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منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Agricultura y la Alimentación

COMMITTEE ON COMMODITY PROBLEMS

INTERGOVERNMENTAL GROUP ON TEA

NINETEENTH SESSION

New Delhi, 12 – 14 May 2010

PROJECT PROPOSAL FOR SUBMISSION TO THE COMMON FUND FOR COMMODITIES: PROMOTION OF TECHNOLOGIES FOR MANAGEMENT OF TEA QUALITY AND FOOD SAFETY IN SMALLHOLDER TEA PRODUCTION IN EASTERN AFRICA

The Tea Research Foundation of Kenya

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30th April 2010

TO: Kaison Chang
Secretary Intergovernmental Group on Tea
Food and Agriculture Organization of the United Nations

RE: **PROPOSAL ON PROMOTION OF TECHNOLOGIES FOR MANAGEMENT OF TEA QUALITY AND FOOD SAFETY STANDARDS IN SMALL HOLDER TEA PRODUCTION IN EASTERN AFRICA**

Please find attached a proposal on "Promotion of technologies for management of tea quality and food safety standards in small holder tea production in Eastern Africa" for submission to CFC for consideration for funding.

Dr. F. N. Wachira
DIRECTOR/CEO

PROPOSAL PRESENTED TO COMMON FUND FOR COMMODITIES
Country: Kenya
Collaborating countries: Tanzania, Uganda, Rwanda and Burundi.

PROJECT TITLE: - PROMOTION OF TECHNOLOGIES FOR MANAGEMENT OF TEA QUALITY AND FOOD SAFETY STANDARDS IN SMALLHOLDER TEA PRODUCTION IN EASTERN AFRICA

Jointly Submitted on Behalf of the respective countries
By

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Coordinating Institution: The Tea Research Foundation of Kenya (TRFK)

Counterpart contribution:	**USD 1,204,244**
CFC Financing sought:	**USD 1,852,684**
Estimated Total Cost:	**USD 3,056,928.86**

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Abbreviations Used

CFC	-	Common Fund for Commodities
COP	-	Code of Practice
DALDO'S	-	District Agriculture Development Officers
DSA	-	Daily Subsistence Allowance
ERWECS	-	Economic Recovery for Wealth and Employment Creation
ETC	-	European Tea Committee
EU	-	European Union
FFS	-	Farmers Field School
GAP	-	Good Agriculture Practice
GIS	-	Geographical Information System
GMP	-	Good Manufacturing Practice
GPHP	-	Good Post Harvest Handling
IGG		Inter-Governmental Group
IPDM	-	Integrated Pest and Disease Management
IPM	-	Integrated Pest Management
ISO	-	International Standard Organization
JMPR	-	Joint FAO / WHO Meeting on pesticide residue
KTDA	-	Kenya Tea Development Agency
MRL	-	Maximum Residue Levels
MTA	-	Material transfer agreement
OCIR – THE	-	Office of Tea in Rwanda
PC	-	Personal Computer
PEA	-	Project Executing Agency
RA	-	Rainforest Alliance
SRA	-	Strategy for Revitalization of Agriculture Strategy
STRP		Smallholder tea rehabilitation project
TA	-	Technical assistance
TBK	-	Tea Board of Kenya
TIRDO	-	Tanzania industrial Research and Development Organisation
TOT	-	Trainer of Trainers
TPRI	-	Tanzania Pesticide Research Institute
TRFK	-	Tea Research Foundation of Kenya
TRIT	-	Tea Research Institute of Tanzania
TSHTDA	-	Tanzania Smallholders Tea Development Agency
USD	-	United States of America Dollars

PROJECT SUMMARY

This project proposal is submitted jointly by Kenya, Rwanda, Tanzania and Burundi Governments to address the problems that were carefully considered and prioritized by the smallholder tea farmers in their respective countries. The proposal is hereby submitted for its recommendation for financing by the Common Fund. At its 17th Session, which took place from 29 November – 1 December 2006 in Nairobi, Kenya, the proposal was endorsed by the Intergovernmental Group on Tea for forwarding to the CFC after formulation.

Project Title: Promotion of Technologies for Management of Tea **Quality** and Food Safety Standards in smallholder **tea** production in Eastern Africa

1. Duration: 48 months

2. Location: Tea growing regions in Kenya, Uganda, Tanzania, Rwanda and Burundi

3. Nature of Project:

Improve market competitiveness of teas produced by the smallholder tea growers in Eastern Africa through dissemination of information, knowledge and skills using the most efficient and available extension pathway so as to achieve quality and food safety assurance through certification to meet customer demands The project aims to achieve this through training and dissemination of information and knowledge on Good Agricultural Practices (GAP) to the farmers using FAO proven group training models such as Farmer Field Schools (FFS). The tea extension staff will also be trained on pesticide residues. A comprehensive MRL's traceability mechanism will be established to cater for smallholder tea sub-sector in the region whereby supervised field trials will be set up in collaboration with the respective institutions Joint FAO / WHO Meeting on pesticide residue (JMPR) to establish MRLs on 8 pesticides which are on the priority list of pesticide used in tea.

4. Broad Objective

To improve market access of small holder tea growers through quality improvement and food safety standards and therefore, increase farmer incomes in Eastern Africa.

5. Specific objectives

- Over 950,000 farmers in the region sensitized on the importance and the need for compliance to international tea quality and food safety standards by 2014.
- To avail at least 3 improved tea varieties for multiplication by the small holder tea farmers in Kenya, Rwanda, Tanzania and Burundi by the end of the project.
- To establish a comprehensive traceability system as a means of ensuring demonstrated compliance to MRL's and other food safety and quality parameters all along the tea supply chain from farm to the point of consumption in the region by 2014.
- Monitor quality and pesticide residues on tea in the market in addition to training extension staff on pesticide surveillance techniques plus enhancing the capacity

of at least 25 technicians in the Eastern Africa countries to analyze tea for pesticide residues and contaminants by the end of the project period.

- To generate data for establishment of MRL on at least 8 pesticides that are on the priority list of consumption.
- To generate data for establishment of MRL on at least 4 heavy metals that are on ISO 3720 standards or on countries' food safety standards
- To establish and enforce a dynamic Institutional and legal framework for MRL's and traceability by June 2014.

A. PROJECT BACKGROUND AND COMMODITY STRATEGY

PROJECT BACKGROUND

Tea is an important commodity in the region that contributes significant foreign exchange earnings, supports livelihoods of more than 15 million persons directly and indirectly and contributes to development of rural infrastructure. Tea consuming countries have recently enacted new legislations to ensure that the use of pesticides on tea during production does not lead to residue contaminants in resultants products tea and pose health risks to the tea consumers. The legislations are aimed at excluding any teas that contain chemical residues that exceed the set maximum residue limits (MRLs). Major tea consuming countries like Japan have a list of approved chemicals, while EU countries have set **an** MRL default value of 0.01ppm where use of agricultural chemicals are not authorized for use. All these new regulations impose a threat to prohibition of tea products not complying with the set MRLs. Since tea is important to the economies of the countries in the Eastern Africa region, any legislation in the consuming countries would directly affect the economies of these producing countries and eventually affect adversely the livelihoods of the smallholder tea farmers. A recent survey by European Tea Committee (ETC) on agricultural chemical contaminants on tea did not find any traces in Kenya, Rwanda and Burundi. However, it was reported that emerging pests, diseases and weeds affected slightly less than 0.2 percent of the total planted area in these countries. The most prevalent pest problems include damage by tea mites (red crevice mites, red spider mites and purple mites), scale insects (*Aspidiotus* sp, green soft scales and brown scales), weevils (Systates weevils, tea root weevils), tea thrips (*Scirtothrips kenyensis*), termites, tea mosquito *Helopeltis* sp, tea Crickets and chafer grubs. The diseases include one major wood rot, *Hypoxylon serpens*, and one root rot, *Armillaria mellea.* The most prevalent weeds are grass weeds such as couch grass (*Penisetum* sp) and *Cynodon dactylon*. The presence of these pests is an indication that agricultural chemicals may be applied in future to control current and emerging pests, diseases and weeds that are of economic importance. Therefore the pesticides most likely to be used in tea in event of outbreaks which are above the economic injury level may include herbicides such as those which contain glyphosate acid/salt or glufonisate ammonium as the active ingredients (a.i), insecticides which contain lambdacyhalothirn, Bifenthrin, imidacloprid, dimethoate and abamectin as the a.i, fungicides such as those which contain the a.is, copper, carbendazin, mancozeb and thiophanate-methyl and bicontrol agents among others.

In the case of The Tanzanian tea sector, the pilot traceability scheme organized by Tanzania industrial Research and Development Organisation (TIRDO) revealed that smallholder production dominates a number of Tanzania's major food exports to the EU such as coffee, cashew nut, tea, fish, as well as potential exports like fresh vegetables

and juice concentrates. Hundreds of thousands of Tanzania small-scale producers are in danger of becoming excluded from their main markets because their production systems and related export chains lack capacity both for process control and record keeping in meeting food and feed hygiene, health and safety requirements throughout the production and supply chain. There are intrinsic problems related to their (small-scale producers) acquisition of these capacities. Already there are tendencies for the export market to become increasingly dominated by large scale producers who are well informed and updated, and have capacity to easily comply with the set standards. To some extent this applies to all participating countries. In Kenya, Currently small-scale tea production, under the Kenya Tea Development Agency, accounts for 60% of the total tea production, while multinationals and large-scale tea growers account for the remaining 40%. In Rwanda, there are nine state-owned tea companies and according to World Bank documents, the productivity of the only privately owned tea company in Rwanda is much higher than in the publicly owned ones which might be due to lack of capacity.

There is an urgent need therefore to empower the smallholder tea farmers or publicly owned farms to address their production constraints to increase yields and quality while ensuring food safety and consequently increase access to global markets. In this way, farmer incomes and better livelihoods would be enhanced. This approach is also in line with the Eastern Africa governments' strategies on Poverty Reduction that generally identify participatory extension and technology and information delivery (dissemination) as one area that must be addressed in order to achieve accelerated economic growth in the agricultural sector.

The project intends to improve market competitiveness of teas produced by the small holder tea growers in Eastern Africa through dissemination of information, knowledge and skills using the Farmer Field Schools (FFS). The **Farmer Field School (FFS)** is group learning approach that builds knowledge and capacity among farmers to enable them diagnose their problems, identify solutions and develop plans and implement them with or without support from outside. This approach represents a radical departure from earlier agricultural extension programmes, in which farmers were expected to adopt generalized recommendations that had been formulated by specialists from outside the community. Among the basic features of a typical tea Farmer Field School are as follows;

- The Field School is field based and lasts for a full cropping season.
- FFS educational methods are experiential, participatory, and learner centered.
- Between 20 and 25 farmers participate in a FFS. Participants learn together in small groups of five to maximize participation.

OVERVIEW OF COMMODITY

Relevance of project to the countries in the region

Tea importing and consumer countries have put in place stringent measures on tea quality and food safety standards. These international standards include ISO 3720 and standards on pesticide residues (MRLs). The tea ISO 3720 standard defines quality of black tea. It is necessary for monitoring teas that are processed in the region and those

imported to ensure only teas that meet the standards are traded in the global market. It is therefore necessary for the smallholder farmers in Kenya, Tanzania, Rwanda, and Burundi to be trained and information on Good Agricultural Practices (GAP) be availed to target farmers. This training and awareness raising measures will ensure that farmers benefit by producing teas that meet the quality and safety standards and that will potentially have access to global markets and therefore improve income from the tea. Farmers will also benefit by developing and implementing a Code of Practice (COP) to be adhered to by all the stakeholders to ensure that tea quality is always maintained and hence improved tea prices. The Governments of the tea producing countries in Eastern Africa recognize the importance of producing high quality teas as spelled out in their several policy documents.

Tea industry in Kenya

The tea industry in Kenya is organized under the Ministry of Agriculture. The Tea Board of Kenya (TBK) performs a regulatory function while the Tea Research Foundation of Kenya (TRFK) has a mandate of carrying out research on all aspects of tea growing, processing; value addition and development of new tea products; training, field advisory and extension services; and market research. The Kenyan tea industry is generally structured into the large estate and the smallholder sub-sectors that contribute about 40% and 60% of the total tea produced, respectively. Kenya Tea Development Agency Ltd (KTDA) manages 57 smallholder owned tea factories and also provides extension services. KTDA serves over 500,000 tea growers who cultivate over 107,115 ha. Two Kenya Government policy documents - Economic Recovery for wealth and Employment Creation (ERWECS, 2003) and Strategy for Revitalization of Agriculture (SRA, 2004) envisage agriculture as a major contributor to the Kenyan economy. The tea sector contributes 4% of the GDP. In 2009, Kenya exported about 314,000 tones of processed tea that earned about USD 928 million. Internationally, Kenya is ranked third in annual tea production after India and China with a market share of 10% of world production and an export share of 20% among the major producing countries.

Tea production in Kenya is expected to increase marginally by about 5.7% between year 2010 and 2014. The internal consumption in the country is very low at about 0.45 kg per capita. Kenya therefore continues to rely on the export market. The need to create awareness among the small holder tea growers on food safety standards and GAP is therefore paramount.

Problems and Opportunities/Strategies in Kenya

Production constraints include Limited availability of high yielding, high quality improved tea varieties in Kenya, high and ever increasing cost of production (leaf plucking rates/wages/farm inputs – fertilizer and many levies and taxes), changes in weather and climate leading to more frequent and severe incidences of drought, frost and hail damage and new and emerging pests and diseases arising from expansion of tea growing into marginal areas. These requires development and availability of high yielding, abiotic and biotic tolerant/resistant tea varieties and Sensitization and training farmers on conservation of the environment and adoption of Good Agricultural Practices (GAP) (which will involve the development and availing IPDM packages)

Marketing constraints

Fluctuations in quantities of good quality tea and prices in the market and compliance with global tea quality and food standards; and social audit requirements are some of the marketing constraints. The options to counteract these constraints may include diversification of tea products,compliance with ISO quality standards, and markets diversification – rather than relying on a few traditional markets. Currently, there is over reliance on about four markets (The UK, Pakistan, Sudan, Egypt and Afghanistan constitute 75% of the total exports from Kenya). Therefore, there is need to sensitize/train smallholder farmers on Good Agricultural Practices (GAP), legislation of rules and guidelines on tea quality and on Sanitary and Phytosanitary standards, information on customer and market needs while initiating market research and establishing collaborations with other institutions to provide market information and intelligence

Tea Industry in Tanzania

Ranking fifth among the main export crops, tea plays a significant role in Tanzania economy. Tanzania produced 31,606 tons of tea in 2008 which accounted for 1% of worlds' production. It is the 4th major tea producer in Africa after Kenya, Malawi and Uganda. Large estates account for 50% of the total area under tea producing 74% of the total production. Out-growers including smallholders account for the other 50% and produce 26% of the total tea production in the country. Like all other food related commodities, there is an increase in demand for safe quality tea, and consumers especially in the developed countries want to know where their tea is grown, plucked, transported, processed and packed. Due to global concerns over pesticides residues,, safeguards have been erected to weed out harmful supplies of the beverage. Although it has been observed that smallholder tea growers in Tanzania use very little quantity of agro-chemicals, the MRLs may arise from other farming activities around them which use agro-chemicals e.g. use of pesticides on other crops in the neighborhood of tea farms and plantations and livestock. There is also lack of knowledge on Good Agricultural Practices (GAP) and Good Post-harvest Handling Practices (GPHP) and poor leaf transportation procedures which is also aggravated by poor feeder roads.

Proposed measures for small holder tea growers include:

I. Training and facilitation of the smallholder tea growers to implement GAP through strengthening extension services from district to farm level. It should include integrated pest management (IPM); use of organic fertilizers and safe use of pesticides, use of environmentally friendly selected and approved agrochemicals.
II. The establishment of a comprehensive traceability system as a means of ensuring demonstrated compliance to MRLs and other food safety and quality parameters all along the tea supply chain from farm to the point of consumption.
III. Establishment of MRLs in tea as a control reference.

PROBLEMS AND OPPORTUNITIES/STRATEGIES IN TANZANIA

Despite the efforts being taken to push forward the development of the tea Industry in Tanzania, there are number of production constraints which affect the industry including:-

- Low Productivity under the smallholder tea growers where the annual average is 800kgs per ha of made tea compared to production under Estate which is above 2000kgs per ha (made tea)
- Increasing cost of production due to increased prices of agricultural inputs, power, fuels, salary and wages.
- The change in weather patterns which has greatly affected the tea producers in the Northern part of the Country due to prolonged periods of droughts.
- Inadequate Research Services which limits the availability of the quality and high yielding and quality tea clones.
- Lack of the capacity for smallholder tea growers to control and keep records so as to meet the food and feed hygiene, health and safety requirements throughout the production and supply chain.

In the pilot traceability scheme it was observed that smallholder production dominates a number of Tanzania major food exports. Smallholders are in danger of becoming excluded from their main markets because their production systems and related export chains lack the capacity both for the process control and record keeping in meeting food and feed hygiene, health and safety requirements throughout the production and supply chain

All these requires the training of smallholder tea growers on the application of production technologies, strengthening of SMEs and agricultural extension services. Training on GAP will lead to improved food safety management. It will also facilitate smallholder tea growers to meet the challenges of complying with MRLs and traceability requirements.

Tea Industry in Uganda

The Uganda Tea Authority (UTA) was established in 1974, to promote the development of the tea industry and to have exclusive responsibility for exportation and marketing of tea in Uganda. It also has overall authority on all aspects of the tea industry, including regulating domestic sales, licensing tea growing, factory construction, tea manufacturing and their management. The Uganda government has since revised the functions of UTA to allow private investments. In 1989-1994, the European Union (EU) funded the smallholder tea rehabilitation project (STRP) to assist smallholders to rehabilitate their tea fields. Two main organizations, Agricultural Management Agency (AGRIMAG) and Uganda Tea Development Agency (UTDA) manage the smallholder factories and extension services in Uganda.

Uganda produced 42,385 metric tons made tea in 2008 out of which the smallholder sub-sector contributed about 27% while the balance come from the large estates and the privately owned farms. During the same period, Uganda earned USD 76,100 from 42,385 metric tons of exported tea.

Tea Industry in Rwanda

The agricultural policy in Rwanda intends to transform subsistence agriculture by employing use of modern technology to market oriented agriculture that can provide food security, higher incomes, better balance of trade, employment, environmental

protection and overall rural social transformation. Rwanda Tea Authority (OCIR-THE) has the main functions of preparing the sector policy and strategy focusing on the tea economy and implementation, tea quality and certification of quality and origin. It is also responsible for marketing of tea, participation in international trade and policy negotiations. It collaborates with farmers by providing extension and advisory services and by training farmers in workshops and seminars. During these fora, farmers discuss their problems and concerns. The industry is organized into 4 sub-sectors:

i. The Industrial Block (B1), owned by the government of Rwanda through OCIR-THE occupying 30.2 %.
ii. The co-operatives owned by tea farmers occupying 15.5%.
iii. The villages (TV), owned by individual tea smallholders occupying 51.3% and
iv. Private sector occupying 3% of land area under tea.

The cooperatives (2,932 members) and the village owned plantations (small holder farmers, 27,402 members) occupy 67% of the total land area under tea.

The tea production in Rwanda is on the increase. The tea industry in Rwanda occupies 12,869 ha of land. In 2008, Rwanda produced 13,300 metric tons earning the country USD 40,000. The production is expected to double by 2014. Rwanda produces among the best quality teas in the world. It is therefore important that food safety standards and GAP are introduced in the early stages to fully benefit the small holders to access the global market.

The project will target the smallholder farmers that occupy 67% of the total land under tea because of the overall impact on tea production.

Tea Industry in Burundi

The tea production in Burundi is emerging very strongly among the Eastern Africa countries after a long period of stagnation or even decline. In 2008, Burundi produced 5,300 metric tons of made tea and earned the country USD 9,913. Efforts that have been put in place to encourage farmers to grow tea are steadily bearing results. The production is expected to increase from this level to double by 2016. Sensitization of the smallholder farmers on food safety standards and application of Good Agricultural Practices at these early stages will fully benefit them in terms of access to global tea markets.

Related projects and previous work

The four countries participating in the project have established extension and farmer advisory services. In Kenya, The Kenya Tea Development Agency (KTDA) has elaborate field extension staff attached to each tea factory. The extension staffs work in collaboration with the Tea Research Foundation of Kenya (TRFK) and the Ministry of Agriculture staff in training farmers and dissemination of improved technologies. The TRFK has an existing laboratory facility that is capable of providing quality assurance certification on quality and food safety standards in the region and beyond. In addition TRFK has developed elite tea varieties that will be availed to smallholder farmers in the participating countries. At the TRFK, there is an ongoing programme to generate data

on MRLs for some agricultural chemicals. Some data were recently presented to (JMPR) for evaluation. This expertise will be shared with the collaborating countries.

In Tanzania, tea extension services are provided by both the public sector through Tanzania Smallholders Tea Development Agency (TSHTDA) and the District Agricultural Development Offices (DALDO's). The private sector is also involved through specific contracts between various factories processing the smallholder's leaf and The Tea Research Institute of Tanzania (TRIT). These privately arranged extension contracts ensure that farmers are able to produce Greenleaf at the required volume and quality standards prescribed by the respective factories. Any of the two extension services options can be used as an entry point for the proposed project measures. In Rwanda, the Rwanda Tea Authority (OCIR-THE) collaborates with relevant stakeholders in promotion of tea production. The co-operatively owned farms plus the individually owned smallholder farms that occupy 66.8% of the total land area under tea have existing extension services. These existing structures will be used by the project. In Burundi, Office du The' du Burundi has an existing extension system that is providing advisory and extension services to the smallholder farmers.

The four participating countries therefore have structures in place that need to be strengthened by the project to be able to benefit the smallholder farmers.
The objective of this project, to improve market competitiveness of teas produced by the smallholders in Eastern Africa through quality and food safety assurance and certification to meet consumer demands, relates very well to those of the CFC's funding criteria. It specifically address the following areas:- Improve access to markets and reliability of supply for primary products and the processed products thereof, improve the competitiveness of commodities and enhance cost effectiveness of commodity production.

B. PROJECT OBJECTIVE AND RATIONALE

PROJECT RATIONALE

Tea is a very important commodity to the economies of Kenya, Uganda Rwanda, Tanzania and Burundi. Currently, over 1500,000 small holder farmers in the region rely on the crop for their food security and livelihoods. The rationale for this project is therefore to support the smallholder farmers in the five Eastern Africa countries to improve their capacities from tea by enabling them to readily access global markets. The farmers need to improve their abilities to produce their teas without agricultural residues or food contaminants that are prohibited in the world markets. Setting and implementing of food quality standards such as ISO 3720 and MRLs is likely to impact adversely on tea trade between the consumers and producers of tea and particularly the small holders.

The project proposes to adopt a region-wide approach to reduce duplication of efforts and to ensure harmonization of standards and regulations. The project intends to train small holder farmers, and to disseminate information and knowledge on the need to comply with international market standards and social audit requirements. By using FAO proven methods such as Farmer Field Schools (FFS), farmers will train themselves at the farm level therefore ensuring sustainability of dissemination of

knowledge and information on Good Agricultural Practices GAP) which in turn will ensure compliance to international tea quality and food safety standards. The farmers will be involved in the decision-making and sensitization process as well as in monitoring and evaluation of their activities at the farm level.

PROJECT OBJECTIVES

The overall objective of the project is to improve market competitiveness of teas in the region through quality and food safety.

Specific objectives are:

a. Over 950,000 farmers in the region sensitized on the importance and the need for compliance to international tea quality and food safety standards by 2014.
b. To avail at least 3 improved tea varieties for multiplication by the small holder tea farmers in Kenya, Rwanda, Tanzania and Burundi by the end of the project,
c. To establish a comprehensive traceability system as a means of ensuring demonstrated compliance to MRL's and other food safety and quality parameters along the tea supply chain from farm to the point of consumption in the region by 2014.
d. Monitor quality and pesticide residues on tea in the market in addition to training extension staff on pesticide surveillance techniques plus enhancing the capacity of at least 25 technicians in the Eastern Africa countries to analyze tea for pesticide residues and contaminants by the end of the project period.
e. To generate data for establishment of MRL on at least 8 pesticides that are on the priority list of consumption.
f. To generate data for establishment of MRL on at least 4 heavy metals that are on ISO 3720.
g. To establish and enforce a dynamic Institutional and legal framework for MRL's and traceability by June 2014.

C. PROJECT COMPONENTS

SN	COMPONENTS
1	Training 450,000 Smallholder tea growers and 800 Extension staff on GAP
2	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighboring tea growing areas
3	Nursery establishment and propagation of elite varieties
4	Determination of MRLs on pesticides for all tea products in Kenya tea sub sector
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector
6	Enhancing capacity for at least 25 Technicians from the five participating countries to detect MRLs and contaminants in tea products
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs in the five participating countries
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and their enforcement

D. TENTATIVE COSTS AND FINANCING

Summary of financing plan by component and source (USD)

SN	Activities	COUNTERPART CONTRIBUTION (USD 000)	CFC CONTRIBUTION (USD 000)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	298.54006	459.2884
2	Propagation and Nursery establishment	177.2199	272.646
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighboring tea growing areas.	202.46226	311.4804
4	Determination of MRLs for all tea products in Kenya tea sub sector	199.75956	307.3224
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	29.60958	45.5532
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	35.87298	55.1892
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	85.8429	132.066
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	26.80392	41.2368
10	Technical Assistance and Consultancy	62.4624	96.096
	Sub-Total	1118.57356	1720.882
	Meetings/ Workshops	15.79305	24.297
	Administrative costs	6.422	9.88
	Impact Evaluation	22.815	35.1
	Contingence	39.25025	60.385
	Sub-Total	84.2803	129.662
	GRAND TOTAL	**1204.24486**	**1852.684**

BUDGET NARRATIVES

1. Training of farmers and extension staff on GAP and COP through Farmer Field School training

The project aims to its objective achieve this through training and dissemination of information and knowledge on Good Agricultural Practices (GAP) to the farmers using FAO proven group training models such as Farmer Field Schools (FFS). In relation to GAP there will be development of cost effective and environmentally friendly pest control practices for at least 3 common pests of tea and dissemination of the developed technologies in the region for use as part of IPM packages. This will be an ongoing activity throughout the project phase and it will entail travelling of the project scientists within the region. There will be continued mobilization of tea farmers to identify gaps in dissemination of improved tea technologies for improved productivity in tea farming Extension materials such as posters and fliers will be developed and distributed to lead farmers for use in FFS. This is estimated to cost the project **$353,733.6.**

2. Administrative costs

These costs will include administrative costs; telephone, mails, internet services, Office Equipment, The project will also purchase 10 laptop computers and 20 desk tops, 5 Printers , 5 Digital Cameras and 5 LCDs', 5 photocopiers and 5 scanners. The project will also purchase laboratory and field consumables as well as appropriate protective gear.

The project will purchase stationery for printing and photocopying. The project will require tents, chairs, tables, flip chart stands, poster display stands. Scientists will be travelling to attend international workshops, conferences and seminars on MRLs, ISO meetings, Tea quality, trainings on Breeding (Bioinformatics), food safety and GI on tea.

This component will cost the project a total of **USD 129,662.**

3. Planting materials

Three improved varieties that are not obtainable across the region will be indentified in Kenya and ran for cuttings 6 months prior to propagation. Material Transfer Agreements (MTA) will be developed between Kenya and participating countries in the region where the elite clones are not available. Representative factories in each country will be identified for nursery establishment. In the first year 10,000 cuttings per clone will be propagated in each nursery following implementation of material transfer agreements. The propagated planting materials will be maintained in the nursery for at least one prior year to field establishment. The project is estimated to use a cost of **USD 272,646**

4. Project personnel

The project is being run under the following management structure;
The project will be managed from TRFK where the Director will be the accounting officer. At the project level, there will be a lead scientist who has been identified to provide team leadership and coordinate project activities in all the 4 countries.
At the country level the project has identified a lead scientist as a site coordinator. The site coordinators' role is to coordinate research activities at the site (country). The project anticipates engaging casual labour where necessary. The wages paid to these casual workers will be according to the prevailing national labour policy. Staff that are already on permanent employment in their respective institutions will attract subsistence allowance as per institutional rates.

6. Baseline surveys, supervision, monitoring and evaluation

The TRFK staff will be instrumental in guiding implementation of interventions in various countries in the region. They will facilitate capacity building sessions for the project staff in various countries during quarterly review meetings and other training meetings. The TRFK team will play a key role in providing technical backstopping on technical issues to the project.

Scientists will be travelling to attend international workshops, conferences and seminars, supervision, monitoring and evaluation. The project is expected to spend **USD 796,422**

7. Institutional strengthening

From time to time in the course of project implementation scientists, institutions and other experts within the region and from other tea growing countries will be exchanging views on best practice and establishing an enabling environment for development of supportive legal framework on adoption of ISO and MRLS. This will also entail strengthening institutions to be able to establish a comprehensive traceability system.

This will cost the project an estimated USD 137,332.8.

8. Contingencies (3%)

This will take care of fluctuations in local currency strengths and cost of living adjustments during project implementation the phase of the project. This is estimated at **USD 60,385**

E. IMPLEMENTATION ARRANGEMENTS AND MANAGEMENT

Institutions involved and responsibilities

Institution	Project staff	Responsibilities
Tea Research Foundation of Kenya, (TRFK)	Dr Francis Wachira –Director TRFK- Coordinator Dr. John Wanyoko-Agricultural chemist Ms Evelyn Cheramgoi – IPM Specialist Mr. Samson Kamunya, Plant Breeder Mr. Paul Kiprono, Socio-economist/Extension staff	-Overall coordination of the project -Assign 4 project staff -Prepare project reports in consultation with the other collaborators
Rwanda Tea Authority OCIR-THE	Mr. Anthony Butera Ms. Angie Uwimana	-Coordinate project in Rwanda -Assign 2 project staff -Prepare country project reports in consultation with the coordinating institution
Office Du The' du Burundi	Alexis Nzohabonimana-General Director of OTB	-Coordinate project in Burundi -Assign 2 project staff -Prepare country project reports in consultation with the coordinating institution
Tea Research Institute of Tanzania in Collaboration with TBT, TPRI, and TIRDO	Dr Emmanuel Simbua Mr. Nicholaus Mauya Mr. Anselm Mosha Mr. Julius Mkenda	-Coordinate project in Tanzania -Assign 4 project staff -Prepare country project reports in consultation with the coordinating institution
Uganda Tea Development Agency	Mr Ignatius Byaruagaba GM-UDTAL- Over Country Coordinator Mr. Asiimwe Mr. Mugabe Mr. Ejiku Mr.Namanya	-Overall coordination of the project -Assign 4 project staff -Prepare project reports in consultation with the other collaborators

Responsibilities of implementing agencies

- Establishment of the project
- Project monitoring and evaluation
- Training and dissemination of project results
- Project co-ordination and management
- Work planning
- Supervision

Implementation activities and responsibilities of each Institution

- Each country will provide a project coordinator to oversee the activities of the project,
- Each institution will put in place appropriate monitoring and evaluation framework to ensure timely implementation of the project,
- Participating countries will be requested to exempt project equipment from taxation.

- Detailed planned project activities are presented in Project Implementation Plan for Project year 1 to year 4 for the collaborating countries.

Financial Responsibilities

- This proposal requests for financial support to carry out the activities indicated. Participating countries will co-finance the project through in cash and in kind through payment of salaries for the staff involved and provision of office facilities, laboratory space, and required equipment.
- The overall coordinating country will be responsible to CFC for timely provision of financial reports as required by CFC.

F. BENEFICIRIES AND BENEFITS

BENEFICIARIES

The primary beneficiaries of the project will be smallholder tea farmers and employees in the tea supply chain and ultimately the consumers. It is envisaged that the smallholder tea farmers in the other tea producing countries in Africa will eventually benefit from the project outputs. The specific beneficiaries are listed as follows:

a. Smallholder tea producers in Kenya, Tanzania, Rwanda and Burundi who number about 950,000 and their dependants
b. The extension staff in the tea growing regions of the participating countries.
c. Tea regulating agencies through access to certification facilities.
d. Organizations representing smallholder tea growers.
e. The consumers would benefit from consuming teas that are assured to be free of pesticides residues and high quality
f. Traders will access certification of assurance within the region thereby facilitating trade.
g. In the long run, other the secondary beneficiaries such as tea growing countries in Africa such as Democratic Republic of Congo (DRC), Malawi, and Zimbabwe will benefit.

BENEFITS

Some of the benefits for the smallholder tea farmer from the project will be as follows:

Access to Premium Tea Markets through certification

Certification is increasingly being used world wide as an effective method for ensuring that Good Agricultural Practices are applied to ensure sustainable use of natural resources as well as an assurance to consumers that tea quality and food safety standards are complied with. It guarantees consumers that the products they are buying are the result of practices carried out according to the specific set of criteria (GAPs) that balances ecological, economic and social considerations. Certified farmers are required to adopt tea production practices that limit the need for agrochemicals. Use of a certified label in selling the smallholder tea products will give a competitive advantage in the global market place while incomes are enhanced. For example, tropical crops that include tea that bear Rainforest Alliance (RA) certified seal increased

income from about USD 5 million in 2003 to USD 60 million in 2007. Similarly, Fair Trade certified tea exports to USA expanded in volume by 187% from about 90,000Kg in 2004 to over 250,000 Kg in 2005. There are currently over 70 U.S importers, manufacturers, and blenders that are registered to source and label Fair Trade tea products. Currently there are over 34,000 retailers throughout the USA that can buy Far Trade certified teas directly from manufacturers and distributors. These two examples illustrate that there is potential for the smallholder tea farmers in Eastern Africa to benefit in enhancing their incomes and livelihoods by adopting practices that improve quality and food safety standards through access to global markets.

Economic benefits

- Improved profitability and competitiveness for small holder tea farmers at the global markets.
- Increase in productivity and production through the use of improved tea varieties. It is expected that productivity per tea bush will increase from about 0.9 Kg to an average of 2.0 Kg/bush/year, an increase of 122%.
- Improved tea quality through adoption and implementation of Good Agricultural Practices and hence enhanced access to global markets by certification.
- Lipton the world's best selling tea has committed to buying all its tea from certified sources by partnering with RA in tea farms in Kenya and other farms in Africa. The tea will sell at a premium of about 10-15% higher that average auction prices. It is estimated that certified farmers will receive about USD 69 million more for their tea by 2010 and about USD 71 million more by 2015. (Farm to market Newsletter, Jan-March 2007). This is expected to transform the tea industry, which has been suffering for many years from over supply and poor prices and will mainly benefit the smallholder sub-sector that currently contributes over 60% of the total tea production in Eastern Africa.

Social benefits

Improved morale and productivity: Smallholder tea farmers will directly benefit form enhanced funds from taxes and levies that will be used to provide better healthcare, improved roads and access to schools and training.

Environment conservation benefits:

- Reduced soil erosion: Farmers will adopt and implement soil conservation practices.
- Less water pollution: The use of pesticides and fertilizers will be controlled.
- More efficient farm management: Adoption and implementation of Good Agricultural Practices (GAP) that results in certification will help smallholder tea growers to organize, plan schedule improvements, identify problems and monitor progress in their farms.
- Enhance biodiversity: Reduced deforestations and protection of vegetation along the river banks within the smallholder farms.
- Reduced risks to human health and safety: Smallholder tea growers will adopt Good Agricultural Practices (GAPs) that demonstrate continual reductions in agrochemical use with the ultimate goal of eliminating them completely from their farms where they are currently being used.

G. ISSUES AND FOLLOW – UP ACTIONS

Table 10.1. Issues and follow up actions

Issues	Follow up Actions	Responsibilities	Timeframe
COP	Manual Development position	TRFK, TRIT &TBT, Office Du The Burundi, OCIR-THE	3 months
Improved tea varieties	Raising planting material, adaptation and distribution	TRFK,TRIT& TBT, Office Du The Burundi and OCIR - THE	12 Months
Literature	Literature review	TRFK	3 months
Laboratory	Requisition of consumables	TRFK	3 months
GAP	Baseline study	TRFK, TRIT &TBT, Office Du The Burundi, OCIR-THE	6 months
Traceability system in tea	Sensitization, system development /adoption	TIRDO, TBT, TRIT	24 months
Institution and Regulatory framework	Review of the legal framework for the tea industry in Tanzania	TBT, OCIR-THE, Office Du The Burundi, Uganda ministry of Agriculture and TBK,	24 months

ANNEX 11
Table 1. Logical Frame Work Analysis

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
PROJECT GOAL To improve market access of small holder tea growers through quality improvement and food safety standards and therefore, increase farmer incomes in Eastern Africa	(a) Percentage increase of tea exports meeting ISO 3720 quality standard and MRL standards. (b) Number of countries importing from the region	a) Export statistics b) International Tea Committee Reports ,c)Annual reports of participating institutions	-Approval of the proposal in time -Conducive policy framework for tea production in all the participating countries -Sustainability through support from stakeholders.
Project purpose To improve tea quality and food safety at the farm level for improved tea earnings and rural livelihoods across the participating East African countries	ISO certification on Food safety; Reduced poverty levels in rural areas	Certificates Reports Economic surveys	Tea farmers will be paid premium prices.
Output 1.0 A harmonized tea Code of Practice (COP) and GAP manual developed and used in the four collaborating countries	Improved quality of Tea and Compliance Requirements	Project Reports COP and GAP manual	Funds for development available
Activity 1.1 Asses GAP in the tea sub-sector status in the region	Increased awareness on GAP compliance	Baseline Reports on GAP status	The Agricultural policy framework in the participating countries supports adoption of GAPs and COPs in the tea

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
			industry
Activity 1.2 Develop IPM packages and other agronomic packages relevant for GAP	Number of pest control practices Developed	Project Reports Packages developed	Funds for development available
Activity 1.3 Develop GAP and COP manual as study and teaching material plus other training materials	GAP and COP manual developed	GAP and COP manual availed	• The Agricultural policy framework in the participating countries supports adoption of GAPs in the tea industry
Output 2.0 Smallholder tea farmers from Kenya, Tanzania, Burundi and Rwanda trained and Tea Extension Officers from Kenya, Tanzania, Rwanda and Burundi trained on GAP	Improved quality of tea ; Increase in International tea standards compliance	Trade and markets reports Project Progress Reports	Willingness by tea farmers to adopt new technologies
Activity 2.1 Train Extension Staff and TOT	Number of extension staff trained and TOT	Training Reports	• The participating countries will avail Tea Extension staff for training
Activity 2.2 Establish FFS	FFS Selected for the exercise	Training Progress Reports	• The training will be implemented as planned
Activity 2.3 Conduct training through FFS	FFS conducted to completion	Status Progress Training Reports	• The training will be implemented as planned
Activity 2.4 Conduct seminar for community leaders to enhance by-laws for GAP compliance	Increased awareness; Sensitized community	Minutes of meetings Status progress report	• The leaders will be available in time for training
Output 3.0 Pesticides residue	Number technicians	Project Reports	• The technicians will be

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
of tea in the market determined while 8 technicians' capacity to analyze tea for pesticides residues enhanced.	trained on pesticide residue analysis		available for training
Activity 3.1 Develop protocols for sampling and analysis to determine pesticide residue and contaminants in Tea	Manuals/protocol developed	Protocols available; Projects reports	• Participating countries will develop framework to facilitate consultative meetings
Activity 3.2 Collect and Analyze Samples while conducting the training	Number of samples analyzed; Number of technicians trained	Records of samples analyzed; Certificates issued Project reports	• Samples will be analyzed in time
Output 4.0 MRL data on 8 agricultural pesticides generated from supervised field trials in place	Number of field supervised; MRLs data generated	Reports	• All participating countries will avail samples in time for analysis
Activity 4.1 Application & Sampling	Number of samples analyzed	Sampling records and reports	• Samples will be availed in time from across the region
Activity 4.2 Laboratory Analysis	Laboratory Results	Analysis reports	• Samples will be availed in time from across the region
Output 5.0 Tea varieties tolerant to biotic and abiotic stresses availed to farmers.	Production reports	Production reports	• Farmers will be willing and ready to replace existing clones with elite clones • Farmers will be willing to adopt new clones
Activity 5.1 Development and signing of material transfer agreements	Number of MTAs'	Signed MTAs'	• Policy framework will be supportive • There will be Political goodwill

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
(MTAs') for the 3 improved varieties			across the region • There will be harmonized legal framework across the region
Activity 5.2 Propagate planting materials from the three improved clones	Number of plants raised	Nursery records and reports	• Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region
Activity 5.3 Transplant planting materials in farmers' fields in the four countries	Number of plants transplanted	Progress reports, Quarterly reports and Annual reports	• Farmers will be willing and ready to transplant planting materials
Output 6.0 **Traceability System Established**	Traceability Systems	Progress reports, Quarterly reports and Annual reports	• Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region
Activity 6.1 Stakeholders sensitization on traceability	Number of Stakeholder sensitized	Sensitization workshop reports Progress reports, Quarterly reports and Annual reports	• Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Activity 6.2 Implement a traceability system from the farm to the point of consumption	Traceability System	Progress reports, Quarterly reports and Annual reports Certificates	• Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region
Activity 6.3 Establishment of a dynamic institutional and legal framework for MRLs and traceability systems and enforcement	Legal Framework	Progress reports, Quarterly reports and Annual reports Strengthened institution	• Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region
INPUTS Activities and types of resources 1. Baseline surveys and evaluations : Awareness and level of GAP and COP adoption by farmers; establish level of awareness of technical staff on MRLs 2. Training of Farmers, Extension, Technicians 3. Availing and Propagation of planting materials 4. Development of IPM	**Level of effort/ expenditure for each activity**. 7. Training and dissemination (USD 353,733.6) 8. Baselines and evaluation (USD 796,422) 9. Planting materials (USD 272,646) 10. Institutional strengthening (USD 137,332.8)	Manuals Progress Reports Audit Reports Workshop proceedings Minutes of meetings Training reports Baseline and evaluation reports Final reports	• The funding will be timely • Policy framework will be supportive • There will be Political goodwill across the region • There will be harmonized legal framework across the region

SUMMARY NARRATIVE	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
packages 5. Institutional strengthening	11. IPM Packages (USD 162,888) 12. Administrative costs (USD 129,662) 13. MRL establishment 14. Implementation of Traceability System 15. Monitoring of Quality of Teas in the market		

Table 11.1(a) Project Budget per activity for 4 years – Kenya

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and 800 Extension staff on GAP	93.3	155.82	53.55	46.9	349.57
	Activity 1.1 Asses GAP in the tea sub-sector status in the region	9.3	18.6	4.3	5.3	
	Activity 1.2 Develop IPM packages and other agronomic factors relevant for GAP	37.1	43.7	27.7	14.9	
	Activity 1.3 Develop GAP and COP manual as study and teaching material plus other training materials	9.3	18.6	4.3	5.3	
	Activity 2.1 Train Extension Staff and TOT	9.3	18.6	4.3	5.3	
	Activity 2.2 Establish FFS	9.3	18.6	4.3	5.3	
	Activity 2.3 Conduct training through FFS	9.3	18.6	4.3	5.3	
	Activity 2.4 Conduct seminar for community leaders to enhance by-laws for GAP compliance	9.3	18.6	4.3	5.3	
2	Propagation and Nursery establishment	60.75	48.6	48.6	48.6	206.55
	Activity 3.1 Development and signing of material transfer agreements (MTAs') for the 3 improved varieties	.75	0	0	0	.75
	Activity 3.2 Propagate planting materials from the three improved clones	30	25	25	23	
	Activity 3.3 Transplant planting materials in farmers' fields in the four countries	30	23	23	25	
4	Determination of MRLs for all tea products in Kenya tea sub sector	26.67	36.75	74.4	95	232.82
	Activity 4.1 Application & Sampling	10.67	10.75	20.4	45	
	Activity 4.2 Laboratory Analysis	16.00	26.00	54.0	50	
5	Monitor quality and MRLs for all tea products in Kenyan Market tea sub sector while enhancing the capacity of 8 technicians	18.32	19.94	21.01	17	76.32

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
	Activity 5.1 Develop protocols for sampling and analysis to determine pesticide residue and contaminants in Tea	4.6	4.6	4.6	4.6	
	Activity 5.3 Collect and Analyze Samples while conducting the training	4.07	4.07	4.07	4.07	
	Activity 5.4 Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	9.7	11.32	12.39	8.4	41.81
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	15.19	31.37	32.19	21.3	100.05
	Activity 7.1 Stakeholders sensitization on traceability	7.19	20.37	17.19	10.3	
	Activity 7.2 Implement a traceability system from the farm to the point of consumption	8.00	10.00	15.00	11.04.07	
	Activity 7.3 Establishment of dynamic institutional and legal framework for MRLs and traceability systems and enforcement	7.1	6.3	8.14	9.7	31.24
	Activity 7.4 Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	45.96	79.05	65	45.96	235.97
10	Technical Assistance and Consultancy	17.1	15.7	21.3	18.7	72.8
	Sub-Total	**284.3975**	**393.5375**	**324.1975**	**303.1875**	**1303.18**
	Meetings/ Workshops	4.6725	4.6725	4.6725	4.6725	18.69
	Administrative costs	1.9	1.9	1.9	1.9	7.6
	Impact Evaluation	0	12	0	15	27
	Contingence	8.15	16.3	13.3	8.7	46.45
	Sub-Total	**14.7225**	**34.8725**	**19.8725**	**30.2725**	**99.74**
	Grand Total	**299.12**	**428.41**	**344.07**	**333.46**	1405.06

NB Budget per activity for Tanzania, Uganda, Burundi and Rwanda will be allocated proportionally as it is for Kenya

Table 11.1(b) Project Budget per activity for 4 years – Tanzania

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	5.62	11.212	2.585	3.2	22.617
2	Propagation and Nursery establishment	6.075	4.86	4.86	4.86	20.655
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	4.596	7.905	6.5	4.596	23.597
4	Determination of MRLs for all tea products in Kenya tea sub sector	2.667	3.675	7.44	9.5	23.282
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	0.86275	0.86275	0.86275	0.86275	3.451
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	0.97	1.132	1.239	0.84	4.181
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	1.519	3.137	3.219	2.13	10.005
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	0.71	0.63	0.814	0.97	3.124
9	Development of IPM Packages for at least 3 major pests for tea	3.71	4.37	2.77	1.49	12.34
10	Technical Assistance and Consultancy	1.71	1.57	2.13	1.87	7.28
	Sub-Total	**28.43975**	**39.35375**	**32.41975**	**30.31875**	**130.532**
	Meetings/ Workshops	0.420525	0.420525	0.420525	0.420525	1.6821
	Administrative costs	0.171	0.171	0.171	0.171	0.684
	Impact Evaluation	0	1.08	0	1.35	2.43
	Contingence	0.7335	1.467	1.197	0.783	4.1805
	Sub-Total	**1.325025**	**3.138525**	**1.788525**	**2.724525**	**8.9766**
	Grand Total	**29.76478**	**42.49228**	**34.20828**	**33.04328**	139.5086

Table 11.1(c) Project Budget per activity for 4 years – Uganda

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	6.182	12.3332	2.8435	3.52	24.8787
2	Propagation and Nursery establishment	6.6825	5.346	5.346	5.346	22.7205
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	5.0556	8.6955	7.15	5.0556	25.9567
4	Determination of MRLs for all tea products in Kenya tea sub sector	2.9337	4.0425	8.184	10.45	25.6102
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	0.949025	0.949025	0.949025	0.949025	3.7961
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	1.067	1.2452	1.3629	0.924	4.5991
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	1.6709	3.4507	3.5409	2.343	11.0055
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	0.781	0.693	0.8954	1.067	3.4364
9	Development of IPM Packages for at least 3 major pests for tea	4.081	4.807	3.047	1.639	13.574
10	Technical Assistance and Consultancy	1.881	1.727	2.343	2.057	8.008
	Sub-Total	**31.28373**	**43.28913**	**35.66173**	**33.35063**	**143.5852**
	Meetings/ Workshops	0.513975	0.513975	0.513975	0.513975	2.0559
	Administrative costs	0.209	0.209	0.209	0.209	0.836
	Impact Evaluation	0	1.32	0	1.65	2.97
	Contingence	0.8965	1.793	1.463	0.957	5.1095
	Sub-Total	**1.619475**	**3.835975**	**2.185975**	**3.329975**	**10.9714**
	Grand Total	**32.9032**	**47.1251**	**37.8477**	**36.6806**	154.5566

Table 11.1(d) Project Budget per activity for 4 years – Rwanda

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	3.934	7.8484	1.8095	2.24	15.8319
2	Propagation and Nursery establishment	4.2525	3.402	3.402	3.402	14.4585
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	3.2172	5.5335	4.55	3.2172	16.5179
4	Determination of MRLs for all tea products in Kenya tea sub sector	1.8669	2.5725	5.208	6.65	16.2974
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	0.603925	0.603925	0.603925	0.603925	2.4157
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	0.679	0.7924	0.8673	0.588	2.9267
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	1.0633	2.1959	2.2533	1.491	7.0035
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	0.497	0.441	0.5698	0.679	2.1868
9	Development of IPM Packages for at least 3 major pests for tea	2.597	3.059	1.939	1.043	8.638
10	Technical Assistance and Consultancy	1.197	1.099	1.491	1.309	5.096
	Sub-Total	**19.90783**	**27.54763**	**22.69383**	**21.22313**	**91.3724**
	Meetings/ Workshops	0.327075	0.327075	0.327075	0.327075	1.3083
	Administrative costs	0.133	0.133	0.133	0.133	0.532
	Impact Evaluation	0	0.84	0	1.05	1.89
	Contingence	0.5705	1.141	0.931	0.609	3.2515
	Sub-Total	**1.030575**	**2.441075**	**1.391075**	**2.119075**	**6.9818**
	Grand Total	**20.9384**	**29.9887**	**24.0849**	**23.3422**	**98.3542**

Table 11.1(e) Project Budget per activity for 4 years – Burundi

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	2.248	4.4848	1.034	1.28	9.0468
2	Propagation and Nursery establishment	2.43	1.944	1.944	1.944	8.262
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	1.8384	3.162	2.6	1.8384	9.4388
4	Determination of MRLs for all tea products in Kenya tea sub sector	1.0668	1.47	2.976	3.8	9.3128
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	0.3451	0.3451	0.3451	0.3451	1.3804
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	0.388	0.4528	0.4956	0.336	1.6724
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	0.6076	1.2548	1.2876	0.852	4.002
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	0.284	0.252	0.3256	0.388	1.2496
9	Development of IPM Packages for at least 3 major pests for tea	1.484	1.748	1.108	0.596	4.936
10	Technical Assistance and Consultancy	0.684	0.628	0.852	0.748	2.912
	Sub-Total	**11.3759**	**15.7415**	**12.9679**	**12.1275**	**52.2128**
	Meetings/ Workshops	0.140175	0.140175	0.140175	0.140175	0.5607
	Administrative costs	0.057	0.057	0.057	0.057	0.228
	Impact Evaluation	0	0.36	0	0.45	0.81
	Contingence	0.2445	0.489	0.399	0.261	1.3935
	Sub-Total	**0.441675**	**1.046175**	**0.596175**	**0.908175**	**2.9922**
	Grand Total	**11.81758**	**16.78768**	**13.56408**	**13.03568**	55.205

Table 11.2. Summary cost of activities by category for 4 years.

	Activities	PY1 (000'USD)	PY2 (000'USD)	PY3 (000'USD)	PY4 (000'USD)	Total Cost (000'USD)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	74.184	147.9984	34.122	42.24	298.5444
2	Propagation and Nursery establishment	80.19	64.152	64.152	64.152	272.646
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighbouring tea growing areas.	60.6672	104.346	85.8	60.6672	311.4804
4	Determination of MRLs for all tea products in Kenya tea sub sector	35.2044	48.51	98.208	125.4	307.3224
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	11.3883	11.3883	11.3883	11.3883	45.5532
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	12.804	14.9424	16.3548	11.088	55.1892
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	20.0508	41.4084	42.4908	28.116	132.066
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	9.372	8.316	10.7448	12.804	41.2368
9	Development of IPM Packages for at least 3 major pests for tea	48.972	57.684	36.564	19.668	162.888
10	Technical Assistance and Consultancy	22.572	20.724	28.116	24.684	96.096
	Sub-Total	375.4047	519.4695	427.9407	400.2075	1723.0224
	Meetings/ Workshops	6.07425	6.07425	6.07425	6.07425	24.297
	Administrative costs	2.47	2.47	2.47	2.47	9.88
	Impact Evaluation	0	15.6	0	19.5	35.1
	Contingence	10.595	21.19	17.29	11.31	60.385
	Sub-Total	19.13925	45.33425	25.83425	39.35425	129.662
	Grand Total	394.544	564.8038	453.775	439.5618	1852.6844

Table 11.3; Summary CFC financing plan by component and source (USD)

SN	Activities	COUNTERPART CONTRIBUTION (USD 000)	CFC CONTRIBUTION (USD 000)
1	Training 450,000 Smallholder tea growers and Extension staff on GAP	192.66286	296.4044
2	Propagation and Nursery establishment	177.2199	272.646
3	Establishment of Environmental status with respect to agro-chemical residues in smallholders, large farms and neighboring tea growing areas.	202.46226	311.4804
4	Determination of MRLs for all tea products in Kenya tea sub sector	199.75956	307.3224
5	Monitor quality and MRLs for all tea products in Kenya tea sub sector	29.60958	45.5532
6	Enhancing capacity for at least 5 Technicians to detect MRLs and contaminants in tea products	35.87298	55.1892
7	Establishment of Comprehensive traceability system and demonstrated compliance to MRLs	85.8429	132.066
8	Establish dynamic institutional and legal framework for MRLs and traceability systems and enforced	26.80392	41.2368
9	Development of IPM Packages for at least 3 major pests for tea	105.8772	162.888
10	Technical Assistance and Consultancy	62.4624	96.096
	Sub-Total	1118.57356	1720.882
	Meetings/ Workshops	15.79305	24.297
	Administrative costs	6.422	9.88
	Impact Evaluation	22.815	35.1
	Contingence	39.25025	60.385
	Sub-Total	84.2803	129.662
	GRAND TOTAL	**1204.24486**	**1852.684**

Table 11.4 Detailed list of inputs by category of expenditure (CFC funding).

Cat. Code	Category name	Sub-category code	Sub-cat. Name	Item of expenditure	Unit	Unit price USD	Quantity	Total cost
III	Materials and supplies	III.1	Solvents and reagents	Assorted		10,000		15,000.00
		III.2	Glass ware and apparatus	Assorted		4,286		6,429.00
		III.3	Planting materials					253,535.4
IV	Personnel	IV.1	Local staff					
		1V.1.2	10 scientists		month	1000x6x 10	4	240,000.00
			20 Technicians		Month	200x12	4	192,000.00
		IV. 2	Local consultancies		Month	1000x3	4	18,000.00
V	Technical Assistance and consultancies	V. 1	International TA	As appropriate	Month	30,000	3	90,000.00
VI	Duty travel	VI.1	International travel costs	As appropriate	Trips	25,000	4	100,000.00
		VI.2	Local travel costs	As appropriate	Trips			203,220.00
		VI.3	DSA		Day	20,000	2	40,000.00
VII	Dissemination and training for farmers	VII.1	Farmer and extension staff Workshops	Training		22,200	20	444,000.00
VIII	Operational costs	VIII.1	Utilities	As applicable				
		VIII.2	Computers	5 laptops 20 PC	Piece	1500	26	39,000.00
		VIII.3	Maintenance		Piece	1000	3	3000.00
		VIII.5	LCDS'	5	Piece	3,000	5	15,000.00
		VIII.6	Sundries		Piece	6,000		6,000.00
		VIII.7	Reporting costs		Report	3,000	5	15,000.00
IX	Baselines, Supervision, monitoring and evaluation	IX.1	CFC monitoring					10,000.00
		IX.2	Supervision					65,000.00
		IX.3	Evaluation					35,000.00
		IX.4	Publications					15,500.00
	Total PEA Budget							
	Contingencies				%		3%	47,974.47
VIII	Grand Total							1,853,658.87

Table 12. Project Implementation Plan

Outputs	Activity	PY1				PY2				PY3				PY4			
		QRT 1	QRT2	QRT 3	QRT 4	QRT 1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4
1.Manuals	1.1 Co-ordinate and develop COP and GAP																
	1.2 Obtain comments on COP and GAP from Kenya, Tanzania Rwanda and Burundi.																
	1.3 Stake holders to approve COP and GAP manual																
	1.4 Printing and distributing the two documents																
2.Training	2.1 Obtain Training materials																
	2.2 Set up farmer field schools																
	2.3Train extension staff																
	2.4Train extension staff, Technicians and farmers through field schools Kenya, Tanzania, Rwanda and Burundi.																
3.Generate MRLs data	3.1 Identify MRLs trial sites																
Kenya	3.2 Application of treatments and sample collection																
	3.3 Analysis of samples																
Tanzania	3.4 Identify MRLs trial sites																
	3.5 Application of treatments and sample collection																
	3.6 Analysis of samples																
Rwanda	3.7 Identify trial sites																

Outputs	Activity	PY1				PY2				PY3				PY4			
		QRT 1	QRT2	QRT 3	QRT 4	QRT 1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4
	3.8 Application of treatments and sample collection																
	3.9 Analysis of samples.																
Burundi	3.10 Identify trial sites																
	3.11 Application of treatments and sample collection																
	3.12 Analysis of samples.																
	3.13 Report writing																
4.Multiplication of improved tea varieties	4. 1 Raising planting materials																
Kenya	4.2 Maintaining planting materials																
Tanzania	4.3 Raising planting materials																
	4.4 Maintaining planting materials																
Rwanda	4.5 Raising planting materials.																
	4.6 Maintaining planting materials																
Burundi	4.7 Raising planting materials.																
	4.8 Maintaining planting materials																
	4.10 Recording data and report writing																
5. Monitoring quality and pesticide residues on tea in the market.	5.1 Planning, and requisition of laboratory consumables																
Kenya	5.2 Development of IPM Packages																
	5.2 Collection of samples at Mombasa tea auction / Factories																

Outputs	Activity	PY1				PY2				PY3				PY4			
		QRT 1	QRT2	QRT 3	QRT 4	QRT 1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4	QRT1	QRT2	QRT3	QRT4
	5.3 Analysis of samples																
Tanzania	5.4 Collection of samples/ obtain permission from various authorities.																
	5.5 Sampling and analysis of black and green tea samples from factories																
	5.6 Write reports																
Rwanda	5.7 Collection of samples/ obtain permission from various authorities.																
	5.8 Sample and analyze teas at Mombasa tea auction / Factories																
	5.9 Write reports / Received samples for quality certification																
Burundi	5.10 Collection of samples/ obtain permission from various authorities.																
	5.11 Sample and analyze teas at Mombasa tea auction / Factories																
	5.12 Write reports / Received samples for quality certification																
6. Evaluation	6.1Evaluation of Project Outputs																
	6.2 Draft Report																
	6.3 Submission of final Report																
Establishment of Traceability system	Initialization of the system with Stakeholders																
	Establishment																