity on policies and interference by government; structural issues such as youth exiting agriculture, land fragmentation, and gender discrimination (see Table 4.27).

Table 4.27. Main organisational challenges for the future of Kenyan tea production

Challenges	
Energy costs and availability	- Availability of firewood – hence why they are purchasing land to plant trees on, but they need several hundred acres - Electricity costs – most of the focal POs are involved in building a hydro electric power scheme which should be able to supply some of their energy needs - Furnace oil costs are increasing – there is nothing they can do about this unless they can fire their boiler with an alternative fuel
Labour costs	- Factory labour costs are high and rising – more automation in the factory will reduce the impact of this
Climate variability and change	- Climatic changes because rain patterns are changing, and there could be new outbreaks of pests and diseases and more issues like frost (the intensity of which was higher than normal this year) - Some tea areas are becoming harder to produce tea in due to climate change, and so the 'brown line/ tea farming limit' is moving to higher altitude areas
Value chain and markets	- Volatility of USD: Ksh exchange rate and high inflation - They depend on very few markets e.g. Pakistan, Egypt which makes them vulnerable to global politics, as happened when there were problems in Egypt in 2011 - Competition from other beverages such as water, soft drinks, coffee and herbal teas - Increased global production of tea which leads to more competition - Competition for farmers/outgrowers' GL from the mushrooming private factories (West of Rift) - Congestion at Mombasa port delays tea shipments - Tea is too market oriented, there is no control over prices - The tea cess is not adequate for maintaining the roads
Farm level production	- Difficult to ensure that all farmers are in a FFS type learning group which is an RA requirement to help all farmers access training - Increased production costs at farm level (labour, fertiliser)
Lack of clarity on policies	- Interference by politicians at policy level - Uncertainty due to changing policies - High taxation of tea by Government of Kenya
Structural issues	- Low interest in tea farming by youth - Sub-division of land to uneconomically small plots of tea - No possibility of expanding tea area in East of Rift - Removal/ uprooting of tea bushes for livestock, building plot or other income generating activities - Gender imbalances in top level of leadership

4.6. Impacts on environmental aspects

4.6.1. Changes to tea management practices

Both the certified and non-certified smallholder focus group participants explained that they had adopted several new tea management practices during the last two years, these included:

- More frequent plucking rounds (every 7-10 days)
- Annual application of a recommended amount of fertilizer at the correct time
- Increased weeding (and reduction of herbicide use)
- Pruning and leaving of prunings as mulch in the tea fields
- Stricter plucking criteria and maintenance of plucking table
- Improved household and farm waste management, through separation of different types of waste
- Safe storage, handling, use and disposal of chemicals
- Planting of Napier grass along river banks
- Terracing of new tea fields (by FT certified outgrowers in the West of Rift Valley)

The farmers said that the agricultural training introduced by both FT and RA had caused these tea management practice changes. Those farmers whose POs are dual certified, struggled to separate the impacts of FT and RA. They generally suggested that RA had had more impact on the environmental management aspects and especially the safe handling of chemicals. In all their cases FT certification had occurred prior to RA certification. These certified farmers suggested that although they may have increased the amount of fertiliser they use as a result of FT/RA training and recommendation, because it has resulted in higher yields and therefore increased profits they had not actually increased their overall costs, although the cost of fertiliser had increased substantially recently. The increased number of plucking rounds means more GL is plucked by the tea pluckers per month, but as they are paid per kg GL the farmers' labour costs have not gone up disproportionately. The RA-only and FT-only certified smallholders had adopted the same tea management practices due to certification. The non-certified smallholders said their new practices were a result of increased education by their PO, however most of their POs are preparing for RA certification as well. Communication within the network of KTDA POs means that good practices recommended by certification standards quite quickly start to be recommended by KTDA to their non-certified POs as well (although the amount of and quality of farmer training happening at these non-certified POs will depend on what stage of preparation for certification they have reached). As a result of the KTDA organisational structure, the certification schemes are therefore having impacts amongst a wider group of tea farmers than those who are members of already certified POs. Certification is a key driver in the adoption of more sustainable tea management practices by smallholders.

The FT/RA tea management trainings have also raised awareness about the importance of avoiding overloading the GL plucking baskets, because this squashes the leaves and reduces GL quality. For similar reasons plucking baskets and not sacks should not be used to carry the GL tea. After carrying the GL to the collection centres in baskets it is poured onto the cool concrete slab benches, and the farmer or plucker airs the GL by lifting handfuls of it into the air and then letting it gently fall back onto the pile. Women are aware they must not use perfumes when they are plucking and transporting the GL or cover the GL with cloths, to avoid product contamination. The farmers train their pluckers after they have received training themselves. The collection centres are said to be cleaner now, and since certification most have toilets and water installed to improve hygiene.

The questionnaire data from 2012 showed that all the farmers felt there had been large improvements in their tea husbandry, production facilities, diversification of farming enterprises and particularly in their postharvest facilities (e.g. collection centres and electronic weighing scales) during the previous two years than (Table 4.28). These perceptions of improvements were not significantly different between certification types, with the exception of the FT certified outgrowers who perceived stronger improvements than the FT KTDA farmers for all the aspects except the postharvest facilities.

Table 4.28. Tea farmers' perceptions of changes in the tea management practices and facilities during the two years prior to 2012

	Total	KTDA members			FT outgrowers	KTDA Certified (RA or FT)	Signficance of pairwise comparisons				
		Non-cert	RA	FT			KTDA Cert vs Non-cert	KTDA RA vs Non-cert	KTDA FT vs Non-cert	KTDA RA vs FT	FT KTDA vs FT Outgrowers
N	500	150	100	150	100	250					
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement											
Tea husbandry	0.69	0.69	0.61	0.66	0.83	0.64	ns	ns	ns	ns	**
Production facilities	0.71	0.67	0.73	0.65	0.82	0.68	ns	ns	ns	ns	*
Post-harvest handling facilities	0.91	0.95	0.88	0.91	0.87	0.90	ns	ns	ns	ns	ns
Diversification of farming enterprises	0.59	0.59	0.49	0.52	0.77	0.51	ns	ns	ns	ns	***

Sig = Significance of differences between groups (based on T-test, Mann-Whitney test and Wilcoxon test): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

Further analysis revealed that both certified and non-certified KTDA farmers felt there had been significantly greater changes in improvements to all these four aspects during the two years prior to 2012 than there had been during the two years prior to 2010, and double difference analysis found the increase in improvement was significantly greater for the non-certified farmers for tea post-harvest handling facilities (p=0.009) and farming diversification enterprises (p=0.012).

4.6.2. Social and environmental management systems

The management of the RA certified KTDA POs described the records taken of each member's farming activities as their system for tracking farmes practices. The FT certified outgrowers' association explained that they are about to hire an environmental officer who will help with environmental education and the development of medium and long-term environmental action plans. The FT-only certified PO management described having mapped their protected areas, such as water catchments and riparian strips. Management of the non-certified KTDA POs explained that they have been advocating for more sustainable agriculture, but had not started to document their activities until they began to prepare for RA certification. These systems of recording each farmer's information consume a lot of resources each year, in terms of enumerator and farmer time and data entry. None of the management described ways they were additionally using this information beyond it being an RA certification (and therefore market access) requirement. However they did refer to the specialised database which had been designed for this process.

4.6.3. Ecosystem conservation

One of the managers of a non-certified KTDA PO explained that they have increased their emphasis on the importance of not cultivating crops along the riparian strips (30m from the river) in the last couple of years. Although the government policy and Wangari Maathai's leadership on this has been there for a long time, it has not been well enforced.

The certified PO management explained that it is FT and RA which encourages and monitors the implementation of these existing policies, which do not otherwise seem to have been being enforced. This has involved a lot of farmer awareness training, as well as the factory setting an example in removing eucalyptus from the area of the river that they take water from and replanting with indigenous tree species. The high land population pressure in the East of Rift Valley has led many households to utilise swampy riparian strips where they can plant arrow roots, and due to certification the PO has now been training them on how to produce upland arrow root using plastic sheet lined ponds in order to protect livelihoods and the riparian strips. Managers at one of the dual certified POs explained that they have a bamboo project with the Kenyan Forestry Research Institute which has started planting bamboo along the river beds with the plan that farmers can use the bamboo for furniture, fuel wood, tea plucking baskets etc. Napier grass is also being planted along the river banks to help reduce soil erosion polluting the river.

A non-certified PO manager explained they no longer accept indigenous trees as fire wood, and help provide farmers with indigenous tree seedlings to plant to enhance ecosystem conservation. This local interpretation of the RA standard has been incorporated into KTDAs own policy.

The questionnaire data from 2012 showed that RA certified respondents felt there had been improvements in the environment during the previous two years than farmer at non-certified or FT certified KTDA POs (Table 4.29). FT outgrowers felt there had been the most environmental improvements, significantly more than the FT KTDA farmers. Further analysis revealed that both certified and non-certified KTDA farmers felt there had been significantly greater changes in improvements in the environment during the two years prior to 2012 than there had been during the two years prior to 2010, but double difference analysis found the rate of increase was not greater for the certified farmers (p=0.754).

Table 4.29. Tea farmers' perceptions of changes in the environment during the 2 years prior to 2012

	Total	KTDA members			FT outgrowers	KTDA Certified (RA or FT)	Signficance of pairwise comparisons				
		Non-cert	RA	FT			KTDA Cert vs Non-cert	KTDA RA vs Non-cert	KTDA FT vs Non-cert	KTDA RA vs FT	FT KTDA vs FT Outgrowers
N	500	150	100	150	100	250					
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement											
Environment	0.49	0.33	0.72	0.29	0.79	0.46	ns	***	ns	***	***

Sig = Significance of differences between groups (based on T-test, Mann-Whitney test and Wilcoxon tes): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.6.4. Wildlife protection

Managers of the non-certified POs preparing for RA certification explained that they now have wildlife protection policies which prohibit hunting or the use of baits and traps for animals, and ban all farming in the forest. The RA and dual certified POs have similar policies, and mentioned that they are also encouraging livestock keeping. It appears that FT-only certified POs have not focused on this aspect, and that it is the RA standards which have driven these changes. None of the groups interviewed complained about this policy nor suggested that it had negatively influenced their food or nutrition security.

4.6.5. Water conservation

In addition to the ban on crop cultivation in riparian areas which all the certified and non-certified POs are now implementing, they have also been emphasising the importance of not using chemicals (fertilisers, pesticides etc) near the river, and RA certified POs have banned clothes and vehicle washing in the rivers to reduce water pollution. One RA certified PO now provides free water for locals for any big functions so that they do not drive their vehicles into the river to load water and thus disturb and pollute it. Managers at one of the dual certified POs explained that they have been training their members on water harvesting technologies to help with irrigated food production. At one FT certified PO in the East of Rift Valley area managers expressed concerns that WARMA was issuing too many water abstraction permits and that 30% of the river's flow was being abstracted.

4.6.6. Pesticide use

There is very limited, if any pesticide use on smallholder tea in Kenya. A few farmers used herbicides but many of those who have become certified have now switched to manual weeding, using a herbicide such as Round Up (active ingredient: Glyphosphate) just for spot treatment of very persistent weeds, such as couch grass amongst the tea bushes. However, many of the tea farmers use pesticides on their dairy cattle and vegetables, and report that since using PPEs and gaining understanding about safe use of pesticides through the certification standards they have reduced their associated skin/ inhalation/ headache/ and stomach problems, and now know not to sleep in the same room as pesticides are stored in. However, most of them still apply industrial fertilisers to their tea bushes using their bare hands. Farmers improved use of PPEs and improved understanding of how to use, store and handle chemicals, and which chemicals are banned is due to the certification standards.

The questionnaire data from 2012 showed with the exception of the FT outgrowers farmers felt there had been little change in the safe use of pesticides during the previous two years (Table 4.30). Further analysis revealed that non-certified KTDA farmers felt there had been significantly greater changes in improvements in safe use of pesticides during the two years prior to 2012 than there had been during the two years prior to 2010, presumably due to their preparations for RA certification.

Table 4.30. Tea farmers' perceptions of changes in the safe use of pesticides during the two years prior to 2012

	Total	KTDA members			FT outgrowers	KTDA Certified (RA or FT)	Signficance of pairwise comparisons				
		Non-cert	RA	FT			KTDA Cert vs Non-cert	KTDA RA vs Non-cert	KTDA FT vs Non-cert	KTDA RA vs FT	FT KTDA vs FT Outgrowers
N	500	150	100	150	100	250					
-1 = decrease / deterioration; 0 = no change; 1 = increase / improvement											
Safe use of pesticides	0.20	0.16	0.06	0.04	0.63	0.05	ns	ns	ns	ns	***

Sig = Significance of differences between groups (based on T-test, Mann-Whitney test and Wilcoxon tes): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

4.6.7. Integrated crop management

Managers of the non-certified POs explained that in preparation for RA certification they have been helping farmers procure PPEs and have increased farmer awareness regarding safe chemical usage. The only chemicals used regularly on tea are NPK fertilisers, and a few farmers use herbicides such as Round Up occasionally, as there are currently no major pests or diseases of tea in Kenya. The POs have been training their members on correct application of fertiliser to reduce run-off problems and maximise tea yields, and also on the importance of wearing gumboots and hand protection during fertiliser application. The RA only certified PO trained its members on the list of banned chemicals and on how to accurately work out how much chemical to use, and although no GMO crops are grown nearby they have been doing awareness raising on this topic with members. The RA only certified PO managers said 50% of the members have now participated in full season long farmer field schools (FFS), suggesting their sustainable agricultural skills are now very strong.

4.6.8. Soil management and conservation

The non-certified POs explained that they have been trying to construct their roads in ways that limit soil erosion, and have been constructing drainage canals and installing caravats (pipes). Rain water run-off from roads can significantly damage tea fields. The PO has also been advising their farmers to plant Napier grass along the roadsides and rivers to reduce erosion, and to fill any gaps in their tea fields with new tea bushes. They are also encouraging farmers to leave the prunings on the field as mulch. The managers at the dual certified POs explained that they have been encouraging the use of organic manure on tea, and the correct application rates for fertiliser to help reduce farmers' costs. One dual certified PO has been promoting the planting of Napier grass and bamboo along rivers, and plants to reduce soil erosion along the edge of tea fields. The managers of the RA only certified PO explained that if anyone is caught stealing tea prunings from someone else's field for firewood, they have to buy a 50kg bag of fertiliser for the farmer they stole the mulch from. This is because prunings can provide nutrients, and help with moisture loss and soil erosion. Both the POs in the West of the Rift Valley have been conducting awareness raising on the need for terracing in tea fields to reduce soil erosion. The estate that the outgrowers group supplies has been helping to take soil samples from the outgrowers' fields which they analyse and then provide the outgrowers with recommendations of appropriate soil fertility practices. The outgrowers have been promoting crop rotation to reduce pest and disease build up through their kitchen garden programme funded by CafeDirect[11]. Preparations for RA certification have enlarged and improved the POs soil management and conservation activities amongst the POs.

4.6.9. Integrated waste management

Both FT and RA certification stipulate that farmers should separate the different types of waste products, using the biodegradable materials as organic compost on their farms and not burning plastics. However, the RA-only certified PO manager explained that despite having been certified

[11] Of this study's focal POs, it was only the FT certified outgrower group who are working with CafeDirect

since 2009 they have not found a local company to recycle the non-biodegradable items and so they just remain in sacks at the farmers' houses. The factories use incinerators for hazardous waste and treat their waste water in order to ensure it does not pollute the river ways. In preparation for RA certification, the non-certified POs have been investing in waste separation and recycling (e.g. scrap metals and sacks) and effluent treatment systems for the factory and training of their members in waste management. These standards will lead to improvements in the health of humans and wild flora and fauna, as well as improved air quality through reducing both the burning of plastics, and the release of untreated effluent into rivers.

4.6.10. Energy and greenhouse gas emissions

Fuelwood for the factory furnace

At the time of the baseline, the FT certified POs had already begun purchasing land in order to plant fuelwood trees that could then supply the processing furnace. Since then they have focused on installing more efficient machines and have clad their steam pipes in their factories to help reduce their fuel usage. Most tea factories have stopped using furnace oil as it is too expensive. They have also been promoting the planting of trees by their members to help supply future fuel, and as a PO have been planting trees on the land (usually ~200-300 acres in size, although some estimate they need 600 acres) they have purchased. It has been KTDA policy for the last two years that all tea factories must buy land to plant trees on to ensure they have sustainable fuel wood supplies. In the West of the Rift Valley region one PO manager explained that the price of firewood has gone up rapidly from Ksh1,200/m^3 in 2011 to Ksh1,600/m^3 in 2012. Another dual certified PO manager in the East of the Rift Valley explained that they now have to send their trucks 60km away to purchase fuel wood, while previously they used to obtain sufficient amounts locally, and so they have been using the root stumps of coffee bushes as fuel. The same factory manager explained that they need to harvest 2 acres of fuel wood/ month to supply their furnace. If the PO is located in a cold place it will use more firewood and electricity for processing it's made tea than a factory located in a warmer place. The withering process uses a lot of energy, and is also dependent on the skills of the factory managers. The FT only certified PO has started using briquettes made from the sugar cane waste from Muhoroni factory, as fuel as it is cheaper than furnace oil. Whilst more sustainable energy use is emphasised by the certification standards, the cost savings of reducing their energy use are also a major driver for tea factories.

The certified POs conduct regular energy audits of their factory and then identify areas where they can aim to reduce energy usage. They are exploring more energy efficient withering fans and solar energy opportunities to reduce their energy costs. One dual certified PO has introduced the idea of biogas technologies to their members to help them reduce their fuel use. The RA-only certified PO explained that due to RA representatives suggestions (note: this is also a KTDA recommendation) they have built fuelwood sheds in order to ensure the factory burns dry fuel wood which is more efficient and less smoky than damp fuelwood which is what they and most other tea POs and estates had been doing. In both the East and West of Rift Valley areas, several of the KTDA POs are involved in developing hydroelectric power (HEP) schemes to help address the rapidly increasing energy costs. However, as yet, none of these HEP schemes is operational. One PO explained that its monthly electricity bill was currently Ksh3million and in addition to the cost there can be blackouts, so the factories have to have back-up generators to ensure their GL processing can continue. A tea factory in Meru county was one of the first to benefit from a small hydro plant which reduced the factory's electricity bill by almost 60%. The factory consumes about half the electricity generated (0.4-0.5MW and sell the surplus to the national grid through a power purchase agreement.

The FT certified outgrowers have a CafeDirect funded climate change adaptation project which is also supporting tree planting, growing of drought tolerant crops (including trials with the Tea Research Foundation on more drought tolerant tea clones), crop diversification, use of low-energy cooking stoves, and demonstrations of solar lamps, composting and biogas. The non-certified POs explained that they have been planting trees for use as future fuelwood and have been using dry fuelwood to increase its efficiency. They have also installed translucent roofing sheets in their factories to reduce the lighting needs and are using energy savings light bulbs. Reducing energy costs increases the POs profits, so management and members are all keen to do this. Climate also affects the factory's energy use, as GL takes longer to wither when it is wet.

Certification has had an influence on POs not using indigenous trees, in particular, as fuel wood; and has emphasised increasing the efficiency of fuel wood use through ensuring it is dry before burning it, and through measuring and improving the efficiency of equipment in the factories. KTDA policy has been influenced by these standards, and now specifies that each KTDA factory is to propagate 150,000 tree seedlings/year as part of the agencies environmental conservation activities and to augment its wood fuel programme. KTDA managed factories have already acquired more than 9,000 of their targeted 33,000 acres of land to plant trees on.

Some of the POs were aware of potential future opportunities with carbon funds but all reported that they were still just exploring the potential possibilities. FT Africa staff reported that FLO CERT had developed a model to encourage traders to buy back carbon credits from their supply chain, called 'in-setting'. The project was launched in 2010 with tea as a pilot focus commodity. The carbon credits bought by the traders are being used to support at-source packaging type projects, with the aim of help add value and increase profits of the producers. In 2011 there were 11 FT certified KTDA POs, representing ~83,000 smallholder tea growers and there was discussion as to whether they could register to access carbon credits. There is also work within FLO to develop an adaptation standard.

4.7. Wider impacts

PO managers explained that the FT premium funded community projects have had positive impacts for the wider community (e.g. beyond those who are members of the PO). For example, many in the community benefit from: improved footpaths; new bus stops; school facilities such as new kitchens, roofs, classrooms, toilets, dormitories; improved school performance when good teachers are attracted by upgrading their housing and students are able to spend more time studying; more closely located dispensaries and water tanks are accessible to all in the community which reduces drudgery and saves time which can then be used for other productive activities; and a gym constructed for the factory staff is open to other people to join. Many of the FT Premium investments were felt to particularly benefit women and children in the community whether tea farmers or not.

During the light monitoring study some FT certified PO managers and farmers explained that they felt the FT Premium should be divided amongst the individual members of the PO and not used for community projects, as they did not see why coffee farmers should benefit from the schools which tea farmers' profits and hard work were being used to build. A key informant explained a previous study found similar views when FT premium funds from tea were being used for community development activities in a miraa/khat growing area but no miraa funds were being contributed despite the fact miraa farming was much more lucrative. A key informant explained that in the horticultural sector FT premiums are used for training women workers on their chosen topics such as tailoring, and to buy land on which they could help the women to build houses, so the benefits were going directly to those who generated the Premium. FT Africa staff explained that although it is not currently happening, the FT Premium can legally be paid out to individual members of the producer organisation. However, because most FT certified Kenyan POs are earning so little as a FT premium currently it would not make sense to split this between all the members of the PO and so it is

commonly being used for community projects, and with a heavy focus on collection centres. FT Africa staff reported that when FT certification started in the Kenyan tea estate sector the estates tried to pay out the FT Premium to individual workers but there were corruption issues and so they have stopped doing this and now use it for funding worker community projects.

The environmental benefits accompanying both FT and RA certification such as increased tree planting, cleaner water sources, increased soil fertility, reduced soil erosion and reduced pollution benefit all who live in the area in terms of improved health and protection of the ecosystem and enhanced livelihood security. Most respondents link RA certification more closely with environmental conservation and human health protection than they do FT certification, although they are aware that both these standards do influence both social and environmental changes. Although pesticides are not used by smallholders on their tea bushes, the RA training on safe use and storage of pesticides has had important impacts. This is because many tea farmers use pesticides on their dairy cattle and vegetables, and report that since using PPEs and gaining understanding about safe use of pesticides through the RA certification standards they have reduced their associated skin/ inhalation/ headache/ and stomach problems, and now know not to sleep in the same room as pesticides are stored in. Attitudinal changes towards health and safety at home and at work can benefit wider members of the community. Increased income by tea farmers can have positive effects for those who sell products and services to tea farmers, such as those selling cabbages, fruits or shopkeepers.

5. Discussion and conclusions regarding certification impacts on smallholder tea producers in Kenya

There are many contextual factors which influence the poverty situation amongst Kenyan tea smallholders. The livelihoods of the smallholder tea producers, the management and regulations of their POs and the national and global environments in which they operate are complex and influenced by numerous interacting drivers of change, of which certification standards such as RA and FT are just one. This study sought to understand these interacting shaping factors as much as possible in order to facilitate attribution of poverty impact to the sustainability standards as compared with other international, national and value chain causal factors.

Key factors include: i) the existing policies and regulations of the KTDA as an organisation which shapes the practices of all KTDA companies, whether certified or not, some of these policies are increasingly influenced by learning from certification processes and then extended to both certified and non-certified POs; ii) the rapid expansion of RA certification across the sector as a result of market requirements (e.g. Lipton's sourcing pledge), and the management and interactions of multiple certifications within a PO; iii) national environmental protection, employment and basic rights legislation is relatively comprehensive but is not always monitored or enforced; iv) existing inequalities; v) current high market price of made tea; vi) increasing cost of living and tea production for Kenyan farmers as the prices of purchased food items, energy, labour and fertiliser have all increased significantly; vii) less predictable climate and weather trends; viii) subdivision of land at inheritance resulting in extremely small tea farms; ix) lack of interest by youth in tea farming, as education and the laborious nature of tea farming results in them looking for off-farm income generating opportunities.

The KTDA has a highly organised structure and acts as a managing agent for the 560,000 registered smallholder tea farmer members who deliver their GL to their local KTDA managed factory and who are also shareholders in their KTDA managed factory. It is in fact the world's largest black tea managing agent. Each KTDA PO has a team of professional managers employed by the KTDA management. Farmers are represented in the POs decision making through the Board of Directors. KTDA already had in place numerous regulations and standards which regulate farmers tea operations prior to certification. This has made it easier to introduce the RA and FT standards at scale to the smallholder Kenyan tea sector than might be the case in other countries where smallholders are less well-organised or regulated such as Tanzania, Burundi or Uganda. KTDA staff explained that due to the strict KTDA standards most KTDA POs were 75% compliant with FT and RA standards even prior to them starting to prepare for certification. However, KTDA do not typically train and audit every single one of their farmer members, so RA has had to introduce systems to ensure that happens. KTDA staff feel that certification has helped empower the smallholder tea farmers, helping them to understand 'why' they should do things in a particular way. The KTDA staff said farmer training has been much deeper since certification preparations began, and the KTDA adopted and is now scaling out the FFS learning approach (which the initial RA certified KTDA POs went through) to all their KTDA POs due to feeling it was an extremely effective and empowering learning approach.

It is notable that changes occur within the PO's operations as soon as it starts to prepare for certification, which may be one to two years prior to their audit and successful certification. Due to the rapid increase in RA certification in Kenya, all the smallholder POs included in this study were either certified (and some of them dual [FT & RA] or triple [FT, RA, Utz] certified) or well advanced in their preparations for certification by the final field survey in February/March 2012. All the focal KTDA POs also had ISO 9001 and ISO 22000 certifications. Attributing impacts to particular standards is difficult given all the other confounding factors which drive change. When POs have several

certifications with overlapping criteria it becomes harder still to disentangle which standards are causing which changes and through what processes.

Due to this rapid spread of certification in the Kenyan tea sector, a simple comparison of certified versus non-certified POs is not realistic as most 'non-certified' POs are in fact now well advanced in their preparations for RA certification and have thus already implemented many certification influenced changes. However, due to this expansion of certification the study has been able to learn a great deal about the process of change which RA and FT certifications influence. In addition to all the qualitative information collected through the various interviews, the Double Difference analysis of the quantitative data measures the relative changes, which can help show in which areas the POs on the path to certification have progressed the most by comparison to the baseline and to the certified POs. For many aspects of the standards, quite some time is needed before impacts are likely to be seen or felt (e.g. soil or crop management related yield changes; changes in ecosystem services influenced by environmental protection activities, investments of the FT Premium), particularly for those aspects with progressive measures of compliance.

In both the smallholder and estate sector, RA certification was being obtained for market reasons following Lipton's statement that they would only be purchasing RA certified made tea from 2015 onwards. One key informant suggested that while standards are used positively to improve workers and producers rights, a negative aspect is when they are used as non-tariff trade barriers. Another key informant questioned how empowering the achievement of certification standard is for the producers when it is being followed as a market requirement as opposed to meeting the standards because the values inherent in them are ones they support and want to follow (this issue is also discussed by Nelson *et al*., 2005 and 2007). Some smallholder producers also questioned the virtually mandatory nature of the RA standard, and the way all registered members of a PO have to adhere to the standards; they wondered whether it was not a form of '*neo-colonialism*'. During the light monitoring visit in early 2011, stakeholders questioned the term 'voluntary standards' and suggested it would be more accurate to call them '*compulsory voluntary standards*' given the way RA certification was then becoming a de facto market access requirement.

The study found that many of the sustainability standards criteria echo regulations that are already part of national legislation, whether labour laws (typically working conditions or health and safety aspects), environmental policies or aspects of the new Kenyan constitution. During the study it became clear that whilst many governmental policies overlap with the standards, there is a lack of resources to monitor and enforce implementation. The annual audit practice of the RA and FT certification standards has meant that adherence to these policies which overlap with the certification standards are now more closely and regularly monitored and therefore implemented. In addition, exposure of KTDA to the RA certification standards appears to have led to some aspects of the standards becoming KTDA policies, e.g. mandatory tree planting, and sustainable fuelwood production for the factory[12]. This further complicates attribution of impact without ambiguity to sustainability standards and certification, but it should be noted that RA has pushed up the bar for KTDA policies.

There are serious gender inequality issues in the Kenyan smallholder tea sector, with women playing an active and often dominant role in plucking and delivering GL, but with 70% or more of the registered members being male and the tea income being paid into the registered members account. While in some households there is joint decision making on the use of the tea income in others this is not the case. RA is said to have helped address this problem by introducing financial

[12] The SOMO 2008 study reported that at that time KTDA had no tree planting or reforestation programmes despite the fact tea processing required 4-18kWh/kg of made tea and nearly all of it was being obtained from locally sourced fuel wood. KTDA website now says Kenyan tea farmers will plant more than 10 million trees annually. Each factory is to propagate 150,000 tree seedlings/ year as part of the agency's environmental conservation activities and to augment its wood fuel programs. KTDA managed factories have acquired >9,000 acres of land to plant trees for their wood fuel needs and have a target of 30,000 acres.

management training for smallholder farmers which covers the importance of joint decision making and use of tea income for household and family needs. On smallholder tea farms (both certified and non-certified) women (and hired pluckers) may hawk their GL to other farmers for immediate cash - typically at below the normal per kg smallholder plucking rate - if they are not able to obtain cash for household food requirements from tea income in other ways. It was evident from the GL delivery records that hawking is happening as some members had annual GL yields of >10kg/bush recorded against their names which given the average yield of 1-1.5kg/bush/year suggests they are acquiring large quantities of GL from elsewhere. This practice typically results in the tea household having reduced earnings from their tea farm, although the women in the household may themselves access more tea earnings this way if their husbands do not usually share the tea income. This practice also potentially jeopardises certification principles and traceability, if a certified farmer buys hawked GL from a non-certified farmer and then sells it to his/her certified PO. However, given that all members of a PO are certified as a group this non-certified contamination risk would be greatest from zones and collection centres where members border a non-certified tea zone. Given the KTDA POs now keep computerised records on their members GL deliveries, it should not be difficult for them or the certification standards' auditors to pick up anomalies such as these and investigate these cases in more detail.

Several PO managers said they did not collect gender disaggregated information about their members, although in fact their GL delivery records have the members' full names and therefore could be easily disaggregated by gender as was done for this report. These managers' responses highlighted a general lack of awareness of gender issues amongst PO management. The PO managers and farmer FGDs mentioned a small trend towards men giving their wives some tea bushes to register in their own names, and in the women's FGD there were usually a few women who owned some bushes which they had inherited when their fathers or husbands had passed away or which they had been given by their husbands. However, women's ownership of tea is still limited.

While most GL is plucked by family labour or neighbours, the hired migrant pluckers are seen as the most disadvantaged in the community along with the disabled and orphans. Both RA and FT standards have elements related to hired labour, and payment records and housing provision are checked as part of the RA audit of each individual member of the PO. Both the farmers and the hired labourers said the certifications had improved employer-employee relations, with labourers mentioning that in addition to timely payment some of them are now also provided with food, water and soap. The plucking labour shortage in the East of the Rift Valley was mentioned as a future challenge by tea farmers.

The annual certification audits are pre-announced and therefore the POs are pre-warned and can prepare for them which may enable a degree of stage management to occur. RA said they conduct one unannounced tea audit per year in Kenya. It was notable how little NGO involvement there was in the smallholder tea production areas in Kenya. This limited opportunity for NGOs to intervene on behalf of smallholder tea farmers was also recognised by the CPDA, 2008 study. Given the likely overlap between many NGO and certification standards' activities and goals, there would appear to be potential synergies for increased information sharing between the local certification standard bodies and NGOs.

Kenyan tea prices have increased throughout the study period (see Fig 3.1), PO managers suggest these high prices explain much of the increased attention farmers are giving their tea farms and the plucking of quality GL in order to maximise their incomes. However, while tea prices are high, the cost of living and tea production has also increased, with food, labour, energy and fertiliser being key

expenditure items of smallholder tea households which have increased significantly in the past few years. The additional income earned by tea farmers have helped to cushion the effects of these price rises.

Tea farmers and PO managers list the increasing unpredictability of the climate as a major future challenge for tea. Drought and frost caused major yield decreases (up to 30%) during the study period. Scenarios produced by CIAT (2011) (see Appendix 2) suggest that the suitability for tea production of many of the current tea-growing areas in Kenya will decrease quite seriously by 2050, necessitating the development and planting of more drought or heat tolerant tea clones and other adaptation practices or investment in alternative livelihood strategies for many currently involved in tea production.

High population growth combined with limited land for agricultural expansion amongst the smallholder tea farmers in the East of the Rift valley (where tea farms are already usually less than 1 acre in size), mean that when tea farms are subdivided amongst the children at inheritance, the resulting land parcels are now reaching economically unproductive small sizes. Livelihood diversification activities introduced by the certification bodies are helping in providing family members with alternative income generation opportunities and reducing the pressure to subdivide the tea farm.

Managers and farmer focus group participants reported that the youth were not keen to get into tea farming, and nearly all the farmer focus groups said they hoped that their children would not have to work as tea farmers when they were older as it was such laborious work. Their hope is that education will enable their children to access other employment opportunities.

Additionally, there were aspects of the certification standards which some smallholders felt were not appropriate to their context. For example, the necessity to purchase expensive PPEs instead of continuing to use locally available items such as old fertiliser sacks as plucking aprons. RA staff explained that the main non-compliance areas at KTDA POs were typically: poor waste management; factory workers' terms and conditions not being implemented as per the CBA; and farmers not having PPEs by the time of the audit. Certified farmers said the child labour provisions of the RA and FT standards did not take account of the importance of tea farmers' children being trained in how to pluck tea and helping during the school holidays and at weekends. Both FT and RA standards prohibit the employment of workers under the age of 15. However, FT standards state that children under the age of 15 are allowed to help their families on the tea farm after school or during holidays, as long as the work they do is appropriate for their age, they do not work long hours and/or under dangerous or exploitative conditions and their parents supervise and guide them. RA standards state very similar regulations for children between 12 and 14 years old. FT standards additionally have a special clause for child-headed households, whereby a child's rights approach will be used to interpret the requirements, giving priority to the best interest of the child. However despite what is written in both the standards there appears to be a misunderstanding amongst farmers regarding this. They feel that due to the certification they are now not supposed to let their children help them pluck tea after school or during the holidays. It is not clear where this misunderstanding is coming from, and whether fear of a child labour scandal is resulting in PO management or auditors telling farmers not to let their children help them on the tea farm at all.

RA has local interpretation guidelines developed by a committee of local stakeholders, who look at each standard from the specific country and crop focus and then create more detailed and contextualised guidelines on what is and is not acceptable. However, farmers still feel this process could be improved to make some of the standards more practical, which may suggest the need for an increased diversity of farmer representation on the Local Interpretation Guidelines Workgroup.

FT Africa staff explained that they are helping build capacity of the FT producers who represent others on the FLO board and elsewhere to ensure that grassroots issues can be given priority in the FT standards. The issues regarding standards being jointly agreed between buyers and

factories/farmers or being imposed from outside focusing on protecting the buyer's reputation rather than on issues that matter to farmers and workers are well presented in the Traidcraft, 2009 report.

The above paragraphs describe many of the interacting factors simultaneously influencing change within the smallholder tea farming sector in Kenya. During this study we focused in to try and increase understanding about what actual outcomes and impacts were arising from FT and RA certification in the smallholder tea sector. From the study's findings a detailed 'actual impacts pathway' analysis was constructed and is shown in the table in Appendix 3. This table is important in showing the links between the standards' various inputs, to the actual outputs, outcomes and impacts. In order to provide some guidance as to the scale and importance of the different outcomes the author developed a basic scoring system based on a synthesis of stakeholders' perspectives. This scoring system identifies important positive outcomes ☺☺ or ☺☺☺, positive outcomes which either do not affect many people or are not yet having large impacts ☺. Negative outcomes are shown as ☹, with very negative outcomes affecting many people or having a very negative effect shown as ☹☹ or ☹☹☹. A summary of this analysis of the actual impact pathways is presented in Figures 5.1 and 5.2 for the Fairtrade certified tea smallholders and the Rainforest Alliance certified tea smallholder respectively.

The analysis has also been arranged in a summary of the findings on poverty impacts of Kenyan smallholder tea certification (Table 5.1). In response to the study's research questions it summarises the current impacts of the certifications on individual smallholder tea producers' income and food security, household asset building, quality of life and well-being, livelihood security, empowerment, gender relations, hired labour and child labour practices. It also presents the certification impacts on the POs management capacity, employer/employee relations, decent work arrangements, reputation, financial viability, democracy and accountability, market access, value chain knowledge and position, advocacy capacity and networking. Table 5.1 also includes certification impacts on environmental protection and the wider community. This independently gathered information will be of interest and use to PO managers, certification bodies, donors, and networks such as ISEAL who are all keen to better understand the outcomes and impacts and remaining areas needing attention in the tea sector.

The main outcomes of different aspects of the FT and RA tea standards as identified by all those interviewed during this study are shown in Figures 5.1 and 5.2 and Appendix 3.

Figure 5.1. Actual impact pathway for Fairtrade certified tea smallholders in Kenya

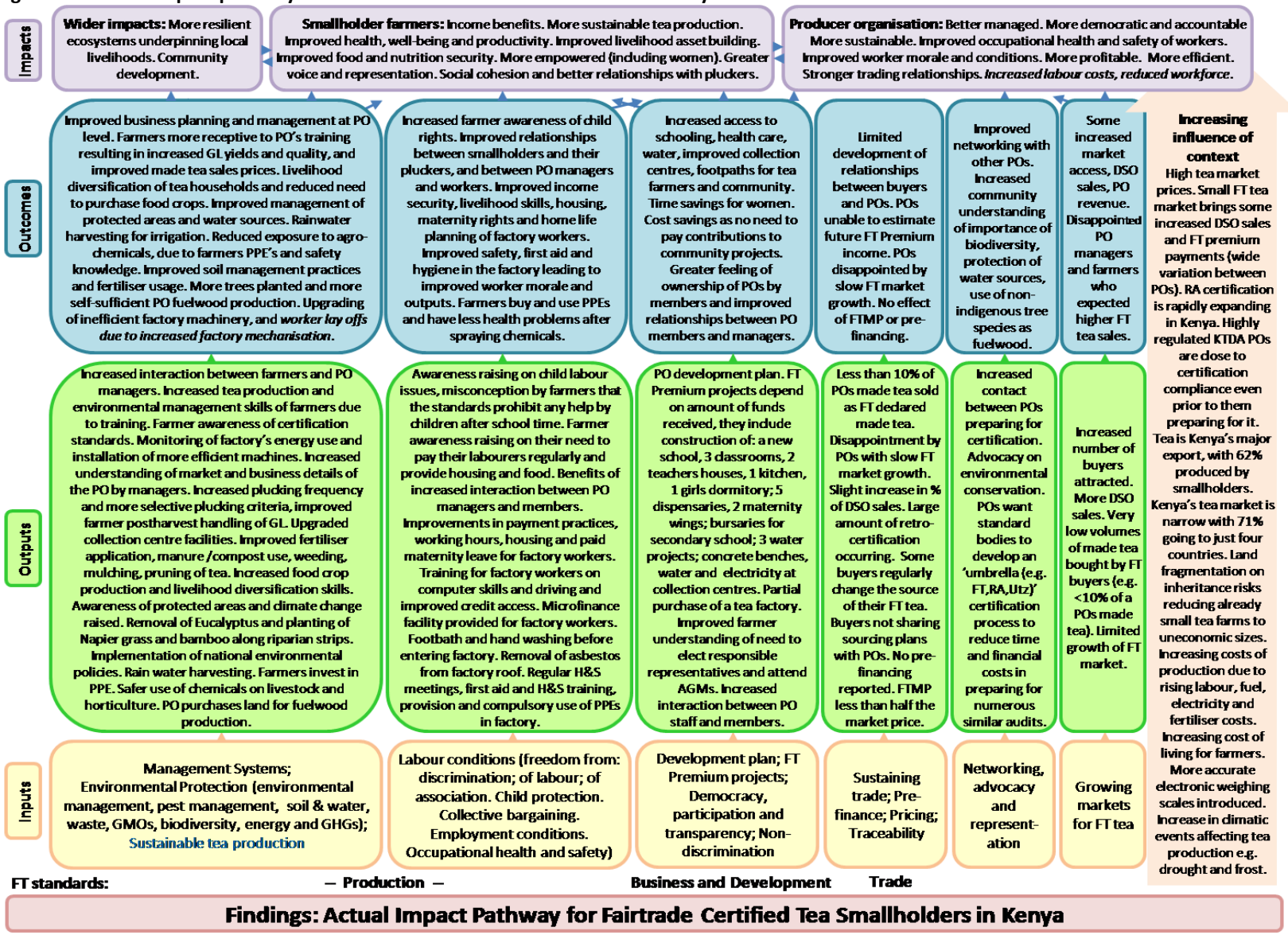
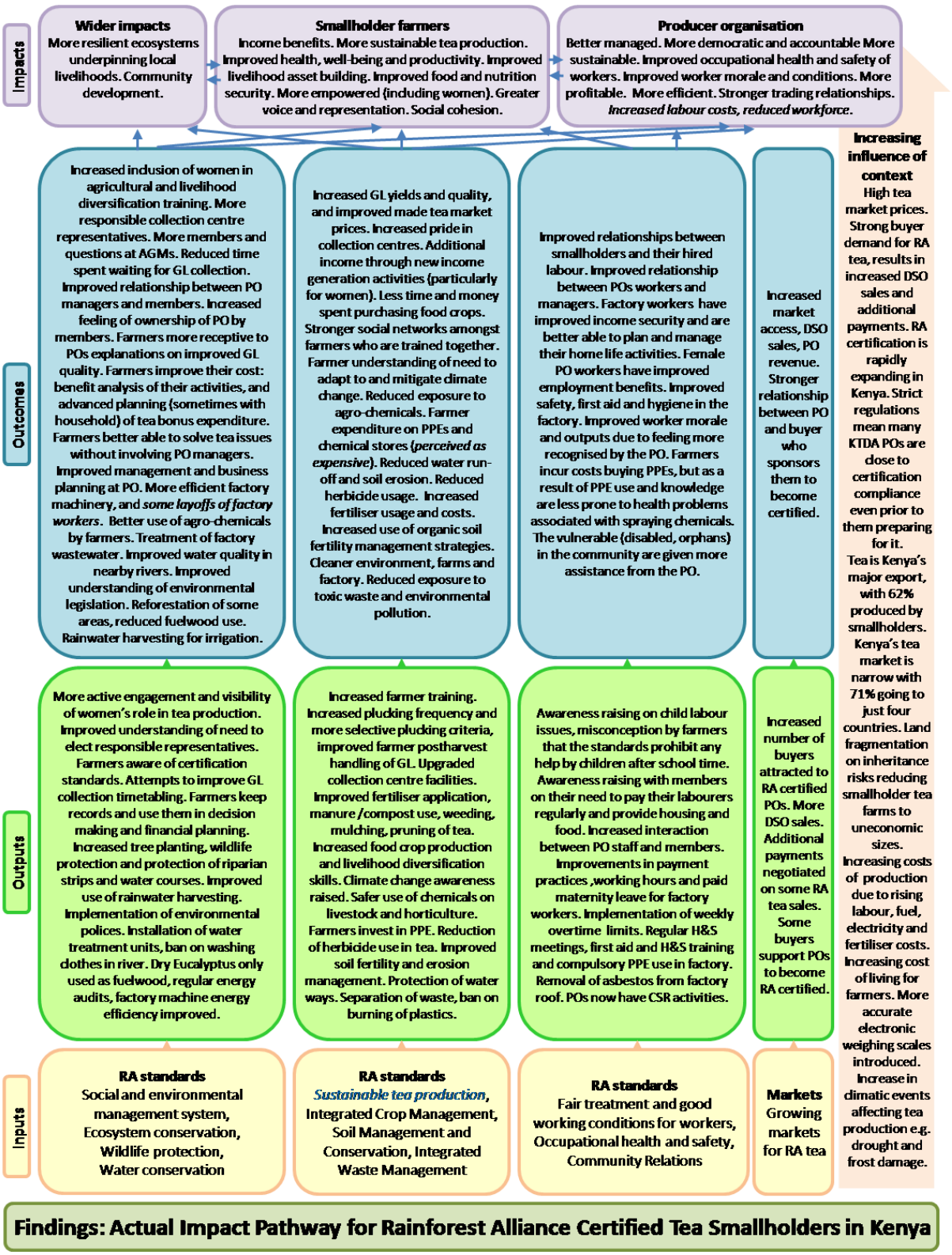


Figure 5.2. Actual impact pathway for Rainforest Alliance certified tea smallholders in Kenya



In summary as a result of the certification standards, most tea farmers and PO managers felt there had been income increases, mainly due to increased GL yields and quality which they associated with the fact farmers were applying a better fertiliser regime, and were plucking the bushes more regularly (3 times per month) and therefore collecting a softer higher quality GL more frequently. Higher quality GL attracts higher prices. International tea prices are high currently which also adds an incentive for farmers to take good care of their tea farms, pluck more GL and thus earn more. Whilst many of the KTDA POs are renowned for the high quality of their GL and so the standards had not resulted in significant quality changes for them, for other KTDA POs (particularly the RA-only certified one in the West of the Rift valley) the strict quality criteria of the standards had led to a change in plucking culture and much higher GL quality.

The fair working conditions standards have had important and positive impacts on the lives of factory workers in KTDA POs, in terms of their safety at work and the provision and compulsory use of PPEs, and control over their working hours, incomes and health, which has been empowering.

Waste management standards are reported to have improved the general appearance of the environment and the quality of river water due to insistence that the factory's and other waste water is treated as opposed to discharged straight back into the river. Soil erosion control methods and protection of the riparian strips are also reported to be impacting on water quality and flows. Whilst insecticides and/or fungicides are not used on smallholder tea in Kenya, the training on safe use and handling of agro-chemicals has been highly relevant to smallholders' livestock and vegetable spraying activities, and they report reductions in skin allergy, nausea, stomach and headache problems which they used to suffer after having sprayed chemicals. They have also learnt how to dispose of chemicals and not to store them under their beds. Herbicide use is now reserved for spot treatment of stubborn weeds only. Whilst farmers value the PPEs used for spraying, they find the overall cost expensive and particularly so for items such as plucking aprons which they have been used to creating from old fertiliser sacks. Farmers appreciate the attention to energy use efficiency in the factory in order to help reduce operational costs, and are supportive of the need to maintain equipment and invest in more efficient equipment, and to build sheds for fuelwood storage to prevent wet wood being burnt in the factory furnace. Rainwater harvesting has, for those farmers who can afford the tanks and pipes, helped provide important domestic and irrigation water.

While there are serious gender inequality issues in smallholder tea farming, the increased profiling of women's roles in tea farming, the insistence by the certification standards on women's involvement in agricultural, household budget management and livelihood diversification training and some committees is said to be contributing (along with other contextual factors) to women's empowerment. The increased interaction between PO staff and members due to the preparations for and implementation of the certifications has also led to improved relationships, and together with training is said to be resulting in increased voice and representation of members in collection centre committees and at AGMs. Farmers also report that certification awareness raising and regulations on fair treatment of workers have helped a more respectful relationship develop between themselves and their hired pluckers. The hired labourers would like the certification bodies to make it compulsory for them to be provided with plucking aprons, and for the host farmer to provide food, and be encouraged to pay their permanent pluckers an annual bonus.

FT is the only one of the tea standards in Kenya to stipulate a minimum price requirement for buyers of certified products. However the FT Minimum price was said to be irrelevant for Kenyan tea currently, as it was set at a value of about half of the current tea open market price. In contrast the community projects which had been implemented through the use of the FT Premium funds, part of the FT trader standards and calculated on the basis of Fairtrade sales, have had major outcomes, in terms of bringing school and health facilities much closer to the community through building of additional schools, classrooms, dormitories, teacher's houses, kitchens, dispensaries, maternity wings, latrines, water tanks, water pipes, upgrading collection centre benches etc. Women and children in particular have benefitted due to them having to spend less time walking to school or to

the clinic, enabling them to spend time on other income generating activities or household activities including helping their children with homework or resting. The use of the FT Premium for paying secondary school bursaries for needy children was greatly appreciated by the community (e.g. the FT outgrowers organising was helping 250 children through school using bursaries paid by their FT Premium fund). From the data collected it appeared that at some POs rather a high proportion of the FT Premium was being used for projects for the relatively few factory staff (~200) such as building a staff canteen, driving and computer classes in comparison to that being used for projects for the more than seven thousand members. Office and administration (which included lunch allowances for some staff/ directors) expenditures from the FT Premium also appeared quite high in some POs.

The market for FT Kenyan tea is not large, and the FT certified POs are selling less than 10% of their made tea as FT declared tea and therefore only receive a FT Premium on <10% of the made tea produced. FT Africa staff reported that they are discouraging other POs from becoming FT certified until the FT tea market has grown sufficiently. However, they also reported that several buyers source and purchase FT tea even though they do not pack it with labels which state it is FT or pay a FT Premium for it. It is thought that these buyers see the purchasing of FT tea as important for CSR reasons and as a risk management measure to help ensure they avoid scandals caused by buying from POs who do not follow acceptable decent work, no child labour or environmental practice. As Dolan (2010) notes: except for the payment of the FT Premium, and some increase in direct overseas sales, no other major differences in the trading relationships from the perspective of the producers and their POs between non-certified and FT certified made tea purchases were identified. CafeDirect appears to be an exception as it has developed a long-term relationship with the FT outgrower organisation and is supporting additional projects on kitchen gardens, climate change awareness and adaptation, and increased energy efficiency. CafeDirect also supports the outgrowers in linking to other potential FT tea buyers. Most of the made tea (>70%) produced by FT certified POs is still being sold through the Mombasa auction, where there is limited, if any, interaction between the producing PO and the buyer. POs did not report that sourcing plans were being shared or advanced orders being placed with them by buyers for FT declared made tea. In fact PO managers explained that a large proportion of the FT Premium income was due to retro-certifications, making it difficult to estimate how much FT Premium would be received each year. Managers at one FT certified PO suggested, "it would be good if a system of pre-contracts could be started where buyers would state, '*this season I expect to buy X kg of FT tea, from a total of Y factories, and to name the factories*'." PO managers were not sure how the auditing process of the FT buyer was managed. While auction sales provide POs with market access and potentially higher prices through open bidding, it also allows buyers to avoid dependence on any one producer country, and gives them considerable latitude in choosing where they source from (Blowfield and Dolan, 2010). When the agent buying FT tea for a major UK supermarket recently changed, the FT outgrowers suddenly found themselves with very reduced FT tea purchases and FT Premium income. This raises questions about how the mainstreaming of Fairtrade is and will in future effect long-term equitable trading relationship development. One of the triple (FT, RA, Utz) certified KTDA POs is being supported by Marks and Spencer to begin blending and packaging tea at their factory in the East of the Rift Valley. This development was not reported as being directly due to any of the certifications; however it is likely that the POs certification status has played an important role in attracting the attention of this trading partner. Additionally, some buyers (e.g. Betty Taylors of Harrogate) are providing financial support for specific POs they buy made tea from to prepare for RA certification, thus ensuring the sustainability of their own tea supply chain and continued trading relations.

The FFS extension approach in tea had initially been introduced to KTDA during a joint DFID and Lipton funded project from 2006-2009, and the graduating POs then went on to become the first smallholder POs to achieve RA certification in Kenya. However, despite the PO managers and farmers referring to their RA training as FFS, RA staff were keen to highlight they had actually adopted a lead farmer training approach and not the FFS approach. The reason for this is that the

season-long FFS approach would be too slow to train every single registered member of the PO (which is an RA certification requirement). However, the KTDA is promoting the use of the FFS approach throughout its POs as they feel it not only improves the sustainable farming practices used by the tea farmers but that it is also a very empowering process for the FFS participants. RA are using the FFS graduates as their lead farmers to then train others in much more rapid training processes, e.g. rapid scaling up through building on the FFS foundation.

Table 5.1. Summary of findings against key research questions on poverty impacts of certification in the tea smallholder sector in Kenya

IMPACT INDICATORS	Overall impact assessment, Differences between FT/RA; Other contextual drivers (value chain factors, institutions and policies in a territory, organisational capacities, partnership interdependencies, market conditions etc)
Individual producers	
Income impacts	• The majority of tea smallholders rely on tea income as their primary source of income. Other important income sources for tea smallholders typically include dairy, horticulture and for some households coffee in the East of the Rift Valley, and maize, bananas, horticulture and livestock keeping in the West of the Rift valley. Tea smallholders (mainly the women) also work as pluckers on their neighbours tea farms during periods when they are in-between plucking rounds on their own farms, and are paid in cash for this work. • Various income benefits for RA & FT smallholders associated with certification were identified as resulting from for example, improved GL quality (and thus made tea prices), and yields, increased livelihood diversification and ability to grow food crops. Improved farmer decision making regards profitability of activities due to record keeping skills developed through RA training. • The FT Minimum Price for made tea in Kenya, is currently too low (e.g. just over half the free market made tea price) to be having any income impacts for farmers. • However, income benefits are derived through the FT premium investments (e.g. reduced needs for tea households to make individual contributions to community projects now funded using the FT Premium, such as building of school classrooms, dormitories, latrines, foot paths, collection centre improvements; improved GL quality and hygiene associated with the concrete benches and water investments at collection centres) • Increased direct overseas sales as buyers source RA and FT certified tea, these sales are more profitable than sales through the Mombasa auction. Additionally if a PO has reduced quantities for sale via the auction due to having sold more of their made tea through direct sales, the competition for the reduced amounts available at the auction increases the auction sales price for that POs tea. • RA has created income benefits through training of all the members in a PO using a lead farmer training approach which builds on and uses the learning and farmer graduates from Tea Farmer Field Schools and lead farmer approach, and its various requirements (e.g. environmental and sustainable agriculture) – supporting agricultural practices and yield improvements. • The rising costs of food and agricultural inputs in Kenya and high world market tea prices are obscuring certification related income benefits. Questionnaire data indicates significantly higher tea incomes for certified than non-certified producers in 2009, 2010 and 2011, with FT certified KTDA farmers in the East of the Rift valley reporting significantly higher tea incomes than RA certified KTDA farmers in the West of the Rift valley. Qualitative data revealed that farmers felt their tea incomes had increased in the last two years due to them applying the practices they had learnt about in the crop husbandry training (e.g. increased frequency of plucking, better application of fertiliser and the associated improved GL quality), which had been provided by their POs. Due to RA certification

	preparations farmers at non-certified POs have also received increased crop husbandry training in the last year. • Tea smallholder farmers in Kenya are perceived as relatively well off compared to other smallholder farmer types, and they are gaining some income benefits as a result of certification. These income benefits are typically being invested in their children's education, better food, household and farm improvements (e.g. new roofs, water storage tanks, new rooms, fertiliser, labour), livestock, small shops, motorcycles and clothes.
Income security	• Tea smallholder farmers are perceived to have better income security than other types of farmers due to the regular monthly payment they receive from their PO for delivering GL, plus the annual bonus payment. Efforts associated with FT and RA certification in helping farmers improve their GL yields has improved their monthly tea income amounts, and the improved quality of their GL has resulted in higher made tea sales prices and therefore higher annual bonus payments. However, there are also non-certified POs where farmers traditionally produce very high quality GL and therefore receive high payments for it. • The FT Minimum price is designed to provide a safety net, but this was not mentioned by Kenyan POs or smallholders as to date it has not been active and therefore useful for them. World market prices (~USD 3/kg) are currently much higher than the FT Minimum Price (Auction=USD1.7/kg, FOB=USD1.8/kg) and so this mechanism does not have an impact. • Income security has been improved by livelihood diversification, quality and sustainable agriculture improvements (FT & RA)
Food security	• Increased ability to grow food crops including vegetables by FT and RA smallholders, helping them reduce expenditure on some food items • Improved tea incomes associated with the improved GL quality and yields (influenced by training associated with FT & RA certification), as well as the currently high tea prices also enable them to purchase more desired foods (e.g. increased frequency of meat consumption and sugar)
Household asset building (e.g. education, health, financial, natural, etc)	• Financial: GL payment slips are used by banks and SACCOs to decide on whether to provide farmers with credit, the increased earnings of tea farmers results in them being able to access larger loans and to back pay loans in a timely way. The final survey questionnaire data showed RA KTDA farmers reporting significantly higher savings than non-certified of FT certified KTDA farmers, no significant differences in the amount of credit they could access (Ksh23,000-33,0000) were reported. • Human: Education (For most tea smallholder families the first priority for expenditure of their tea income is investment in their children's education from primary through secondary and even tertiary levels, increased incomes associated with improved GL quality and yields as a result of certification related trainings has enabled them to invest more in educating their children. Many of the FT certified POs have used some of their FT Premium funds for improving their local school facilities (e.g. school roofs, latrines, kitchens, dormitories, classrooms, teachers housing). KTDA FT certified farmers ranked their three most important FT Premium expenditures as: renovating the GL collection centres; education investments; and health investments, while the FT certified outgrowers ranked their most important FT Premium expenditures as: investment in education and investment in health). Health (e.g. reduced exposure to pesticides and agrochemicals used on livestock and horticultural activities have led to some reports of reduced respiratory and/or headache type problems following pesticide application, improved incomes and crop diversification activities are said by farmers to be having nutritional benefits, FT Premium expenditure on new dispensaries is said to have improved mother and child health). • Natural: livelihood diversification and range of sustainable agricultural practices from which the tea farmers are benefitting directly in terms of increased tea

	yields and incomes, reduced food expenditures, and the wider community in these tea zones through improving ecosystem services (e.g. reduced river pollution, increased natural forest protection) • Social: Some changes re increased women's representation in PO collection centre committees [FT & RA], and reported increases in joint household decision making regarding the expenditure of the annual tea bonus following farmer training in financial management [RA]. Small increase in the number of women being given small areas of tea bushes by their husbands or fathers to register in their own names due to generally increased awareness on gender issues and women's right to own land. • Physical: Better collection centres, school buildings [FT Premium funds], household investments (e.g. increase in brick built structures, water storage tanks and pipes, electricity installation) [due to increased tea incomes as a result of improved GL quality and yields and current high tea prices].
Quality of life and wellbeing	• Environmental protection activities are said by farmers to have improved the quality of the surrounding environment. • FT Premium investments in collection centre facilities (concrete benches, water, electricity) and footpaths and bridges are important improvements for those (mainly women) carrying GL to the centres and waiting to have it weighed. Improved tea incomes enable funds to be invested in education, improved food ingredients, improved household structures and amenities. FT Premium investments in girls' dormitories have improved the personal security and study opportunities for girls in the FT outgrowers catchment area, and the building of good quality housing has attracted well qualified teachers to teach in rural tea areas. FT Premium investments in water pipe systems and community water storage tanks have positive impacts re time and drudgery for women.
Livelihood security (income sources, food access/availability, yields, livelihood opportunities)	• Wider range of income sources, increased ability to grow food crops, improved GL quality and yields, improved food choice and purchasing power, improved access to educational opportunities for children
Empowerment (e.g. market information, knowledge of certification, satisfaction with PO)	• Market information: No real change in producer understanding of or access to value chain information (e.g. on pricing, sales). • Value chain mobility/position: One triple certified PO (FT, RA and Utz) has begun a partnership with the UK's Marks and Spencer to start packaging their made tea at source, and one FT certified outgrowers organisation is in the advanced stages of purchasing a tea processing factory from the multi-national estate they supply GL to. • Knowledge of certification: Generally, smallholders had some awareness of the content of standards in relation to production issues, quality and hygiene, relationships with management, working conditions and child labour, but did not know how much of their tea was sold as certified and there was some confusion about the principles of Fairtrade. Their hired labourers had heard of certification, but most did not know the details. The FT certified smallholders were aware of the FT Premium payment arrangement and most knew what community projects had been funded using the FT Premium funds. Although farmers' views about FT were positive, a few confused Fairtrade as being a good company (as opposed to a certification system). RA was strongly associated with '*being a body that encourages environmental conservation, proper waste management, rain water harvesting, safe handling and storage of chemicals, and use of protective clothes*'. None of the farmers were aware how much their PO paid annually in order to be RA or FT certified. In order to increase the contextual appropriateness of standards, RA has local interpretation guidelines, and FT is empowering producers to act as representatives on the FLO board etc to ensure that grass roots issues are given priority in the FT standards. • Satisfaction with POs on different aspects: In general smallholders and managers

	felt that since RA or FT certification the relationships between smallholders and managers had improved, they put this down to increased interaction which occurred during the preparations for and certification, particularly during awareness raising and training sessions. Smallholders associated FT and RA certification with positive changes in their PO, and were aware of the removal of asbestos in factory roofs, increased automation in the factory resulting in higher profits for farmers, improved collection centre facilities. Whilst most farmers felt GL collection efficiency had improved in recent years, many still complained about the lack of an accurate collection timetable and the need for those delivering GL to the collection centres to have to wait very long periods for the POs weighing clerk and truck, sometimes even resulting in farmers sleeping in the collection centre during the peak GL plucking season. • Representation in decision-making: Farmers were aware of their need to elect responsible members on the collection centre committees and boards of directors. Whilst women are now occasionally being elected onto the collection centre committees there were no women on any of the focal POs Boards of Directors. Even within the FT Premium committees it was suggested in a few interviews that the members who were Directors had more decision-making power that the farmer members. • More democratic POs: Regular AGMs are part of the KTDA normal system, some managers suggested farmers were more aware of their need to attend these AGMs now (although women rarely attend as they represent less than 30% of the registered members of KTDA POs) and that farmers were starting to ask more questions from PO managers and directors about the factories operations and expenditures. The increased interaction between managers and farmers facilitated by the certification process was also felt to have improved communication and farmers voices being heard within the PO.
Gender relations *(representation of women in PO official positions, ability to participate in decision-making, change in HH power relations, changes in livelihood and income security)*	• Representation of women in official PO positions: The tendency for women to be elected onto the collection centre committees is increasing across POs (whether certified or not), however they are generally not elected onto the zonal committees or Boards of Directors. The number of female managers within POs is also increasing particularly within processing sections, and the new Kenyan constitution should result in the increased employment of women within KTDA. Women are represented on all the FT Premium committees as per the FT rules. • Women's ability to participate in decision-making of PO: Women's increased representation in collection centre committees results in them participating more in decision making, women's increased access to training also provides more opportunities for their voices to be heard and to influence decisions (RA specify that at least 30% of their lead farmers must be female). Women participate in the FT premium decision making, and many of the FT Premium fund investments are reported to benefit women and children (e.g. better facilities at collection centres, investments in new clinics and in school facilities, educational support etc) • Women's ability to participate in household decision-making: Training in preparation for and during RA certification has included a focus on joint financial planning, and this has been reported to have improved women's input into household expenditure plans for the annual tea bonus. • Women's access to PO membership: Few women have tea farms as land title is typically in men's names. However all POs mentioned an increasing trend of women being given some tea bushes by their husbands or their fathers and then registering to become members of the PO. In the past the only female members were women who had been widowed and had inherited their husband's membership registration number. Women still make up less than 30% of registered members. The increasing trend is explained as being linked both to women become more empowered and refusing to help pluck tea on their husband's farm unless they receive access to a decent proportion of the tea

	income, and to the population becoming more aware that women can own land. Whilst certification may have had a role to play in this, general awareness and mindset change was mainly cited as the reasoning. In many cases when husbands give their wives some tea bushes this is done through a letter as opposed to a formal titling exchange of the land on which those bushes grow. • Ability to actively participate in meetings: Whilst women can and do attend meetings, and awareness is being raised by certification training sessions requesting at least a certain number of the participants should be women [RA], there still seems to be a general view that '*men attend the meetings while women get on with the business of plucking GL*'. This was particularly evident amongst the FT certified outgrowers group in the West of Rift where the women's FGD participants revealed they knew almost nothing about their FT certification status and never normally attended the outgrower meetings, explaining that in order for them to attend, the meetings would need to be held at times when their older children were at home and could take over their duties [FT]. • Ability to benefit from FT Premium investments: Numerous respondents mentioned ways in which women and children had particularly benefitted from the FT Premium investments, including through building of more dispensaries, more classrooms, girls dormitories, water tanks and pipes, improved facilities at the collection centres, and livelihood diversification activities. • Whilst the FT and RA certification systems have partially contributed to some of the positive changes in gender relations amongst tea smallholders, this is within the Kenyan context of generally increasing awareness regarding gender inequality, although major gender inequalities persist.
Hired labour	• The majority of the hired labourers plucking GL on smallholder tea farms are neighbouring tea farmers who engage in paid plucking work in between the weekly plucking rounds on their own farms. There are also hired labourers who come from more distant areas and who may live with their host farmer. Certification is reported by smallholders to have led to improved relationships between the plucker and their host farmer, and improved working conditions (e.g. better accommodation, provision of lunch, water, and toilet facilities) [FT & RA]. The annual RA auditing of each member's activities ensures that workers are paid fairly and regularly. • On the dual certified and RA farms the pluckers knew about FT and RA standards, and reported having received training from their host farmers on GL plucking criteria and how to maintain the plucking table, advice on how to spend their money/ wages, and advice on educating their children; some had also attended FT/RA field days and training. By contrast, at another FT-only certified PO the pluckers did not know about the certification standards and said they rarely talk with their employers, although they were aware that FT had constructed concrete sorting tables, water tanks and electrification at the collection centres.
Child labour	• Farmers, PO managers and key informants reported that the use of child labour on smallholder tea farms was not a common occurrence, although children do help their families to pluck tea during weekends and school holidays. The certification standards had reinforced existing messages regarding not using child labour, but had not resulted in a reported change in practice as child labour was not being used in smallholder tea systems. • There was a misunderstanding by certified farmers that the RA and FT standards do not allow children to help their families on the tea farm after school or during holidays. Both standards do recognise and allow children to help their families pluck tea as long as the work they do is appropriate for their age, they do not work long hours and/or under dangerous or exploitative conditions and their parents supervise and guide them. It is not clear why this misunderstanding exists.

Reach of standards (inclusion/exclusion thresholds and shaping of rural inequality)	
PO membership criteria	• KTDA POs typically require members to be at least 18 years old and have land title for a tea farm of at least 875 tea bushes, about ¼ acre (although some POs are now reducing this requirement to only 500 bushes) within the POs catchment area. Women generally only inherit land title if their husband dies, but some women are managing to register as members if their husband gives them a letter transferring ownership of a certain number of tea bushes to them (N.B. this does not involve transferring land title). 500-875 bushes is typically viewed as the smallest economically viable size for a tea farm. Women make up less than 30% of registered members at POs. • All smallholders can therefore be part of a KTDA PO, although if under 18 year olds inherit a tea farm (e.g. through being orphaned) then a guardian has to manage the farm until the child reaches 18 years old. • With awareness raising and training all members can meet the GL quality criteria of the PO and FT and RA. Compulsory purchase of PPEs and construction of chemical stores to meet the RA and FT certification requirements can be expensive for some households, but practical solutions such as the sharing of PPE sets between households are being found. • The statement by Lipton that by 2015 they will only purchase sustainably produced tea, has driven rapid expansion of RA certification in the Kenyan smallholder tea sector. While in 2009 only 4 of the >60 KTDA POs were RA certified. By March 2012, only 8 of the >60 KTDA POs were not already RA certified or in the advanced stages of their preparations for RA certification.
Producer Organisations	
Management capacity	• Some professionalization through improved management systems, training in documentation, accountability, traceability, auditing, environmental and energy conservation [RA, FT] • Management transfers between KTDA POs are common, when managers from FT or RA certified POs are transferred to non-certified POs this can help speed up the certification preparations, while when managers from non-certified POs are transferred to certified POs there are significant transaction costs as managers become familiar with the certification standards. • The FT certified outgrowers association is recruiting an extension/ environmental officer to help them with farmer training as they prepare for RA certification [RA]
Employer/Employee relations and treatment of workers	• A more open and participatory style of management and improved relations between management and members/ factory staff [FT & RA] • Improved employment terms and conditions for factory workers with one rest day per week, sick leave and extended maternity leave being paid [FT&RA] • Enforcement of working hours and overtime limits mean that factory staff now know when their shift will finish, and are therefore able to better plan their home lives, they are also now paid on time and in cash [FT&RA] • Introduction of training [FT] and credit programmes [RA&FT] for staff which makes the staff feel appreciated, increases their motivation, and helps them diversify their livelihoods
Occupational health and safety	• Increased occupational health and safety and first aid training and provision and compulsory use of PPEs in areas of the factory with safety risks (e.g. gloves, boots, dust masks, ear protectors), and removal of asbestos from factory roof [FT&RA] • Improved hygiene rules in the factory with compulsory use of footbaths and hand washing prior to entering factory and dust coats being washed at work [RA&FT] • Health and safety committee which workers participate in, and for which minutes are taken and inspected during audit [RA&FT]
Reputation of PO in the eyes of members	• Improved quality of certified POs made tea quality and associated higher sales prices and income for the PO and members improves the POs reputation in the eyes of the members [FT & RA]

	• More open management style, and responsiveness to members concerns improves the POs reputation [FT &RA]
Financial viability	• Sales trends: Increasing direct overseas sales by buyers interested in RA certified made tea [RA]. Variable trends in purchase of FT declared made tea amongst POs, with some seeing increasing year on year sales and associated FT Premium payments and others seeing disappointingly low FT declared made tea sales [FT]. FT Africa explained that they are dissuading any Kenyan tea POs interested in becoming FT certified from currently doing so, until the FT declared tea market has increased sufficiently [FT]. • Profitability: Both certification standards emphasise increased efficiency during tea processing, in the factories this has resulted in workforce reductions and investment in new more automated machines such as controlled fermentation units. An increased focus on energy efficiency has resulted in cladding of boilers, improved drying and storage of dry fuel wood for the furnace which increases its efficiency. The improved GL quality which the POs and members associate with improved training and higher certification quality standards has resulted in higher sales prices and increased revenues for the PO and its members. • Premiums/ additional payments: FT Premium payments of USD$0.5/kg are received from all buyers making FT declared tea purchases, although many purchase are only retrospectively certified. The majority of FT certified POs earn a FT premium on less than 10% of their FT made tea, although FT Africa report that other buyers are actively sourcing FT produced made tea in order to reduce supply chain risks but not marketing their tea as FT certified and therefore not paying a FT Premium for it. One RA buyer pays a premium of USD$0.1/kg to an early RA certification adopter to cover costs of certification, other RA certified KTDA POs and those preparing for RA certification are not anticipating being paid an additional payment. However, the increased quality and associated sales price and wider market access achieved by RA certified KTDA POs is viewed as bringing sufficient extra income to the POs and members. • The recurrent high certification and audit costs, are viewed by many POs as a burden along with the significant time costs of documentation, awareness raising, training and planning especially in the early stages of seeking certification. • POs expressed desire for an umbrella certification process to help reduce the costs of multiple certifications (eg FT, RA, Utz, ISO). One PO reported managing to access a combined RA and Utz audit which had slightly reduced the cost. • Costs of production: During the FY 2010, outgrowers were getting lower returns from their tea production than the KTDA smallholder tea growers, with gross margins of Ksh79,190 - 92,725 acre/year and Ksh172,000 - 183,081 acre/year respectively. The total per kg green leaf (GL) price received by outgrowers (Ksh30.08-36.00/kg GL) was much lower than that received by the KTDA smallholders (Ksh43.5-46.55 /kg GL). Some producers are happy to settle for lower total GL prices if the monthly payment is proportionally higher and they therefore do not have to wait for and depend entirely on the bonus which is typically paid once a year about 3 months after the end of the financial year. Certification is to date having little if any impact on the price per kg GL that the farmers receive, although the FT certified POs after sales of FT declared tea receive the FT bonus of 'USD$0.5/kg made tea' which is used as per the FT guidelines for the various projects the members select. One RA certified KTDA PO receives an additional payment of USD$0.1/kg made tea for every kg declared as bought as RA certified tea, but unlike the FT premium this RA payment is divided between the individual members and paid to them with their annual bonus.
Democracy and accountability	• Inspection of the H&S meeting minutes during the audit has meant that managers do regular H&S training and have set up an active H&S committee which produces regular H&S action plans and reports. Although the factory should have had such H&S plans and training previously as part of the statutory

	and legal labour laws, they were not implemented until the certification system led to auditing and ensuring compliance. Improved H&S results in increased profits for the PO, as less productive time is lost, and fewer compensation payouts are required. • Information about the factories operations, staffing, costs and profits is shared with members in the AGM of each KTDA PO (whether certified or not).
Market access	• POs more attractive to buyers seeking certified tea – certification status helps to secure tea sales [FT & RA]. • Lipton is an important buyer of Kenyan tea and their statement that by 2015 they will only purchase sustainably produced tea has driven the rapid expansion of RA certification in the Kenyan smallholder tea sector [RA]. • While the expansion of the FT certified tea market has not been as rapid as FT producers had hoped, they have managed to complete valued community projects using their FT Premium funds. It was suggested that when world tea market prices are high, the addition of the FT Premium amount of USD$0.5/kg makes tea purchases extremely expensive for buyers. Additionally FT Africa explained that some buyers are sourcing FT produced tea as part of their supply chain risk management strategy, but are not paying a FT Premium for the tea as they do not market their packaged tea as FT certified [FT].
PO understanding of tea value chain and pricing	• The majority of Kenyan smallholder tea is sold through the Mombasa auction with no direct interaction between the buyers and the producers. • Continuing lack of transparency in tea value chains, as buyers do not typically place advanced orders. Retro-certification of tea purchased from FT certified POs is common. • PO managers are unclear regards the auditing process of the FT tea buyers, and how accurately the FT Premium amounts paid can be linked to the FT retail sales amounts [FT]. • Direct sales increase both the transparency and prices obtained for made tea [FT & RA]
PO ability to add value	• KTDA members are shareholders in their factories and thus receive an annual bonus amount dependent on the sales price of the processed made tea, which is also dependent on the GL quality which has increased as a result of certification [RA & FT]. • Outgrowers typically receive a lower per kg GL price than KTDA members as the outgrowers just supply the raw materials (GL) and are not shareholders in the factory. However the focal FT outgrowers association in the West of the Rift valley has been using its FT Premium to purchase a tea processing factory from the multi-national company that they supply GL to, they plan to then hire managers of that company to continue managing the factory and receive shares as a result of the value added through processing of their GL into made tea. • The same group of outgrowers has also used part of its FT Premium to help purchase a tea collection truck in order to give producers more control over the collection times of their GL. • One triple (FT, RA, Utz) certified KTDA PO is working with Marks and Spencer and Traidcraft to set up a packaging unit at their factory in order to retain more of the retail added value. • A value chain study reported that the average export price of Kenyan made tea was only 13% of its retail price.
PO advocacy capacity (e.g. on national policy, KTDA decisions, FLO/RA policies etc)	• The certified POs have been doing a lot of local advocacy work with farmers in the community on environmental protection and safe use of chemicals [RA] • The FT certified POs have been advocating with Fairtrade to try and raise the current low level of the FT Minimum Price compared to market prices; reduce certification fees; and to make the standards achievable in a more gentle progression over time (e.g. X within in years 1-3, Y within years 4-6 etc) [FT]
Networking	• Certification preparations have increased interactions between KTDA POs as those already certified share experiences and lessons with those who are still

	preparing for certification • FT Premium committees from different POs visit each other to share experiences • The 'Fairtrade Tea Product Network' which is composed of FT certified tea POs in Kenya, Tanzania, Rwanda, Malawi and Uganda shares information (e.g. in July 2011 they shared what they were each doing on adapting to climate change and have followed this exchange up with visits, in another meeting KPMG were invited to explain carbon credits) • The FT Africa Network is focused on ensuring producers are on the FLO board and have the capacity to articulate grass roots issues • The FT outgrowers view their FT certification status as having attracted donor agencies to set up new development activities with them (e.g. the Bill and Melinda Gates Foundation).
Local impacts on community	
	• Others accessing services from the focal tea communities (who may not be members of the POs) have benefitted from FT premium investments in school facilities, dispensaries, water tanks and pipes, and improved ecosystem services. Of the 3 FT certified focal KTDA POs: 2 of them had invested some of their FT Premium in local school, healthcare, water and electricity facilities, the other PO had not earned enough FT Premium to enable these kinds of investments. The FT certified PO had also made significant investments in local school facilities, health and water services. These services can be accessed by all in the community, the process of deciding on which community development projects to spend the FT Premium on had also brought the local community together [FT] • Environmental activities associated with RA certification are said to have led to cleaner rivers, wider awareness in the community on not to pollute the environment, increased culture of health and safety – all of which have affected the local community [RA]. • Tree planting is reported to have improved environmental protection and awareness in the community [FT & RA]
Environmental impacts	
Shift to sustainable agricultural practices	• Farmer field schools and lead farmer training in preparation for and after RA certification and increased training by the POs Tea Extension Services Assistants have been used successfully at scale to enable farmers to learn about more sustainable agricultural techniques for tea (more regular and more selective plucking, maintenance of the plucking table, improved fertilizer and manure application, leaving of tea prunings on the field as mulch, and better postharvest handling of GL) and production of other crops and safer use of agro-chemicals have led to improvements in tea quality and yields, and food diversification with health and income benefits.
Health of ecosystem services	• Training and investments in sustainable agricultural practices and wildlife and riparian strip protection, tree planting, rain water harvesting, waste management, and more efficient energy use represent an investment in ecosystem services for the future. This study did not assess the actual biophysical impacts of 'better management practices' (e.g. by measuring soil or water quality), but it is plausible and was reported by smallholders/ PO managers and key informants.
National and sub-regional impacts	
Social & Political	• FT Premium funded community projects have brought benefits to all in the focal tea communities, as dispensaries, schools, water tanks etc are not only for PO member use [FT] • The more intense training of members in tea crop husbandry, record keeping and financial planning, environmental protection in preparation for RA certification is reported to have increased social cohesion amongst these members who now meet regularly in their training groups [RA]

Environmental	• Key informants report that RA certified farms, households and POs are much cleaner than prior to certification as waste management is a key element of RA certification. • Enforcement of environmental protection of riparian areas is reported by members and key informants to have resulted in less soil run off into rivers, and in wider understanding by the local community of the importance of conserving wildlife and planting indigenous tree species [RA]
Economic	• PO managers reported that tea farms were being better maintained than previously as tea farmers recognised the value of managing their tea farms well in order to produce high quality GL particularly when tea market prices are high [FT & RA]. However the Tea Board of Kenya is warning against rapid establishment of new tea farms as tea prices are notoriously cyclical and they expect tea prices to drop again. • In the West of the Rift valley where there is land to expand tea farms, members have been increasing their planted areas under tea. In the East of the Rift valley land pressure is so high that this is not usually possible [FT & RA]. • It is estimated that about 480,000 (85%) of the 560,000 KTDA smallholder tea farming households are already RA certified, with a target of 100% by end of 2013. About 18% of the KTDA smallholder tea farming households are already FT certified, it is likely that many of these FT certified POs have now additionally become RA certified. 7 outgrower organisations in Kenya are reported as FT certified[13], and 17,752 tea outgrower households are reported to have been RA certified by Dec 2012[14]. There are also numerous large tea estates which are now certified. Certification driven socio-ecological change at this scale will undoubtedly be leading to ecosystem protection. • Tea farmers in general are perceived to be better off than non-tea farmers although this varies depending on the size of their tea farm, and their tea husbandry and productivity.

Outstanding issues in the smallholder Kenyan tea sector: In addition to the many positive outcomes and impacts from certification in the smallholder Kenyan tea sector, there are a number of outstanding issues which certification schemes are not yet influencing. These include: gender inequality issues regards low access to tea income by women despite their large labour inputs to the crop and low awareness of gender issues by PO managers; more efficient GL collection timetabling to prevent farmers wasting large amounts of time waiting at the collection centres particularly during the peak GL season (farmers suggested their POs should invest in more electronic weighing scales and a clerk so farmers can deliver their GL have it weighed immediately and then leave with a truck assistant then loading the GL when the truck arrives, and that the PO should deduct the actual weight of the sack as opposed to a fixed 2kg weight); high demand for FFS training (to include a broad range of topics) not yet being met; introduction of crop insurance schemes to protect against frost and drought risks; many factory workers being employed on a series of short-term contracts for many years; the high cost of having six Directors per PO when three would be sufficient; and increased growth of the FT tea market.

[13] See FLO online database http://www.flo-cert.net/flo-cert/index.php?id=29

[14] See SAN online database http://sanstandards.org/userfiles/Farm%20list%20December%2031st%202012.pdf

6. ASSESSING THE POVERTY IMPACT OF VOLUNTARY STANDARDS IN KENYAN TEA ESTATES

6.1. Overview of the focal tea estates and their certifications

6.1.1. Focal estate organisations

The two estates[15] included in the final survey, are both Rainforest Alliance (RA) certified, and are both located in the West of the Rift Valley, with more than 1,400 ha of their own tea fields and outgrowers from whom they purchase additional GL. One estate (RA 1) had obtained RA certification in 2009 prior to the baseline study, the other (RA 2) a few months after the baseline in 2010 - although they had not mentioned their preparations for it at the time of the baseline. Both estates had also previously been Ethical Tea Partnership (ETP) certified, although they said this scheme had been phased out. The earlier RA certified estate has ISO 22000 certification and the other estate is in the process of preparing for this.

Both estates had become RA certified for reasons of market access. Lipton had specifically asked the earlier RA certified estate to obtain certification and had offered them an additional payment for their RA made tea. However, Lipton only paid the additional payment on the first two containers worth of the estate's RA made tea that they bought. Fortunately Tetley then became interested in RA certified tea and has been buying from the earlier RA estate and paying a small additional payment for the RA declared tea.

As discussed in section 2 Method, interviews were held with 4-5 managers per estate, and focus group discussions with separate groups of male and female workers at each of the three visits. Individual questionnaires were done with 100 workers in the baseline and final surveys. Double difference analysis of data about the 100 workers/ estate interviewed in the 2010 baseline and those interviewed in the 2012 final survey found there was no difference regards the % who were male (77% and 76% respectively) or the age of their household head (38.8 and 39.6 years) respectively. However, the household size of the respondents interviewed in 2012 was significantly smaller at 3.96 persons versus 4.37 in 2012.

In 2010 none of the respondents were doing pre-plucking tea production work such as tea seedlings, planting, weeding and pruning, while in 2012 9% of respondents were. There was no significant difference between the % doing all the other categories of work (e.g. in 2012 GL pluckers =79%, processing workers (spreading, cutting, fermenting, drying and sorting) =8%, packers = 1%, transporters = 2%, cleaners = 5%, administrators =5%, supervisors=11%).

6.1.1.1. Workforce shape and trends: The tea estate workforce is divided into graded and ungraded workers (see Table 6.1), and the ungraded workers may be either permanent or seasonal employees. The salaries for each worker category are negotiated in a collective bargaining agreement (CBA) between the Kenyan Tea Growers Association (KTGA) and the Kenyan Plantation Agricultural Workers Union (KPAWU) every two years (see Table 6.1).

[15] In this report we refer to the large scale non KTDA tea companies as estates. However, they refer to themselves as companies, and use the term estate to refer to divisions in their land areas, e.g. a company might divide its tea growing area into 2 or 4 separate estates for ease of management, each estate area would have separate estate level management and its own plucking workforce. A company may have 1 or more tea processing factories, fed by green leaf from their own estates, plus green leaf purchased from outgrowers.

Clockwise from top left: Tea estate workers plucking; leaf collection shed on a tea estate; climate damage to tea bushes; tea estate's processing factory; fuel wood supplies for tea processing; trailers of tea harvesting machines; estate workers houses; pluckers.

Ungraded workers make up the majority of the workforce, and include positions such hand pluckers[16]; *kandoo/* general workers (weeding, pruning, planting, maintenance, cleaning etc); factory workers who do the spreading, cutting, fermenting, drying, sorting, packing, maintenance, quality control; cleaners; and some office workers. For ungraded jobs there is no stepwise graduation, they all earn the same amount no matter how long they have been doing the job in question. Hand pluckers can pluck ~50kg GL/day (the target is set at 33kg GL/day =Ksh306/day), but during the peak GL season they might earn as much as Ksh25,000/month. Managers at the more recently RA certified estate explained that graded and ungraded workers retire at 55 years of age and are then given a one-off gratuity payment by the estate company, although ungraded workers are only given this if they have worked at the estate for more than 10 years.

Table 6.1. Examples of Kenyan tea estate workers' wages (from 1st January 2011)

<table>
<tr><td>Graded</td><td>Supervisors
Grade 1: Ksh 14,808 – 20,963/m
Grade 2: Ksh 10,935 – 15,782/m
Grade 3: Ksh 9,825 – 12,144/m</td><td>Clerical staff:
Grade 1: Ksh 17,862 – 24,918/m
Grade 2: Ksh 14,156 – 19,612/m
Grade 3: Ksh 10,620 – 14,807/m</td><td>Graded Nurses:
Grade 1: Ksh 20,391 – 29,951/m
Grade 2: Ksh 16,544 – 21,946/m
Grade 3: Ksh 11,725 – 20,516/m
Patient Attendants: Ksh 10,774 – 11,654/m</td></tr>
<tr><td>Ungraded</td><td>Hand pluckers (permanent or seasonal)
Hand pluckers earn Ksh9.28/kg GL.
(Hand pluckers can pluck ~50kg GL/d (the target is set at 33kg GL/d =Ksh306/d), but during the peak GL season they might earn as much as Ksh25,000/m.)</td><td colspan="2">Other permanent ungraded workers
Factory workers earn Ksh 8,274/m (~378/d)
Estate workers earn Ksh 8,013/m
Watchmen, sweepers earn Ksh 8,249/m
Office messengers, cleaners, turn boys earn Ksh 8,201/m</td></tr>
<tr><td>MTH</td><td colspan="3">Mechanical tea harvesters (MTH)
MTH earn Ksh2.25/kg GL +Ksh50 bonus for anyone who gets more than 150kgs of GL/day. Note that the MTHs work in teams of 4 people (2 operating the machine, one carrying the GL to the edge of the field, one sorting the GL to remove any foreign matter or below quality materials). Therefore for an MTH operator to achieve the Ksh50 bonus, the team would have to have harvested 600kg GL/day or more.
On average an MTH team plucks 800-900kg GL/ day. So some of them regularly earn Ksh16,000/m.</td></tr>
<tr><td colspan="4">(Note: all except the MTHs are negotiated through the CBA, as the Union does not represent machine workers, the MTH wages are not included in the CBA, and so a two year contract is agreed between the company and the MTH workers. MTH workers get a small additional payment after completing their 2 year contract).</td></tr>
</table>

During the baseline in February 2010 both estates reported a total workforce of between 3,000 and 4,000 people, this included permanent and seasonal and graded and ungraded employees. The workforce size has since decreased at both estates. At the recently RA certified estate (RA1) there were a total of 2,931 employees in Dec 2011, of whom 1,231 were permanent employees and 1,700 were seasonal. This figure included the factory workers (94 substaff, 268 permanent, 355 seasonals). It was complicated to obtain the workforce figures from the estates, a summary of the number and sex of workers being employed permanently or seasonally on specific land areas and factories at the focal two RA certified estates is given in Table 6.2. Women comprise about one third of the permanent hand pluckers, and about 50% of the seasonal hand pluckers. Factory workers tend to be male (>80%). While efforts are being made to increase the number of women working in the factory, the 8 hour shift working pattern makes it difficult for women with child and household care

[16] We use the term hand pluckers, to distinguish between pluckers who pluck manually, and those who are employed as mechanical tea harvesters (MTHs) who work in teams of four people per machine (2 machine operators, 1 person who carries the GL to the edge of the field, 1 person who sorts the GL)

responsibilities to work evening and night shifts. The graded positions include field and factory supervisors, management, clerks, drivers, and medical staff and these positions are all permanent. About 15% of graded positions are held by women, it is notable how few women there are in management positions throughout the Kenyan tea sector.

Table 6.2. Summary of workforce breakdown by job type and sex at two RA certified estates

	RA 1 (workforce for 1 field estate area and 1 factory)	**RA 2** (workforce for 2 field estate areas and 1 factory)
Permanent Graded Workers	Field = 35 Factory = 98 (15W)	Supervisors, drivers, clerks - 28 (25M, 3W) Medical staff, nurses - 13 (3M, 10W) Factory - ?
Permanent Ungraded Workers	**Field workers** = *623* Manual pluckers =475 (275M, 200F) Others (including MTH) = 148 (~50W) **Factory workers** = 202 (197M, 5W)	**Field workers** =*616 (416M, 200W)* Pluckers (313M, 167W) Weeding (15M, 25W) Pruning (25M) Slashing (20M) Guards (15M) Carpenters (20M) Tree nursery attendants (2M, 4W) Caretakers (6M, 4W) **Factory workers** = 362 (~300M) Substaff = 94 (~85M) Workers = 268 (~215M)
Seasonal/ Temporary Ungraded Workers	**Field workers** MTH: in low season = 0, in high season (e.g. April onwards) = 208 **Factory workers** = 300 (290M)	**Pluckers**: in low season = 60 (40M, 20W); in high season =900 (450M; 450W) **Factory workers** = 355 (~285M)

Seasonal workers are on 6 month contracts, and are employed to help cover the peak GL production and processing periods, although many tea estate workers have worked on series of 6 month long contracts for many years, which is legally possible within current Kenyan labour law. Workers explained that it is difficult for seasonal workers (e.g. pluckers) to become permanent workers. The workers on these certified estates explained that whilst in the past pluckers might have had helpers (*wasaidizi*), who would help pluck using that pluckers registration number and then be paid in cash by the plucker, this practice no longer existed on their estates, and that anyone wishing to help pluck could only do so if they were given a contract by the estate. Workers at a non-certified estate visited during the light monitoring survey explained that plucking helpers were common there, although a plucker would have to check with their supervisor first before being assisted by a helper. They explained that helpers typically did not want to pluck every day or long-term and thus were not interested in getting their own contract.

At the earlier RA certified estate about 37% of their GL is plucked by seasonals (including some seasonal mechanical tea harvesters (MTHs)). At the 2010 RA certified estate about 50% of their GL is plucked by seasonals. The majority (90%) of the 100 questionnaire respondents per estate had permanent contracts, and only 3% of respondents had no contract. There was no significant difference between the percentage of workers responding with permanent contracts interviewed in 2010 (85.5%) and 2012 (90%).The timing of the survey during the low season meant that most seasonals were not present during the survey's field work which was done from January to March each year.

At the more recently RA certified estate significantly more workers had social security included in their contracts by 2012 (99% vs 90% in 2010). More of the respondents were also receiving paid annual leave (91% vs 97%), although the number of days (25.6/year) had not changed. More of the

respondents were trade union members in 2012 than in 2010 (81% vs 61%). There had been a huge increase in the number of respondents entitled to paternity leave (88% vs 23%).

At the earlier RA certified estate, 98% of respondents had social security included in their contracts, this increased to 100% by 2012. Significantly more respondents (100%) reported receiving paid annual leave in 2012 than in 2010 (91%), and the number of days had increased to 25.7 instead of 24.9. The minimum annual leave with pay entitlement is 21 working days following 12 months of consecutive employment (Kenyan Employment Act, 2007). Trade union membership had increased substantially amongst respondents from 49% in 2010 to 89% in 2012. Entitlement to paternity leave had also increased from 28% to 93% of respondents by 2012.

Worker promotion from one grade to another or from ungraded to graded is decided on by management informed by supervisors recommendations about the worker's performance. Sometimes advertisements are put out for the graded positions. The chances of promotion are higher if one has already been acting in a higher work capacity already, i.e. acting as a supervisor. But workers explained that in reality it is very difficult to move from being an ungraded worker to a graded worker, and as there are not many unoccupied graded positions such promotion cannot happen very often. Discussions with workers suggested that pluckers were not that interested in becoming graded workers as they usually earn more from plucking than they could from supervising.

At both estates the ungraded employees are individuals who have typically completed their primary school education, and many have also attended secondary school for four years. Some of the ungraded substaff, who hold positions of responsibility, but are not yet formally employed as graded staff, have completed college. Most factory workers and MTHs have secondary level education, while many hand pluckers and field workers do not. Workers explained that factory work is viewed by workers as higher status than plucking work, even if pluckers can sometimes earn more than factory workers and supervisors if they pluck many kgs of GL. The ungraded employees typically come from Kisii, Kipsigi, Bulabu, Bomet and Nyamira, and mainly range from 25-50 years old, with the retirement age being 55 years. An overview of the questionnaire respondents' household data from the final survey is given in Table 6.3, with the exception of the age of the head of household there were no significant household differences between workers interviewed at the two estates.

Table 6.3. Overview of the tea estate workers household data

	Total	Estate		Sig
		RA 1	RA 2	
N	201	101	100	
Age head of household (years)	39.6	38.3	40.9	*
Male head of household (%)	83%	84%	81%	ns
Education level head of household (ranking)	3.82	3.83	3.81	ns
Head of household is literate (%)	95%	94%	96%	ns
Household size (members)	4.0	4.1	3.8	ns
Non-resident dependent family members	1.5	1.4	1.6	ns
Total family and household members	5.5	5.5	5.4	ns

Sig = Significance of differences between groups (based on T-test and Mann-Whitney tests): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

The workforce at both estates has decreased in size over the last 10 years. At the earlier RA certified estate, the number of field workers has decreased due to both the introduction of mechanised plucking five years ago and to natural attrition of hand pluckers (e.g. when they leave, die or retire they are not replaced as MTHs are being introduced and require less labour). Their factory workforce has increased due to the factory processing 40% more GL, which is due to the increased purchasing of GL from outgrowers and the MTHs harvesting larger amounts of GL. The company does not want

to lay off workers, but also does not want to recruit anymore permanent workers. However it was noted that the workers in the focus group at this earlier RA certified estate had typically only been employed there for between 2 and 11 years, and on average 6 years, in comparison with the workers focus groups at the 2010 RA certified estate who had been employed for between 7 and 25 years and on average 17 years. Similarly, the questionnaire data reported that workers at the earlier RA certified estate had on average been employed there since 2001, while those at the 2010 RA certified estate had been employed since 1996.

At the 2010 RA certified estate, managers reported that their hand pluckers efficiency had increased in response to life becoming more expensive (e.g. in 2002 they plucked ~30kg GL/day, in 2012 the pluck ~58kg GL/day). Their tea yields have increased due to improved crop management including more frequent plucking rounds and use of new higher yielding tea clones. The pluckers are keen to pluck in those fields which they know are high yielding, and can therefore enable them to pluck more kilos of GL per day.

The management said that tea plucking work used to be viewed as demeaning but that its perceived status had improved now, as pluckers typically earn as much as teachers (e.g. Ksh8,000/month). Workers can now afford to send their children to secondary school and university, and both seasonal and permanent workers are provided with free housing and free medical care. Male and female workers in the FGDs at both estates confirmed these investments were happening and explained that while pluckers can earn a lot during the peak season, their earnings drop significantly during the low crop season when they may be allowed to pluck for only 3 days per week, and so they attempt then to get temporarily put onto *kandoo* (general field work) activities in order to earn a daily wage. Those workers paid a daily rate have a constant income throughout the year. The workers prefer the jobs in which they can earn the most (e.g. plucking), followed by those seen as requiring low labour inputs (e.g. accounts, guards), however the reduction in overtime hours due to the RA certification regulations has made those jobs paid using a daily rate much less attractive to workers.

KPAWU officers explained that if drought or frost damage is severe, the seasonal pluckers are the first to be laid off by the estates. They explained that this often results in those pluckers' children being withdrawn from school, as the household often becomes hungry due to the lack of plucking income and do not want to send a hungry child to school.

6.1.1.2. Workers' protective gear: On the earlier RA certified estate, the MTH pluckers are provided with gumboots, a long coat and an apron, the factory workers are also given PPEs and both these groups' PPEs are regularly replaced. Factory workers are also given annual medicals. However the hand pluckers are provided only with aprons, and while there are rain shelters in the tea fields, many of them stay out in the rain in order to pluck more kilos of GL but get cold and wet as a result.

The MTH workers explained that if the teeth on their plucking machine are sharp they can cut a lot of GL each day, but not if the teeth are blunt or the machine breaks down. They also explained that they are not paid when their machines are being serviced.

The women workers explained that the men who operate the plucking machines (which weigh about 28kgs) sweat a lot, and easily become dehydrated and tired, and often have sores on their legs where the machines rub. They also said that these men are not given medical check-ups, nor soap to wash with after work. Workers at both estates said operating the plucking machines often leads to the machine operators becoming impotent or too exhausted to have sexual relations with their wife. The workers explained that due to certification the factory workers are now trained on Health and Safety, fire fighting and first aid, and MTH operators on safe and effective machine operation.

6.1.1.3. Mechanised tea harvesting: Given the rising labour costs in order to maintain profits, management at the earlier RA certified estate said they would increase their use of MTHs until 65% of the GL is plucked using MTH. 49 of their 61 plucking machines are

currently operational. MTH use is not suitable for young tea fields, or for some terrains, or for fields where tea bushes have been recently pruned. They say they are not laying-off their hand pluckers, but they are not replacing them when they leave. The workers FGDs reported that the ratio of men: women working as hand pluckers was 1:1, while it was 3:1 for the MTH, suggesting that a trend of increasing MTH use would reduce women's employment opportunities on tea estates. Certification does not currently appear to be having any influence on reducing this trend.

6.1.1.4. Tea quality: Both estates are improving the quality of their GL and made tea in order to increase their income, and are also increasing the amount of GL they purchase from outgrowers. However, competition for local outgrowers' GL from surrounding estates is increasing rapidly, and the managers said they expect the situation to lead to a GL price war. The 2010 RA certified estate plans to stick to hand plucking as the GL quality is much higher than that achieved by MTHs, and they feel higher quality GL will remain profitable. Their management felt buyers might eventually pay a premium for hand plucked tea. Management at both estates said the increases in their GL quality were partially due to RA certification (e.g. the stricter plucking criteria, improved tea husbandry practices, handling and transport, and improved traceability). However, these stricter plucking criteria result in reduced volumes of GL plucked and thus higher costs of production.

6.2. Impacts on individual estate worker households

6.2.1. Incomes and livelihoods

6.2.1.1. Tea incomes: The workers in the FGDs all stated that their tea estate income was their most important source of income. However, the total household income from working on the tea estate has become significantly less important for workers at both estates between 2010 and 2012. On average the tea estate income contributed 96% to the total household income in 2010 compared to 74% in 2012. There is no significant difference in this change between workers interviewed at the earlier RA certified estate and those at more recently RA certified estate.

The men explained that their wives, who typically stay in their rural homes, also earn additional income from sale of crops such as maize and from livestock farming. Those who own or rent tea farms sell GL to a KTDA factory and the wives may also work as casual labourers on other people's farms or pluck tea for smallholders at Ksh5/kg GL. The workers' tea estate incomes are often used to pay for their children's education, invest in their rural homes and farms, for leasing land, or for purchasing motorbikes to operate as taxis to earn additional income. Although most estate workers have little time free to engage in other livelihood activities, a few who live on the estates engage in small income earning activities such as small shops selling salt, soap and vegetables or sales of small dried fish, eggs or milk. However on the earlier RA certified estate it is illegal for workers to keep poultry or have kitchen gardens. The factory workers mentioned having received training from RA on livelihood diversification strategies although they say they currently lack time to put the learning into practice.

Managers at both estates reported that workers' wages have gone up in the last 2 years due to the CBA negotiated increase of 10% per year, which they expect to rise to a 12%/year increase this year. Plucking rates increased from Ksh7.67/kg GL in Dec 2009 to Ksh9.28/kg GL in Dec 2011 following strong union negotiations and given the increasing cost of living and current high market price of tea (see Table 6.1 above).

In the FGDs workers said their incomes had not increased as their wages were set by the CBA and the minor increases that had occurred were hardly sufficient to cover the increased cost of living which had simultaneously occurred. Long dry spells had reduced the amount of GL available and therefore the pluckers' incomes. However, those workers responding to the questionnaire said their incomes had increased in the last two years. An overview of the individual workers responses to questions on their tea estate income is given in Table 6.4. Higher incomes were reported by workers at the earlier RA certified estate, however it should be noted that as ~80% of the respondents were

pluckers their incomes will be determined by the amount of kgs of GL they pluck and that both estates use the same CBA negotiated daily and per kg wage rates for the workers, suggesting pluckers on the earlier RA certified estate are able to pluck higher quantities of GL which could be due to more productive tea bushes (yield figures are higher at this estate – see section 6.3.4.1).

At the earlier RA certified estate, the average annual income of the workers interviewed had increased from Ksh81,773 in early 2010 to Ksh110,926 in early 2012, the working hours had significantly reduced from 8.42/day in 2010 to 8.01/day in 2012. There was no significant change in the number of days/week (6) or number of weeks/year (48.5) that workers worked for during this period. More of the respondents were paid overtime in 2012 than in 2010, and the rate was Ksh82.3/hr as opposed to Ksh48.8/hr. At the 2010 RA certified estate, the average annual income of the workers interviewed had increased from Ksh80,726 in 2010 to Ksh89,070 in 2012, and the daily wage from Ksh273.5 to Ksh326.7. Working hours had reduced from 8.55/d in 2010 to 8.01/d in 2012, the working week was still 6 days/week, but the workers reported working just 44.6 as opposed to 49.2 weeks per year. For those workers who earn overtime the rate had increased significantly from Ksh43.2/hour in 2010 to Ksh73.3 in 2012. In 2012 more workers at the earlier RA certified estate felt there had been an increase in their income than in 2010. A difference in difference (DD) analysis revealed that the increase in income in the last two years (e.g. 2010 to 2012) was significantly higher ($p=0.000$) at the earlier RA certified estate than at the more recently RA certified estate, whether or not supervisors incomes were included or excluded. About 80% of the workers interviewed were pluckers at both estate, and their incomes are dependent on the number of GL kgs plucked as their per kg rate set by the CBA is the same at both estates.

If GL yields increase due to better agricultural management practices, pluckers can pluck more and thus earn more. Estate managers on the 2010 RA certified estate suggested that GL yields had increased due to improved agricultural practices (some of which are RA influenced), while managers on the earlier RA estate said they had not looked at this aspect specifically. However, worker FGD participants suggested that the practice of more frequent plucking rounds (every 7 days) which was introduced due to RA certification meant they could now pluck higher quantities of GL. Moreover, the women's focus group mentioned that training they had received on 'planning for better use of their incomes' had helped them use their income more wisely. On the earlier RA certified estate, worker FGD participants explained that due to the significant increase in mechanised tea plucking there were now only 5 fields that were hand plucked instead of the 29 fields which used to be hand plucked, in addition to the reduced size of the manual plucking workforce, those pluckers who remain say they now earn less than they did prior to the introduction of MTHs due to the restricted field area they are allowed to pluck in.

RA certification has capped the number of overtime hours allowed to 2 per day, 12 per week or 48 per month. However, it should be noted that as most workers (and questionnaire respondents) are pluckers their jobs never had overtime opportunities, hence the overtime information in Table 6.4 is based on only a small number of respondents, and a detailed discussion of this issue based on other interviews is provided in the overtime sub-section further below.

Managers and workers FGDs said if workers do earn extra income they typically use it on: children's education costs (mainly secondary and college but also some private primary); food purchasing; improvements to their own houses e.g. iron sheets and bricks; purchasing or leasing of farming land (most of the workers owned farms and the others leased land, on which they plant food crops and use as food during the year, others own or lease small tea farms); buying livestock (zero grazing cattle, dairy goats, poultry); clothing; paying medical services; savings which then allows the workers to get loans which they use for house improvements, land investments and motorbikes – they also earn dividends from their shares; purchasing solar panels for lighting and phone charging, bicycles, mobile phones, TV sets and radios; and setting up small shops in the living camps. Similar findings were reported during the questionnaire survey.

Table 6.4. Kenyan tea estate workers wages, working hours and priority investment areas

	Total	RA 1 Estate	RA 2 Estate	Sig
N	201	101	100	
% respondents working as manual GL pluckers	79%	82%	75%	ns
Typical tea income per day - excluding overtime (KSH)	344	361	327	**
Working hours per day	8.1	8.0	8.1	ns
Number of days usually worked per week	6.0	6.0	5.9	ns
Weeks paid per year	46.6	48.5	44.6	***
Payment of overtime (%)	18%	13%	23%	ns
Hourly rate for overtime (KSH)	(n=27) 75.3	(n=6) 82.3	(n=21) 73.3	ns
Overtime earned per year (KSH)	(n=32) 17,585	(n=12) 22,415	(n=20) 14,688	ns
Estimated annual income (KSH)	100,053	110,926	89,070	***
Values of variables below are means of a ranking exercise where: 1 = decrease; 2 = no change; 3 = increase				
Change in income from tea estate over past 2 years	2.53	2.52	2.53	ns
Change in overtime	2.03	1.94	2.12	**
Reduction in overtime (hours)	(n=18) 1.83	(n=14) 1.43	(n=4) 3.25	ns
Values of variables below are means of a ranking exercise where: 1 =most important, 2 = second most etc				
if higher income, invested in: children's education	(n=155) 1.37	(n=79) 1.32	(n=76) 1.42	ns
if higher income, invested in: household durables	(n=127) 2.84	(n=72) 2.76	(n=55) 2.95	ns
if higher income, invested in: house improvements	(n=61) 3.70	(n=28) 4.04	(n=33) 3.42	ns
if higher income, invested in: land investments	(n=54) 3.87	(n=37) 3.70	(n=17) 4.24	ns
if higher income, invested in: land improvements	(n=59) 4.68	(n=36) 4.56	(n=23) 4.87	ns
if higher, invested in: farming activities/ inputs	(n=105) 3.76	(n=57) 3.89	(n=48) 3.60	ns
if higher income, invested in: livestock costs	(n=74) 4.23	(n=39) 4.56	(n=35) 3.86	ns
if higher income, invested in: new livelihood activities	(n=23) 4.70	(n=13) 5.15	(n=10) 4.10	ns
if higher income, invested in: food	(n=44) 1.23	(n=21) 1.10	(n=23) 1.35	ns
if higher income, invested in: clothing	(n=4) 2.75	(n=2) 3.00	(n=2) 2.50	ns
if higher income, invested in: savings	(n=4) 3.25	(n=3) 3.67	(n=1) 2.00	ns

Sig = Significance of differences between groups (based on T-test and Mann-Whitney tests): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001.

Data source: 2012 SEVSS Final Survey Questionnaire Data

Both the male and female workers explained that they typically planned what investments to spend their incomes on together with their spouses, unless they were single. If the investments were focused on their rural homes the male workers' wives generally took on these new livelihood activities, for example if a dairy cow is purchased the wife looks after the cow and sells the milk and saves the milk income and can use it as necessary for farm repairs and maintenance. The female estate workers typically hire labourers to manage such investments on their home farms, or might hire their son to drive the motorbike, if that was what they invested in. Female FGD participants at the 2010 RA certified estate explained that they had received useful RA related training on how to better plan and use their incomes. Workers at the 2010 RA certified estate wished that RA could train them in topics that would help them build their other (non-tea) livelihood activities, although factory workers at the earlier RA certified estate said that despite having received such RA certification associated training they had not managed to put it into practice yet. Such training might be better utilised if offered to pluckers and field workers as well as factory workers.

Management at both estates said they were unaware of any asset selling by workers in the last two years despite the drought and associated reduced working days /taking of leave in advance etc. The

FGD participants explained that if they lost their tea estate jobs they would focus on their own farming activities, or set up small businesses selling milk, tea leaves, second hand clothes etc. One male group said they would use more sustainable agricultural practices on their farms now and would treat their workers fairly as a result of training from and experience of RA certification.

The male participants in the FGDs at both estates felt that the surrounding population were better off than them, as they had more freedom and opportunity to build a diverse portfolio of livelihood activities. In direct contrast, the female FGD participants said estate workers earn more money, can access loans, join a merry-go-round savings group more easily, dress better, afford to educate their children better and are generally stronger, healthier, more financially stable and cleaner than the surrounding population. Estate managers felt that the status of tea work was increasing with the per kg GL rate, as pluckers on estates could now earn as much as teachers. As estates respond to certification criteria by improving their workers living and working conditions these factors become increasingly important for attracting a qualified and committed workforce.

The men's FGD highlighted the social risks of having to stay apart from one's spouse for periods of a month at a time, which include family conflicts and high risk of STDs associated with having more than one sexual partner.

Management at both estates felt that due to the CBA negotiated wage increases, workers were now better able to cover their basic needs than two years ago. However, managers at the 2010 RA certified estate acknowledged that despite these increases, workers were still not able to cover their basic needs, as inflation had increased more rapidly than wages. Workers explained that they prioritise in order to try and meet their household's most essential needs e.g. their children's education and food. Workers at both estates acknowledged that their wages and plucking payment rates had gone up which they attributed directly to the CBA negotiations between KPAWU and KTGA. However they also stated that the cost of living had increased significantly as well, and that their incomes were highly weather dependent and had recently been negatively affected by drought periods. Questionnaire respondents from both estates reported a general increase in their tea income during the past 2 years, however they felt it was still insufficient to cover their basic needs such as food and school fees (Table 6.5). At both the earlier RA certified estate and the 2010 RA certified estate tea workers income covered a larger proportion of their food, clothing, school expenses, health, energy, and housing costs in 2012 than in 2010. There were significantly higher changes in coverage of school fees at the earlier RA certified estate compared to the later RA certified estate, and significantly lower changes in increased coverage of healthy, energy expenses. None of the workers FGDs during the baseline survey or the final survey felt they could meet their basic needs, and they explained that they have to prioritise their spending carefully and especially during November to February when school fees and farm planting inputs are required. They said they increasingly have to borrow from friends and take advances from the estate.

The workers knew that the CBA negotiations are influenced by the tea prices and profits obtained by estates, which in turn are influenced by the world market and the quality of the GL and made tea produced. The male workers at the 2010 RA certified estate explained that the increased frequency of GL plucking rounds recommended by RA had resulted in increased yields and improved quality of the GL. The increased yields meant that pluckers could pluck more GL in addition to the per kg GL rate having been raised by CBA negotiations. The improved quality meant higher made tea prices, which then positively influenced their interests during the CBA negotiations. However, at the earlier RA certified estate hand pluckers in the FGDs explained that while the per kg rate had increased, the introduction of the plucking machines meant the area they had to pluck GL from had decreased and as a result their incomes had decreased. This decrease in income was not evident from the questionnaire respondents' data (see Table 6.3).

From the perspective of factory and other workers eligible for overtime payments at the earlier RA certified estate, while their daily wage had increased due to CBA negotiations their income from

overtime had decreased and costs of living had risen[17], so their overall income had remained constant. Some of the women in FGD at the 2010 RA certified estate explained that RA certification had resulted in training on how to plan and use their wages, which had helped them.

Table 6.5. Ability of tea estate workers income to cover their basic needs

	Total	RA 1 Estate	RA 2 Estate	Sig
N	201	101	100	
Values of variables below are means of a ranking exercise where: 1 = no contribution; 2 = a quarter; 3 = half of it; 4 = in its entirety				
Does income from tea cover basic needs: food	3.13	3.05	3.21	ns
Does income from tea cover basic needs: clothing	2.90	2.88	2.92	ns
Does income from tea cover basic needs: school expenses	3.08	3.05	3.11	ns
Does income from tea cover basic needs: health costs	3.02	3.00	3.04	ns
Does income from tea cover basic needs: energy	2.53	2.36	2.70	*
Does income from tea cover: house rent/ mortgage	2.18	2.18	1.86	**

Sig = Significance of differences between groups (based on T-test and Mann-Whitney tests): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

Mandatory deductions from estate workers wages include: NHIF Ksh200/m, NSSF Ksh200/m and union (COTU and KPAWU) ksh260/m, those earning over Ksh10,000/m also pay PAYEE. If advances of cash (for paying school fees, hospital bills, funerals etc.) or food have been obtained from the company these are paid back in part each month.

The earlier RA certified estate has seen an increase in the number of their workers with bank and Savings and Credit Cooperative Organisation (SACCO) accounts in the last two years, due to increased wages and more easily accessible banks, although most workers are still paid in cash at the end of each month and then keep their wages at home. The 2010 RA certified estate pays all their workers in cash each month, and on pay day there is a large travelling market at the gate of the estate. There was a suggestion in the women's FGD that some women are forced to hand over their wages to their spouses or risk being hit. The estate provides office space for SACCOs to help encourage workers to save, and management are involved in the approval of workers loan applications to help ensure the repayment plans and loan size are realistic. Workers explained that their SACCO loan applications have been processed more quickly since certification.

While in the past the practice of pluckers having helpers (*wasaidizi*) existed, this is no longer allowed at either estate. During the high season, visiting relatives or friends can ask for 5 month long temporary contracts if they wish to pluck tea at the 2010 RA certified estate, and have to prove they are experienced enough and strong, and have a PIN number, certificate of good conduct, NSSF card and educational certificates. While workers at the earlier RA certified estate explained that since the MTHs were introduced there is not enough GL for any additional hand pluckers, because when the tea has been cut by MTH it takes 3 weeks to reflush/reshoot again so the plucking rounds are less frequent than for hand plucked tea. The estate keeps some fields as hand plucked fields others are machine plucked fields. No hand pluckers are being recruited, but men wanting to work as MTH can be recruited on 3 month long contracts.

6.2.1.2. Overtime: RA certification has had major impacts on the amount of overtime that estate workers can do. However, it should be noted that in the tea estate sector the pluckers (who make up the majority of the workforce) are paid on a per kg basis, and therefore RA overtime standards have

[17] KNBS data show an overall inflation rate of 16.69% in February 2012, their Consumer Price Index data for the 12 months between February 2011 and February 2012 shows a 22.05% increase for food and non-alcoholic beverages, a 13.84% increase for housing, fuel, water, electricity, gas and fuel, and a 6.16% increase for education. http://www.knbs.or.ke/cpi/cpi022012.pdf

not affected them. It is the factory workers, drivers, maintenance, security guards, cleaners, administrators, medical and general field work employees who have been most affected by the RA overtime rules. RA standards set a limit of 2 hours overtime per day (12hrs overtime per week, or 48hrs per month), except during the peak season when for a short while workers can do 3 hours overtime per day. Managers at the earlier RA certified estate, explained that their factories run 24 hours a day, and used to be operated by two 12 hour shifts (8 hours work plus 4 hours overtime per day during the week, and 6hr work plus 6 hours overtime at weekends). The workers liked that arrangement as they earned a lot through their overtime pay. Due to RA certification the factories have had to change to run on three 8 hour shifts instead of two 12 hour shifts per day. The company implemented this change gradually and received a RA non-compliance each year on overtime, and they have had to hire more workers and provide them all with accommodation in order to meet these RA overtime regulations. From an operational perspective the managers did not report any benefits associated with controlling overtime.

As well as affecting the factory workers, management explained that the overtime limit also affects the plantation watchmen who used to earn a lot from overtime payments, as well as drivers and supervisors. The workers in the FGD stated that the field supervisors still receive overtime, and that these supervisors force their plucking gangs to pluck longer hours than they want to in order that they then receive an overtime payment for supervising it. These comments suggest some pluckers would like to have limits on their working hours, although these are likely to differ by season. Factory workers who do more than 48 hours overtime per month are now told to take the extra hours off as rest time. Managers and workers explained that the affected workers were not happy about this overtime limit rule as some workers had taken out loans based on their wages plus overtime earnings, and are now struggling to meet the repayments having lost their overtime earnings.

The questionnaire data showed that the hourly overtime rate had on average increased from Ksh45.3/hour in 2010 to Ksh75.3/hour in 2012.

Managers at the earlier RA certified company have tried to discuss this issue with RA as they feel it has very negative implications for workers and that workers should be free to decide whether or not they work and earn overtime. Both the men and women workers in the FGDs at the 2010 RA certified estate explained that their estate had stopped paying overtime except to drivers, clerks and security guards. Other workers were now given 'off days' to compensate when they have worked the equivalent number of extra hours. These workers typically use these off days to travel to their rural homes and check on their land and spouses, or engage in small business activities such as selling maize. The women FGD at the earlier RA certified estate felt that RA had imposed their overtime regulations to prevent them over working, and that there were benefits to this – being forced to take rest time has enabled them to think about other livelihood activities, and to rest so they are fresh for the following week's work. Managers at the 2010 RA certified estate said that initially their workers did not like the changes, but were now they are enjoying the rest and the men were using their newly acquired free time and existing incomes to buy motorbike taxis (boda boda's) and earn extra income that way, as part of their RA community relations activities the estate had organised a motorbike safety course and provided the participants with reflective jackets. RA staff explained that the RA overtime standard was the same all over the world. FT certification also requires a 2 hour per day limit on overtime, and during the baseline survey managers and workers at the FT certified estate shared similar experiences and views on the overtime related changes to those given above by the RA estates.

6.2.1.3. Food security: The questionnaire revealed that tea estate workers at both estates typically take 2 meals per day throughout the year, suggesting they are relatively food secure. During the dry season the number of meals they take drops slightly to 1.91/day, which was statistically fewer than during either the long or short rains seasons (2.15/day and 2.1/day respectively). Between the baseline (February 2010) and the final survey (February 2012), the number of meals workers at the

earlier RA certified took had increased during the short and long rains and during the dry season, while at the more recently RA certified estate the number of meals taken per day had increased during the short and long rains but had decreased during the dry season. The increase in meals taken between the baseline and the final survey during the long rains and in the dry season was statistically significantly greater ($p<0.01$) at the earlier RA certified estate than at the more recently RA certified estate. The satisfaction of the workers with the food that they eat had also increased more between the baseline and final survey at the earlier RA certified estate than at the more recently RA certified estate ($p<0.01$).

In general workers were not dissatisfied with the amount of or quality of food eaten. At the earlier RA certified estate, men felt they consumed a little less protein than their spouses, and the women felt they consumed a little more protein than their spouses.

Many workers bring food from their rural homes in order to help reduce their food expenditure. If there are food shortages the tea estates bring in maize from other areas of the country and supply it to their workers, with payment for it being deducted gradually from workers wages over a period of time. This arrangement existed prior to certification.

At the time of the baseline workers at the FT&RA dual certified estate reported eating significantly more meals per day in the short and long rains, and being significantly more satisfied with the amount and quality of food they ate than workers at the earlier RA certified estate. They explained that due to FT certification they had received training on setting up kitchen gardens, which they had then made in their living camps to help with their food and nutrition security. No further data was collected from workers at the dual certified estate due to it opting out of the study.

6.2.2. Worker empowerment and organisation

6.2.2.1. Worker empowerment: RA certification has led to a culture of more open communication within both the certified estates. RA certification has encouraged a more open door policy between workers and supervisors and management on both estates, including an anonymous suggestions box. Workers alert managers to problems more now than in the past. Managers explained that due to RA certification there are more committees which has increased workers inputs into plans within the company; workers have an increased awareness of their rights (e.g. they do not have to work a 7 day week and look forward to their off days, a copy of the CBA and other relevant employment information is on all major noticeboards (in English), they know the grievance handling procedures), and they now feel more able to question the management. The RA audits make workers feel that they have a voice channel now. Much of the training workers have received can also be applied in their own homes e.g. firefighting, hygiene.

Managers at both estates perceive the KPAWU Union as being very effective in dealing with workers issues. The shop stewards (Union representatives among the workers) work with the estate managers to verify any complaint and then resolve it or forward it to the branch secretary. The 2010 RA certified estate has introduced a women's officer as there was a tendency for all the shop stewards to be men. The KPAWU branch staff can come and meet the shop stewards and worker during working hours if they inform the estate management. Management explained that disciplinary issues are declining as the company follows the law and workers appreciate their jobs. The incidence of drunkenness at work has fallen - they used to have local brew in the camps, but this has now been banned, and the CBA states there should be summary dismissal if one is found drunk at work.

During the baseline survey, workers at the dual certified estate said they felt management-worker relations had improved, and the FT certification had resulted in them being given time off to hold meetings even during working hours. The managers said certification had: made their workers more enlightened and aware of their rights; ensured the company has policies guiding workers on all

issues affecting them and that these are displayed transparently on notice boards; enabled workers to appeal on any issues where they are not satisfied.

In general, estate workers seemed to have a very limited understanding of the made tea value chain and marketing process, they knew that their estate's made tea was sold at the Mombasa auction but not where it went after that. The workers on the dual certified estate said the Joint Body updates workers on the amount of tea sold as FT declared and the amount of FT Premium received.

6.2.2.2. Workers' rights: Managers at the earlier RA certified estate felt that RA certification training had helped their workers become more aware of their rights, and had improved management-worker communication on the estate as quarterly meetings are now held with workers to inform them about company policies and provide a Q&A forum. As part of the RA certification activities, managers at the 2010 RA certified estate had brought in the Federation of Kenyan Employees (FK) to train the workers on industrial relations and KPAWU (from the Nakuru branch) to train the workers about their rights to organize, their benefits and the hours they have to work.

Harassment was also felt to have reduced as a result of both RA standards and the law, managers explained that employees (including supervisors and managers) are fired if found using harassment.

Managers at the 2010 RA certified estate, explained that as RA certification prohibits workers' children from helping their parents pluck GL, these children have now been enrolled in secondary schools.

RA has had an influence on women's personal security on the estate. The company has installed security lighting which was part of their long term plans, but is also related to meeting the RA standards (RA Criteria 5.14. under 'Fair Treatment and Good Working Conditions for Workers' states housing provided for workers must be well-designed, built and maintained to foster good hygienic, health and safety conditions). The women's FGD at the earlier RA certified estate explained that the threat from '*simba ya wanaume*' (the predatory males) had reduced and they could walk more safely at night now.

Women workers at the dual (FT&RA) certified estate said that prior to FT certification they did not have a lunch break and it was compulsory to work on Sundays.

6.2.2.3. Freedom from discrimination: The earlier RA certified company explained that as they had no baseline measure for this it was difficult to accurately assess. There are women representatives on all committees, and ~35% of the managers are female. However, fairly rigid gender norms are associated with most jobs on the estate, for example factory workers tend to be mainly male, although the cleaners, laundry workers and clerks are female. The MTH operators are male (workers explained that operating the plucking machines was a physically exhausting job due to the weight of the machines, their permanent use and vibrations, workers suggested this kind of work needed strong young men to do it), but those carrying the GL cut by the machines to the edge of the field and sorting it are female. Wages are determined by the CBA and are related to the task and not the gender of the worker. The 2010 certified RA estate, has actively increased the number of women working in the factory from 7 to 20 since becoming RA certified, but the women only work the day shift. This has always been the case as the women often have child and house care responsibilities which require them to be at home in the evenings and there could be safety risks associated with them walking to and from the factory during dark. The estate has no female managers. They have 3 disabled staff and allocate them tasks according to their capability.

Very few of the supervisors at either estate are female, which the women workers say is a problem as regards the estate addressing issues affecting women such as grading/ promotion.

6.2.2.4. Freedom of labour: Neither estates management felt RA had had major impacts on this. Spouses are not required to work on the estate, but if workers request that their spouse also be employed the management try to support that and encourage family units to stay together and help

with transfers if two workers get married. The earlier RA certified estate managers said women workers tend to bring their families with them, while men workers are more likely to come first and then have their families join them later. During the FGDs the male workers reported that their spouses live in their rural homes taking care of the children, livestock and farming they describe this as more sustainable than if their spouses also worked at the estate. However the women FGD participants said several of them had husbands working on the estate, or working elsewhere or that they were single or widowed.

Managers at both estates said there is no child labour used and that this goes for all their contractors as well. RA staff said they have not come across any child labour issues in tea in Kenya and that enforcement of this policy seemed to be happening prior to certification. The Kenyan Human Rights Commissions study of large scale tea estates also found no evidence of child labour use in tea (KHRC, 2008).

6.2.2.5. Freedom of association: About 90% of workers (permanent and seasonal) are voluntarily members of the KPAWU Union. The subscription fee is Ksh100/m, the Union will also represent non-members and for this they have to pay an agency fee of Ksh165/m. The grievance procedure at both estates is multi-tiered, with working councils and elected camp elders being the first group to help sort out problems. If they are not able to solve the issue then it is forwarded to the supervisor and then to higher managerial levels if it is not able to be sorted out by the supervisors. Documentation is kept at all levels and sent to the estate manager. If the issue cannot be sorted out there can be a hearing for the person in the presence of the Union. If not satisfied the Union will launch a complaint, then if the Branch KPAWU cannot resolve the problem it goes to the next level of KPAWU and can eventually end up in the industrial court. At the 2010 RA certified estate due to RA certification the Federation of Kenyan Employees (FK) trained the workers on industrial relations and KPAWU (from the Nakuru branch) trained workers about their rights to organize, their benefits and the hours they have to work.

While the FGD workers explained that all workers (with the exception of the MTHs as the Union does not represent machine workers) can join the Union, at the earlier RA certified estate the men's FGD said the field workers feel that their representatives no longer represent them since the representatives are segregated from other workers and even live where the management lives. The factory workers felt more confident about their representatives. At the 2010 certified RA estate the union representatives include 2 women and 4 men. RA certification was believed by the workers to have helped influence the fairer treatment of workers. These workers felt that RA gives the Union more strength as it emphasises the same worker welfare values. RA standards also emphasise the importance of workers unions.

When a KPAWU union local office was visited, despite the branch secretary having until recently been an employee on a RA certified estate, they were not very well informed about the different aspects of RA standards and had no documentation about RA. Nor had they ever met with or been contacted by RA staff. Current issues they were working on included CBA negotiations to ensure workers were paid for a 7 day week, but worked just 6 days and had one rest day. They said that tea estate workforces were shrinking rapidly, with casualisation of employment and contracting in of services becoming the norm.

Where estates were using plucking machines, the workforces were reducing. The union staff said that plucking machine operation was very tiring, and the young men involved reported finding it physically exhausting resulting in them not having the energy left to perform marital duties with their wives which led to problems. While the CBA does not recognise MTHs, the KPAWU represents ~900 of them who pay agency fees in order to be represented by the KPAWU. Casual/ seasonal

workers are also not full members of the KPAWU[18], and do not pay a monthly contribution to COTU which is causing the Union to wonder if COTU will exist in the future, if many workers become seasonal instead of being permanent employees. The workers employed by the rapidly mushrooming number of contractors (e.g. for weeding, slashing, road repairs, chemical applications of herbicides, transport of GL) are not members of the Union either and many are afraid they will lose their jobs if they join the Union. The KPAWU said these workers were being exploited and paid KSh150/d for weeding instead of the Ksh300/d (minimum wage) they would have received for the job if employed directly on the estate to do it. This trend of 'dis-embedding' of supply chain actors, and markets from social control by public or private governance institutions is a serious challenge (Mayer and Pickles, 2010; Barrientos *et al*., 2012). None of these external contractors' workers were met or interviewed during the surveys. However managers at certified estates said the contractors they use have to meet the RA standard requirements.

Although KPAWU does not recognise MTH workers because of the job loss implications of such machines, the MTH workers can pay an agency fee in order to be represented by KPAWU. Union officials said there were 900 MTH operators who are paying this fee. However, the MTH operators interviewed in the study said their issues could not be represented by the Union.

The KPAWU branch officers were aware of the impact RA certification had had on reducing overtime hours for tea workers as the workers had written to the Union in November 2011, but the Union officers said they had not yet had time to investigate it. The Union officers explained that in the Kenyan labour law there is no limit on the number of overtime hours. The tea estate workers affected used to use their overtime earnings to help repay loans they had taken, and often used to do 3-4 hours overtime/day. The KPAWU officers reported that last year 80 workers at one RA certified estate had resigned due to the overtime issue as they felt they were no longer paid enough for the work. The KPAWU officers said the enforcement of PPE use by RA which reduced workers exposure to dangers had been very useful, as had the RAs enforcement of strict hygiene rules in the factory.

When RA staff were asked how they were engaging with the KPAWU, they said they involved the national level officers in the local interpretation of guidelines exercise, but their attendance was not high and they did not seem informed about RA. They also explained that the shop stewards were usually interviewed by the RA auditors during the audit.

A key informant explained that in the horticultural sector FT involves the Union, and civil society is also very active as regarding labour issues in the horticulture sector. However, because of the perishability of horticultural crops it is likely that civil society activists can have more of an impact on a fresh supply chain than on tea, due to strikes leading to fairly immediate wastage of and shortage of horticultural produce on retail shelves.

Most of the workers in the FGDs felt that worker-manager relations had improved recently and they could freely approach management to discuss grievances and problems if necessary. The workers explained that the managers' attitude had changed as they were the same managers as previously but just operated differently. These workers did not link this change to RA, and were not sure what had caused it. However, the male MTH workers explained that their supervisor harasses them, and they have no one to report to as they are not represented by the workers' union.

At the 2010 RA certified estate, workers organisations include funeral groups, hospital bill groups, savings groups and bursary groups, and they also have a camp committee to help them sort out any problems. At the earlier RA certified estate there are SACCO savings and credit cooperatives, but no

[18] Permanent tea workers pay Ksh260/m (Ksh100 to COTU, and Ksh 160 to KPAWU). Seasonal tea workers pay Ksh160/m (Ksh160 to KPAWU).

revolving/merry-go-round savings scheme, the factory workers have committees for H&S, food safety, fire-fighting and first aid, while the field workers just have a first aid committee.

The other organisations that work with these estate workers are mainly the various churches (e.g. Seventh Day Adventist and Catholic), and local administration. The APHIA II[19] project works with the earlier RA certified estate workers.

6.2.2.6. Access to credit: Workers at both RA certified estates explained that they are able to get an advance of their salary (known as a pro-forma) midway through the month if required, and that this had become easier due to the interpretation of RA standards on fair and respectful treatment of workers by estate managers. However, the workers do not consider this credit as they say they have already earned it. During bad years the estate provides maize to workers on credit and later deducts the cost of it from their salaries, however this has been happening prior to certification.

During the baseline survey workers at the FT&RA dual certified estate said since FT certification they were able to access more credit more quickly from the SACCO, and that the SACCO could no longer take their entire month's wages as repayment but had to ensure the worker still had enough wages to live on each month.

6.2.3. Employment terms and conditions

CBA negotiations set all estate workers' salaries except the MTH teams. CBA rules determine the maternity (3 months paid) and paternity (2 weeks paid) leave, sick leave, working hours, annual leave, and NSSF conditions. Nursing mothers also get 2 nursing breaks per day. However, workers explained that the 3 months paid maternity leave, 2 weeks paid paternity leave, paid sick leave and lighter duties for nursing mothers were only implemented as a result of RA certification. RA staff explained that non-enforcement of the CBA agreements are common RA non-compliance issues in some of the smaller estates.

The 2010 RA certified estate managers explained that workers work 6 days then get 1 rest day, RA bans working for 7 days straight even if the worker wants to. Field workers work 7am-1.30pm (Monday to Friday) and 7am to 12.30pm on Saturday, 39 hrs over 6 days. Pluckers typically work 7am to 4pm, but it is up to them how long they stay and how much GL they pluck, and as a result limits on overtime do not affect pluckers who make up the majority of the estates employees. Factory workers work 6 days/week and do 8 hour shifts, except on Saturday when they do a 6hour shift. Some rest on other days and then work Saturday and Sunday. Certification led to a change for factories from operating on two 12 hour shifts to operating on three 8 hour shifts, this change along with the certification criteria of a 48 hour normal working week has led to the need for estate to hire and house extra factory workers as a result of certification, which has been expensive.

The managers at both estates explained that all their workers (permanent and seasonal) have written contracts. All permanent workers get 26 days paid annual leave.

All workers (including seasonals) are provided with housing on the estate, and RA standards have led to improvements in workers' houses (see section 6.2.5.1).

Worker FGDs described recent changes to workers terms and conditions as being mainly due to Government legislation and the negotiations by trade unions, although they credited RA certification with also having played a role particularly regarding the implementation of a lengthened maternity leave, paternity leave, paid sick leave and lighter duties for nursing mothers. The men's FGD participants at the earlier certified RA estate explained that MTHs cannot join a trade union, are not eligible for social security, or paid paternity leave and receive no pension because they are employed on contract basis, and the Union does not represent machine workers.

[19] APHIA (AIDS, Population and Health Integrated Assistance) II aims to support improved and expanded, sustainable HIV/AIDS and tuberculosis prevention, treatment and care, alongside integrated reproductive health and family planning services in several provinces in Kenya.

RA standards now mean that at both estates jugs of drinking water are provided in the field for pluckers. The workers living camps also have safe drinking water which is regularly monitored. Workers at the more recently RA certified estate explained that previously they were expected to use their own tools such as pruning knives, machetes, spades, uniforms, PPEs at work, but that since certification the estate now provides these. At the 2010 RA estate workers are provided with a cup of drinking porridge (*uji*) each day, as are all the children in the estates crèches, but this was the case prior to RA certification. However one of the men's FGD complained about nutritional issues associated with having no lunch. Each of their workers' living camps has a grinding /posho mill with subsidized rates - this was also the case prior to RA certification.

When the workers FGD were asked to compare the situation of workers on non-certified and certified estates those at the 2010 RA certified estate explained that on non-certified estates: they did not provide PPEs or plucking aprons, paid lower wages, and their workers lived in slums. RA certified estates provide treated water, paint workers houses, are more hospitable to their workers and understanding regarding workers welfare, have garbage pits, pay better and have clean and well managed toilets for the workers. They described how they had witnessed their own conditions improve as a result of preparations for RA certification and how much cleaner their camps are, and how H&S are now given more importance. Workers at the earlier RA certified estate were not sure which estates were certified and which were not, but compared their own situation unfavourably with that of a recently RA certified neighbouring estate where they said the workers were allowed to diversify their activities.

At the earlier RA certified estate, workers perceived significantly greater improvements in 2012 than in 2010 for: the amount of income/day; stability of income; pension; access to information; housing; sanitation; children's education package; on-site water infrastructure; transport; and electricity. While significantly reduced improvements were perceived in 2012 for: working hours; annual leave; and maternity/paternity leave compared to in 2010. Similarly at the 2010 RA certified estate, workers perceived significantly greater improvements in 2012 than in 2010 for: stability of income; access to credit; bonuses; pension; access to information; housing; on-site water infrastructure; and electricity. While significantly reduced improvements were perceived in 2012 for: working hours; and annual leave compared to in 2010.

6.2.4. Occupational health and safety

6.2.4.1. Safety changes: Managers at both estates felt there had been lots of improvements in occupational health and safety in the last two years, mainly due to RA standards.

The earlier RA certified estate has: created a Health and Safety Department; increased the number of fire extinguishers, and fire fighting and exit trainings; started annual medicals for chemical sprayers, MTH operators and sifters and sorters (due to noise issues being close to the machines – noise levels >85db occur with the saw mill, power saws, driers, packing section, rolling and fans); put in a changing room for chemical sprayers; started doing risk assessment for any new job; has decreased the number of accidents in the field and factory; installed roofs on the washrooms in the living camps; increased the number of ablution blocks to the required ratio (one female worker commented that '*No one has to go to the toilet amongst the tea bushes any more*'); put in toilet blocks in the tea fields; installed hand rails around the dams. The workers felt factory conditions have improved a lot as workers have all the required PPEs (including noise and dust protection), H&S training, improved cleanliness, 6 monthly medical check-ups, and they reported that accidents had reduced. The workers in the male FGD felt more health and safety attention has been given to the factory workers than the field workers. However the women said that sprayers and MTHs had been provided with PPEs, there is a special washing room for the sprayers used PPEs, and workers have been given training on use of chemicals – all due to RA.

The 2010 RA certified estate now has a H&S committee which meets quarterly. Each unit (8 units in total) has their own H&S committee and all members have undergone H&S training facilitated by a

company called Universal Work Health. Minutes are kept of all meetings. They do more First Aid training, and fire drills in the factory and camps. Each factory work gang is provided with a first aid box. Ear muffs and ear plugs have been provided to those working in areas with noise level issues, and these areas are marked with signs. Frequent medical checks are carried out for those working in high noise and physical packing type jobs. All factory staff and those who prepare food for the managers and who spray pesticides are given regular medicals, but not the field pluckers. Due to RA they now have an inspection and risk assessment which they did not have before. They have increased the number of fire extinguishers and done training on fire fighting, they have installed a fire hydrant system in the factory due to RA certification. RA has lead to establishment of bathrooms for chemical sprayers to wash themselves and their PPEs after spraying. Due to RA certification the estate workers have been trained on proper handling of chemicals, use of PPEs, safe fertilizer application. RA regulations are strict regarding which chemicals may be used (RA follow WHO guidelines) and the managers explained they have had to stop spraying the workers houses with the insecticide diazole, although the workers said their houses are still regularly sprayed, which they are happy about as it reduces the insect pest and mosquito problems. The workers in the FGDs mentioned that due to RA all factory workers and field sprayers are provided with PPEs, and there are now first aiders, first aid boxes, fire fighting equipment and bathrooms that they can wash off pesticides in. There is also improved health education by the H&S committee.

RA certification has led to increased signage at both estates. This signage (e.g. 'tea is food'; 'high noise levels – wear ear protectors') generates discussions, and questions between workers and between managers and workers, and leads to greater understanding of the principles behind the regulations (e.g. the importance of hygiene during handling of tea and other food products, that hearing can be damaged by continuous unprotected working in noisy conditions).

The questionnaire data confirmed that estate workers at both estates had experienced positive changes in occupational health support during the last two years (Table 6.6). It was notable that the provision of new protective gear and new types of protective gear and better post pesticide application washing down facilities were mentioned significantly more at the more recently RA certified estate (RA2) as they had more recently been working and upgrading their PPEs to meet the RA occupational health and safety standards.

Table 6.6. Estate workers views on recent changes in occupational health support measures

	Total	RA1	RA2	Sig
N	201	101	100	
Experienced positive changes in occupational health support in the last 2 years (%)	76%	72%	80%	ns
Provision of new protective gear by the company	94%	89%	97%	*
Provision of new types of protective gear by the company	62%	49%	74%	**
The phasing out of more hazardous types of pesticides	55%	46%	62%	ns
Better facilities for washing down after applying pesticides	64%	50%	75%	**
Health education especially HIV/AIDS	93%	94%	93%	ns

Sig = Significance of differences between groups (based on T-test and Mann-Whitney tests): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

At both estates significantly more of the workers said they had experienced positive changes in occupational health support in 2012 than in 2010, although more had experienced the phasing out of hazardous chemicals in the two years prior to 2010 than in the two years prior to 2012. Fewer workers at the earlier RA certified estate (RA1) reported being provided with protective gear by the company in 2012 than had in 2010, not all protective gear will be renewed each year.

6.2.4.2. Workers' health: Management at both companies felt that malaria cases among workers had decreased. The 2010 RA certified company felt this was due to RA certification resulting in the company increasing the training which their medical department provides to workers on how to avoid malaria, by using treated mosquito bed nets rather than using chemicals in their houses, and to apply better home hygiene. They noted sick leave payments had reduced as a result. The workers also felt that health and hygiene training, laboratory, VCT, maternity ward and emergency ambulance facilities had improved due to RA (*RA standard criteria 5.16 states 'All workers and their families must have access to medical services during working hours and in case of emergency. When legislation requires, farms must contract the services of a doctor or nurse with the necessary equipment to provide these services'*). The workers said they are now allowed to rest when they are sick whilst previously they would have been worried about losing their jobs if they did that. The workers also said they are healthier and better nourished now and the incidences of typhoid, malaria and amoeba have reduced. The managers said that certification had also led to increased cleanliness of the workers living camps, improved maintenance of workers houses, and reduced absenteeism which has also increased productivity. Drinking alcohol during working hours is now banned and any workers found drunk or guilty of sexual harassment can be sacked. Both the men's and women's FGD participants said domestic violence had decreased in the last two years due to the RA values (such as equal rights, and prohibition of the use of threats, harassment and alcohol) influencing workers' private lives.

Management at the earlier RA certified company did not associate the improved worker health with RA certification. They have been partnering with health projects such as APHYA II and Marie Stopes on HIV awareness, and say that HIV incidence is just 3.6% amongst their voluntarily tested workers now, compared with 14% some years ago. The company has a special HIV day for which they set aside a budget. Workers who use pesticides say since RA certification they are now provided with PPEs and washing facilities and are supposed to be given regular medicals (although some pesticide users in the men's FGD had not had them).

The questionnaire data found that at both estates workers also felt there had been a significantly greater improvement to their own health in the two years prior to 2012 than in the two years prior to 2010, with more than 95% saying they were feeling stronger and healthier, they put this down to improved occupational health support measures and health care. However, there were no significant changes in their perceptions between 2012 and 2010 regarding having to have fewer days off sick, or being able to work longer hours, feeling stronger, or spending less on health care.

The women workers at the earlier RA certified estate reported that the increased number of weighing points due to RA certification meant they did not now have to walk so far with the GL on their backs, '*Now when you get home you still have enough energy to look after the children*'.

The women's FGD participants also explained there were improved worker-to-worker relations and worker-to-management relations due to RA training and it made the work place less stressful. They also have more hours to rest, and illness had reduced as the environment is now so much cleaner. Moreover, harassment by supervisors had also reduced. While the male factory workers in the FGD felt their health has greatly improved, the MTH workers feel theirs has deteriorated terribly, they explained that they have lost a lot of weight due to operating the plucking machines and are always tired. Whilst RA standards have many criteria to ensure the safety and health of workers applying pesticides, it appears that there is a critical gap in the standards regarding criteria which specifically ensure the health of workers who continuously operate plucking machines (e.g. preventing them dehydrating, ensuring sufficient rest time and food is provided during working hours, ensuring the machine blades are sharp to increase efficiency, washing facilities, regular medical check-ups). The general workers and hand pluckers felt that malaria and diarrhoea have reduced.

Additionally the investment by RA factories in sewerage systems to treat their waste water, which previously used to be released into the river will have had positive health benefits for the workers, the local community and the environment.

6.2.5. Services provided by the estate company

6.2.5.1. Housing: The 2010 RA certified company managers explained that there was a great deal of overlap between their 5 year camp maintenance plan and the RA standards which state that housing provided for workers must be well-designed, built and maintained to foster good hygienic, health and safety conditions. However during the light monitoring survey their workers explained that in the year prior to the first RA audit so much change had happened compared with in previous years at the estate, '*It was dormant before, and it could take a long time to even get repairs done*'(NC-Est-A).

The earlier RA certified company explained that due to the decrease in the size of their workforce, some of their living camps have now been abandoned, and in the others they now have a 1 person per living unit ratio. The workers in the FGDs appreciated their newly painted houses, which they do not have to share with other families. The company is slowly installing electricity into their Grade 1 level supervisors' houses.

Both companies have installed external security lighting around the living camps and the driveways to the main road for improved security. The earlier RA certified estate had also experimented with use of solar panels for lighting of the wash blocks in the living camps to help improve their use and security of the users, but the equipment had been stolen. Other improvements to the workers' living camps include: basic repair and maintenance of doors and floors; the changing of the chimneys to reduce smoke inside houses; replacement of thatch roofs with aluminium sheets; painting of houses; building of additional washing and toilet facilities; water in the bathrooms; construction of garbage pits and waste containers and regular slashing of grass around the living camps which has improved the cleanliness. The quality of the tap water in the living camps at both estates is regularly monitored due to RA regulations, but the managers say this was also being done beforehand. During the baseline survey, managers at the dual FT&RA certified estate said FT certification had led to their workers having clean and safe drinking water inside their houses, and workers confirmed that the FT Premium had been used to invest in workers' water supply and housing amongst other things.

KPAWU officers said that workers housing is generally a big problem in the tea estate sector. They cautioned that although many tea workers' houses now look very beautiful on the outside, this can be just a facade and that inside they can be in very poor conditions, with pot holes in the floors, and many people having to share each hut and cooking inside the hut using firewood which means it gets smoky. They said there is often little privacy, and that five single workers may have to share a 2 roomed hut. The huts have no have electricity.

6.2.5.2. Primary and secondary education for workers children: Managers at the 2010 RA certified estate explained that RA certification has helped them improve performance at the 4 primary schools. They have organised seminars between the head teacher and district education officer and brought in some fresh teachers, and pass rates between 2010 and 2011 had increased from 21% to 78% at one of their schools, and also increased greatly at two of the other three. They have also tried to increase the role of parents in the schools, and provide all teachers with a tea allowance (cash and made tea). These improvements are likely due to a combination of the RA standards highlighting the need to guarantee access to education for school-age children that live on the estate, and managers understanding how important good schools are in attracting and retaining their workforce. The primary school at the earlier RA certified estate had also improved its results, but the managers were not sure how this had happened. Both RA estates have bursary funds for supporting about 45 of their workforce's brightest children through secondary school; these existed prior to RA certification but have been enlarged as part of their CSR scheme. These managers said a CSR scheme is an RA certification requirement (the RA local interpretation guidelines mention CSR activities as a possible mechanism for promoting good community relations). The 2010 RA certified

estate also helps improve infrastructure (e.g. latrine blocks) in local secondary schools using its CSR scheme. The dual certified (FT&RA) estate had used some of its FT Premium fund as educational bursaries for workers' children.

6.2.5.3. Childcare: Managers of the 2010 certified RA estate explained that they had four crèche's (for workers children of 3-6 years old) prior to their RA certification, but since becoming certified they have employed personnel that are qualified in Early Childhood Development and are paying for one teacher to get trained in her holidays. Workers with young children can leave work early as the crèche finishes at 12, but often the older siblings look after the young ones in the afternoon so the worker can return to work. The children are provided with porridge each day. The earlier RA certified estate managers said their nursery care arrangements had not changed due to RA certification, however their female workers felt they had improved due to RA. These female workers also mentioned the childcare education classes now run by the clinic also due to RA certification. At the dual certified estate female workers said they felt they had benefited more than men from certification as childcare was their responsibility.

6.2.5.4. Relief food: The workers explained that both estates provide them with maize on credit during times when there is no food available, but this practice has been in place for many years and has not been influenced by certification.

6.2.5.5. Other social impacts: The 2010 RA certified estate explained that they provide workers with an end of year food basket, and that each of their estates has a canteen, TV set, and meeting hall. Due to their RA certification they have also recently organised athletics and music tournaments for the workers, and support the workers football team to attend tournaments. New mothers can now take nursing breaks and most are given light duties due to RA certification.

6.2.5.6. Communication: The reduction in the cost of mobile phone use in Kenya and its rapid increase has made communication easier within the estate, as male and female pluckers own mobile phones now.

6.2.5.7. Transport: The general increase in incomes, improved road conditions, and increased population has resulted in the presence of more private motorbike taxis, and mini-bus stops at the main gate of the estates. The 2010 RA certified estates has bought a brand new school bus to take some children (*possibly the managers' children*) to primary school in the nearby town, and has also bought 2 new ambulances, these purchases are not just linked to RA requirements. The workers mentioned that due to RA certification, they are now given transport when being transferred to one of the other living camps on the estate.

6.2.5.8. Worker satisfaction with services: All the workers in the FGDs at the 2010 RA certified estate said they were very satisfied with the services they now received from the company, and felt the management were really trying hard, and even visited them inside their houses nowadays. The questionnaire findings from 2012 (Table 6.7), suggest workers are satisfied with housing, health care, water, sanitation at work, schooling, and child care which are the main services respondents report receiving. Certification was identified as being a major driver of change behind the improved services being received by workers.

At the earlier RA certified estate (RA1) more of the respondents were satisfied in 2012 than in 2010 with the following services provided by their estate: schooling; transport; food; electricity. At the more recently RA certified estate (RA2) more of the respondents were satisfied in 2012 than in 2010 with the following services provided by their estate: housing; water; food; and fewer respondents were satisfied in 2012 than in 2010 with: sanitation; and childcare. The increase in the workers degree of satisfaction with water services improvements was significantly greater at the earlier RA certified estate. It is notable that whilst the estate managers talked about large increases in education performance in their primary schools, their workers did not highlight this as much.

Table 6.7 Estate workers satisfaction with services provided by their employers

	Total	RA 1 Estate	RA 2 Estate	Sig
N	201	101	100	
Values of variables below are means of a ranking exercise where: 1 = very dissatisfied; 2 = dissatisfied; 3 = neither; 4 = satisfied; 5 = very satisfied				
Services provided by estate: housing (% receiving it)	90%	88%	91%	ns
Satisfaction with service: housing (ranking)	3.91	4.03	3.78	*
Services provided by estate: health care (%receiving it)	97%	97%	96%	ns
Satisfaction with service: health care (ranking)	3.69	3.54	3.84	*
Services provided by estate: sanitation at work (% receiving it)	85%	96%	74%	***
Satisfaction with service: sanitation at work (ranking)	4.09	4.16	3.99	*
Services provided by estate: water supply (% receiving it)	87%	84%	91%	ns
Satisfaction with service: water supply (ranking)	4.07	4.16	3.99	*
Services provided by estate: electricity (% receiving it)	13%	11%	14%	ns
Satisfaction with service: electricity (ranking)	3.24	3.67	2.85	ns
Services provided by estate: schooling (% receiving it)	62%	62%	61%	ns
Satisfaction with service: schooling (ranking)	3.89	3.77	4.02	*
Services provided by estate: child care (% receiving it)	49%	45%	54%	ns
Satisfaction with service: child care (ranking)	3.98	3.89	4.06	ns
Services provided by estate: transport (% receiving it)	37%	49%	25%	***
Satisfaction with service: transport (ranking)	3.16	3.02	3.44	ns
Services provided by estate: food (% receiving it)	20%	12%	28%	**
Satisfaction with service: food (ranking)	2.83	3.00	2.75	ns

Sig = Significance of differences between groups (based on T-test and Mann-Whitney tests): ns = not significant, *P≤0.05, **P≤0.01, *** P≤ 0.001

Data source: 2012 SEVSS Final Survey Questionnaire Data

6.2.6. Training of workers

Management at both estates felt that training of workers had increased greatly due to RA certification. Managers at the earlier RA certified estate said they had given environmental training to 100% of their workers. Managers at the 2010 RA certified estate explained that they use the education level of their workers to decide which courses they should attend and some general training e.g. 'hygiene' is for all workers. This company pays a monthly levy of Ksh50,000/m to government and then get reimbursed at 60% for any training that occurs, this is a government policy to encourage companies to train their workers. They have used this scheme more since becoming certified than before.

The workers at the earlier RA certified estate said there had been training courses for workers on: ISO certification, RA, tea production, health and safety, fire fighting, HIV/AIDs, public relations and family life education. No training had been offered to the hand pluckers. More training was requested by the workers, with the exception of the pluckers who felt they did not need any training (although it is possible this attitude would change if a training system was introduced which would pay/cover them for the lost plucking income incurred during the training).

The 2010 RA certified estate workers said that there had been trainings on health and safety and firefighting for the factory workers and HIV/AIDS and tea plucking demonstrations for the pluckers (although generally the pluckers do not attend trainings and demonstrations as they are paid per kg so would then lose their income). All the employees are aware of first aid. A sports day was organised with football, darts and netball and it provided a good opportunity for all workers to interact.

However, whilst the women said anyone could attend the trainings, only 4 of the 15 present in the FGD had ever attended a training, these had been on HIV/AIDS for 1 week in Kisumu, RA (tree nursery staff), Counselling, Health treatment (nurse).

The estate worker FGD participants said they would most like to attend training on:

- proper tea husbandry and productivity [M]
- whether long-term plucking has any negative health effects [M]
- financial management [M, W]
- livestock keeping (cows and poultry) [M]
- business skills and planning [M]
- greater hygiene, clean water [W]
- tree planting [W]
- improved cohesion amongst neighbours [W]
- sustainable household level agriculture [M]
- RA [W]
- Other skills such as tailoring [W]

6.2.7. General changes due to certification

When workers in the FGDs were asked about the general changes that RA certification had made to their lives, the women's FGD participants at both estates mentioned changes important to their caring responsibilities and personal safety, such as: provision of clean water, a cleaner camp, painted houses, improved medical services including maternity and VCT units, night time outside lighting, paternity leave (they argued that paternity leave was only implemented due to RA), more time to spend with your family ('*we used to get home very late, after 6pm and you were too tired to clean your house and would find your children already asleep*') and to do household chores such as cleaning, less exhausted at the end of each day, the medical check-ups provided enable factory workers to know their health status. The male FGDs participants highlighted the environmental improvements, particularly regarding the rivers, river banks, forests and springs, and the estates waste systems which they associate with improved health. They also felt that communication and interaction between different levels of employees had increased which had improved worker cohesion. However, they still felt their incomes were too low.

Housing provided for estate workers

The workers in the FGDs at both estates associate RA with environmental protection, clean uncontaminated water, more hygienic plucking and processing of GL. During the baseline workers at the earlier RA certified estate explained that RA was a body that looks after the workers welfare (safety, health and working and living conditions) and encourages conservation of the environment and production of good quality tea. They said the benefits for the estate company were prestige and increased market acceptability, and for the workers good living conditions, good health and a clean environment. At the 2010 RA certified estate the workers in the FGD all knew about RA, and referred to the information (in English) on their notice boards. However in the earlier RA certified estate women's FGD only the factory workers were aware of what RA was, and not the pluckers (suggesting they have not received equal training opportunities). During the baseline survey workers at the dual

certified estate described FT as an organisation that addresses workers welfare, fights discrimination and harassment of workers, advocates for less working hours, and supports education and maternity rights.

Since starting to prepare for RA certification the workers said their organisations had been actively protecting the environment and wildlife, reducing the amount of herbicide they use, segregating and disposing of waste materials more carefully, providing clean tap water, cutting the tea bushes shorter, renovating and constructing workers houses, ensuring there are enough toilets, separating the processing and packaging of non-certified outgrowers GL from their RA certified GL. They also remarked on improved relations with their neighbours. The workers at the 2010 RA certified estate explained that their organisation had maintained hand pluckers and not introduced MTHs due to RA, although the managers explained that they felt there was a market advantage to hand plucked GL which was typically much higher quality GL than machine plucked GL. In contrast, the earlier RA certified estate is increasing its use of MTHs to help address the rising costs of tea production particularly labour costs.

These workers FGDs felt they had benefited from RA certification in numerous ways including:

- the reduced incidence of typhoid, diarrhoea, and malaria as a result of the cleaner environment, camp and water and provision of sufficient toilets. This improved worker health translates to improved worker and company incomes as productivity is higher.
- cleaner houses due to renovation and painting, and the fact the company had used pesticides to kill off the domestic insects.
- more privacy as house renovations mean workers no longer have to share houses.
- improved picking, sorting ,collection and processing of GL.
- fairer treatment of workers, and provision of aprons to pluckers and full PPEs to factory workers.

When asked which aspects of RA they would like to change the male workers FGDs said they would like RA to get involved in: salary negotiations, particularly regarding payment of a daily as opposed to per kg wage to pluckers during the low season and paid off duty time for pluckers; fairer treatment of MTHs; improving the health of pluckers; and training of field workers.

6.2.8. Workers' plans for their children's future

When asked in the focus groups whether they would like their children to work for tea companies, the FGD workers unanimously said, '*No*'. They explained this was because the labour is so intensive and the pay so low. They are using all their resources to educate their children in order that they can find jobs outside the tea estate.

Estate worker discussion

However, during the baseline although the focus group participants said they did not want their children to work on tea estates, the individual case study respondents said they would like their children to work on tea estates but as staff as opposed to pluckers.

Workers saw the future challenges affecting their families as a lack of money to educate their children or to satisfy their basic needs, and lack of employment.

6.3. Impacts on the estates

6.3.1. Estate managers' perspectives on the strengths and flaws of RA certification

The overall strengths and flaws of RA certification from the estate companies' managers' perspectives are:

Strengths of RA certification	Flaws of RA certification
• It has increased their market, and certified products are rated as prime products. Increased publicity due to RA listing who is certified. • It has brought about a better and safer environment • It has introduced more professionalism in documenting and record keeping which has helped them become more professional managers • It has helped them put systems in place on the ground, although this has been expensive [RA 2] • Since selling RA certified tea they have enjoyed an additional payment of ~0.075USD$/kg made tea on all their RA sales (due to case by case negotiations between the Chairperson and the Buyers). This may not continue as more tea producers become RA certified. This additional payment helps to meet the certification costs, has increased the Company's profits and the bonus amount paid to outgrowers. [RA 1] • It has increased worker awareness about conservation of the ecosystem, reduced hunting, reduced felling of trees, increased indigenous tree planting, cleaner air.	• Reduced GL volume due to selective plucking leads to higher costs • Increased costs due to RA products being processed separately • RA premium promised by buyer but not given [RA 1] • Workers have lost their overtime income, due to RA regulations of 2hrs overtime per day • Increased management workload to set up and maintain all the management systems and provide documented evidence • Time consuming communication process with local community regarding what RA means [RA 2] • Limited technical expertise to assist in relation to some of the standards, e.g. soil conservation knowledge etc. It would be helpful if an RA officer could come and assist on deciphering the RA standards for their specific situation and suggesting necessary changes to practice as opposed to just coming to audit the estate [RA 2]

The workers FGDs participants suggested that their companies benefitted from RA certification as: they could sell more made tea at higher prices, and the RA certification attracted new buyers; the associated improved worker health meant reduced expenses on medicines and increased productivity; no need to pay overtime costs. These workers felt that RA certification brought changes to the way the tea was traded as buyers now want to visit the estate and see if the field and factory environments are clean and they check whether workers have water to wash their hands. The RA certification label is believed to have attracted new buyers as well.

6.3.1.1. Complexity of attributing change to certification as opposed to other factors: Change is often driven by several different factors, and it can therefore be complex to disentangle which changes the RA certification is playing a role in, and what other drivers of change exist. Workers often associate all changes which occur around the time of certification with the certification body, when some may be due to changes in national or other legislation. Probing this issue revealed that while some changes are due to national legislation changes, the implementation of these changes is typically only enforced by the certification process and its regular audits, which explains workers' confusion. Certification bodies are therefore enhancing the following of the law by companies. Examples included implementation of the Government's maternity and paternity leave laws, health and safety legislation, and NEMA promoted environmental practices.

6.3.2. Market access

Managers at both estates said their RA certification status had widened their market access, particularly as regards the most profitable direct overseas sales markets to Europe and in attracting new buyers. The 2010 RA certified estate explained that in the financial year 2010 prior to RA certification they sold just 4% of their made tea through direct overseas sales, while in the financial year 2011 after they had become RA certified they sold 30% of their made tea through direct

overseas sales, and these buyers specifically wanted RA certified made tea. The managers explained that direct overseas sales of made tea typically have sales prices about USD$0.15 to 0.3/kg above the Mombasa auction sales price. Managers at the earlier RA certified estate explained that on average they managed to obtain an additional payment of USD$0.075/kg made tea from buyers wanting their RA certified made tea.

The 2010 RA certified estate also explained that many of their buyers were keen for them to get all the outgrowers RA certified as the outgrowers tea clones add a better flavour, the estate is currently having to process outgrowers and estate GL separately and so is also keen to help their outgrowers become RA certified.

During the baseline survey, the dual certified (FT&RA) estate managers complained about the lack of growth in the market for FT declared made tea.

6.3.3. GL Quality

The earlier RA certified estate managers explained that the RA traceability requirements has helped them to maintain product consistency, and they can check the quality standards of each of their sorting GL reception workers at the factory, and trace a bag of GL back to the field team or plucker. They have been trying to increase the % of their estate plucked GL which meets the leaf quality acceptance criteria. The 2010 RA certified estate managers, perceive the increased market price of their made tea as partly related to improved quality which RA has influenced. They have also seen that proper handling and transport improves quality of the end products which adds value and RA certification has helped them focus on that through highlighting tea production and processing training areas and through having better management monitoring systems.

The workers in the FGDs explained that RA certification had driven the switch to more frequent plucking rounds (every 7 days instead of every 14 days), which results in younger, softer leaves being plucked, which are easier for the pluckers to pluck and produce a less fibrous made tea. This has been combined with stricter leaf quality criteria. Hygiene at the leaf collection centres has also improved which will influence quality as will more efficient weighing and transporting of GL from field to factory. Introduction of the electronic weighing machines can shorten the amount of time the GL is left at the collection centre. RA certification has also encouraged workers to work hard which improves quality. RA standards mean all foreign matter has to be removed from the GL. When plucking machines are used, a sorter then sorts the GL and removes the insects and snakes as well as non-acceptable leaves and stems before the GL is weighed and taken to the factory. Machine and safety training has also helped improve quality. RA certification has enforced the use of hand washing with soap and drying prior to entering the factory.

Workers in the FGD suggested post harvest management had improved due to RA certification, as the leaf sheds have been improved and now have clean cemented floors, some of them have raised concrete benches. RA certification has helped increase the number of weighing points so pluckers do not have to walk so far with their GL and the weighing is faster and more accurate due to the electronic weighing machines. In the 2010 RA certified estate RA standards led to rain shelters being built in the field to enable pluckers to shelter during thunderstorms. Tractors are used to transport the GL from the weighing points to the factory at the 2010 RA certified estate and a contractor provides the transport at the earlier RA certified estate.

6.3.4. Tea production and sales

6.3.4.1. Tea production: RA certification has promoted improved tea husbandry practices including: more frequent plucking rounds, manual weeding, leaving of the prunings as mulch on the bushes, maintenance of a flat plucking table to maximise yields, better fertiliser placement practices, and reduced fertiliser application times and practices. At the earlier certified RA estate, workers reported that the amount of fertiliser applied to the hand plucked fields was being reduced while the amount applied to the MTH field was being increased. At the 2010 RA certified estate, the

workers described the continued aerial application of some product (they described it as a pesticide which caused the snakes and insects in the tea to die), likely an aerial application of fertiliser. Soil management practices include the planting of flowers along the edge of the tea plots to reduce erosion, creating drainage ditches to prevent soil run off from the tea fields. At the factory RA have influenced the increased use of PPEs and H&S training and as a result accidents have reduced. Additionally the RA factories have invested in sewerage systems for treatment of waste water which used to be previously released into the river.

Plucking machines are being used at the earlier RA certified estate on 24 of the 29 fields which has led to a reduction in the workforce size. One plucking machine operated by 4 people (typically 3 men and a woman) can pluck 500-600kg GL/ day, while the average figure used for hand pluckers is 33.5kg GL/d, although they can pluck double this amount during the peak season. One plucking machine (4 people) can therefore pluck the equivalent GL of 9 to 17 hand pluckers. Machine use is encouraging a trend of masculization of the plucking workforce. However the workers at both estates suggested the plucking machines will be phased out due to the tea bushes drying out after having been cut by them, contamination of the GL with pieces of chameleon and snakes which were in the foliage, and the poor taste of the resulting made tea. At the earlier RA certified estate, the machine operators were said to be so fatigued after using the machine that they no longer had the energy for marital relations with their wives, and that other male workers were taking advantage of this situation. The rumour of plucking machine induced operator impotence and heart problems associated with the vibration of the machine had reached the workers at the 2010 RA certified estate. The earlier RA certified estate had spent a year experimenting with pruning machines but they resulted in the drying up of tea bushes and so their use was stopped.

The current yields from the two estates' tea fields are ~4,900 kg/ha/yr of made tea (~8,526 kg/acre/yr of GL at a conversion rate of 0.23) for the earlier RA certified estate and 4,000 kg/ha/ yr of made tea (~6,956 kg/acre/yr of GL at a conversion rate of 0.23) for the 2010 RA certified estate. Workers in the FGD said GL yields had increased due to the RA promoted practices particularly of increased plucking frequency and lower plucking tables. Management at the earlier RA certified estate said they were not aware of any yield impacts from certification, while the 2010 RA estate said their GL yields had improved (2009 data was 3,800kg/ha/yr made tea and 2011 was 4,000kg/ha/yr) which they linked to better agricultural practices some of which are promoted by RA.

The earlier RA certified estate managers explained that their production and sales figures and costs were confidential, and that 55% of the GL they process comes from outgrowers and that although they had initially found it expensive to separate their RA certified and their outgrowers non-certified GL and made tea, they have now seen the benefits of these traceability systems. The 2010 RA certified estate explained that it sold 9,042,281 kg/yr of made tea in the financial year 2011, 67% of which was made from GL grown in their own tea fields and 33% from outgrowers GL.

The 2010 RA certified estate explained that for the 2011 FY the cost of producing, plucking and delivering GL to the factory was 53Ksh/kg made tea, and the processing, packing and transport costs were a further 75Ksh/kg made tea, bringing the total to 128Ksh/kg made tea (USD$1.44/kg). The managers saw the opportunity for reducing the costs of production through increasing the efficiency of the factory machinery.

6.3.4.2. Tea sales: Both estates currently sell about 30% of their made tea via direct sales overseas (DSO) and 70% through the Mombasa Auction (MSA) and KETEPA and factory door sales. The DSO buyers are mainly from the UK and include Lipton, Tetleys, Betty Taylors of Harrogate, Keith Spicer, James Finlays, Twinings, and Thompson Lloyd & Ewart. One Russian and one Chinese DSO buyer were also mentioned. It is notable that DSO sales have gone up from 4% in 2010 to 30% in 2011 for the 2010 RA certified estate, due to it becoming RA certified and then attracting these additional DSO purchases.

The 2011 average made tea sales price reported by the earlier RA certified estate was USD$2.50/kg, which was higher than that of the more recently RA certified estate's average 2011 price of USD$2.23/kg, which had increased from USD$1.89/kg in 2009 and USD$1.37/kg in 2007. The managers felt this increasing price trend was partly due to the improved GL and made tea quality which has been driven by both RA and market demand.

The earlier RA certified estate sold 30% of its made tea as RA declared made tea in 2011 (note this RA declared tea obtains an additional payment of ~0.075 USD$/kg), and the 2010 RA certified estate sold 12% (note this usually obtains an additional payment of 0.15 to 0.3 USD$/kg above the Mombasa auction (MSA) price). The 2010 RA certified estate managers hope that by certifying their outgrowers it will increase their market as their buyers want the estate tea mixed with their outgrowers tea but want it all to be RA certified. This is why the company is employing an extension officer to help the outgrowers obtain certification. Additionally the earlier RA certified estate managers suggest that increased publicity could increase their sales of RA certified tea.

The managers at the 2010 RA certified estate felt that the certification bodies could improve tea production and sales for estates by increasing the communication between the buyers and the clients, and negotiating a premium payment for the RA certified product. They could also provide extensive field extension to help improve RA systems. The managers at the earlier RA certified estate suggested scrapping the certification costs and providing incentives, so that producers do not have to rely on the buyers. They suggested that if the certification bodies were funded by government they could then afford to pay the producers certification costs or even a premium. The managers said RA certified outgrowers have been asking what they are getting from being RA certified and want to see something tangible above the environmental sustainability aspects.

6.3.5. Outgrowers

The earlier RA certified estate has 135 registered outgrowers, 87 of who became RA certified in January 2012, and the other outgrowers are now working towards certification. Additionally this estate has 17 smallholder outgrower groups[20] who sign a joint contract to supply a certain amount of GL to the factory. RA staff reported that RA certified tea outgrowers are now selling GL to four of the multi-national estate companies in Kenya.

None of the outgrowers supplying the 2010 RA certified estate are themselves RA certified, and so their GL has to be marketed and processed separately from the estates own RA certified GL and made tea. All these outgrowers[21] have a minimum of 10 ha of tea (~12,000 bushes) and they view it as necessary to be able to supply 500kg GL/trip to the factory in order for it to be economic for the transport costs etc. About 55% and 30% of the two estates made tea respectively is produced from outgrower GL.

At the earlier RA certified estate outgrowers were paid a total of Ksh21.18/kg GL delivered to the factory during FY2010/2011, with Ksh14.5/kg being the contractual monthly payment amount, and the remainder forming the second payment. At the 2010 RA certified estate, outgrowers receive one payment only and it was Ksh17.5/kg during FY 2010/2011 and 2011/2012. Payments to outgrowers are made each month usually directly into their bank accounts, although they are able to take advances. Estate management explained the reason that these outgrowers supply GL for this price (Note: GL delivered to a KTDA factory was fetching >45Ksh/kg at that time), is because the GL quality criteria at the estates is so much lower than those at the KTDA factories. Due to these lower quality standards estate management explained that pluckers working for these outgrowers can pluck more than double the amount of GL per day than they could if they were delivering to a KTDA factory. The

[20] Their land sizes were not big enough to be able to register as individual outgrowers, so they decided to join together as a group in order to supply sufficient quantities and afford the transport of their GL to the factory.

[21] The term outgrower encompasses a wide range of tea farmer types, from smallholder tea farmers delivering up to 40kg GL per day to weighing sheds built by the estate they supply to large-scale tea farmers with their own pick-ups delivering 1,000-2,000kg GL per day directly to an estate's factory.

earlier RA certified estate managers explained that "*at KTDA, only '2 leaves and a bud' are accepted, while at this estate they accept '2 leaves and a bud' plus any 'soft loose leaf (SLL)', plus '3 leaves and a bud*'". The 2010 RA certified estates explained that in June/July they accept '*banjha*' GL (which is just leaves and no bud even).

The age-old practice of 'hawking' whereby registered outgrowers buy GL from other non-registered tea farmers who urgently need cash, and therefore accept a low price, is officially illegal, but is believed to regularly occur. The earlier RA certified estate are hoping that their registration of smallholder groups of outgrowers is helping to reduce these kind of issues and provide direct access for the smallholders to sell their GL at the estates factories. Double registration, for example at a KTDA factory and as an outgrower to an estate is said to be illegal by the Tea Board of Kenya, however there are incidents where farmers do this.

The estate management explained that many of the outgrowers who now supply their estates used to previously sell GL to KTDA, but in 2006 following changes in some regulations the outgrowers transferred to supplying the estate saying that the quality standards were not as strict as at KTDA. They reported that they had often had to stay overnight in the collection centres at KTDA waiting for the GL to be collected, while at the estates the turnaround time for an outgrower to drive in, have their GL weighed (using the weigh bridge) and recorded is just 40 minutes per vehicle all year round.

Both estates provide their outgrowers with fuel, fertiliser and herbicides on credit, with the payment being deducted at the end of the month. The earlier certified RA estate has an extension officer they employ specifically for working with the outgrowers, who runs trainings in leaf quality, good tea husbandry, use of chemicals and use of PPEs. The other estate is in the process of hiring such an employee.

The earlier RA certified estate trained their 87 now RA certified outgrowers on the RA standards, and selected lead outgrowers who they paid to train others. The estate paid the RA certification costs of the 87 outgrowers. The 2010 RA certified estate does not yet have any RA certified outgrowers, but they are planning that all of their 87 outgrowers will be RA certified by the end of 2013, the extension officer they are hiring will work towards this. At the moment their outgrower GL has to be processed separately from their own estates GL, to meet the RA product separation and traceability criteria. It will be interesting to see whether the estates manage to help all their outgrowers to become RA certified or whether they will mainly focus on helping the larger-scale outgrowers who supply the most GL. At some point they will want to stop processing non-certified GL, which will result in any non-certified outgrowers no longer being able to supply them.

Both estates are currently keen to increase the number of registered outgrowers in order to increase their supply of GL. They are aware that with many new small private tea factories starting in the West of the Rift Valley competition for outgrowers GL is increasing, and price wars are likely. In response to the serious short fall of fuelwood some of the outgrowers are converting to *Eucalyptus* tree production instead.

None of these estates' outgrowers were interviewed during the study. However a group of FT certified outgrowers supplying a different estate were interviewed during the baseline, light monitoring and final survey. The detailed findings of the impacts of FT certification on those outgrowers' livelihoods are reported in section 4.

6.3.6. Worker productivity

RA certification was reported to lead to workers being more enlightened about tea quality, H&S and workers rights and responsibilities, which makes management work easier. The earlier RA certified estate also described certification linked worker productivity increases related to: reduced malaria incidences and reduced sick leave taken.

6.3.7. Costs of certification

Neither estate had been calculating the costs associated with becoming and maintaining their RA certification. Some major costs associated with becoming RA certified include: infrastructure changes, awareness raising, signage, worker training, outgrower training, audits, documenting, waste management systems, showers, constructing chemical stores, marking out the protected areas, and bin partitioning in the factory to help with product traceability. The recurrent costs are management of the systems, auditing and certification and communication systems. This year the earlier RA certified estate is keeping a tally of their RA associated costs so that they can have a separate budget line for it in future. The RA audit and certification costs for the earlier RA certified estate and their outgrowers were USD$13,000/yr in 2011. They try to recover these costs by getting an additional payment from buyers for their RA certified tea.

6.3.8. Networking

The earlier RA certified estate managers felt that certification had improved their relationships with the other tea companies as they have more to talk about now. For example, sharing perspectives on the RA audit problems encountered as regards them not having implemented the reduced overtime rule. Other companies visit them to learn about the process they used for preparing their outgrowers for RA certification. Managers from the 2010 RA certified estate attended an RA organised workshop in Kericho specifically focused on how outgrowers can become certified. They discussed solutions to likely issues that might arise in the process and learnt from the experiences of those estates who had already helped some of their outgrowers become certified.

6.3.9. The Future

6.3.9.1. Future challenges in tea production: Increasing labour, electricity and fuel wood costs are perceived by estate management to be major challenges. As the population increases and agricultural land sizes diminish it becomes increasingly challenging for smallholders to plant renewable trees which they could then sell as fuelwood to estates. Climate change is also a major threat: the earlier RA certified estate was familiar with the recent CIAT Kenya tea scenario report which projects that it will become increasingly difficult to produce tea in the West of the Rift Valley. World tea prices have a typical wavelike cycle, and they are currently at a high, which suggests they will then have to drop. The Tea Board of Kenya is already restricting the expansion of tea areas as they are concerned about the consequences of over investment in tea, followed by a drop in prices.

6.3.9.2. Future changes to tea estates: When the managers were asked to imagine how their tea estate might be different in 2040 to the way it is today, the earlier RA certified estate which already operates 49 of its 61 plucking machines foresaw increased mechanisation in the tea fields and reduced labour turnover. They thought their GL yields would be higher in 2040 due to the new tea clones they have planted being mature by then. However they acknowledged just how weather dependent their yields are, making the future difficult to predict. They also raised the potential implications of land ownership issues, and discussed the possibility that large land areas (such as the tea estates) are subdivided in future, or converted back to land ownership by the local population. They were not sure whether the land would then stay under tea. The estates owners might keep the factory, but lease out the land. The 2010 RA certified estate recognised that it would need to have increased its operational efficiency in order to reduce energy costs by 2040, energy requirements might be supplemented by renewable sources such as wind power. Labour costs could only be mitigated through increased automation of factory and field operations which would result in a decreased workforce size. Increased awareness of the health benefits of drinking tea might help boost sales, as will consumption trends in rapidly developing nations such as China.

When the FGD workers were asked the same question, they explained that the workforce would be mainly employed on short–term contracts as opposed to in permanent positions. The current workers will be struggling by then as they will be retired without an income. Education will be needed in order to get employment and all tea estate workers will have at least O level

qualifications. The earlier RA certified estate's workers felt that all operations in the field and factory would be automated by 2040 and significantly smaller than at present. The estate might have increased its diversification into other business activities such as geranium farming. The women at the 2010 RA certified estate felt that their children would be educated by then and some would be employed as managers, clerks and RA representatives, only those children who did not get educated would become pluckers.

6.4. Impacts on the environment

6.4.1. Social and environmental management systems

The earlier RA certified estate has recently hired an Environment and Health and Safety officer, and there is monthly reporting on both these aspects and the reports are sent all the way up to the chairperson. They have an environmental management system with an annual and a five year plan. The 2010 RA certified estate has done social and environmental management awareness training (tree planting, avoidance of farming in riparian strips, water conservation, social welfare, fair treatment of workers) on all its 4 estate areas, and aims to achieve a cleaner environment and more sustainable operations. They keep very careful records of where all their tea is coming from, and process their RA and non RA certified tea separately with different trademarks. The separate processing, packaging and marketing of the certified and the non-certified GL is costly, and along with market forces is motivating both estates to ensure they help all their outgrowers become certified so that all their made tea can be RA certified within two years.

6.4.2. Ecosystem conservation

Managers at both estates felt that RA certification has had a major impact on their ecosystems, particularly with regards to their planting of indigenous tree species along the riparian strips, and their provision of indigenous tree seedlings to their neighbours in order to encourage them to do the same. The protected areas are fenced to prevent any grazing in them, and most of the riparian strip now has vegetation of ~10ft high. The 2010 RA certified estate has also put in hedges to segregate the tea production areas and housing areas due to RA.

6.4.3. Wildlife protection

Managers at both estates explained that due to RA certification they now have no hunting or fishing policies in order to protect the wildlife (the companies no longer offer a bounty payment for dead snakes). The earlier certified RA estate explained that together with local elders they had made a wildlife census of all the birds and animals on their land and had linked the local names to the scientific/common English names. They discussed the pest problem they had with mole rats burrowing underground and eating the roots of their tea bushes (mole rats are also a serious pest of other agricultural crops such as sweetpotato), and their pest management strategy relies upon an employee whose job is to catch and kill at least 10 mole rats per day. The estates have designated land for wildlife protection as per the RA guidelines.

6.4.4. Water conservation

The earlier RA certified estate now meters all the water they use from the dam, and tracks how much each section of their company uses and how they can reduce this use. They have installed waste water treatment plants, so the effluent is treated using a biosystem, and samples are taken quarterly and tested in a lab in Nairobi. Any water discharged to streams is KEBS and National Environment Management Agency (NEMA) compliant. There is a main septic tank and one major sewage treatment. The 2010 RA certified estate managers explained how they have been: planting trees along water catchment areas; protecting all their water catchment areas; educating workers on rational use of water; harvesting rainwater from the roofs of the managers' houses. As per RA requirements, they have also invested in wastewater treatment systems as previously their factory wastewater used to be released directly into the river. They are also checking phosphate, nitrate and

pH levels of nearby river before they apply fertilizer and then 3 weeks afterwards to see whether it has run into the rivers, there are certain areas where no fertilizer has been applied in order to ensure it does not run off the fields into the rivers. Domestic water supply throughout the estate is also checked to ensure it meets quality standards. Such actions bring positive health benefits for the workers, the local community and the environment.

Water course running through tea field

During the baseline survey, the dual (FT&RA) certified estate managers explained that due to certification they had installed a special waste water disposal system which involved the construction of lagoons and drainage systems for capturing waste waters which were the biodegraded. They also reported practising good soil erosion and agricultural methods in order not to pollute the water sources. A key informant explained that the wastewater treatment system had reduced pollution and diseases, as previously the water used to be left to flow everywhere.

6.4.5. Integrated crop management

There are no serious economic pests or diseases of tea in Kenya. Both estates have reduced their use of herbicides, and now just spot treat persistent weeds such as Couch grass with Round Up. Other weeding is done manually. Composted weeds are used as mulch. The earlier RA certified estate has insectocutors inside their factories to trap insects, and heat-treat the wooden pallets that the sacks of made tea are stacked on prior to them being loaded into the ship. Since becoming ISO 22000 certified they use only chemicals from the approved list to treat cockroaches etc in workers houses - Rentokil is contracted for this work. A quarterly inspection of all chemicals inside the factory's chemical store is done to ensure there are no leakages or spills.

6.4.6. Soil management and conservation

The earlier certified RA estate monitors the level of their dam to check on the siltation levels, and has increased the planting of cuscus grass which has a root system that helps hold the soil in place. They have also installed drains along the tea paths to reduce soil erosion and run off and check their roads for red soil which is evidence of run off. The 2010 RA certified estate has since certification become more conscientious in observing good agricultural practices (e.g. soil conservation through planting small flowers along the edges of tea fields), using terraces to reduce the speed of soil erosion, monitoring the soil fertility by conducting an analysis on organic matter content and tracking the pH, using small check dams, and mainly having grass roads as opposed to murram/clay gravel roads.

Flowers at edges of tea fields to reduce soil erosion

6.4.7. Integrated waste management

Since becoming RA certified, both estates have started to carefully collect, separate (plastics, glass and biodegradable) and dispose of their waste. NEMA certified contractors have to be hired to collect the hazardous (glass, asbestos, biomedical, expired chemicals) and plastic waste, they are not always very efficient. In the living camps workers are supposed to separate their waste. Biodegradable waste is composted. However, the earlier RA certified estate reported that workers are struggling to separate their waste correctly at camp level, so they were planning to introduce the waste separation process at house level to increase understanding.

6.4.8. Energy utilisation

Fuelwood for tea processing

Tea processing is highly energy intensive, requiring 4-18kWh/kg of made tea, which compares to 6.3 kWh/kg of steel (SOMO, 2008). The earlier RA certified estate managers explained that nearly all their fuelwood is sourced from *Eucalyptus* grown on their own estate, supplemented by trees they buy from their RA certified outgrowers and by-products they purchase from pole makers. They are trying to shorten the duration between felling and planting their Eucalyptus, and have done a detailed survey of fuelwood future availability. They are currently almost 100% self sufficient in fuel wood but want to increase the area under gum trees on one of their estates. They are also trying to increase the fuelwood efficiency (e.g. by installing a more efficient boiler, and recirculating the hot gases from the driers into the first zone to increase efficiency by 14%). They are also practicing more efficient drying of their fuelwood - they already had wood sheds but are trying to ensure their fuelwood is drier so that it has higher calorific value. They are monitoring their energy use carefully and trying to make all their machines more energy efficient, and have installed a variable speed drive for the huge fans to slow down the motor and use less power. They are preheating the make-up water for the boiler using the chimney exhaust gases in order to increase efficiency. Moreover, they are using natural lighting by having translucent sheets in the factory roof to let in sunlight. They want to experiment with solar for water heating in management houses and for lighting. They are participating in energy competitions run by the Energy Regulatory Commission and are working together with Kenyan Association of Manufacturers. They tried using their own timber to generate electricity and heat for their driers (COGEN), but it did not take off. A hydro-electric power survey done under the Greening the Tea Sector project, found hydro was unlikely to work in their situation.

The 2010 RA certified estate only uses gum trees from renewable sources as fuel wood, and these come from their own woodlots and from tree outgrowers, who are cleared by the forest department and certified. They try to use as much natural light as possible in the factory with translucent roofing sheets, and monitor their KPLC usage each month. They have external consultants who do regular energy audits and provide suggestions such as how to make their boilers more efficient. They have also been doing machinery upgrading to maintain efficiency.

When asked whether they were accessing any carbon funds, the managers at both estates explained that they were planning to try and access carbon credits. The Tea Research Foundation was pushing for tea to be reclassified as a tree and not a shrub to enable tea areas to become eligible to benefit from tree carbon credits. The managers were not aware of soil carbon sequestration opportunities.

More sustainable and efficient fuelwood usage aims to help protect natural forests and resources near the estates and the ecosystem services that they provide and on which local livelihoods depend.

6.5. Wider impacts

6.5.1. Protection of water and natural resources

Due to RA certification requirements both estates have protected their water catchment areas, which benefits all those using and relying upon these water sources. Additionally due to RA certification, both estates also carefully monitor whether the fertiliser they apply on their tea is running off into any water ways.

In recent meetings, the local chiefs around the 2010 RA certified estate had been raising awareness about RA standards amongst their communities and particularly with regards to the need for the community to respect indigenous trees. The RA certified estates are supplying their neighbours with indigenous and *Eucalyptus* sp. tree seedlings to help increase tree planting and future fuelwood supplies.

6.5.2. Spread of certification

The earlier RA certified estate felt their own achievement of RA certification had led to their neighbouring estate deciding to become certified. These managers believe that if the RA certification trend continues in the UK market and spreads to Australia, then RA certification will continue to spread as it is market driven. These managers explained that they felt FT certification was much harder to achieve than RA certification, particularly as regards to meeting the specified working conditions. They explained that they have a market intelligence person in the UK who will help them decide whether they should go for FT certification as well.

Workers on the certified estates explained that due to the certification driven improvements in their living and working conditions, workers on nearby non-certified estates had also started demanding repairs and improvements to their housing. Decent living conditions are becoming increasingly important criteria in attracting competent workers to estates.

6.5.3. Influencing labour management practices of outgrowers and contractors

RA certified outgrowers have to treat their own hired pluckers fairly, which has helped improve those workers' conditions.

Contractors supplying RA certified estates have to abide by many of the RA standards, such as only using approved chemicals, ensuring their employees use PPEs, sustainable fuel wood, and no use of child labour etc. Estate companies are likely to outsource more and more activities to small private contractors for tasks such as weeding, slashing, road repairs, application of herbicides, GL transport. The KPAWU officers are worried about this trend as they say contractors often pay their workers less than the minimum wage. Currently contractors' workers cannot be represented by the Union, and are scared of joining a Union in case it causes them to lose their job. The monitoring and auditing of these contractors' labour practices will not be straightforward.

6.5.4. Community relations

As part of the estate companies CSR activities (which existed prior to RA certification, but have been scaled up as a result of RA certification criteria), the bursary schemes to help academically gifted workers' children attend secondary school and higher education have been increased. The earlier RA certified estate had also provided financial assistance to a local University and supplemented teachers' salaries at a local school. District commissioners, police stations and local churches have also been supported. The more recently RA certified estate had worked with the district education officer to improve the teaching at their four local primary schools, which was already yielding positive results for pupils. This estate had also provided tree seedlings (indigenous and Eucalyptus) to local communities and schools and was working with the local chiefs on environmental awareness raising.

Local communities benefit from accessing the hospital at the dual certified estate and the medical services at the RA estates.

All RA certified estates are expected to keep a register of complaints, which can then be used to identify and help prevent any negative impacts of their actions on the community and environment. However, such a system requires the community to be informed and empowered enough to raise complaints. Despite workers and key informants concerns regarding the impacts of mechanisation on local job prospects and on workers' health, management at the estate which uses MTHs said no complaints regards this had appeared in the register of complaints.

7. Discussion and conclusions regarding certification impacts on Kenyan tea estate workers

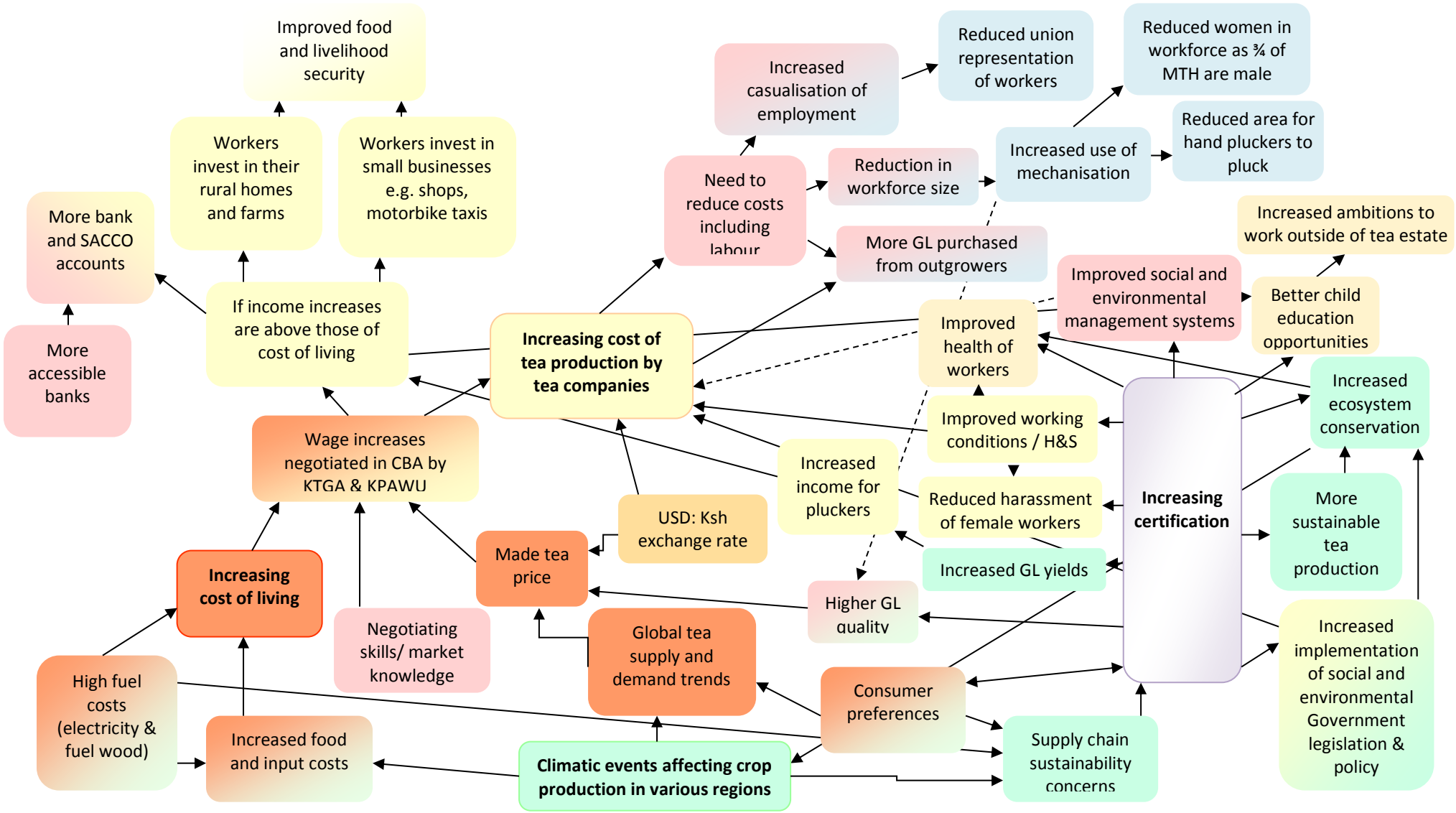
The livelihoods of estate workers and the activities of the estates are parts of complex systems influenced by numerous interacting factors, of which certification standards such as RA are just one (see Fig. 7.1). Isolating the impacts of just one of these drivers of change is not straightforward. The spread of certification has also made comparisons of our quantitative data more difficult – comparisons that were established to try and control for some of the contextual factors which influence change. However, it is important to try and understand from different stakeholders' perspectives what outcomes and impacts (both positive and negative) these voluntary standards are having and how the benefits might be increased and outstanding issues addressed.

Due to the fact that the non-certified 'planned counterfactual' estate became RA certified within a few months of this study starting, it was not surprising that few significant differences were found between the questionnaire responses of the estate workers on the estate which achieved RA certification in 2009 and the one that achieved RA certification in 2010. Given the strong market push for RA certification in Kenya, other non-certified estates that we worked with in 2011 were also well advanced in their RA certification preparations. However, whilst the comparison between certified and non-certified estates was challenged, the survey (and particularly all the qualitative interviews with different stakeholders) provided plenty of descriptions of changes which estate managers and workers felt had occurred as a result of RA certification, and these have been very useful for identifying the impacts of voluntary standards in the Kenyan tea estate sector.

This study reveals that RA certification in the Kenyan tea estate sector is having some important sustainability and socio-economic impacts, such as: a cleaner and healthier environment following the treatment of factory waste water as opposed to it being released directly into the rivers; increased GL yields and quality (due to more frequent plucking rounds, use of improved agricultural practices such as mulching with prunings and better soil erosion measures) which can increase pluckers incomes; stricter GL plucking criteria which can reduce pluckers incomes as less of the tea field is of acceptable quality for plucking; increased field and factory hygiene and facilities which can improve GL and made tea quality, price and sales thus improving the estates reputation and profits and job security of the workforce; the introduction of H&S committees, risk assessments, use of PPEs in factories which have helped reduce workers' occupational risks and accidents; the more thorough drying of fuelwood to increase its efficiency during burning and which thus reduces the quantity of fuelwood used; the protection of riparian strips and water courses which support local livelihoods; the renovation and repair of workers houses and implementation of paid sick leave and paternity leave which improve workers' morale and well-being; the improvement of childcare and educational services for workers' children which improve long-term health and livelihood options; and other changes described in the findings section 6 above. There is little doubt these are positive socio-ecological developments for the workers, the producing companies, the sustainability of the global tea system, and the producing country.

However, it is not clear why it has taken external factors such as RA certification to push through the implementation of changes which are reportedly so significantly increasing the operating efficiencies and sustainability of these tea estate companies' businesses - companies which have been operating in the Kenyan tea sector for more than 60 years. While organisational inertia and resistance to change no doubt play a role, the lack of prior action naturally causes one to wonder about the credibility, ownership and depth of these companies' sustainability strategies. The importance of the role of consumers and buyers in driving current sustainability changes through the use of market forces is very evident. It will be necessary for these more sustainable practices to become embedded in corporate culture so that they will be retained even as new tea consumer markets expand which may not demand certification and that compete with these sophisticated consumer markets that do.

Figure 7.1. Overview of various interconnected drivers of change in the Kenyan tea estate sector (⟶= direct relationship,- - - -▶ = opposite relationship)



The external and regular monitoring/ auditing aspect of the standards seems to be a crucial aspect for the actual implementation of these sustainability changes – many of which have officially been government laws and policies for some years, but have not been enforced or implemented. In this situation it would appear that the mainstreaming of sustainability certification standards such as RA, whether market driven or more 'voluntarily' taken up, carries many positive outcomes and impacts, which are likely to continue to have positive impacts over time. However the degree of change necessary in different estate companies will be affected by how close to RA compliance the company already was prior to starting to work towards RA certification.

RA staff explained that the most common non-compliance issues in the estate sector were waste water management, waste management and social issues e.g. the CBA not being honoured (typically in the smaller estates).

Building on earlier 'hypothetical theories of change' work (Nelson and Martin, 2011), details of the actual changes and pathways of impacts found on Kenyan tea estates are summarised in Figure 7.2, and are given in detail in a table in Appendix 4. This table shows for each certification related outcome which occurred on Kenyan tea estates, what the actual inputs and outputs that lead to it are and what the poverty impacts emanating from it. Not all the outcomes are positive for the estate or its workers, and in Figure 7.2 the negative outcomes are shown in italics. In the table shown in Appendix 2, in order to provide some guidance as to the scale and importance of the different outcomes the author has developed a basic scoring systems based on a synthesis of stakeholders' perspectives This scoring system identifies important positive outcomes as ☺☺ or ☺☺☺, positive outcomes which either do not affect many people or are not yet having large impacts ☺, while negative outcomes are shown as ☹, with very negative outcomes affecting many people or having a very negative effect shown as ☹☹ or ☹☹☹.

This study has explored the contribution of standards and certification systems to reducing poverty and improving the livelihoods of tea estate workers in Kenya, a summary of findings against key poverty and sustainable livelihood indicators are shown in Table 7.1. Due to the dual (FT&RA) certified estate dropping out of the study following the baseline, the findings are dominated by the experiences of workers, managers and key informants of RA certified tea estates.

However caution should be exercised as these linkages are not always direct and outcomes are often a result of multiple simultaneously interacting factors. The multiple and complex drivers of change affecting the socio-ecological environments of Kenyan tea estates are shown in Figure 7.1. It must be noted that while the study was as rigorous as possible in triangulating information between different stakeholder groups, physical analysis of before and after yield records or environmental impact assessments were not undertaken within the study. Validation of the landscape level environmental benefits of sustainability practices is also not an easy task. Monitoring of uptake of practices is usually easier than monitoring the impacts, and informed assumptions are typically used to link practices with potential impacts. These kinds of assumptions are not unique to standards and certification systems, and pertain to many public and private policy instruments being employed in the pursuit of sustainability (SCSKASC, 2012), as evidenced in the payment for ecosystems (PES) debate. A shift towards measuring some performance as well as practices and activities would make evaluating the contribution of standards and certification systems to sustainability less ambiguous, but would have significant cost implications.

This study aimed to work with more tea estates (as was done with the smallholder tea companies) in order to increase the relevance and coverage of its findings. However, it was notable that many large-scale estates in Kenya including those who were FT or RA certified were not open to participating. Whilst the issue of 'monitoring fatigue' amongst suppliers may play a role in this decision (Locke *et al*., 2007), it also has to be recognised that non-participation renders it impossible to independently assess what outcomes and impacts (if any) are occurring on those estates as a result of certification.

Figure 7.2. Actual impact pathway for Rainforest Alliance certified tea estates in Kenya

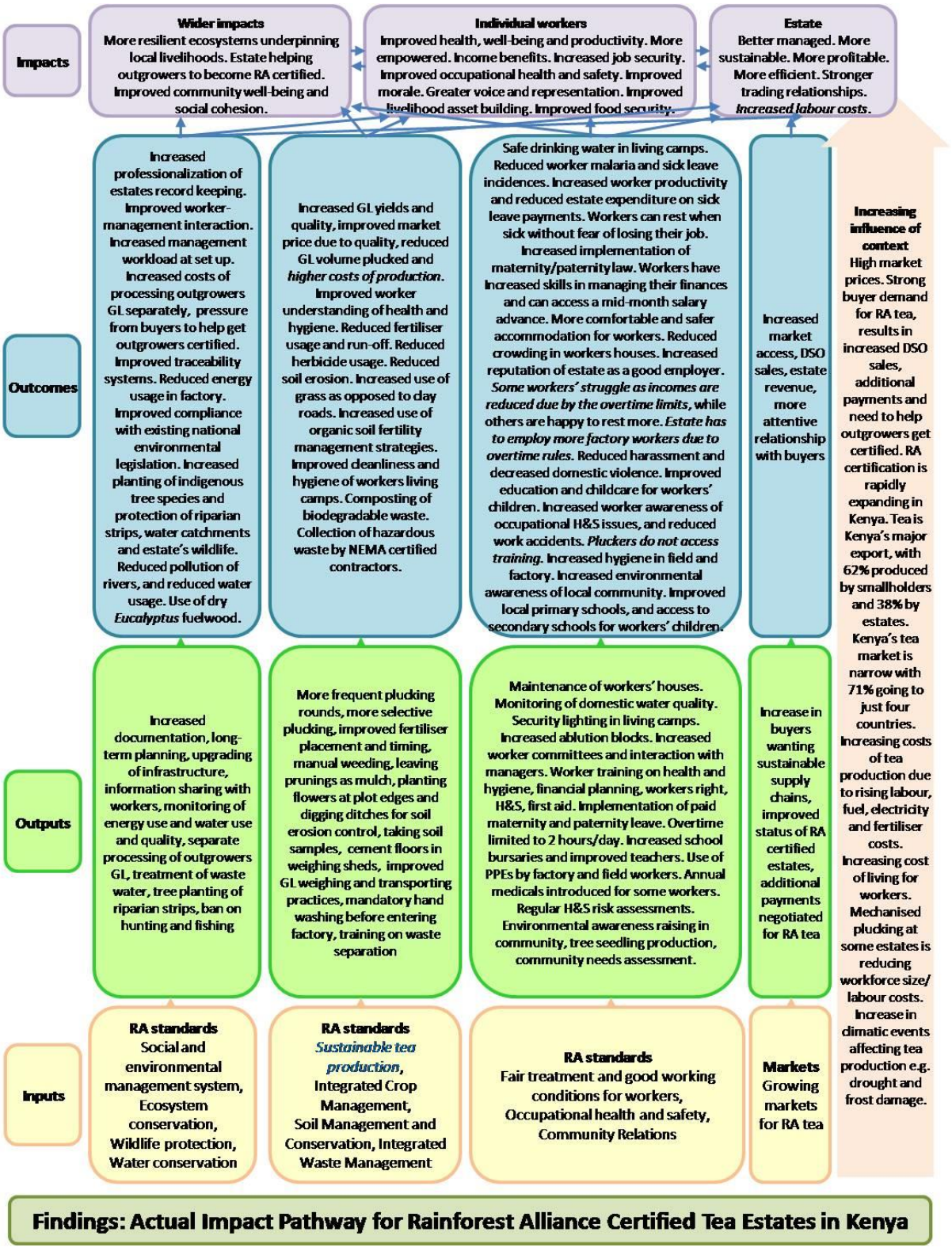


Table 7.1. Summary of findings against key research questions on poverty impacts of certification in the tea estate sector in Kenya

IMPACT INDICATORS	Overall impact assessment of certification and other contextual drivers of change (organisational capacities, mechanisation, market conditions, value chain factors, institutions and policies in a territory, partnership interdependencies etc.)
Individual workers	
Income impacts	• The majority of tea estate workers rely on their tea estate income, which typically contributes about 75% of their total household's income. Male workers explained that their wives, who usually stay in their rural homes, earn additional income from sale of crops such as maize, from livestock farming, and from casual labouring opportunities including tea plucking on smallholder tea farms. Some workers own or rent tea farms and sell GL to a KTDA factory. Workers often use their tea estate wages to invest in their: children's education, food, rural homes and farms, for leasing land or buying livestock, clothing, paying for medical services, or for purchasing motorbikes to operate as taxis to earn additional income. Some workers also engage in income earning activities such as small shops selling salt, soap and vegetables or sales of small dried fish, eggs or milk. • Pluckers are paid using a per kg rate (of Ksh9.28/kg GL in Dec 2011) and their income is dependent on the amount of GL plucked and fluctuates with the season as well as the workers strength and the productivity of the field to which the worker is assigned. Managers explained that although RA certification has resulted in the use of agricultural practices which have contributed to increased GL yields (e.g. more frequent plucking round, improved fertiliser application, mulching), the stricter plucking quality criteria lead to reduced GL volumes being plucked. In addition to the certification influenced practices, the estates have also been planting new higher yielding tea clones which should bring yield benefits as they reach maturity. RA certified workers confirmed that more frequent plucking rounds meant they could pluck more GL and thus earn more, although they also explained that as the cost of living has increased so significantly they are not necessarily better off than a few years ago despite CBA negotiated per kg plucking rate rises and being able to pluck more kgs per day. During the baseline study, FT certified estate workers said the stricter leaf quality standards had reduced the number of kgs they could pluck per day and thus their incomes. However, workers also mentioned that the higher sales prices earned due to the higher quality GL, influence the CBA negotiations and the plucking and wage rate increases subsequently agreed upon. • Workers estimated that their annual tea income was Ksh100,000 (USD$1,125) in 2011, with workers at the earlier RA estate earning significantly more (~Ksh110,000 per annum) than those at the more recently RA certified estate (~Ksh89,000 per annum). The increase in workers income during the last two years had also been significantly greater at the earlier RA certified estate. As most of the respondents were pluckers and were earning the same per kg GL rates at the two estates, this suggests the pluckers at the earlier RA certified estate pluck more kgs of GL. • The introduction of mechanised plucking has had negative impacts on the number of manual pluckers employed, on the proportion of women employed as plucking labour, and also because it is usually accompanied by decisions to reserve some fields for manual plucking while the majority of fields are then machine plucked. On one estate the number of fields being manually plucked had reduced from 29 to five, and as a result the manual pluckers said this restriction had reduced the amount of GL they could pluck per day. This increase in mechanised tea harvesting was not attributed to certification by those interviewed in the study, but there is a possibility that the social labour costs (beyond basic wages) could exacerbate this trend on some certified estates. • Other types of workers on the tea estates (e.g. general work, maintenance,

	factory workers, cleaners, accounts, guards, supervisors) are paid using a daily rate and have a constant income throughout the year. However, the reduction in overtime hours allowed as a result of RA certification standards has made many of the jobs paid using a daily rate much less attractive to workers. Additionally, those workers who had taken out loans based on their typical wage plus overtime incomes are now struggling to repay these loans as their overtime income has reduced. • None of the workers felt their tea incomes covered their basic needs, the other income activities mentioned above supplement their tea incomes. January is the month during which they typically have to borrow money from the estate, or SACCO or friends in order to cover school fees and planting inputs. • In addition to the income benefits associated with the certification-influenced more frequent plucking rounds, some workers had also improved their household budget management through RA associated training. • Managers felt that the perceived status of tea estate work was increasing due to increased per kg GL plucking rates which meant that pluckers typically earned as much as teachers and in peak GL months could earn a lot more. Managers felt that the level of workers' living and working conditions were becoming increasingly important in attracting capable workers. Although the reduction in overtime income due to certification standard regulations was in some cases leading some workers on daily wages to leave their jobs. While male workers felt the surrounding population had a better standard of living than them due to being free to diversify and spend more time on their livelihood activities, in contrast female workers felt they were better off than the surrounding population as they could dress better than them, better educate their children, access loans more easily, were healthier and were often caretakers of members of the surrounding population.
Income security	• Workers wages are negotiated in a collective bargaining agreement (CBA) between the Kenyan Tea Growers Association (KTGA) and the Kenyan Plantation Agricultural Workers Union (KPAWU) every two years, and have been increasing by about 10% per year recently. Plucking rates increased from Ksh7.67/kg GL in Dec 2009 to Ksh9.28/kg GL in Dec 2011 following strong union negotiations and given the increasing cost of living and current high market price of tea. • Pluckers' incomes are influenced by the amount of GL available as they are paid per kg, they are therefore highly weather dependent. Long dry spells or frost damage which reduce the amount of GL available for plucking, have serious implications for pluckers' incomes. During the low GL season there is limited GL to pluck and therefore pluckers pluck fewer kilos (and plucking is often reduced to just 3 days per week instead of 6) and their incomes are reduced. • Pluckers may be working as permanent or seasonal pluckers. If seasonal they may work on a series of short (≤6 month) contracts for many years, but with no security that a subsequent contract will be issued. • Certification is said by some managers to have contributed to increased GL yields through the introduction of improved agricultural practices and more frequent plucking rounds, more sustainable crop management practices should result in more secure incomes for workers in the long-term. Workers say the more frequent plucking rounds enable them to pluck larger quantities of GL and earn more, however where the plucking quality criteria have become much stricter due to certification standards this reduces the volume of GL that can be plucked. • The strict overtime limits (2 hours per day) associated with certification do not directly affect pluckers as they are paid per kg and generally determine their own hours to maximise their plucking returns, although supervisors may make them stay longer in the field in order to qualify for the supervisor to qualify for overtime payments. Guards, office and factory workers have been most affected by the overtime limits, and some are now struggling to repay loans which they took out based on their typical wages plus overtime incomes prior to the

	overtime limits being instituted. • While factory workers mentioned having received training from RA on livelihood diversification strategies, they say they currently lack time to put the learning into practice. Pluckers and field workers are requesting training to help them diversify their livelihoods. Female pluckers had found RA associated training on 'better planning and use of their incomes' very helpful. • The increasing trend of mechanical tea harvester (MTH) use on some estates is leading to reduced workforce size and particularly reduced numbers of manual pluckers. It is also resulting in reduced employment opportunities for local women as MTH teams are typically composed of 3 men and 1 woman. MTH introduction has led to a significant reduction in the number of tea fields being plucked manually, and remaining manual pluckers say this has reduced the GL daily amounts they can pluck as the allocated fields are less productive. This increase in mechanised tea harvesting was not attributed to certification by those interviewed in the study, but there is a possibility that the social labour costs (beyond basic wages) could exacerbate this trend on some certified estates. • If workers take out loans, the estate managers are involved in approving the loan (even if issued by the SACCO) in order to help ensure repayment plans are realistic, and to help prevent workers from being left with insufficient subsistence funds. This practice has increased in recent years due to awareness raising on it during the certification process.
Food security	• Tea estate workers reported eating about two meals per day in the short and long rains and during the dry season. The number of meals eaten per day had increased significantly more during the long rains and dry season in the last two years at the earlier RA certified estate than at the more recently RA certified estate. • In general tea estate workers were not dissatisfied with the quantity or quality of food they eat, however a greater increase in satisfaction with the quantity of food consumed had occurred at the earlier RA certified estate during the last two years than at the more recently certified estate. • Many workers bring some food back to the estate from their rural farms in order to reduce their food expenditure. • In bad years when there are food shortages, the estates provide their workers with maize and then later deduct the cost of this from their wages. This support existed prior to certification.
Quality of life and wellbeing	• Environmental protection activities (particularly those related to the rivers, river banks, forests and springs, and estates waste systems) are said by workers to have improved the quality of the surrounding environment [RA]. • RA driven investments in occupational health and safety, workers housing, children's education, childcare and worker training have also improved workers health and quality of life.
Livelihood security (income sources, food access/availability, livelihood opportunities)	• Estate workers are extremely dependent on their tea estate income. • While many of them also have homes and farms in rural areas where their spouses stay, and the sale of crops and livestock from these farms contributes to their households livelihoods, their tea estate income contributes about 75% of their household income. • A few workers run small businesses at the estate such as small shops, motorbike taxis. • Male workers envied the surrounding population who were able to invest time in their own farming activities. • All the workers said that if they lost their tea estate job they would rely on their farming activities. • None of the workers wanted their children to work on tea estates, as the work is so laborious and the pay so low. They are investing in educating their children in order that they can find jobs off the tea estate.

Worker empowerment (worker's rights, freedom from discrimination, freedom of labour, freedom of association)	• Due to RA certification estates have implemented training for workers on their rights. One estate hired the Federation of Kenyan Employees (FK) to train the workers on industrial relations and KPAWU to train the workers about their rights to organize, their benefits and the hours they have to work. • Women are now playing a greater role in workers committees, and are now present amongst the estate managers although less numerous than their male colleagues – these changes are due to general mindset changes in Kenya and not just due to awareness raising by certification standards. • Whilst manual pluckers can be male or female, other jobs on the estate have fairly rigid gender norms associated with them, e.g. factory workers, pruners and drivers are typically male. One RA certified estate has been actively trying to increase the number of female factory workers it employs since becoming RA certified but due to their child and house care responsibilities and personal security issues women only work the day shift of the three factory shifts. • Very few field supervisors are female which has negative implications for the estates with regards to being aware of and addressing issues affecting women workers including promotion. • Wages are determined by the CBA, and are related to tasks and not the gender of the worker. • Managers reported that even prior to RA certification there was no forced labour or child labour on their estates. • About 90% of workers (permanent and seasonal) are voluntarily members of the KPAWU, however some workers feel the Union representatives no longer represent their interests and even live in the management areas of the living camps. • There has been very limited interaction between the Union and the certification bodies. • Union officers said the tea estate workforces were shrinking rapidly with casualisation of employment and contracting in of services becoming the norm. The trend of increasing use of seasonal workers has implications for the Union too as seasonal workers only make a monthly payment to KPAWU and not to the Central Organisation of Trade Unions (COTU) as well, permanent workers pay both payments. Contractors cannot currently be KPAWU members. Where contractors are being used they tend to do specific jobs such as pest control or weeding, as opposed to plucking which is done by seasonal or permanent estate workers. • Although KPAWU does not recognise MTH workers because of the labour implications of machines, the MTH workers can pay an agency fee in order to be represented by KPAWU. Union officials said there were 900 MTH operators who are paying this. • Managers at RA certified estates explained that any contractors they use have to meet the RA standard criteria. • Workers and managers felt that due to RA certification employee-employer relations had improved and there was more interaction, and a more open-door management culture had emerged. • Workers organisations include funeral groups, hospital bill groups, savings groups, bursary groups, living camp committee. • Due to RA certification, factory workers now have committees for H&S, food safety, fire-fighting and first aid, while the field workers just have a first aid committee.
Employment terms and conditions	• Both permanent and seasonal workers have contracts, social security contributions are included in all their contracts, and workers get 26 days paid annual leave. • Due to certification requirements workers have to have one rest day after every 6 days of work. Pluckers typically work from 7am to 4pm although as they are paid per kg of GL plucked it is up to them how long they stay for. Due to RA

	certification, factory workers now work an 8 hour shift as opposed to a 12 hour shift, and the estate have had to hire extra factory workers due to this change. • Overtime has been limited to 2 hours per day or 12 hours per week, this had led to problems for some workers as discussed in the income section above. • Despite the existing CBA agreements, estate workers report that certification led to the implementation of 3 months maternity leave, 2 weeks paternity leave, paid sick leave, and lighter duties for nursing mothers. • Certification has also led to major improvements in workers housing, including: repairs, repainting, changing of chimneys to reduce indoor smoke, renovation of houses has also led to reduced crowding in houses as some workers moved to the newly renovated houses, additional washing and toilet facilities have also been built to meet the RA criteria. • RA certification has also led to the provision of jugs of water in the tea fields for pluckers, who were already provided with one cup of porridge each day during plucking. The safety of the drinking water provided in the workers camps is regularly monitored but this was the case even prior to certification.
Occupational health and safety	• Estate managers felt RA certification had driven a lot of occupational health and safety improvements. These included: creation of a Health and Safety Department; H&S training; and quarterly minuted meetings of the new H&S committee; first aid training and provision of first aid kits; fire fighting and exit training, increased fire extinguishers and installation of a fire hydrant system in the factory; starting of annual medicals for chemical sprayers, MTH operators and sifters and sorters; providing the required PPEs (including noise and dust protection) for factory and saw mill workers; improving cleanliness; installing changing and wash rooms for chemical sprayers and giving them training on the use of chemicals; ensuring they follow the WHO guidelines on which chemicals to use; regular inspections and risk assessments. These improvements have decreased the number of accidents in the field and factory. Workers felt more attention had been given to the factory workers than the field workers, although sprayers and MTH teams were provided with PPEs. • Due to RA certification they have also installed roofs on the washrooms in the living camps; increased the number of ablution blocks to the required ratio; put toilet blocks in the tea fields; and installed hand rails around the dams. Increased signage has generated discussions and questions from workers (e.g. related to the need for good hygiene levels when producing tea). • One estate felt that increased health training provided to workers as a result of RA certification requirements for health and hygiene educational programmes, along with the much cleaner environment in the living camps and estates has resulted in reduce incidences of malaria, typhoid and amoeba, and reduced sick leave payments. Managers at the other estate felt RA certification had not affected worker health and that their partnership with health projects had such as APHIA II and Marie Stopes had been influential in their reduced HIV incidence rates. However workers at this same estate say RA certification led to the introduction of PPEs and washing facilities for workers who use chemicals. • Female workers said the increased number of weighing points at the earlier RA certified estate, meant they no longer had to walk so far with the GL they had plucked and so had more energy left to look after their children. • Male and female workers said domestic violence had reduced as a result of workers adopting the RA values on equal rights, prohibition of harassment and alcohol being banned during work. • Improved relationships with managers as a result of RA trainings have made the workplace a less stressful environment for workers • However whilst most workers feel their health has improved in recent years, MTH workers feel theirs has deteriorated due to the nature of MTH work.
Services provided by the estate	*Housing* • Workers explained that prior to the first RA audit major changes had occurred in

	their living camps. These included: installation of external security lighting around the living camps and the driveways to the main road to improved security; basic repair and maintenance of doors and floors; the changing of the chimneys to reduce smoke inside houses; replacement of thatch roofs with aluminium sheets; painting of houses; building of additional washing and toilet facilities; water in the bathrooms; construction of garbage pits and waste containers and regular slashing of grass around the living camps which has improved the cleanliness. At one estate managers explained the reduced workforce size now meant that some living camps had been abandoned and in others they now have a 1 person per living unit ratio only which is appreciated by the workers. The quality of drinking water continues to be monitored but this was happened prior to certification. • At the dual (FT&RA) certified estate some of the FT Premium fund had been invested in bringing the water supply into and closer to workers' houses and upgrading workers housing. • KPAWU officers said that workers housing is generally a big problem in the tea estate sector. They cautioned that although many tea workers' houses now look very beautiful on the outside, this can be a facade with the inside remaining in poor condition, with pot holes in the floors, and many people having to share each hut and cooking inside the hut using firewood which means it gets smoky and there is little privacy. However, during the focus group discussions at these RA certified estates, workers reported improvements in their housing. *Children's education and childcare* • As a result of RA criteria highlighting the need to ensure workers children can access decent education and because of understanding how important their children's education was to maintaining a strong workforce the recently RA certified estate had invested in organising seminars between the district education officer and their primary schools and bringing in new teachers which dramatically increased the pass rates, they had also encouraged parents to get more involved in the school. Both RA certified estates have bursary funds for supporting about 45 of their workforce's brightest children through secondary school; these existed prior to RA certification but have been enlarged as part of their CSR scheme. One of the estates has also been investing in school infrastructure installing a toilet block in a local secondary school. The dual certified (FT&RA) estate had used some of its FT Premium fund for educational bursaries for workers children. • Both RA estates had improved their childcare arrangements as a result of RA certification, with the more recently certified estate hiring new early childhood development personnel and paying others to train. These improved facilities are very important to female workers, who also greatly appreciate the RA certification driven childcare classes being run by their estate's clinic. At the dual certified estate female workers said they felt they had benefited more than men from certification as childcare was their responsibility. • Workers are generally satisfied with the services they receive from their RA certified estates, these services are mainly housing, health care, water, sanitation at work, schooling, and child care.
Training of workers	• Management and workers said RA certification had increased the amount and type of training being offered to workers. Training topics had included RA and ISO certification, tea production and plucking practices, health and safety, fire fighting, HIV/AIDs, hygiene, public relations and family life education. • Pluckers seemed to have attended very few trainings, given they are paid per kg it may make it difficult for them to attend training. • Workers requested further training in the same topics, and also in financial management, livestock keeping (cows and poultry), business skills and planning, tree planting, improved cohesion amongst neighbours, tailoring and sustainable household level agriculture.

Gender relations *(representation of women in official positions, ability to participate in decision-making, change in HH power relations, changes in livelihood and income security)*	• Whilst women are now serving on the worker committees (many of which have been set up as a result of the certification standards), there are still very few female field supervisors or managers on the tea estates. Women are represented on all the FT Joint Body committees as per the FT rules. • The increased presence of women on worker committees together with the more open management-worker relationships which RA certification has encouraged results in women having a greater influence on decisions than in the past. Women's increased access to RA certification driven training also provides more opportunities for their voices to be heard and to influence decisions, although the plucking workforce which is where many of the women are employed seem to have accessed or attended less training that other worker types. • Women participate in decision making on the use of FT Premium funds, and many of the FT Premium fund investments are reported to benefit women and children (e.g. increased length of maternity leave, improved childcare facilities, educational support etc). • Domestic violence was reported by workers to have reduced due to workers also adopting the RA values in their private lives (e.g. equal rights, no harassment, no drinking of alcohol during working hours). While some women workers report that they are expected to hand over their wages to their husband on pay day, others report that there is now increased joint decision making on household expenditure and budgeting. Due to RA certification some of the workers were provided with household level financial management training which they appreciated. • The increasing trend of mechanisation on some tea estates is leading to a reduction in the overall size of the tea estate workforce and to the proportion of women employed, as MTH teams are typically composed of 3 men and 1 woman, with the woman sorting the GL that has been cut.
Estate Organisations	
Management capacity	• Improved management systems due to RA certification standards, particularly with regards to documentation, record keeping and traceability aspects. These have led to improvements in GL quality, worker-management relations, audit preparations, and their environment and energy use. However these investments are costly for the estate, especially when coupled with increased costs of production due to certification standards requiring stricter plucking criteria which results in reduced GL volumes, although the per kg made tea price typically becomes higher as a result of the improved quality [RA]. • Some of the RA certification standards require specialised technical expertise (e.g. in soil conservation knowledge) to determine which practices should be applied or tests in their specific situation, and not all estates have such expertise, they suggested it would be helpful if an RA officer could assist those preparing for RA certification in deciphering the RA standards and suggesting necessary changes to practice as opposed to just coming to audit the estate [RA]. • Managers felt that RA certification led to workers being more enlightened about tea quality, H&S and workers rights and responsibilities, which then makes management work easier.
Market access	• Estate managers credit their RA certification status with having improved their market access, visibility and reputation. Both these focal RA certified estates became RA certified for market access reasons, particularly given Lipton's pledge to purchase only RA certified tea by 2015. • With some buyers RA certification has enabled the estates to enjoy an additional payment for the certified made tea, which helps them meet some of the costs associated with becoming and remaining RA certified. • New buyers have been attracted by the RA certification status, and at one estate this has resulted in an increase from to 4% to 30% of their made tea being sold through direct overseas sales in a period of just one year. Direct overseas sales typically fetch a USD$0.15-0.3/kg higher price than sales through the Mombasa

	auction, so this certification driven change has major financial benefits for the estate. • Managers at the earlier RA certified estate explained that on average they managed to obtain an additional payment of USD$0.075/kg made tea from buyers wanting their RA certified made tea. • RA certification has in some cases resulted in the buyers actually visiting the estates in order to inspect the factory facilities, workers living and working conditions and hygiene standards. It is likely that this may lead to stronger relations between the buyer and the producing estate and more long-term sales arrangements. • In some situations buyers are adding pressure for estates to get their outgrowers certified as the made tea flavour is altered when the outgrowers' clones are removed from it, and buyers preferred the flavour made with both the estate and the outgrowers GL. • During the baseline survey, the dual certified (FT&RA) estate managers complained about the lack of growth in the market for FT declared made tea. • Neither of the RA certified estates were blending, packing or marketing tea for retail. They both sell processed black made tea.
Tea quality	• More selective plucking criteria required by the certification bodies results in reduced GL volumes being plucked and thus increases the cost of production. However the more selective plucking also results in higher quality GL which when combined with improved handling and processing practices leads to higher quality made tea and therefore increased made tea prices. • The more frequent plucking rounds (every 7 days as opposed to every 14 days) introduced as a result of RA certification results in younger, softer leaves being plucked, which are both easier for the pluckers to pluck and produce a less fibrous (higher quality) made tea. • The estates recognise that the RA traceability requirements help them to maintain product consistency, and they can check the quality standards of each of their sorting GL reception workers at the factory, and trace a bag of GL back to the field team or plucker. • RA certification has helped increase the number of weighing points so pluckers do not have to walk so far with their GL. Hygiene at the leaf collection centres has also improved which influences leaf quality as does more efficient weighing (due to use of electronic weighing balances) and transporting of GL from field to factory. The clean cemented floors installed in the leaf sheds, together with the raised concrete benches which have been installed in some of them have also improved the postharvest handling of the GL. • Workers think RA certification has also motivated them to work hard which improves quality. • RA standards require all foreign matter to be removed from the GL. Plucking machines are non-selective in their cutting (similar to a hedge trimmer) and so a sorting worker then has to sort the GL and removes the insects and chopped up snakes as well as non-acceptable leaves and stems before the GL is weighed and taken to the factory. • RA certification has enforced the use of hand washing with soap and drying prior to entering the factory. • Machine and safety training in the factory has also helped improve tea quality.
Tea production	• RA certification has promoted improved tea husbandry practices including: more frequent plucking rounds, manual weeding, leaving of the prunings as mulch on the bushes, maintenance of a flat plucking table to maximise yields, better fertiliser placement practices, and reduced fertiliser application times and practices, planting of flowers along the edges of tea plots to reduce soil erosion, creating drainage ditches to prevent soil run off from the tea fields. • In the factories RA certification has influenced the increased use of PPEs and H&S training and accidents have reduced.

	• Plucking machines are being used at the earlier RA certified estate on 24 of the 29 fields which has led to a reduction in the workforce size. One plucking machine operated by 4 people (typically 3 men and a woman) can pluck 500-600kg GL/ day, while the average figure used for hand pluckers is 33.5kg GL/d, although they can pluck double this amount during the peak season. One plucking machine (4 people) can therefore pluck the equivalent GL of 9 to 17 hand pluckers. This plucking machine use is encouraging a trend of masculization of the plucking workforce. Workers dislike the plucking machines as they threaten their jobs, and because the machine operators suffer serious health issues, the GL cut by machine may be contaminated with chopped up pieces of chameleon or snake which were in the foliage at the time of cutting which they think will affect the taste and quality of the resulting made tea and potentially the reputation of the estate. The same estate had also experimented with pruning machines but they resulted in the drying up of tea bushes and so their use was stopped. • The yields from the two estates' tea fields were ~4,900 kg/ha/yr of made tea (~8,526 kg/acre/yr of GL at a conversion rate of 0.23) for the earlier RA certified estate and 4,000 kg/ha/ yr of made tea (~6,956 kg/acre/yr of GL at a conversion rate of 0.23) for the 2010 RA certified estate. • Workers felt the GL yields had increased due to RA certification practices such as more frequent plucking and lower plucking table heights, managers at the more recently certified RA estate said their yield had increased from 3,800kg/ha/yr in 2009 to 4,000 kg/h/yr in 2011 due to improved agricultural practices some of which they associated with RA certification. • The more recently RA certified estate explained that in the financial year 2011, the cost of producing, plucking and delivering GL to the factory was 53Ksh/kg made tea, and the processing, packing and transport costs were a further 75Ksh/kg made tea, bringing the total to 128Ksh/kg made tea (USD$1.44/kg). • Managers at the earlier RA certified estate saw opportunities for reducing the costs of production by increasing the number of plucking machines used on their estate. While the more recently RA certified estate managers said they were going to remain with manual plucking as the GL quality was so much higher and they felt buyers would prefer the higher quality and the social benefits of employing manual workers, however in addition to increasing GL yields and quality they saw opportunities to reduce their costs of production by increasing the efficiency of the machines in their factory, RA certification has heightened their awareness and monitoring of these opportunities. • 55% and 33% of the made tea at the earlier and more recently RA certified estates respectively is from GL purchased from outgrowers. • Managers at the RA certified estates suggested RA should provide field extensionists to help improve RA certified systems. • Future challenges to tea estate production are identified as increasing labour, electricity, fuel wood costs and climate change. Land ownership issues of such large areas of land may also develop.
Tea sales	• Both the RA certified estates currently sell about 30% of their made tea via direct sales overseas (DSO) and 70% through the Mombasa Auction (MSA) and KETEPA and factory door sales. It is notable that at the 2010 RA certified estate DSO sales increased from 4% in 2010 to 30% in 2011, due these buyers wanting its RA certified made tea. • The DSO buyers are mainly from the UK and include Lipton, Tetleys, Betty Taylors of Harrogate, Keith Spicer, James Finlays, Twinings, and Thompson Lloyd & Ewart. • Average made tea prices at the two estates were USD$2.50/kg and USD$2.23/kg in 2011. *See market access section above for details of the additional RA payments received*.

Employer/Employee relations and treatment of workers	• Certification has resulted in a more open and participatory style of management and improved relations between management and workers [RA & FT] • The introduction of training programmes for workers (particularly factory workers) is appreciated by workers, and managers felt that certification led to workers being more enlightened about tea quality, H&S and workers rights and responsibilities, which then makes management work easier [RA&FT] • The acquisition of appropriate PPEs (particularly for factory workers), and increased training on occupational health and safety aspects is appreciated by workers, and has reduced worker accidents in the field and factories. • Training for all workers on health and hygiene has been appreciated, and workers credit it and the now cleaner environment with having reduced incidences of malaria and typhoid, and the estate has made savings through increased worker productivity and reduced sick leave payments [RA] • The certification related overtime limit of 2 hours per day has negatively affected the incomes of factory and office workers, guards and drivers and has resulted in the estate having to hire and house additional workers, although some workers (particularly women) are pleased to have the extra time to spend with their children and on their household activities [RA&FT]
Outgrowers	• The certification requirements to handle and process certified and non-certified products separately increases costs, and acts as an incentive for estates to help their outgrowers become certified. • In some situations buyers are adding pressure for estates to get their outgrowers certified as the made tea flavour is altered when the outgrowers' clones are removed from it, and buyers preferred the flavour made with both the estate and the outgrowers GL. The more recently RA certified estate is employing an extension agent to help train and prepare the outgrowers for RA certification. • The earlier RA certified estate has 135 registered outgrowers, 87 of whom became RA certified in January 2012 (the estate paid their RA certification costs and organised their RA related training through the use of lead outgrowers who they trained and then who they paid to train the other outgrowers), and the other outgrowers are now working towards certification. Additionally this estate has 17 smallholder outgrower groups who have signed a joint contract to supply a certain amount of GL to the factory. None of the outgrowers at the more recently RA certified estate are yet RA certified themselves. About 55% and 33% of the made tea at the earlier and more recently RA certified estates respectively is from GL purchased from outgrowers. Outgrowers are typically paid less than KTDA smallholders for their GL, estate managers say this is because the lower quality GL accepted by estates enables outgrowers to pluck a much larger volume of GL, additionally some outgrowers prefer to receive a lower overall payment rate if it means they do not have to wait so long for the full payment, plus they prefer being able to efficiently deliver their GL to the estate's factory and do not have to wait in a KTDA collection centre for many hours. • Both estates are keen to increase the numbers of their registered outgrowers in order to increase their supply of GL.
Certification costs	• Neither estate had calculated the costs associated with becoming and maintaining their RA certification. Although the earlier RA certified estate was now keeping a tally of their RA associated costs so that they could have a separate budget line for it in future. • Some major costs associated with becoming RA certified include: infrastructure changes, awareness raising, signage, worker training, outgrower training, audits, documenting, waste management systems, showers, constructing chemical stores, marking out the protected areas, and bin partitioning in the factory to help with product traceability. • The recurrent costs include management of the systems, auditing and certification and communication systems. Their RA audit and certification costs alone for the earlier RA certified estate and its outgrowers came to

	USD$13,000/yr in 2011. They try to recover these costs through additional payments from buyers for their RA certified tea.
Worker political empowerment	• Although RA certification has increased the number of worker committees which exist in the estates and these committees interact with management, and have led to increased interaction between workers and managers and increased voice and influence by workers in estate operations; significant power differentials still (and will likely always) exist between management and workers at estates. • RA certification auditing has led to the implementation of H&S management and practices and reduced workers accidents. • Management at some tea estates keep information regarding their productivity and costs confidential for commercial reasons. • Workers are free to join the KPAWU and most are members. They can raise issues with the shop steward representatives who then discuss them with estate management and their Union colleagues to try and find an acceptable solution.
Networks	• RA certification has improved relationships between some tea companies due to them having certification issues to compare and talk about, e.g. how to manage the RA overtime rule. • Companies visit each other to learn about how to prepare their outgrowers for RA certification, and RA held a workshop in Kericho for estate manager to share experiences on outgrowers certification issues and solutions.
Child labour	• RA certification standards have deterred tea estate pluckers from being helped by their older children and instead these children have now been enrolled in secondary school. The old practice of pluckers having helpers (*wasaidizi*) no longer exists once estates become certified, any potential helpers (18 years and over) are said to now have to ask the estate management for a temporary contract of their own, if the estate has vacancies. • To be employed in the estates' factories you have to show an ID card, ID cards are only issued to Kenyan citizens at 18 years of age. • Estate managers reported there was no child labour on their estates, and that this went for their contractors as well. RA standard criteria prohibit the use of child labour either directly or indirectly, and contractors are also audited.
Environmental impacts	
Shift to sustainable agricultural practices	• RA certification has promoted improved tea husbandry practices including: more frequent plucking rounds, manual weeding, composting of weeds prior to returning them to the fields, leaving of the prunings as mulch for the bushes, maintenance of a flat plucking table to maximise yields, better fertiliser placement practices, and reduced fertiliser application times and practices, safer use and handling of agrochemicals, planting of flowers along the edges of tea plots to reduce soil erosion, creating drainage ditches to prevent soil run off from the tea fields. • The estates recognise that the RA traceability requirements help them to maintain product consistency, and they can check the quality standards of each of their sorting GL reception workers at the factory, and trace a bag of GL back to the field team or plucker, and thus identify and address any quality problems quickly. • RA certification has helped increase the number of weighing points so pluckers do not have to walk so far with their GL which helps reduce GL squashing problems. Hygiene in the field and at the leaf collection centres has also improved which influences leaf quality. The clean cemented floors installed in the leaf sheds, together with the raised concrete benches which have been installed in some sheds have improved the postharvest handling of the GL. The more efficient weighing (due to use of electronic weighing balances) and transporting of GL from field to factory also reduces damage and premature fermentation of the GL. • The relevant workers have received training from their supervisors in the

	improved practices and their GL and made tea quality and price has increased as a result. • Workers said they plan to incorporate many of these practices into their home farming activities whether for tea or other crops as they felt they would help increase their yields and would ensure their farming activities were viable in the longer-term.
Health of ecosystem services	• Estate manager and workers credit RA with having helped them improve the environment on the estate. • In addition to reducing soil erosion and use of industrial fertilisers in their tea fields, the certified estates have both implemented and done local community awareness training on other environmental conservation practices. These include: creating and implementing short, medium and long term social and environmental management plans for their land. • Certified estates have set up tree nurseries of indigenous and Eucalyptus tree seedlings and planted some of the indigenous species along the riparian strips at the edge of water courses on their land to protect these water sources and they have encouraged the local community to do the same providing them with seedlings to help with this. The estates have also provided local schools with tree seedlings to plant. • Due to RA certification they have also identified and fenced off protected areas of their land to prevent it being grazed, and they report that the vegetation in areas such as the riparian strips has grown rapidly as a result. Due to RA certification they have put in hedges to separate tea production and living areas of the estate. • Due to RA certification the estates worked with local elders to create a census of all the wildlife on the estate and have designated land for wildlife protection. Both estates have implemented hunting and fishing bans on their land. • Due to RA certification, both estates now monitor their water use in different activities and are implementing strategies to try and reduce their water use. While previously wastewater water was left to flow straight back into the river due to RA standards it now has to be treated and tested to ensure it is of NEMA and KEBS compliant status before being discharged into waterways. Both the RA certified estates and the dual (FT&RA) estate installed water treatment systems to address this compliance issue. Key informants say this has led to health benefits of all those using the river water and those who used to be exposed to the untreated wastewater as it flowed all over the place. • One of the RA estates has educated its workers on rational water use and installed tanks and pipes to harvest rainwater for domestic use from the roofs of the managers' houses. • Prior to and 3 weeks after fertiliser application they take water samples from the nearby river which are then analysed for phosphate, nitrate contents and pH levels to monitor whether fertiliser is running off into the water ways. • As there are no serious diseases or pests of tea in Kenya very few if any pesticides are used. Where herbicides were being used, the certified estates have reduced their usage to spot application for very persistent weeds only and manually weed the other areas. The composted weeds are then used as mulch. • Factories have insectocutors installed to trap any insects present, and the wooden pallets on which the tea sacks are stacked are heat treated prior to the tea being loaded into ships at Mombasa. • Approved chemicals are used for cockroach control in workers' houses and this is either done by a contractor such as Rentokil, or by a worker trained in the safe use of chemicals. Due to RA criteria factory chemical stores are inspected quarterly for leakages. • One RA certified estate reported that they now monitor the siltation level of their dam and check their roads regularly for evidence of soil erosion. The other RA certified estate said they use grass roads as opposed to murram clay roads to

	help reduce soil erosion. • This study did not assess the actual biophysical impacts of 'better management practices' (e.g. by measuring soil or water quality), but it is plausible and was reported by workers, managers and key informants. • Since becoming RA certified, both estates started carefully collecting, separating and disposing of their waste, with biodegradable waste being composted. Workers are expected to separate their household waste, and sometimes struggle to do this correctly. The improved cleanliness of the living camps is appreciated by the workers and they feel it has led to reduced incidences of illness. • Tea processing requires large quantities of energy to run the furnace, this is usually supplied by fuelwood. Due to RA certification both estates are using only Eucalyptus wood from renewal sources, and have invested in building sheds to ensure the wood they burn is dry for maximum efficiency. They are also altering and replacing various machines in the factory to improve energy efficiency and have installed transparent roof panels to minimize the need for electric lighting. They do regular energy audits to monitor and plan how they can improve their energy efficiency as energy is one of their largest costs.
Local impacts on community	
	• During the baseline it was reported that the improvements to workers living and working conditions on certified estates were driving other tea estate workers on non-certified estates to demand better services and working conditions. • Local communities benefit from the support given to the local primary schools and secondary schools • The local community are also able to access the hospital on the dual certified estate • Environmental activities associated with RA certification are said to have led to cleaner rivers, wider awareness in the community on not to pollute the environment, and an increased culture of health and safety – all of which have affected the local community [RA]. • Tree planting is reported to have improved environmental protection and awareness in the community [FT & RA]
National and sub-regional impacts	
Social & Political	• Improvements to workers living and working conditions on certified estates have led to other workers demanding improved conditions.
Environmental	• Enforcement of environmental protection of water sources and large scale tree planting and wildlife protection by RA certified estates have resulted in cleaner rivers and raised awareness about environmental protection and the importance of conserving wildlife and planting indigenous tree species
Economic	•

Outstanding issues in the Kenyan tea estate sector: In addition to the many positive outcomes and impacts from certification in the Kenyan tea estate sector which are mentioned above, there are a number of outstanding issues which certification schemes are not yet influencing. These include: the very low numbers of female field supervisors; the impact of plucking mechanisation on the workforce; payment of wages in cash (as opposed to into an account) resulting in some women being forced to hand over their wages to men on pay day; pluckers' low incomes during the low season when there is very little GL to pluck; pluckers having to work long hours in order that their supervisors can earn overtime; pluckers not attending trainings as to do so results in reduced incomes as they are paid per kg GL plucked; the standards having more impacts on factory workers than pluckers despite pluckers making up the majority of the workforce; certification schemes not having successfully involved the trade unions through familiarising them with the standards contents and therefore helping to maximise their impact on workers; aerial spraying of estate tea fields

(presumably with fertiliser) while pluckers are plucking the GL; currently unmet desire by workers to be trained on livelihood diversification options; very limited interaction between estate workers and NGOs or development projects; and difficulties some estates face in addressing some of the standards' criteria due to limited technical expertise e.g. soil conservation knowledge.

Mechanisation is leading to a masculization of the tea estate workforce. For each MTH team, three of the four individuals are typically male as significant physical strength is required to operate the machines and carry the GL cuttings to the edge of the field for sorting. Additionally there are also health concerns by the male operators who report losing a lot of weight as a result of the tough MTH operation work. If MTH machines are not well serviced (e.g. blades sharp) the team cannot cut much GL, and thus their income is then negatively affected. MTHs as machine operators are not represented by the KPAWU, so when their supervisor harasses them they have no one to report it to. Whilst the 'fair treatment and good working conditions for workers' criteria may help them to some extent, additional local guidelines related to health and safety for MTH operators may be required to ensure they have sufficient rest periods and energy intakes and do not get over-dehydrated by the work.

The certification changes appear to be having more influence on factory workers' working conditions, PPEs, safety and training than on field workers' conditions and welfare. Even on estates where plucking is mechanised, there are many more field workers than factory workers, suggesting that the standards might have a greater poverty impact if they focused specifically on some issues affecting pluckers. Outstanding issues include the fact that plucking wages are paid per kg, and therefore during the low season pluckers income can be extremely low, particularly if they are only allowed to pluck three days per week as often happens. The pluckers suggested that a minimum daily wage could be used for pluckers plucking during the low season. Pluckers who get transferred to general work/ *kandoo* activities in the low season are paid a daily wage. Pluckers would like the field worker PPE requirements to include raincoats so that they can continue to pluck when it is raining without getting wet, as they are paid per kg they try to maximise their plucking time to meet their income targets. Pluckers typically pluck until they estimate they have met their income/kg targets and then take the GL for weighing and then go home, but in some instances their supervisors force them to remain in the field for much longer in order that the supervisor can then qualify for the allowed overtime payment. The pluckers find this tiring as they have been doing a physically hard job all day and the returns diminish after a certain period of time so they do not wish to be forced to remain in the field. Most pluckers are provided with one cup of porridge per day, but they say this is not sufficient given the very physical nature of the plucking work and them not having time to prepare a lunch during the working day. Pluckers at some estates feel their union representatives no longer represent their issues, as the union representatives have moved to live in the management areas of the living camps.

The potential synergies between the certification standards and KPAWU's work are not being maximised as the certification schemes have not involved the union in their activities, and many of the union representatives were not well informed about the certification standards criteria which could help them in their work with certified estates.

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9. Appendices

Appendix 1: Hypothetical Theory of Change Diagrams

Figure A1. Hypothetical Rainforest Alliance Smallholder Producer Poverty Impact Theory of Change

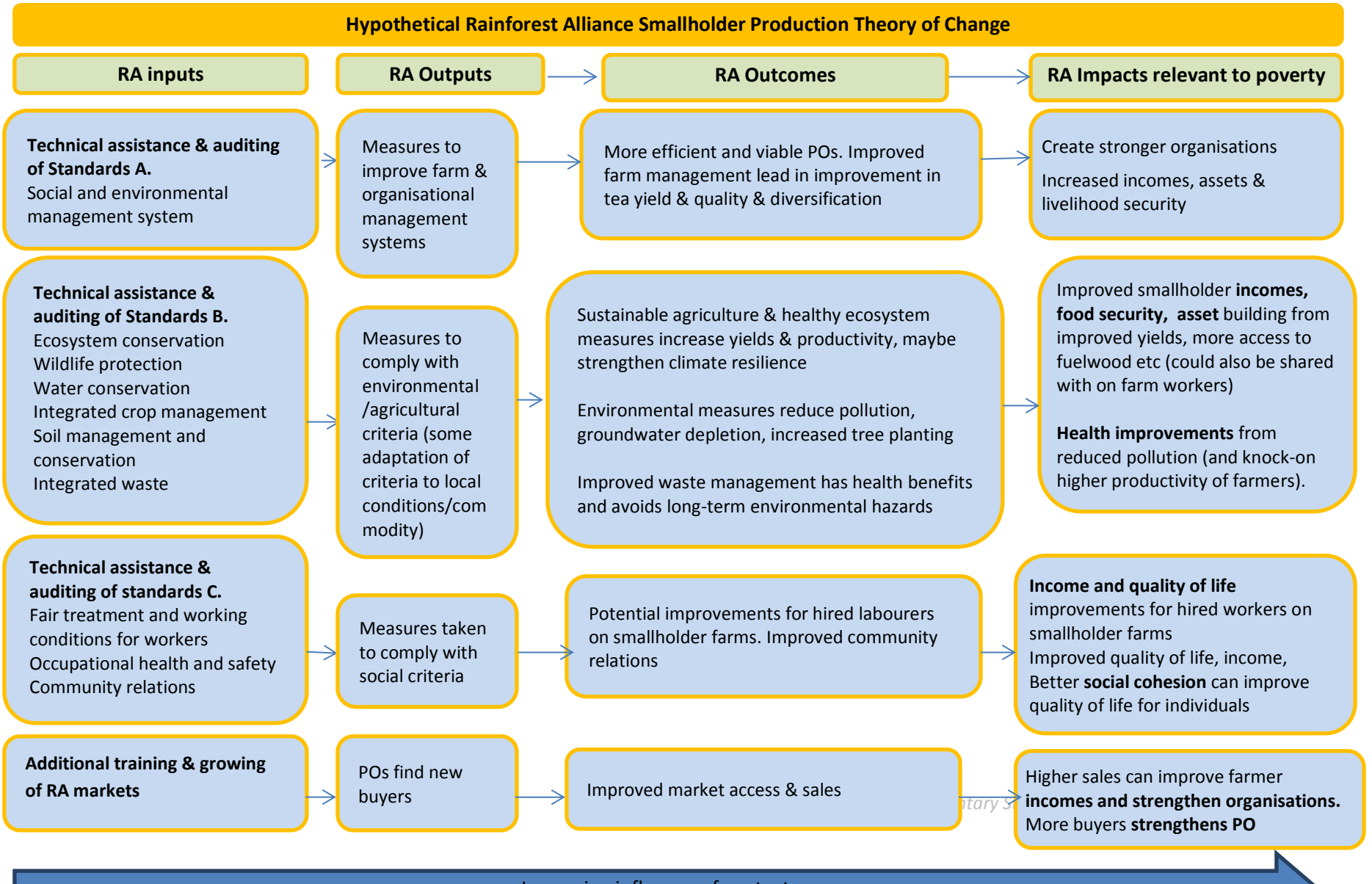


Figure A2. Hypothetical Rainforest Alliance Hired Estate Labour Poverty Impact Theory of Change

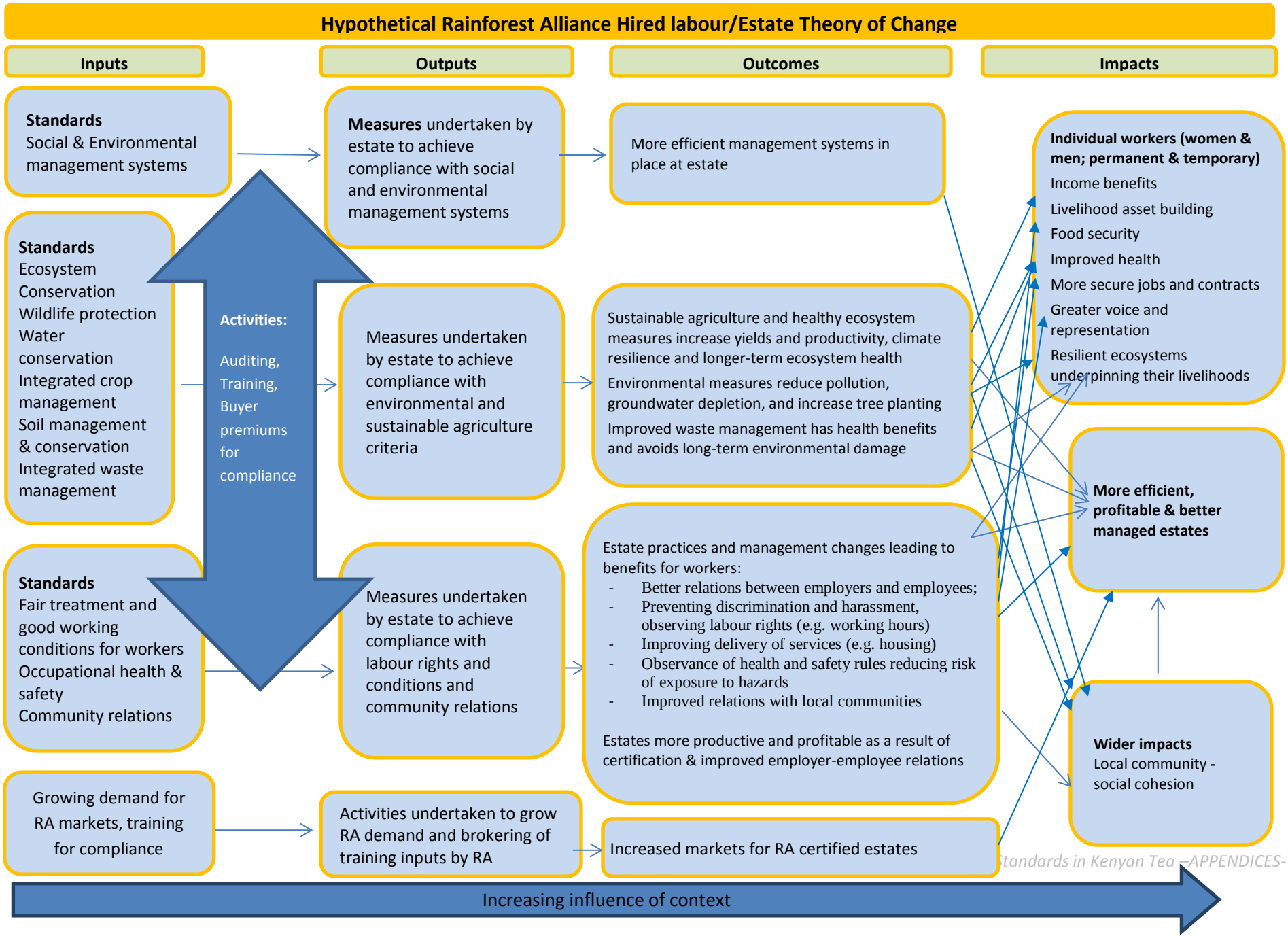
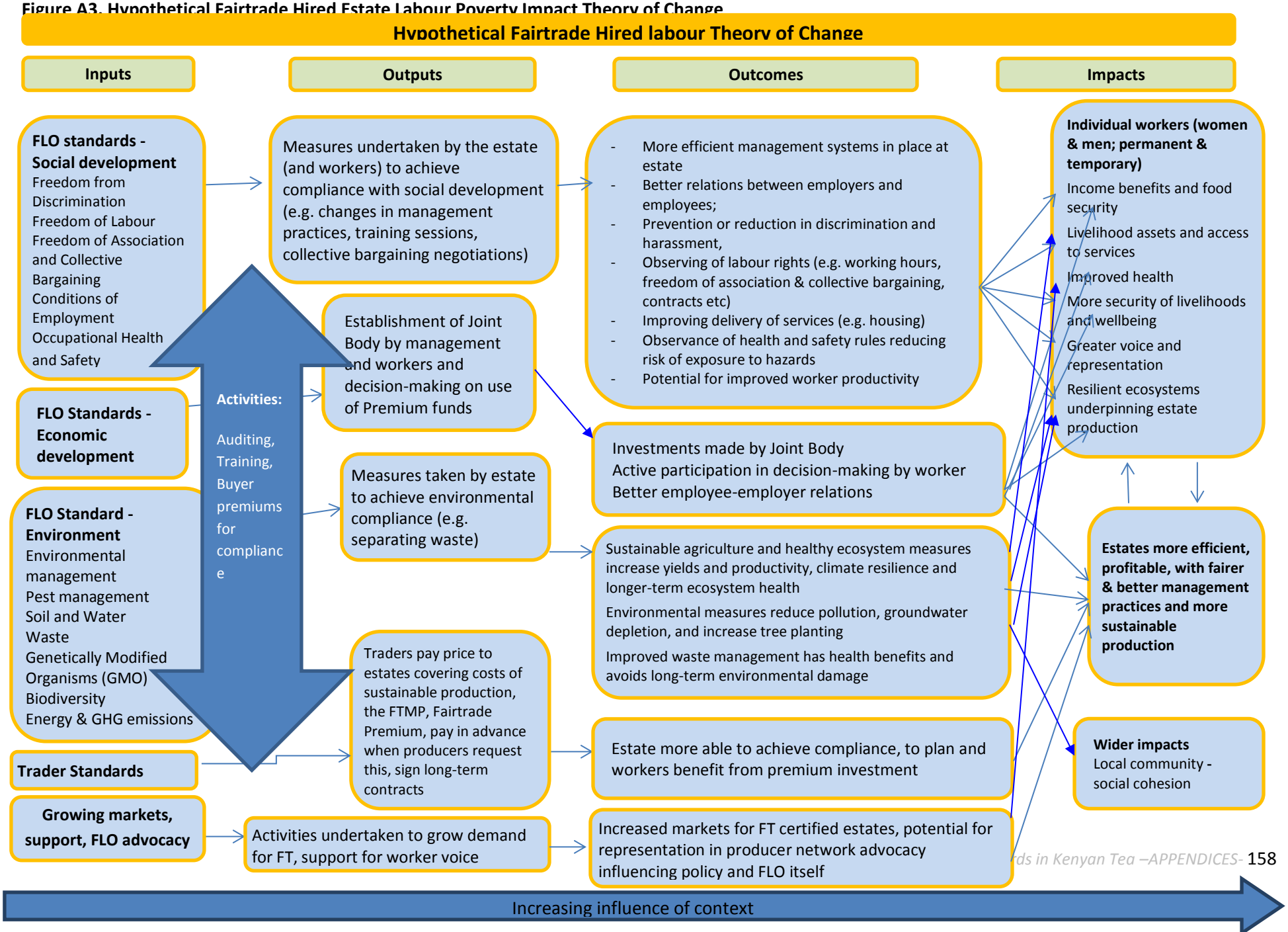


Figure A3. Hypothetical Fairtrade Hired Estate Labour Poverty Impact Theory of Change



Appendix 2: CIAT (2011) Maps of future scenarios for Kenyan tea growing

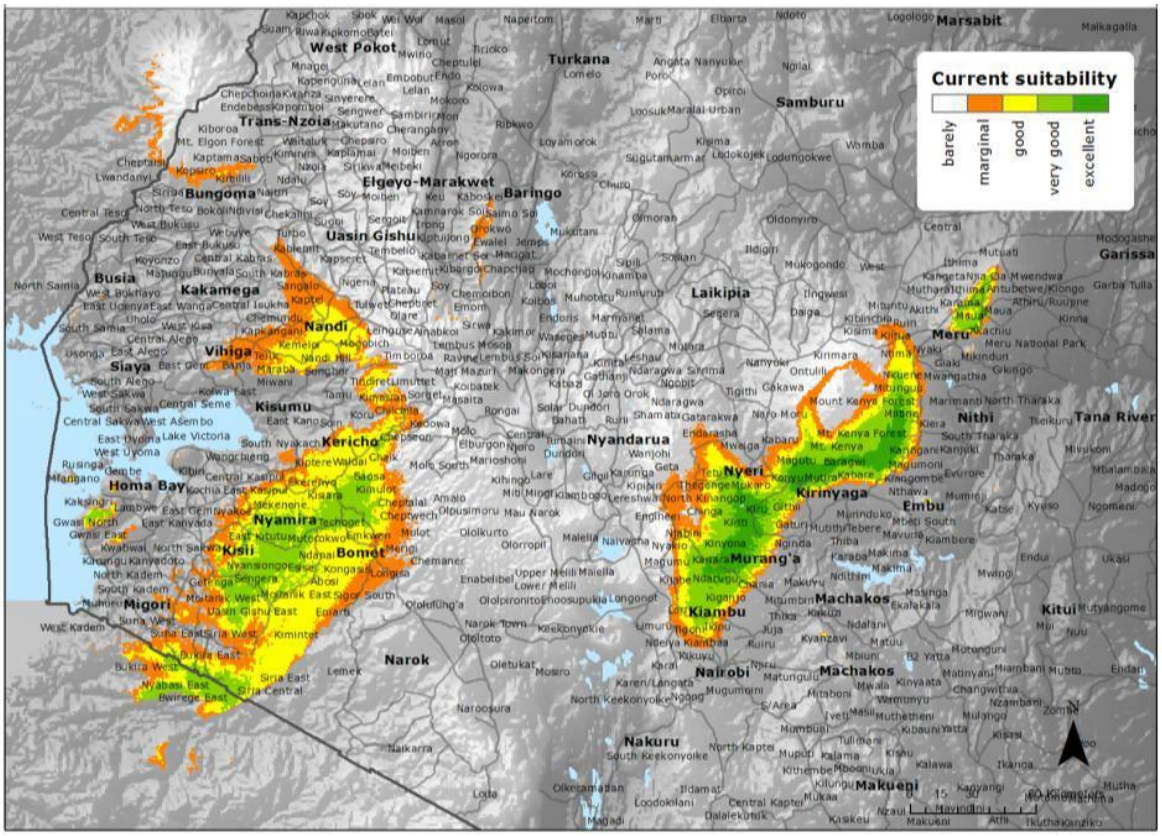


Figure A2.1. Current suitability for tea production within tea-growing areas of Kenya (Source: CIAT, 2011)

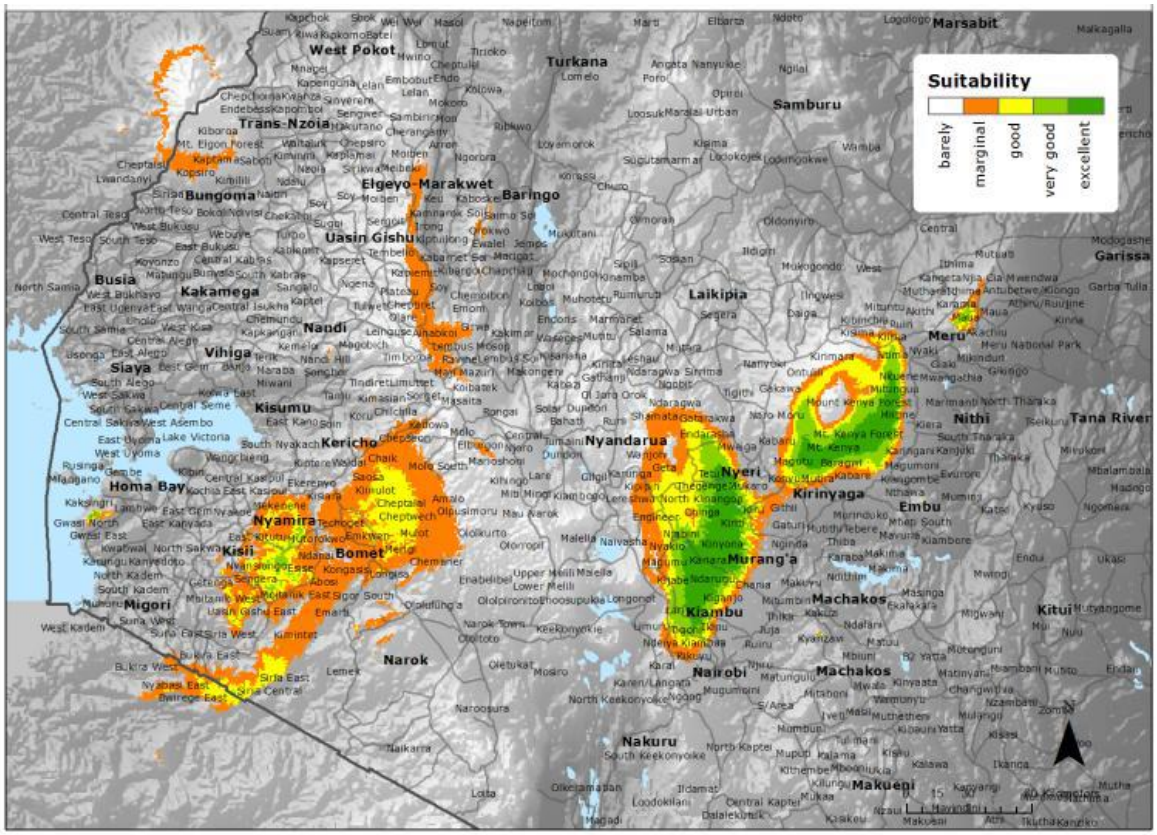


Figure A2.2. Projected suitability for tea growing in 2050 (Source: CIAT, 2011)

Appendix 3: Actual Impact Pathways of Certification Standards on Kenyan Smallholder Tea Farmers in 2012

(based on interviews with a range of tea stakeholder types)

Producer Standards			
Management systems (social and environmental)			
Inputs	**Outputs**	**Outcomes**[22]	**Impacts relevant to poverty**
Training on organisational development [FT & RA]	Improved understanding amongst members of the need to elect responsible representatives and to attend AGMs [FT & RA]	☺Increased representation of and questions from members at AGMs [RA&FT] ☺More responsible representatives elected on collection centre committees [RA & FT]	More democratic and accountable PO Contribution to member's empowerment
Efforts to include female farmers in the farmer field school (FFS) training [RA]	Many of the members of the FFS are female farmers [RA]	☺☺Increased women's farming and livelihood diversification knowledge [RA]	Contribution to women's empowerment
Efforts to support women's involvement in agricultural training opportunities [RA]	More active engagement of and visibility of women's role in tea production systems [RA] Improved tea husbandry knowledge of women farmers [RA]	☺Increased acknowledgement of women's role in tea farming [RA] ☺☺Increased election of women on collection centre committees [RA]	Contribution to women's empowerment Contribution to gender awareness of PO members and managers
Efforts by PO managers to introduce a more efficient timetable for GL collection from farmers [RA]	Trying to introduce more efficient collection timetables [RA]	In future, time savings as women wait less long for tea to be collected [RA]	Not yet achieved, but in future contributions to women's quality of life - reduced burden, more time to rest/more energy to invest in other livelihood activities
Increased training of members by PO managers and staff [FT & RA]	Increased interaction between members and managers, and increased skills of members [FT & RA]	☺☺Greater feeling of ownership of POs by members AND improved relationships between PO members and management [FT & RA]	Contribution to member's empowerment More democratic and accountable PO
Certification standards [FT & RA]	Farmer awareness raising on certification standards [FT & RA]	☺Farmers more receptive to POs explanations on GL quality related issues, resulting in improved GL quality [FT&RA]	Income benefits for PO and members
Farmer training on record keeping and cost : benefit	Farmers keep records of their farming activities and use them in decision-making	☺Improved assessment by farmers of whether their activities are profitable or not [RA]	Positive contribution to farmers livelihood security and incomes

[22] In order to provide some guidance as to the scale and importance of the different outcomes from the perspective of the stakeholders interviewed a basic scoring system has been used to identify important positive outcomes ☺☺ or ☺☺☺, positive outcomes which either do not affect many people or are not yet having large impacts ☺, while negative outcomes are shown as ☹, with very negative outcomes affecting many people or having a very negative effect shown as ☹☹ or ☹☹☹.

analysis[RA]	[RA]		
Farmer training on financial planning [RA]	Farmers make financial plans/budgets for use of their tea and other income [RA]	☺☺Improved planning by members (often jointly with family members) on expenditure of tea bonus [RA] ☺Reduced impulse spending of annual tea bonus [RA]	Asset building/ livelihood security improved Contribution to women's empowerment through involving them in expenditure plans of household tea income
Training on agricultural, financial and group dynamics topics [RA]	Farmers have deeper knowledge of tea husbandry, financial management, and team/group working [RA]	☺☺Farmers are now more able to sort out their own issues without having to involve PO management [RA]	Contribution to members empowerment
Records of and inspection of each registered member's farm and farming activities are collected prior to the annual RA audit by the POs enumerators [RA]	Improved record keeping and understanding of farmers' practices by PO [RA]	☺More accurate data for PO managers to use to improve decision-making [RA]	Annual audit of every members tea related activities helps ensure standards and policies are implemented
Mapping of protected areas such as water catchment and riparian strips [FT & RA]	Improved knowledge of protected area locations [FT & RA]	☺Improved management and awareness of protected areas [FT & RA]	Environmental protection benefits
Monitoring of energy use efficiency in factory for standards compliance [FT & RA]	Knowledge of energy use in factory [FT & RA]	☺Energy efficiency planning [FT & RA] ☺☺Upgrading of inefficient equipment e.g. boiler cladding, machine replacements [FT & RA] ☹Factory worker layoffs when new machines require less manual labour (e.g. CFUs) [FT & RA]	Improved efficiency of tea production and associated income benefits *Reduced workforce where new processing machines (e.g. CFUs) replace manual labour*
Audit and certification documentation and democratic business management principles [FT & RA]	Increased understanding of market and business details of the PO by managers [FT & RA]	☺Improvements in business planning and management at organisational level [FT & RA]	Stronger PO in terms of business viability, management

Sustainable tea production practices			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Training[23] on increased frequency of plucking rounds and better fertiliser application [FT & RA]	Improved skills and awareness of need for more regular plucking (from 1 or 2 times per month to 3 times per month) leads to changes in practice by smallholders, with higher frequency plucking rounds and improved fertilizer application [FT & RA]	☺☺Improved GL quality (due to plucking of younger shoots) and yield increases [FT & RA]	Positive income benefit for FT & RA producers
Training on improving GL quality by: using more selective plucking criteria; not overloading GL plucking baskets ;not transporting GL in sacks [RA & FT]	More selective plucking results in a higher % of GL meeting the acceptable soft two leaves and a bud criteria [RA & FT] Reduced squashed/ lower quality GL due to less overloading of baskets [RA & FT] Less squashed GL due to reduced use of sacks to pluck or transport GL [RA & FT]	☺☺Improved GL quality which results in improved made tea quality and higher sales prices [RA & FT]	Positive income benefits for members and operational funds for POs. (N.B. An increased sales price of US$0.1/kg can have major income impacts for POs which are often producing >10 million kgs/year made tea)
Increased awareness of GL quality and hygiene issues [RA & FT]	Upgrading of collection centres in terms of hygiene and general cleanliness (e.g. concrete sorting benches instead of wooden ones, water and toilets) [PO & FT Premium investments due to RA & FT awareness raising]	☺☺☺Improved GL quality, which results in improved made tea quality and higher sales prices [FT&RA] ☺☺Increased pride and ownership of collection centres by members and POs [FT&RA]	Positive income benefits for POs and members Contribution to community development Positive health/ hygiene benefits for tea producers and consumers
Increased awareness of benefits of improving GL quality [RA & FT]	Installation of more efficient GL processing machines e.g. CFUs [RA & FT] Increased segregation of products based on quality e.g. greater sorting and separation of good and poor GL [RA]	☺☺☺Higher quality made tea [RA&FT] ☺☺Improved factory efficiency [RA &FT] ☹Worker layoffs as new CFU machines require less management [RA&FT]	Positive income benefits for POs and members *Reduced workforce size in factory*
Training on improved fertilizer use [FT & RA]	Improvements in fertilizer use [FT & RA]	☺☺Higher yields [FT & RA]	Income benefits to PO and members
Training on weeding, mulching and pruning [FT & RA]	Improvements in weeding, mulching and pruning [FT & RA]	☺☺Better soil fertility management practices [FT & RA]	Possible income benefits accruing to individuals (also to PO) in the future
Agricultural training on crop diversification	Increased food production [RA & FT]	☺Less time and money spent purchasing food crops [RA & FT]	Greater food, nutrition and income security

[23] The POs use their tea extension officers to deliver training, and those POs preparing for RA certification have trained lead farmers at each collection centre who then train the other farmers

[RA&FT]			
Training on livelihood diversification [RA]	Improved skills and knowledge on livelihood diversification, especially for women [RA]	☺Additional income earned, especially by women (e.g. bee keeping and poultry farming) [RA]	Community wide income benefits and livelihood security improvements
RA certification requirements for all farmers to receive training prior to certification [RA]	FT outgrowers are recruiting an environment/ extension officer to help them prepare for RA certification and to conduct the farmer trainings needed [RA]	Imminent farmer training on RA certification requirements and sustainable tea production practices [RA]	Not yet achieved, but possible in the future
Use of FT premium for farmer training [FT]	Additional funds invested in farmer training to supplement those of the PO [FT]	☺☺Improvements in agronomic practices [FT]	Increased livelihood and food security
Training on livelihood diversification [RA&FT]	Smallholders obtain livelihood diversification awareness and skills (e.g. beekeeping, fish ponds, crop diversification, greenhouse vegetables, rabbit keeping) [RA&FT]	☺Smallholder livelihood diversification and income generation [FT &RA]	**Improved income and food security** (broader range of income sources), **income benefits** and **reduced land fragmentation**[24]
Farmer Field School (FFS) approach to training[25] [RA]	Bringing farmers together in experiential learning process builds skills, shared experience and group dynamics [RA]	☺☺Stronger social networks and shared experiences [RA]	Improved social cohesion amongst members
Training on responding to climate change [RA & FT]	Awareness raised on climate change amongst farmer members [RA & FT]	☺Raised awareness of potential climate change impacts and need to adapt and mitigate [FT&RA]	Greater consciousness of challenges and potential strategies associated with climate change
Fair treatment and working conditions for workers			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Child labour regulations[26] monitored [FT & RA]	Awareness raising activities held on child labour regulations at PO level [FT&RA] Misconception by farmers that child labour standard requirements prohibit children helping on family farms after school time [FT & RA]	☺Increased awareness of child labour and child rights issues amongst farmers and at PO level [FT &RA]	Safeguarding of livelihood asset building (N.B. the study did not hear that child labour issues were a problem. Farmers are aware that use of child labour is unacceptable)

[24] Pressure to subdivide tea plots is reduced when grown up children develop their own different sources of income

[25] The POs and farmers refer to the RA linked training as FFS although RA says they actually promote a faster and less expensive lead farmer approach to training

[26] Both RA & FT prohibit employment of workers under 15 years old, however both recognise that children under 15 years old can help their families pluck tea after school and in the holiday if supervised

Training on fair treatment of smallholders workers (terms and conditions, non-harassment, good relations etc) [FT & RA]	Awareness raised amongst smallholder members of the need for fair labour conditions (such as regular payment, decent housing for hired farm workers, provision of food and soap) [FT & RA]	☺☺Improved employer-employee relationships between the smallholders and their hired labour [FT & RA] ☺☺Improved terms and conditions for pluckers working on smallholder farms [FT & RA]	Contribution to empowerment of smallholders' hired labourers as they understand their rights and are treated with more dignity Improved social cohesion
Training on fair treatment of PO workers [FT & RA]	Awareness raised amongst PO managers of benefits of increased interaction between workers and managers [FT&RA]	☺☺Enhanced relationship between workers and management "*workers now have a voice*" [FT]	More democratic organisation Increased PO worker empowerment
Compliance with working hours and payment standards [RA & FT]	Improvements in payment practices for factory workers (e.g. payment for off days, 6 days off after 3 months work, paid their overtime on time and in cash [FT], they may be paid for an 8 hour shift instead of actual 6 hour shift (no more undertime) [RA]) Factory workers now receive 1 day off per week while in the past they would not necessarily get even 1 day off per month [RA]	☺☺Improved income security of factory workers [FT&RA] ☺☺Improved capacity of factory workers to plan and undertake their non-work/home life time and activities [FT&RA]	Greater peace of mind/fairer treatment of factory workers Improved work/life balance for factory workers
Compliance with standards and monitoring on overtime [RA]	Overtime of PO staff limited to meet RA regulations [RA]	☹Some factory workers complain of reduced earnings [RA] ☺Others are pleased for the opportunity to rest, and to know what time they will return home and to be able to better manage their life [RA]	*Negative income effects for factory workers* Improved quality of workers life Better managed PO
Compliance with standards on conditions of employment [RA & FT]	Casual workers at the factory are also housed (with water and electricity) [FT] Permanent employment of casual factory workers [RA] – *(NB this was mentioned at just 1 non-certified PO preparing for RA cert.)* Workers paid during sick leave and off days [RA]	☺Improved housing and access to water and electricity for casual workers [FT] ☺Change in job status for ~50 workers at one PO preparing for RA certification [RA] ☺/☹Increased labour costs for the PO due to increased benefits for workers [RA]	Asset building/ improved quality of life for casual workers [FT] Possible wage and income benefits and job security for some workers (1 PO) [RA] *Reduced profits of PO due to increased expenditure on workforce benefits*
Compliance with national laws/ CBA agreements on maternity leave [RA& FT]	Pregnant factory and PO staff now get a 90 day maternity paid leave, whether on a seasonal or permanent contract [RA&FT]	☺Improvements in employment benefits for female factory workers and PO staff [RA&FT]	Contribution to income Reduced mother and child health risks for female factory workers and PO staff
Improvement in employment benefits and staff development	Training for factory workers/PO staff on: computer skills; driving; healthy and safety; bee keeping and farming [FT using Premium	☺Livelihood diversification opportunities for factory/PO staff [FT]	Improved livelihood security/ asset building (skills) for factory staff

opportunities [FT]	funds]		
Access to credit for PO workers [FT & RA]	Microfinance facility provided by PO for factory workers (e.g. with lending rate of 5% and maximum limit of Ksh1.3M) [FT & RA]	☺Improved access to credit for factory workers [FT&RA]	Financial empowerment of factory workers
Compliance with occupational health and safety standards			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Compliance with health and safety standards to make workplaces safe [RA & FT]	Removal of asbestos in factory roof [RA&FT] Increased number of extractor fans in factory to help remove the dust [RA] Minutes of H&S meetings are taken and are inspected during the RA audit [RA]	☺☺Reduced worker exposure to asbestos [RA&FT] ☺☺Reduced worker exposure to dust [RA] ☺Improved reporting on H&S drives improved performance [RA] ☺Improved worker morale as they feel their health & safety is important to their PO [RA & FT]	Possible health benefits for factory workers and tea consumers Better managed PO Improved factory productivity and tea quality due to increased worker morale
Good hygiene standards monitored during audits [RA, FT, ISO]	Footbath at entrance to factory to reduce contamination risk to tea [RA&FT] Compulsory handwashing before entering factory [RA&FT] Washing machine acquired to wash factory workers dust coats so they no longer take them home to wash, and each worker has a locker for their dust coat etc [RA]	☺Improved hygiene in the factory [RA&FT] ☺Reduced work dust contamination of workers homes [RA]	Possible tea quality improvements and related sales price increases Possible health benefits for factory workers, their families and tea consumers Increased buyer confidence
Auditing of smallholder compliance with PPE requirements [RA & FT]	Purchasing of PPEs by smallholder households [RA & FT]	☹☹High costs incurred in buying PPEs [RA&FT] ☺Some households are sharing some PPE items where they don't need to use them regularly [RA] ☺☺Reduced respiratory and skin allergy problems after spraying of cattle or vegetables [RA&FT]	Health benefits [RA&FT] *Negative income effects for farmers [RA & FT]*
Auditing of PO compliance with PPE requirements [RA & FT]	Provision and compulsory use of PPEs by factory workers– gloves & nose mask for sorting; ear muffs for boiler and packing areas; gumboots used by those in washing. [RA&FT]	☺☺Improved personal safety of workers [RA&FT]	Health benefits for factory workers
Training on occupational health and safety for first aiders for PO staff including factory workers [FT, RA & ISO]	Increased awareness and knowledge of occupational H&S and first aid [FT, RA & ISO]	☺Improved access to first aid [FT] ☺Reduced exposure to hazards [FT&RA] ☺Improved worker morale due to their health & safety being important to their PO [FT&RA]	Potential health benefits for factory workers and PO staff and their families/ neighbours

Networking			
Increasing trend of certification amongst KTDA POs [RA, KTDA, FT]	Increased contact and visiting between POs preparing for certification or facing certification related problems [RA, KTDA, FT]	☺Improved networking with other POs [RA & FT]	Stronger, more networked POs and members
Certification related administration, compliance and auditing			
Producer Organisations pay fees for auditing and certification [RA & FT]	High costs incurred to achieve audits and certification, especially for those POs with dual certification [RA & FT]	☹Smallholder POs have fewer funds to invest in PO operations or to return to smallholders [RA&FT] ☺☺Some buyers who request a particular PO to become RA certified, sponsor part of the certification costs [RA]	*Reduced income of PO*[27]*, particularly for dual certified POs* [RA&FT] Strengthened relationship between buyer and PO [RA]
Annual audits [FT & RA]	Time burden for PO managers in preparing documentation for audits especially the first time [FT & RA] Increased culture of accountability and transparency within the PO [FT & RA]	☹Increased management time spent on paperwork prior to and at start of certification [FT & RA] ☺☺POs have stronger systems and data collection, plus greater accountability to members [FT & RA]	Better managed POs with improved management systems and accountability
Growing markets, linking to buyers and value addition			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Additional payment[28] by buyers to those earlier RA certified POs (e.g. in 2009) [RA]	Additional payment for RA tea shared amongst the PO members along with their annual bonus [RA]	☺☺Increased revenue of PO due to higher payment price for RA certified made tea [RA]	Positive income benefit for these RA producers[29] [RA]
Buyer sponsors a PO they buy from to become RA certified [RA]	Buyer provides funds to cover some of the POs certification preparation costs (e.g. farmer training and audit costs) [RA]	☺☺Reduced cost of certification for sponsored PO [RA] ☺☺Strengthened relationship between PO and buyer who sponsors them to become certified [RA]	More sustainable trade base
Achievement of RA or FT certification status [RA & FT]	Increased number of buyers attracted [RA & FT] Increased direct overseas tea sales (DSOs) which attract a higher sales price than sales through the auction [RA & FT]	☺☺☺Wider market access [RA&FT] ☺☺Increased income from DSO sales AND raised prices of remaining tea sold at Mombasa auction as the reduced supply increases the competition for it. Both lead to increased profits for PO which are then	More sustainable trade base Positive income benefits for PO and producers

[27] However being certified is perceived to bring increased income benefits to the PO outweighing the certification costs, dual certified POs wish there was an umbrella certification to avoid having to go through two certifications/year

[28] Additional payment of About USD0.1/kg made tea for any RA declared tea purchased

[29] Note not all RA certified POs are receiving higher/additional payments for made tea due to it being RA certified, only those POs who were amongst the first to become certified

		returned to producers [FT & RA]	
Early RA certification (one of the first KTDA POs to become RA certified in 2009) [RA]	Certification of PO attracted new buyers, including some who make additional payments made for the RA tea [RA]	☺☺Increased sales and payments led to more profits for PO and producers [RA]	More sustainable trade base (e.g. more buyers) Positive income benefits for PO and producers
Buyer (M&S) engagement with a triple certified PO supplier on blending and packing sustainably produced tea at source to help add value [M&S, FT, RA, Utz]	Improved understanding of, skills in and equipment for blending and packing tea at source at the PO [M&S building on FT,RA& Utz certifications]	☺Building of value addition capacity to increase market and profits of a sustainable tea producer in the near future [M&S] ☺Will add further market differentiation to certified packets of tea [M&S] ☺Opportunity for learning by others in the tea sector and standard bodies [M&S]	Development of local blending and packing skills Progression up the value chain, which will result in increased retention of tea value at source
Investment of FT Premium [FT Premium use]	One group of farmers in the FT Outgrowers took a loan from the FT Premium and bought a tea collection truck [FT Premium]	☺Increased producer control over the transport costs of production and GL collection times enabling them to optimise their productivity [FT]	Progression up the value chain by smallholder tea producers Positive time saving and income benefits for producers
Investment of FT Premium [FT Premium use]	FT Outgrowers are using FT Premium funds to purchase a tea processing factory [FT Premium]	Once completed their will be increased value addition and profits for these outgrower tea farmers, they are already receiving dividends from their share of the factory [FT]	Progression up the value chain by smallholder tea producers Positive income benefits
Limited growth and size of FT certified tea market[30] [FT]	Very low volumes of made tea sold on FT terms at most FT certified POs (e.g. <10% of their tea is bought as FT declared tea) [FT]	☹☹Low levels of FT Premium payment earned and available for investment [FT] ☹Disappointment amongst managers and members when expectations for FT sales trend projections were much higher [FT] ☺/☹Fairtrade hesitant to support new POs in becoming FT certified until the FT tea market has grown [FT]	Limited effect on PO strength Reduced ability of PO to invest in community projects

[30] Linked to high current tea market prices making it expensive for buyers to include an additional FT Premium cost of USD0.5/kg, or other factors such as limited consumer demand

FT Trade Standards			
Sustainable trade			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
FT standards aim to create sustainable trade partnerships between producers and buyers, these relationships should grow stronger over time [FT]	Slight increase in Direct Sales Overseas (DSO) purchases, but >70% of FT KTDA POs made tea still sold through the Mombasa auction in a virtual trading mode with no relationship development between buyer and PO. CafeDirect is purchasing from the FT outgrowers and helping them with other projects such as kitchen gardens and climate change awareness When a major supermarket recently changed its FT buyer, that buyer then sourced FT made tea from different producers than usual, so the original producers suddenly experienced unexpected reductions in their FT declared sales	☺Slight increase in more profitable DSO sales [FT] ☹☹Limited (if any) development of relationships between most buyers and the POs [FT] ☹☹Buyers change sources of FT tea without notice to the producer [FT]	*Missed opportunity to develop sustainable trading relationships* Contribution to improved revenue of PO
Buyer to provide producer with sourcing plans [FT]	No report of buyers sharing their sourcing plans with POs [FT]	☹☹Producers are not able to know which buyers will be buying FT declared tea from them or when ☹☹POs are not able to estimate how much FT Premium they will receive in the forthcoming year and then use than in their FT Development Plan	*Missed opportunity to strengthen POs, and the buyer/producer sustainable trading relations*
Retro-certification[31] aspect of FT declared tea purchasing [FT]	Retro-certification makes it difficult for POs to estimate or plan how much FT Premium income they will receive and reduces transparency [FT]	☹☹Limited ability of POs to plan and reduced transparency in the value chain [FT]	*Missed opportunity to strengthen POs, and the buyer/producer sustainable trading relations*
Limited growth in FT tea market in Kenya	FT certified POs selling <10% of their made tea as FT declared tea (and therefore receiving a premium on it) and not seeing the growth they had expected in these sales	☹☹POs are disappointed by the slow growth of the FT tea market [FT] ☹/☺FT Africa hesitating to support new POs in becoming FT certified until the market increases [FT]	*Limited growth in spread of FT certification* *Limited FT Premium funds available for POs*

[31] Whereby FT certified tea is purchased on standard terms but the buyer later declares some of it as required as FT tea and therefore retrospectively pays the FT Premium on the amount they want to pack, label and sell as FT.

		☺/☹Some buyers are buying FT made tea as part of a risk management strategy for their supply chain, but do not then label the product as a FT product and do not therefore pay a FT Premium for the product [FT]	
Advance payments/ pre-finance			
FT standard states that on request the buyer must make up to 60% of the value of contract available as pre-finance 6 weeks prior to shipment [FT]	No report that any advance payments are being made for FT declared tea [FT]	☹☹PO is not able to access pre-finance to help cover costs of purchasing GL from members [FT]	No current impact
Pricing			
Fairtrade Minimum Price [FT]	World market prices at Mombasa auction (~US$3/kg made tea) are almost double the FTMP (US$1.7/kg made tea at auction), making the FTMP seem irrelevant to Kenya tea POs [FT]	☹No current effects on individual producers or POs	No current impact
FT Premium fund investment			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
FT premium investment in schools [FT]	1 new primary school, 3 classrooms, 2 houses for teachers, 1 school kitchen, 1 girls dormitory have been built by 2 POs between 2007-2011 [FT]	☺☺☺Increased access to schooling [FT] ☺☺Reduced travel time for children to reach school (e.g. some no longer have to walk 7km to school) [FT] ☺☺☺Improved school facilities [FT]	Community wide asset building (increased education) for children
FT Premium investment in health care access [FT]	New dispensaries reduce travel times and make the journey less arduous for the usually female care providers (5 new dispensaries and 2 maternity wings built by two POs between 2007-2011)[FT]	☺☺Time savings for women [FT] ☺☺☺Women and children have better access to health services [FT]	Community wide child and maternal health benefits [FT]
FT premium investment in bursaries [FT]	Investment of FT premium in school bursaries by some POs (e.g. FT outgrowers have funded ~250 bursaries in 2 years), targeted to academically well performing children of disabled, widowed or terminally ill families or	☺☺Greater access to school education for some vulnerable children [FT]	Community wide asset building (increased education) especially for marginalized groups

	given to orphans [FT]		
FT premium investment in dormitory [FT]	One girls dormitory was constructed by the FT outgrowers [FT]	☺Positive safety and study time implications [FT]	Community wide asset building (increased education/study time) and personal security (girl children)
FT premium investment in water services [FT]	Investments in water infrastructure pipes bringing water closer to the communities at 3 POs and pipes and water storage tanks in some of the outgrowers' zones [FT]	☺☺☺Women save many hours which used to be spent collecting water, as the water is now closer to the farmers houses [FT]	Community wide quality of life benefits for women in all 3 focal FT certified KTDA POs and the FT certified outgrowers.
FT premium investment in GL collection centres [FT]	Installation of concrete benches in many collection centres [FT] Construction of 3 new collection centres at 1 PO [FT] Installation of water and electricity in many collection centres [FT]	☺☺Improved GL quality [FT] ☺☺Improved status of collection centre increases community pride [FT] ☺☺Reduced travel times to collection centre for those delivering GL (mainly women) [FT]	Positive income benefits Community wide asset building
FT Premium Funds [FT]	FT Premium funds invested in community projects [FT]	☺☺☺Avoidance of personal contributions to community projects has led to household savings	Positive income benefit for FT producers
FT premium investment in land for tree planting [FT]	FT Premium funds invested in purchasing land for planting trees	☺☺Improved future sustainability of factory operations as trees are used as fuel wood [FT]	Will contribute to a more efficient PO in time
FT premium investment – side effect [FT]	Jobs for local community members are created during the construction of the FT Premium projects [FT]	☺Increased employment opportunities in FT certified tea growing areas	Community wide income benefits and livelihood security for those employed in construction work of FT Premium funded projects [FT]
FT premium investment – cattle [FT]	Artificial insemination (cattle) project in the FT certified outgrower organisation's communities [FT]	☺Improvement in cattle stock [FT]	Community wide increased livelihood security/income benefits
FT premium investment in roads, bus shelters, foot paths [FT]	Access roads and foot paths improved, bus shelters constructed [FT]	☺☺Improved mobility of vehicles and pedestrians in local community [FT]	Community wide asset building
FT premium investment – decision-making [FT]	Community involvement in the decisions taken and implementation of community development projects [FT]	☺Supportive of democratic decision-making in local community [FT] ☺☺Community ownership of FT Premium funded investments [FT]	Contribution to the empowerment of communities through them identifying, implementing and benefiting from the FT funded projects [FT]
FT premium investment – decision-making FT]	Female FT certified outgrowers were not well informed about the FT Premium use [FT]	☹☹Continuation of gender inequality in terms of women and PO decision-making [FT]	No contribution to improving gender equality or female empowerment [FT]
FT premium investment	FT certification and the FT premium funded	☺Increased credibility of the PO in the eyes of	Stronger PO (greater credibility with

overall [FT]	projects such as water tanks have attracted the attention of other projects and donors now keen to work with the FT outgrowers [FT]	potential investors/partner organisations	donors/investors)
Community relations			
POs develop CSR activities [RA]	KTDA POs now have CSR activities as a result of RA encouraging more inclusive approach [RA]	☺Greater focus on assisting institutions which support the most vulnerable in the community (e.g. improvements to the facilities used by disabled people of orphans) than in the past [RA]	Increased proportion of POs tea income being used to benefit the most vulnerable in their community
FT premium investments [FT]	*See above section on FT Premium investments*	*See above section on FT Premium investment outcomes*	*See above section on FT Premium investment impacts*
Advocacy			
Environmental issues (FT&RA]	PO involved in community awareness raising on ecosystem conservation [RA & FT]	☺☺☺Increased community understanding of importance of biodiversity, protection of water sources, use of non-indigenous tree species as fuelwood [FT &RA]	More resilient ecosystem underpinning local livelihoods
High cost of certification and audits [FT&RA]	POs requesting standard bodies to work together more in order that POs can be offered one 'umbrella' certification and audit [RA&FT]	☺One PO has managed to obtain a combined RA and Utz audit [RA] ☹Standard systems are aware but little action on this yet [RA&FT]	Contribution to POs revenue
Environmental protection			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Farmer training on safe handling and use of chemicals [RA]	Farmers have improved understanding on how to handle and use agricultural chemicals and protective equipment [RA]	☺☺Better use of agricultural chemicals and protective equipment by farmers when spraying livestock or vegetables (e.g. reduced spraying of livestock next to windows, reduced pouring of left over chemical on soil or in rivers) [RA]	Health benefits, reduced respiratory problems Less accidental environmental contamination with chemicals
Training on not planting crops in riparian strip and on production of swamp crops (e.g. arrow root) in upland ponds [RA]	Increased indigenous tree and grass planting and less crop farming along riparian strips [RA]	☺Less soil run off into rivers [RA] ☺Increased awareness of impacts of farming on fragile ecosystem services [RA]	More resilient ecosystems underpinning local livelihoods
Training on returning riparian strips to areas for indigenous tree species [RA &FT]	Removal of eucalyptus trees from riparian strips [RA &FT]	☺Protection of water sources [RA & FT]	More resilient ecosystems underpinning local livelihoods

Regular auditing of environmental management aspects of tea farms and zones [RA & FT]	Monitoring of existing Kenyan environmental policies by FT and RA annual audits. They were not being monitored before and therefore not implemented [RA & FT]	☺☺Improved understanding and willingness of POs to follow national legislation in terms of environmental policies [RA & FT]	Contribution to protecting soils and water sources and reducing erosion
Requirement for POs and farmers to plant trees [RA]	POs providing indigenous tree seedlings to farmers to plant [RA] (N.B. this is also KTDA policy now)	☺Reforestation of certain areas with indigenous species and increased tree populations around homesteads and farms [RA]	More resilient ecosystems underpinning local livelihoods
Awareness raising on livelihood diversification opportunities of bamboo [RA/FT/Utz]	Increased planting of bamboo along riparian strip by one PO for use in making furniture, plucking baskets and fuelwood [RA, FT, Utz]	😐Increased awareness by members of a new income generating opportunity, preliminary set up activities of planting bamboo but not yet ready for harvesting [RA, FT, Utz]	Not yet achieved
Wildlife Protection			
Ban on all farming in the forest [RA]	Reduced farming in the forest [RA]	☺Improved forest protection [RA] ☺☺Increased understanding by members of the importance of wildlife for environmental health [RA]	Contribution to more resilient ecosystems underpinning local livelihoods
Ban on hunting wildlife (list of protected species in RA local interpretation guidelines) [RA]	POs introduced wildlife protection policies prohibiting hunting and use of baits or traps for animals [RA] POs have through farmer training encouraged livestock keeping to help supply meat protein [RA] Reduced hunting reported by smallholders [RA]	☺Increased knowledge of local wildlife across members due to certification highlighting its importance and creating lists of wildlife species in local vernacular ☺☺Increased understanding by members of the importance of wildlife for environmental health ☹Loss of income/food opportunity from hunting for a few members ☺Improved livestock keeping knowledge and skills amongst smallholders	Contribution to more resilient ecosystems underpinning local livelihoods
Water conservation			
RA standards and auditing on waste water treatment [RA]	Installation of water treatment units for factory waste water [RA]	☺☺☺Treatment of factory waste water instead of letting it run straight back into the river [RA] ☺☺Increased awareness amongst PO members and managers of importance of environmental protection [RA]	Contribution to more resilient ecosystems underpinning local livelihoods Potential health benefits for downstream ecosystem service users
RA standards and auditing on water and soil	Increased planting of Napier grass along river banks [RA]	☺☺Reduced erosion of river banks [RA]	More resilient ecosystems underpinning local livelihoods

conservation [RA]			
RA standards and auditing on water conservation [RA]	POs introduced a prohibition of clothes and vehicle washing in the river [RA]	☺Reduced river pollution [RA]	More resilient ecosystems underpinning local livelihoods Potential health benefits
RA standards on water conservation and training on avoiding using chemicals near to the river	Improved awareness amongst smallholders of the need to avoid use of chemicals near the river and improved fertiliser application practices to avoid it being washed off into the river [RA]	☺☺Reduced river pollution [RA]	More resilient ecosystems underpinning local livelihoods Potential health benefits
RA standards on water conservation/ rational use of water and training by POs on water harvesting technologies [RA & FT]	Improved understanding of use of water harvesting technologies [RA&FT] Members invest in water storage tanks and pipes to collect rainwater [RA&FT]	☺☺More water harvested and available for irrigated crop production and domestic use amongst tea smallholders [RA&FT]	Livelihood asset building/potential health benefits
Integrated Crop Management			
Training on safe handling and use of chemicals [RA]	Understanding and practice has improved on: how to safely store, mix and apply allowed chemicals (typically used for spraying vegetables or livestock); the dangers of women spraying chemicals when they are the major food preparers and may be pregnant or lactating [RA]	☺☺Reduced accidental exposure to chemicals [RA]	Health benefits for those in the community (e.g. reduced respiratory, skin and headache problems post chemical application)
RA and FT standards and audits require PPEs are purchased and properly used [RA&FT]	Enforced procurement of PPEs by farmers and increased farmer awareness on safe chemical use [RA & FT]	☺Reduced exposure to chemicals amongst smallholders [RA&FT] ☹☹Expenditure on PPEs and chemical stores for farmers [RA &FT]	Contribution to improved health (e.g. reduced respiratory and headache problems post chemical application)
Training on fertilizer application and protective measures [RA]	Improved knowledge on the correct application of fertilisers to reduce run off, and importance of using gumboots and hand protection during fertiliser application [RA]	☺Improved practices in fertilizer application reduce exposure to agrochemicals [RA]	Contribution to improved water quality Contribution to improved tea productivity Potential contribution to health
Training on weeding and herbicide use [RA]	Increased knowledge by members about the importance of reducing weeds in tea [RA] Reduction of herbicide use (e.g. RoundUp just used for spot treatment of persistent weeds) and increased use of mulching and manual	☺Increased use of mulching to suppress weed growth (and improve soil fertility), reduced use of agrochemicals and increased manual weeding [RA]	Contribution to reduced use of agrochemicals Increased work burden

	weeding [RA]		
Training/discussions on transgenic crops (GMOs) and need to avoid introducing, cultivating or processing them on certified farms [RA]	Awareness raising as regards the GMO debate amongst members [RA]	☺More informed members [RA]	Contribution to the empowerment of members (e.g. increased understanding of current issues important for global value chains)
Soil management and conservation			
Training on soil management [RA& FT]	Increased knowledge regards soil management, e.g. leaving of prunings on the field [RA] Improved application (timing, amount, placement) of fertiliser [RA, FT]	☺☺Increased retention of prunings as mulch in tea fields [RA] ☺Improved application of fertiliser (by recommended amount, timing and method) [RA&FT] ☹Increased expenditure on fertiliser once recommended application rates are followed, and due to increasing fertiliser prices [RA&FT] ☺Improved GL yields [RA&FT]	Future income benefits for members as their tea production remains sustainable
Training on terracing of new tea fields being planted (West of Rift Valley) [FT &RA]	Awareness raised on need for terracing in tea fields to reduce soil erosion [FT&RA] Improved knowledge on use of terracing [FT&RA]	☺Increased use of terracing in newly planted or extended tea fields, with potential soil erosion avoidance and soil moisture benefits [FT &RA]	Potential contribution to longer-term livelihood sustainability Investment in ecosystem services
Training on measures to reduce soil erosion [RA&FT]	Napier grass and bamboo being planted along riparian strips to reduce soil erosion [RA&FT] Improved smallholder understanding of gap filling in tea fields to limit soil erosion [RA]	☺Reduced soil erosion reported [RA&FT]	Improved water quality, contributing to better ecosystem services underpinning livelihoods
Awareness regarding need for roads with reduced soil erosion/water run-off problems in the tea growing areas [RA]	POs using road building methods that limit soil erosion and water run-off, including drainage canals and caravats/pipes [RA]	☺Reduced soil erosion /water-run-off [RA]	Improved water quality and reduced erosion in tea fields, contributing to ecosystem services underpinning livelihoods
Training on the use of organic manure on tea [FT&RA]	Increased awareness and use of organic manure on tea by certified smallholders [FT, RA]	☺☺Reduced expenditure on agrochemicals [FT& RA] ☺In time will contribute to improved soil structure [FT & RA]	Contribution to income benefits, and ecosystem services underpinning livelihoods
Training by kitchen garden	Increased awareness of the importance of	☺Increased crop rotation of annual crops being	Contribution to yield and income

project staff on use of crop rotation for annual crops to prevent the build-up of pests & diseases [FT]	crop rotation for annual crops to reduce pests and diseases [FT]	practised [FT]	benefits
Integrated waste management			
RA standards, training and auditing on waste management on farm and in household [RA]	Improved awareness and management of farm and household waste, through the separation of different types of waste (e.g. compostable and non-biodegradable and hazardous). *(N.B. However, since 2009 the RA-only certified PO has not managed to find a company to recycle non-biodegradable waste and it currently remains in sacks at farmers' homes)* [RA]	☺☺Reduced exposure to toxic waste and environmental pollution by all RA certified HHs and farms [RA]	Contribution to improved health of members and surrounding ecosystem
Training on RA standards regarding the ban on the burning of plastics [RA]	Increased awareness of the ban on burning plastics [RA]	☺☺Reduced exposure to toxic chemicals reported [RA]	Contribution to health benefits and air quality improvements
Compliance with waste separation standard [RA]	Regulations developed on waste management in factory [RA]	☺Improved cleanliness in the factory [RA] ☺Waste separation management (e.g. paper, polythene, metals) [RA]	Improved environment and workplace Reduced health risks from hazardous waste
Energy efficiency			
Use of FT premium (and PO budget) to buy land for fuelwood production[FT & KTDA Policy]	Land purchased for future fuel wood production [FT&KTDA]	☺in future, more self sufficient PO due to production of fuelwood [FT&KTDA]	Asset building at PO level In future, less deforestation pressure of protected areas and particularly indigenous trees within the tea zone
RA training on avoiding use of indigenous tree species for tea processing fuelwood, to help conserve the ecosystem [RA]	Factory's boiler now run on firewood only, Eucalyptus and Grevillea wood only which give better heat generation [RA] Factories no longer purchase indigenous trees for fuelwood [RA]	☺☺☺Improved energy efficiency at the majority of KTDA POs [RA] ☺☺Reduced market for indigenous tree fuel wood [RA]	Less environmentally damaging tea processing
Standard requirements on using energy more efficiently [FT]	Installation of more efficient machines in the factory, and cladding of steam pipes etc to reduce energy wastage [FT]	☺☺Improved energy efficiency of PO [FT]	Stronger PO (contribution to financial viability and more sustainable processing methods)
Training on tree planting [FT,RA,KTDA]	Increased awareness of tree planting by members to supply the factory with fuel wood	☺☺More trees planted [FT,RA,KTDA] ☺Awareness raised on the importance of using	In future reduced biodiversity loss of, and more sustainable tea process

	in the future [FT, RA,KTDA]	renewable energy sources [FT,RA,KTDA]	methods and related income benefits for PO and farmers
Investment in small hydro electric plants [KTDA]	Members contributing funds towards construction of small hydro plants [KTDA]	In future, reduced electricity costs of factory (by upto 60%) [KTDA]	Reduced operational costs of PO and improved profits for farmer members
Training on crop residues as fuel [FT,RA]	Trialling of crop residues as fuel e.g. briquettes made from sugar cane waste [FT, RA]	☺Increased awareness of and experience with renewable energy sources [RA&FT]	Not yet achieved, but potentially improved access to energy and income benefits
Standards requirements and audits on energy consumption records and improvements in energy use efficiency , [FT&RA]	Regular energy audits of the factory, to see how they can improve efficiency conducted [FT,&RA]	☺☺Some improvements in factory energy efficiency, e.g. upgrading or insulating machinery [FT&RA]	More financially viable/efficient PO
RA standards, audits and training on energy efficiency [RA]	Installation of translucent roofing sheets in factory and use of energy saving light bulbs [RA]	☺Reduced lighting costs [RA]	More financially viable PO [RA]
Standards requirements and audits on improvements in energy use efficiency [RA]	Building of sheds to keep fuelwood dry so that it burns with less smoke and more efficiently [RA]	☺☺Reduced fuelwood use and reduced pollution from the factory [RA]	Health benefits for local community More financially viable and environmentally less damaging PO

Appendix 4: Actual Impact Pathways of RA Certification Standards on Kenyan Tea Estates in 2012

(based on interviews with a range of tea stakeholder types)

Management systems (social and environmental)			
Inputs	**Outputs**	**Outcomes**[32]	**Impacts relevant to poverty**
RA requirements for implementation of best management practices and internal and external review of activities [RA]	Increased documentation of activities and outcomes [RA] Increased sharing of information with workers *(e.g. noticeboards, more committee meetings)* [RA] Creation and documentation of long-term social and environmental management plan, followed by awareness raising activities regarding it [RA]	☺Increased professionalism of estate's record keeping and management systems [RA] ☺☺Increased two way communication between managers and workers [RA] ☹Increased management workload to set up and maintain all the management systems and provide documented evidence [RA] ☺Worker understanding of long-term social and environmental plan [RA] ☹Time consuming communication process with local community regarding what RA certification and principles mean [RA]	Better managed estate More empowered workforce
RA requirements for RA and non RA products to be processed and marketed separately [RA]	Introduction of a system whereby RA and non-RA certified GL (e.g. that coming from non-certified outgrowers) is processed separately (e.g. at a different time during the day) [RA]	☹Increased costs due to RA products being processed separately [RA] ☺☺Improved traceability systems at factory [RA] ☺Improved ability to locate where problems are occurring and to manage product quality due to traceability systems [RA] ☺Increased buyer confidence regards product traceability, safety and sustainability [RA]	Better managed estate
RA criteria on and auditing of social and environmental management systems [RA]	Regular monitoring of energy use, development of an energy efficiency plan [RA]	☺☺More efficient and better monitoring of energy use [RA] ☺☺Reduced energy usage in factory, through cladding pipes, and altering machines to make them more efficient [RA]	Increased sustainability and efficiency of tea factory operations, and therefore workers job security
	Hiring of management personnel to cover environment and health and safety activities [RA[	☺☺Improved training, monitoring and reporting on environment and health and safety issues [RA]	Better managed estate Improved occupational health and safety of workers

[32] In order to provide some guidance as to the scale and importance of the different outcomes from the perspective of the stakeholders interviewed a basic scoring system has been used to identify important positive outcomes ☺☺ or ☺☺☺, positive outcomes which either do not affect many people or are not yet having large impacts ☺, while negative outcomes are shown as ☹, with very negative outcomes affecting many people or having a very negative effect shown as ☹☹ or ☹☹☹.

			More resilient ecosystems underpinning local livelihoods
Worker training on RA principles and implementation of RA criteria on having committees which include workers [RA]	Increased interaction between management and workers [RA] Increased involvement of workers in decisions making *(e.g. factory workers now have H&S, fire fighting, first aid and food safety committees; field workers have a first aid committee)* [RA]	☺☺Improved worker to worker and worker to management relations [RA] ☺More enlightened workforce are easier to manage [RA] ☺☺More open door management policy [RA] ☺☺Introduction of minuted liaison meetings between management and workers on monthly basis in factory and quarterly in field [RA] ☺☺Increased workers' committees [RA] ☺An anonymous suggestions box [RA]	Better managed estate Greater voice and representation of workers in estates activities and decisions
RA standards require separate harvesting, handling, processing and packaging and transportation of RA certified and non-certified GL to avoid mixing of certified and non-certified products [RA 1.10]	Estate processes outgrowers (non-certified) GL at different time of day than their own certified GL and packages and markets it separately	☺☹Introduction of new systems to separate certified and non-certified GL and made tea [RA] ☹Estate can no longer mix the outgrower GL with their own GL, which alters the flavour of the estates made tea [RA] ☺Buyers keen for estates to get their outgrowers certified, as outgrowers clones improve the flavour of the estates made tea [RA]	Better managed estate Estate helping outgrowers to become RA certified
Sustainable tea production practices			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
RA standards promote improved tea production and GL quality, estate invests in training its pluckers on more frequent plucking round, improved tea table management and fertiliser application [RA]	Improved agricultural practices *(e.g. manual weeding, leaving of the prunings as mulch, maintenance of a flat plucking table, better fertiliser placement, reduced fertiliser application times) a*nd more frequent plucking [RA]	☺☺Increased GL yield [RA] ☺☺Increased GL quality [RA]	Positive income benefits for pluckers as more GL to pluck Increased revenue for estate due to higher yields and higher quality tea fetching a higher market price
Estate introduces stricter plucking criteria to improve its GL quality as recommended in RA	More selective plucking [RA]	☹Reduced GL volume [RA] ☹Higher costs of production [RA]	Negative income benefits for pluckers as they pluck reduced quantities of GL per day *(N.B. both this and the above impacts*

standards [RA]			*occur, although they contradict each other)*
RA standards promote high quality products [RA]	Improved GL production, plucking, weighing and transporting practices [RA] Improved made tea packing and transport practices [RA]	☺☺Improved market price due to higher quality made tea [RA]	More profitable estate, more secure jobs for workers
RA standards promote hygienic food production [RA]	Cement floors installed in collection centres, to improve hygiene and GL quality [RA] Mandatory hand washing with soap before entering tea factory introduced [RA]	☺Improved GL quality [RA] ☺Improved health and hygiene understanding of workers [RA]	More profitable estate, more secure jobs for workers More empowered workers
Fair treatment and working conditions for workers			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
RA criteria on fair treatment of workers [RA]	Regular monitoring of water quality of all domestic water supplies on the estate [RA]	☺☺Safe drinking water in worker's living camps [RA]	Improved health of workers
RA standard criteria that estates must implement an educational program for workers on fundamental health and hygiene, and must provide medical services during working hours and in case of emergency	Increased health training for workers by the health department [RA] Improved laboratory, Voluntary Counselling & Testing (VCT), maternity unit, ward and emergency ambulance facilities [RA] Culture change by managers towards sick leave [RA]	☺☺☺Reduced occurrences of malaria incidences and sick leave [RA] ☺Reduced company expenditure on medicines [RA] ☺☺Workers can now rest when sick, whereas previously they were afraid of losing their jobs [RA]	Improved worker health and productivity Improved worker morale
Training opportunities for workers [RA]	Some workers received training on how to plan and use their wages [RA]	☺☺Increased ability of workers to plan and manage their household finances [RA]	Improved livelihood asset building skills (e.g. household budgeting)
Increased awareness and consideration of fair treatment of workers by certified estates [RA]	Estate improves systems for enabling workers in need to take salary advances [RA]	☺☺Workers can access mid month salary advances more easily [RA]	Improved worker food security Improved worker well-being
	Increased number of weighing points [RA]	☺☺Pluckers do not have to walk so far with baskets of GL on their backs and have more energy left [RA]	Improved worker well being
	Workers are now provided with transport if transferred from one living camp to another [RA]	☺Workers do not have to use their own finances if transferred to a different living camp on the estate [RA]	Improved worker well being Improved worker morale

Estate must comply with national labour laws [RA]	Implementation of 14 days paternity leave law and sick pay leave [RA]	☺☺Improved support systems for female workers or wives of male workers after giving birth [RA] ☺☺Workers can now rest when sick without fear of losing their jobs [RA]	Improved worker health
Housing provided by estates for workers must meet the RA criteria 5.14 [RA]	Improved maintenance of workers houses *(e.g. painting of houses, changing of chimneys to reduce smoke, renovation of uninhabited houses)* [RA]	☺☺☺More comfortable, healthier and safer accommodation for workers [RA] ☺☺☺Reduced crowding in workers houses [RA] ☺☺Increased reputation of estate amongst workers and local community as a good employer [RA]	Improved worker well being Improved worker morale Better managed estate
Workers housing must have good safety conditions (criteria 5.14)	Outdoor lighting installed at workers camps [RA]	☺☺Improved safety of workers, particularly women [RA]	Improved worker well-being
Workers housing and facilities must be well designed and hygienic (criteria 5.14)	Roofs installed on the washrooms in the living camps [RA] Worker employed to clean workers' toilet blocks [RA] Increase in the number of ablution blocks to the required ratio [RA]	☺☺More comfortable, private and hygienic washing and toilet facilities [RA]	Improved worker well-being Potentially improved worker health
RA regulations state that overtime must not exceed 12 hours per week (interpreted as 2 hours per day), with normal working hours being 48 per week (criteria 5.7)	Estate management reorganise factory work shifts (e.g. factory shifts changed from two 12 hour shift per day to three 8 hour shifts) [RA] Estate management gradually introduce the 12 hour overtime limit per week [RA]	☹☹Waged workers unhappy due to having their overtime income cut, some leave [RA] ☹☹Some waged workers struggle to repay loans they had taken out on the assumption their overtime income would continue at the same level [RA] ☹☺Estate has to employ more factory workers to staff the extra shift per day [RA] ☺Pluckers (who make up the majority of the workforce) are unaffected by the overtime ban as they are paid per kg of GL plucked [RA] ☺Some workers (females in particular) are happy to be able to relax, spend more time with their children and on their housework and be fresh to start the new week [RA] ☹In some cases excess overtime working still occurs but the estate uses time off in-lieu arrangements instead of payments [RA]	Reduced income for waged workers who previously relied on their overtime payment Improved worker health and well –being Increased labour costs for estate (e.g. housing for the extra workers who needed to be employed) Better managed estate
RA critical criteria	Awareness raising and training of managers,	☺☺Reduced harassment of women by male supervisors [RA]	Improved well-being of female

prohibits harassment or sexual abuse practices in the workplace	supervisors and workers on workers right [RA] Harassment recognised as a sackable offence [RA]	☺Increased recognition of occupation risks faced by female employees [RA] ☺☺Increased awareness of women's rights by workforce [RA] ☺☺☺Decreased domestic violence amongst workers due to influence and adoption of RA values by workers [RA]	workers
RA standards on access to education for workers children and supporting of local livelihoods	Increased number of educational bursaries for workers children [RA] Workers' children now prohibited from helping their parents pluck GL, and so they have now been enrolled in secondary schools by their parents or an estate bursary [RA] Estate work with district education office to improve primary school teachers [RA]	☺☺Increased access to secondary school for workers' children [RA] ☺☺Prohibition of secondary school age children helping their (worker) parents pluck GL [RA] ☺☺Improved performance of children in estates primary schools	Positive livelihood asset building
RA standards on access to education/ child care for workers' children	Estate employed qualified early childhood development personnel for their existing crèches [RA] One estates clinic now runs childcare classes for mothers [RA]	☺☺Improved childcare provision for workers [RA] ☺☺Improved understanding of early childhood care by female workers [RA]	Improved early childhood health and well-being for workers children Improved working environment for mothers
FT Premium funds	Joint Body determine how to use the FT Premium funds received by the estate [FT]	☺☺Provision of secondary school educational bursaries for 25 needy children [FT Premium] ☺☺Worker training in health and safety, gender issues and environmental conservation [FT Premium] ☺☺Improved childcare provision for workers [FT Premium] ☺☺Maintenance and renovation of workers houses [FT Premium] ☺☺Provision of maternity leave with pay [FT Premium]	Positive health benefits for workers Positive livelihood asset building Improved early childhood health and well-being for workers children Improved working environment for mothers
Compliance with occupational health and safety standards			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
RA standards to minimize or eliminate workers' occupational risks [RA]	Increased signage around the factory [RA]	☺☺Raised awareness amongst workers of occupational risks and how to reduce them [RA] ☺☺Increased discussions between managers and workers of risks, protective measures and potential problems [RA]	Improved worker well-being and positive health benefits Better managed estate
	Rain shelters built in tea fields [RA]	☺☺Pluckers risk of getting struck by lightning, or wet and then sick reduced [RA]	Improved worker health

			Improved worker morale
	Drinking water provided for tea pluckers in the tea fields [RA]	☺Pluckers risk of suffering from thirst or dehydration during long plucking shifts reduced [RA]	Improved worker health Improved worker morale
	Toilet blocks built in the tea fields for pluckers	☺Increased hygiene in tea fields due to elimination of need for workers to go to the toilet amongst the tea bushes [RA]	Improved worker health Improved worker dignity Better managed estate
Relevant workers trained on safer application of fertiliser	Provision of gloves and boots for fertiliser application [RA] Training of how to apply fertiliser to reduce run off [RA] Supervision of fertiliser application timing to reduce likelihood of it being washed away by rains [RA]	☺Safer use of fertiliser [RA]	Reduced worker risk More resilient ecosystems underpinning workers livelihoods
Implementation of an occupational H&S programme to reduce or prevent risk of accidents, including continuous worker training to educate them on safer working	Increased purchase of PPEs by estate Increased use of PPEs in factory (e.g. boots, overalls, ear muffs) Increased H&S worker training (e.g. safe use of chemicals, fire fighting, PPE use, machine use, ISO certification, hygiene, RA principles, first aid, health and safety, HIV/AIDS, public relations and family life) Increased number of fire extinguishers, with some factories installing fire hydrant systems New H&S department and committees Introduction of annual medicals for chemical sprayers, MTH operators and sifters and sorters, and those who prepare food for the managers Regular internal H&S inspections and risk assessments	☺☺Reduction in worker accidents occurring during work [RA] ☺☺Improved management systems [RA] ☺Workers feel more involved in and aware of estate's operations, plans and decisions [RA] ☹☹Pluckers may not wish to attend trainings as it results in reduced income as they are paid per kg [RA]	Improved worker well-being Improved worker morale More empowered workforce Better managed estate
RA standards on storage of agrochemicals in a manner that minimizes potential negative impacts on human and	Quarterly inspection of all agrochemicals in store to ensure no leakage [RA]	☺☺Safer storage of agro-chemicals [RA]	Reduced human and/or environmental health risks from agrochemical spills during storage

environmental health			
Networking			
Increasing trend of RA certification and need for estates to help their outgrowers become certified	Improved relationships with other estates as they meet to discuss certification and audit related issues *(e.g. the consequences of not having implemented the reduced overtime regulation, how best to help their outgrowers become certified)* [RA] RA organised workshop in Kericho focused on how outgrowers can become certified [RA]	☺Improved networking between RA certified estates due to sharing experiences regards certification associated challenges [RA]	Stronger, more networked POs and members
Certification related administration, compliance and auditing			
RA certification criteria	Preparations for RA certification such as upgrading infrastructure (e.g. solid waste and wastewater management systems), worker and community awareness raising and training, signage, documentation of practices, chemical stores, audits [RA]	☹☹Increased expenditure on estate's facilities and management systems [RA] ☺☺☺Improved infrastructure (e.g. factory, workers houses, childcare, washing facilities, waste water treatment plants) [RA] ☺☺Increased two way communication between managers and workers [RA] ☹Increased management workload to set up and maintain all the management systems and provide documented evidence [RA] ☺☺Improved worker morale [RA] ☺☺Reduced pollution of water sources [RA]	Better managed estate Improved worker well-being More resilient ecosystems underpinning worker and local community livelihoods
Growing markets, linking to buyers and value addition			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Additional payments by some buyers for RA certified tea - to estates which were among the first to become RA certified [RA]	Some estates negotiate additional payments of ~0.075USD/kg of made tea from some buyers wanting RA declared tea *(N.B. Although Lipton had agreed to pay RA1 estate an additional payment they did not do so)* [RA]	☺☺Increased revenue of estate due to higher payment price for RA certified made tea [RA]	More profitable estate, and therefore more secure jobs for workers
Existence of RA certification [RA]	Achievement of RA certification [RA] Improved status, marketing and reputation of estate's made tea [RA] Attraction of new buyers [RA[	☺☺☺Increased market access [RA] ☺☺☺Increased direct overseas sales (*e.g. DSO sales had increased from 4% to 30% in 1 year following RA certification at one estate*), which are more profitable [RA]	More profitable estate, and therefore more secure jobs for workers
Existence of RA	Buyers increasingly aware of the importance	☺More attentive relationship with buyers *(e.g. buyers now*	Development of stronger (less

certification [RA]	of having a socially and environmentally sustainable supply chain, and the risks associated with not having one [RA]	*visit the estate and see if the field and factory environments are clean and check whether workers have water to wash their hands)* [RA]	virtual) trading relationships between buyer and estate
Community relations			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
RA standards on safe working and living environments for workers and the local community [RA]	Installation of hand rails around dams by the estate [RA]	☺Improved safety near dams [RA] ☺Increased appreciation of estate presence by local community [RA]	Improved community and worker well being
RA standards on helping with environmental education efforts, and protecting and conserving community natural resources [RA]	Including local chiefs in environmental and natural resource protection training, and supporting them to then training the local communities [RA] Estate provided and planted tree seedlings at a local school [RA]	☺☺Local chiefs training surrounding community on RA sustainability principles [RA] ☹Time consuming communication process with local community regarding RA certification and principles ☺☺Increased environmental awareness by school children and community [RA] ☺Increased tree coverage [RA]	More resilient ecosystems underpinning the community's livelihoods Increased community social cohesion
RA standards on the estate collaborating with the development of the local economy, and contributing towards the cost of community infrastructure and shared resources	Needs assessment with local schools [RA] Interaction between estate management and district education officers resulting in hiring of new teachers [RA] One estate is sponsoring building of two classrooms in a local secondary school and a toilet block [RA] One estate has provided books for a school One estate donated uniforms and shoes for a whole primary school [RA] One estate has sponsored computer facilities in one primary school [RA]	☺☺☺Local primary schools (for workers children and the wider community) improved through hiring of new teachers, and the estate encouraging parents to become more involved in their children's education, pass rates have increased dramatically [RA] ☺☺Improved facilities at some local schools, helps improve student/teacher morale and performance [RA]	Positive livelihood asset building for local community Increased community social cohesion
RA standards on access to education for workers children and supporting of local livelihoods	Increased number of educational bursaries for workers children [RA]	☺☺Increased access to secondary school for workers' children [RA]	Positive livelihood asset building

Environmental protection			
Ecosystem conservation			
Inputs	**Outputs**	**Outcomes**	**Impacts relevant to poverty**
Regular auditing of environmental management aspects of tea estates [RA]	Monitoring of existing Kenyan environmental policies by RA annual audits. (*NB. they were not being monitored before and therefore often not implemented*) [RA]	☺☺Improved understanding and willingness of estates to follow national legislation in terms of environmental policies [RA]	Contribution to resilience of ecosystems underpinning livelihoods e.g. protecting soils and water sources and reducing erosion
RA criteria on restoration of riparian forests critical to protection of water channels	Setting up of indigenous tree seedling nursery [RA] Training on and implementation of tree planting along riparian strips [RA] Provision of indigenous tree seedlings to neighbours [RA]	☺☺Increased planting of indigenous tree species along riparian strips [RA] ☺☺Increased worker and community understanding of and participation in ecosystem conservation [RA] ☺☺Protection of water catchments [RA]	Contribution to resilience of ecosystems underpinning local livelihoods Contribution to strengthening relations between the estate and the local community
RA standards on protection of existing natural ecosystems	Fencing of protected areas [RA] Ban on use of indigenous trees as fuelwood [RA]	☺Reduced felling of trees in forest [RA] ☺☺No use of indigenous trees as fuelwood on estate (they use Eucalyptus mainly) [RA] ☺Gradual restoration of natural ecosystems [RA] ☺Protection of replanted riparian strips [RA]	Contribution to resilience of ecosystems underpinning local livelihoods
Wildlife Protection			
RA criteria on creation of an inventory of wildlife found on the estate	Census of animals and birds on their land (in vernacular and English) [RA]	☺☺Increased awareness by workers, management and local community of the diversity of wildlife dependent on the estate [RA] ☺☺Increased worker and community awareness regards wildlife diversity as an indicator of ecosystem health [RA]	Contribution to resilience of ecosystems underpinning local livelihoods
RA criteria for protection of ecosystems that provide habitats for wildlife that live on or pass through the estate	Land set aside for wildlife protection [RA] Ban on hunting or fishing on the estates land [RA]	☺☺Increased protection of the wildlife associated with the estate [RA]	Contribution to resilience of ecosystems underpinning local livelihoods
Water conservation			
RA criteria on recording annual water volume available from water	Regular monitoring of water use [RA] Development of a water use conservation action plan [RA]	☺☺More efficient and better monitoring of water use [RA] ☺☺Reduced water usage [RA]	Increased sustainability and efficiency of tea factory operations, and therefore

sources and estate's water consumption			workers job security
RA criteria for appropriate treatment systems for all wastewater	Installation of waste water treatment plant (biosystem) [RA]	☺☺☺Reduced pollution of rivers due to treatment of factory waste water which used to previously be discharged straight into river [RA]	Contribution to resilience of ecosystems underpinning local livelihoods Contribution to improved community health and wellbeing
RA standards on rational use of water resources	Worker education on rational use of water [RA] Rainwater harvesting from roofs of managers' houses [RA]	☺Increased worker awareness regarding rational use of water and rainwater harvesting opportunities [RA] ☺Improved use of rainwater [RA]	Contribution to resilience of ecosystems underpinning local livelihoods
RA standards on implementation of a surface water monitoring and analysis program	Monitoring of nutrient content (phosphate and nitrate)and pH of rivers on the estate prior to and after fertiliser application *(samples taken by estate then analysed by Government Chemist)* [RA]	☺Increased awareness of risks of chemical and sediment run-off for water resources [RA] ☺☺Improved application of fertiliser to reduce chemical run-off and water source contamination [RA]	Contribution to resilience of ecosystems underpinning local livelihoods Likely contribution to improved community health and wellbeing
Integrated Crop Management			
RA standards to minimize excessive use of agrochemicals	Training of workers on and implementation of better fertiliser placement practices, and reduced fertiliser application times	☺☺Reduced fertiliser usage [RA] ☺☺Reduced fertiliser run-off [RA]	Potential contribution to more resilient ecosystems underpinning local livelihoods Likely contribution to improved community health and wellbeing
RA standards on use of IPM program for harmful pests (insects, plants, animals and microbes)	Weeding on the estate is now done manually except for spot treatment of persistent weeds such as couch grass [RA]	☺Reduced herbicide usage [RA]	Potential contribution to more resilient ecosystems underpinning local livelihoods
Soil management and conservation			
RA standards require the estate to execute a soil erosion prevention and control program	Sourcing of approaches for reducing soil erosion (*N.B. management at one estate mentioned they felt they lacked the technical expertise for this principle*) [RA] Training of workers on and implementation of soil erosion prevention practices [RA]	☺☺Reduced soil erosion through planting of particular flower and grass species at plot edges to reduce soil erosion [RA] ☺☺Reduced soil erosion through creating drainage ditches to prevent soil run off ☺Using grass as opposed to murram/clay roads	Contribution to more resilient ecosystems underpinning local livelihoods
RA standards require the estate to have a soil or	Soil sample analysis particularly to find out about the organic content of the soils [RA]	☺☺Leaving tea bush prunings in field as mulch [RA] ☺☺Improved application (and reduced runoff) of industrial	Contribution to more resilient ecosystems underpinning local

crop fertilisation program based on the soil characteristics or properties, and that organic and non-organic fertiliser must be applied	Increased knowledge regards soil management, e.g. leaving of prunings on the field [RA] Improved application (timing, amount, placement) of fertiliser [RA]	fertiliser [RA]	livelihoods
Integrated waste management			
RA criteria on keeping estates clean and tidy and managing waste according to its type and quantity	Introduction of and worker training on waste management practices including separation of different types of waste and use of garbage pits *(N.B. However managers suggested waste needs to be separated inside workers houses (not just at the living camp waste disposal sites) to ensure they separate it correctly)* [RA]	☺☺Improved cleanliness and safety of workers living camps [RA]	Improved worker well being Better managed estate
RA standards require programs for managing waste according to its type and quantity and through recycling and waste reduction and reuse	Careful collection, separation (plastics, glass, biodegradable) and disposal of all waste [RA]	☺☺Composting of biodegradable waste [RA] ☺Hiring of NEMA certified contractors to collect hazardous waste [RA]	Better managed estate Potential contribution to improved worker well being and ecosystem resilience
Energy efficiency			
RA criteria on social and environmental management systems	Regular monitoring of energy use, development of an energy efficiency plan with external consultants	☺☺More efficient and better monitoring of energy use [RA] ☺☺Reduced energy usage in factory, through cladding pipes, and altering machines to make them more efficient [RA] ☺☺Increased use of natural light through installing transparent roofing sheets in factory [RA]	Increased sustainability and efficiency of tea factory operations, and therefore workers job security
RA standards on improved energy efficiency – for fuelwood use	Shortening of period between felling and planting fuelwood trees [RA] Construction of fuelwood drying sheds to increase the calorific value/efficiency of fuelwood burning in the furnace Increased tree planting for fuelwood use	☺☺Improved fuel wood production practices [RA] ☺☺Use of drier fuelwood which increases its calorific value [RA] ☺☺Increased self-sufficiency in fuelwood production [RA]	Contribution to more resilient ecosystems underpinning local livelihoods Better managed estate Reduced operational costs and increased profits and workers job security