

FOREWORD

It is becoming increasingly clear that the revival of the smallholder tea industry in Tanzania will need consolidated efforts by all the players. Dialogue between all the stakeholders is the first step in that direction.

“Developing Research and Development Strategies for Smallholders Tea Sector in Muheza, Korogwe and Lushoto Districts” was the theme of the workshop that was conducted in Korogwe town, Korogwe district, on 28th and 29th February 2000. These proceedings are the outcome of the deliberations at the workshop.

This workshop is the second in the series of similar workshops to be conducted by TRIT through TTU on regular basis in all key smallholder tea-growing areas of Tanzania. The first was held at Makambako, Njombe, on 7th and 8th December 1999 for the Mufindi, Njombe and Rungwe tea growing areas, Southern Tanzania. Our goal is to work with all interested parties in order to improve the performance of the Tanzania tea industry in general, and the whole Smallholder tea sector in particular.

We would like to thank the participants for accepting our invitations, some of them at short notice. We owe estimable thanks to the Regional Commissioner, Tanga, Honourable Captain George Mkuchika and the District Commissioner, Korogwe for sparing time to be with us at the workshop. The District Agricultural and Livestock Development Officer and the District Council officials, Korogwe, deserve our sincere thanks for helping us during the workshop. We are thankful to the Department for International Development (DFID), UK for their generous financial support. TRIT will be looking forward to receiving comments.

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INTRODUCTION

GENERAL OVERVIEW

A two days workshop involving key stakeholders in smallholder tea sector in Northern Tanzania was conducted in Korogwe starting from 28th to 29th February 2000. The involved northern smallholder tea area included Muheza, Korogwe, and Lushoto districts of Tanga region. The workshop was organised by the Tea Research Institute of Tanzania (TRIT) through its Technology Transfer Unit (TTU). The theme of the workshop was to develop research and development strategies for smallholders tea sub sector in the east and west Usambara Mountains.



PLATE 1: The opening of the workshop by Regional Commissioner for Tanga Hon. Captain George Mkuchika

The workshop participants included agricultural advisors in Regional Agricultural Secretariats (RAS) offices of Tanga region, Districts Planning Officers (DPLO) for Muheza, Korogwe and Lushoto, Districts Agricultural and Livestock Development Officers (DALDO's), District Extension Officers (DEO), District Crop Officers (DCO), Division Extension Officers (DIVEO), Village Extension Workers (VEW) in all key tea growing areas, tea researchers and collaborators from TRIT and Ministry of Agriculture, Agricultural Research and Training Institutes and smallholders from tea sub sector in the region.

GENESIS OF THE WORKSHOP

The workshop has been organised as a follow-up activity after a comprehensive Socio-economic diagnostic survey was conducted in Muheza, Korogwe and Lushoto districts from end of July to mid August 1999 by TTU. The TTU used a Farming Systems Approach to identify constraints and opportunities to tea production.

The survey results pointed out a number of issues either cutting across the smallholder sector or being specific to certain locations or areas. It was thought that these issues

needed further synthesis in order to develop a workable strategy for each issue. Involvement of key stakeholders was seen as the best way to expand the scope and depth of the required synthesis. Furthermore, some of the workshop participants are potential collaborators during the implementation phase of some the identified strategies. Their involvement in developing a client oriented workable strategy right from the beginning, acquaints them with the necessary background for the future collaborative work.

LOGISTICS

TRIT hosted the workshop by providing all inputs required including transport, stationery, reference materials, accommodation and meals for all participants.

Forty-four participants from main institutions dealing directly or linked to tea production attended the workshop. Only two representatives from the original list of invitee could not attend the workshop due to unavoidable circumstances.

ORGANISATION OF THE SESSIONS

The workshop was organised into four major sessions that started with introductions and setting the scene. Intermediate sessions that involved synthesis of the information and key issues followed and lastly sessions involving setting strategies and resolutions for the key issues under debate concluded the workshop. The detailed descriptions of the sessions are presented in the following paragraphs.

SESSION 1

The TRIT Research Director gave a welcoming address including the appreciation of the presence of the Regional Commissioner (RC), Tanga. The RC then opened the workshop by giving a speech that is very supportive to the tea industry. This was followed by participants' self-introductions. The Officer In-charge of MTRS duly explained the history, location, aims and activities of the station. The session progressed with the presentation by the Officer In-charge TTU on the mandate and activities of the unit in serving smallholder tea growers. Presentation of the genesis and rationale of the workshop concluded the session.

SESSION 2

In this session the findings of the socio economic diagnostic survey were presented. During the later stages of the session participants split into five subgroups for detailed discussions on specific topics. Terms of reference for group discussions were provided for each group. Each group then spent the whole afternoon discussing issues and proposing strategies that will address key issues that featured in their respective topics. Details of group members and their respective issues discussed are presented later in this document.

SESSION 3

This session involved the review of the workshop progress on which participants were reminded of the issues and key resolutions made so far by the subgroups.

SESSION 4

This was a conclusive session whereby participants in the main plenary worked out a priority list of constraints and issues for smallholders in each tea growing district. With the limited resources the priority list will guide all stakeholders on effective scheduling of the intervention measures in order to achieve maximum impact. The prioritisation of issues paved way for the closing of the workshop, the task that was done by the TRIT Research Director Professor Bruno J. Ndunguru. The timetable for the workshop is presented in **annex 1**.

SUMMARY OF THE FINDINGS

The findings of the survey were presented in the main plenary session also published in TTU working document number 3. (*Simbua E. F., Nyanga, A. and Ndamugoba, D. M. 2000*). The presentation covered various issues reported during the socio economic diagnostic survey. The issues for each of the three districts namely Muheza, Korogwe and Lushoto (table 1) were presented (not in priority order). During the presentation, descriptions of inter linkages of these issues and how each issue affects smallholder tea production was made.

Table 1; Summary of the findings presented in the main plenary session per district

MUHEZA DISTRICT	KOROGWE DISTRICT	LUSHOTO DISTRICT
1. Source of tea planting materials	1. Limited diversity of clonal materials	1. Tea planting materials
2. Land pressure for tea cultivation	2. Management practices of tea fields	2. Management practices of tea fields
3. Husbandry practices of tea fields	3. Labour demands	3. Greenleaf marketing - channels - prices
4. Marketing	4. Marketing channels	4. Inputs supply system
5. Support services	5. Greenleaf price	5. Extension services
- Tea extension system	6. Support services	6. Transport and communication
- Transportation and Communication	- Extension system	7. Outstanding debts for received greenleaf and the way forward
- Input supply	- Transportation and communication	8. Reliability and timely payments for greenleaf
6. Smallholder farmers' organisation	- Input supply	9. Data bases
7. Data bases	7. Poor research and extension linkages	
8. Information uptake Pathways	8. Organisation of smallholder tea growers	
	7. Data bases	

Some issues were found to be affecting all the three districts, whereas others were area or location specific. The details of the issues will be presented later in this report. A brief discussion was done in the main plenary session whereby the chairman of the district council reminded participants that the task of maintaining feeder roads in tea growing areas might be difficult task under the prevailing financial positions of most of the district councils. The hardship facing farmers as a result of lack of reliable market for greenleaf was pointed out strongly and most of the participants had the opinion that solving marketing constraints is the major pre-requisite for developing smallholders tea sector in the area.

COMPOSITION OF SUB-GROUPS AND ISSUES DISCUSSED

The groups were formed basing on the current role, position and experience of participants in tea. In each group at least one tea researcher and a farmer or representatives of the farmer's organisation were present. This composition was necessary in order to ensure that accuracy and depth of the discussion is achieved. Interaction between participants at field level to those in administrative levels was adequately achieved through balancing the experiences and backgrounds of group members. The list of members of each sub-group is presented in table 2.



PLATE 2: Member of Group A (Linkages between farmers and factories) discussing issues in a plenary session

Table 2: Composition of the sub-groups and the topics for discussion.

GROUP	GROUP MEMBERS	DESIGNATION	TOPICS FOR DISCUSSION
A	Mr. F. Lwejuna Mr. D. Ulaya Mr. J. Mtitu Mr. Y. Chedi Mrs.A. Almasi Mr. R. Ndesanjo Mr. I. Mshangamo Mr A. Sozzi	Estate manager – EUTCo Manager-Dindira Tea Co. Manager-Ambangulu Estates Ltd Rep. UTEGA, Lutindi/Ambangulu Rep. Smallholders, Amani Rep. Smallholders, Bungu Rep. UTEGA, Kwehangara Rep. Smallholders, Antakae	Linkages between farmers and factories. – Marketing – Inputs supply – Organisation of smallholders

B	Dr B. K. Marawiti Ms L. Makundi Mr S. Hamisi Mr T. M.Kizuguto Mr P. K. Kyakaisho Mr D.Ndamugoba Mr B. Salim	DALDO – Korogwe TFA – Tanga Researcher – MARTI, Mlingano DALDO – Lushoto DEO –Muheza Researcher- TRIT/TTU Shellcraft – Tanga	Tea Research and extension linkages/Inputs supply services. – Availability and diversity (clones) of planting materials – Tea research and extension services
C	Mr G. Rinwi Mr M. Sabuni Mr E.Simbua Mr A. Kitogo Mr L. S. M. Tungu Mr G. Mhina	Planning officer – Korogwe Planning officer – Lushoto Researcher – TRIT/TTU Manager-EUTCo RALDO(RAS)-Tanga DCO-Korogwe	– Land reforms – Transportation – Labour demands – Data base
D	Dr J. M. Kigalu Mr M. Kazula Mrs I.K. Ndamugoba Mr R.Sanyange Mr A. J.Kazingumu Mr A. Kuziwa	Researcher–TRIT/MTRS WEO–Mpalalu, Tamota Researcher – TRIT/MTRS UTEGA – Bungu Mponde Tea Factory-Soni, Lushoto Rep. Smallholders-Misalai, Amani	– Tea research – Tea management – Planting materials
E	Mr S. Mshango Mr J. Kiroga Mr R. Mmbuji Mr R. Bunto Mr S. Massomo Mr S. Rwiza Ms A. Nyanga Mr. J. Mbelwa Mr N. Kihulla	DEO – Lushoto SHTDA- Dar-es-Salaam DIVEO- Bungu, Korogwe VEW – Bulwa, Amani SMS (Tea) – Korogwe VEW – Mlesa , Amani Researcher – TRIT/TTU DEO- Korogwe DIVEO – Amani	– Tea extension services – Information uptake pathways

STRATEGIES DEVELOPED BY THE SUB-GROUPS

In this section the strategies developed by each group are presented. The basis for these group discussions was the findings from the Socio-economic diagnostic survey. The texts in the lightly shaded boxes below indicate summarised findings of the diagnostic survey for each topic of the respective sub-groups.

GROUP A: LINKAGES BETWEEN SMALLHOLDERS AND TEA PROCESSORS

The group comprised mostly representatives of the factories that purchase tea from smallholders, inputs suppliers, representatives of farmers' organisations, researchers and farmers. The group was assigned a task of discussing the linkage issues between factory owners and farmers. The main areas of concern were marketing, inputs supply and organisation of smallholders.

THE SUMMARIZED FINDINGS OF THE SOCIO-ECONOMIC DIAGNOSTIC SURVEY:(A) MARKETING

The smallholders of East Usambara, in Muheza district are served with a relatively better marketing system provided by EUTCo which buy green leaf from smallholders owning about 41 ha of tea farms. The company provides outgrowers with transport for their greenleaf to the factories at a cost. Farmer are paid every fortnight for the leaf delivered to the factory.

In Korogwe district, the marketing environment is divided in two categories. Bungu division, which used to be served by TTA, is facing a very severe marketing instability. Since TTA owned Mponde factory stopped its operations in 1998, there has been substantial decline in production of tea by smallholders. Recently Mponde factory has been sold to a new owner who has started buying leaf from the smallholders in the area. The second marketing avenue for smallholders in Korogwe district was the privately owned Dindira-Balangai and Ambangulu factory. Unfortunately this market has recently become untenable due to irregular or non-payment for greenleaf delivered by the farmers.

In Lushoto district the smallholder tea growers were being served by TTA's Mponde factory. Currently this factory is under new ownership. The New Mponde Tea factory started operating in December 1999.

Farmers through the Usambara Tea Growers' Association (UTEGA) own the factory. They have managed to attract investors to restore the tea buying and processing operations. Farmers receive regular payments for their tea crop. They are busy rehabilitating their tea. Prior to these new developments, tea marketing in Lushoto had become such a core and severe problem that growers had resorted to process locally their greenleaf in mortars, drying it in queer environments and selling it at local open markets.

The marketing problem was also aggravated by the poor state of roads and vast distances from production centres to functional tea factories. Farmers look forward for a sustainable streamlined marketing system for their tea by the New Mponde Tea factory. The roads are still poor and greenleaf-collecting centres need rehabilitation/construction in some places.

In all the three districts there are few issues that need to be addressed in order to improve and streamline the current marketing system.

The factory owners pay growers on the basis of Factory weight i.e. weight of green leaf upon delivery and acceptance at the factory gate. Meanwhile farmers sell their green leaf at collection points where field weight is recorded. From time to time field weights do not match with factory weights leading to dissatisfaction to farmers. At the moment there is no clear mechanism to deal with this discrepancy.

The second issue is the lack of a forum where factory owners and growers can exchange views in order to improve their grower-processor partnership. This weakness can be addressed very easily if both parties recognise the importance of partnership for the commercial viability of their tea business.

Thirdly, TTA used to set and announce smallholder greenleaf prices during its era. The price setting mechanism was not clear. Often the TTA set prices were either marginal or below economic viability of tea growing. Producer prices are a potential incentive to increased production if set properly. It is important to institute a more transparent price setting mechanism that will involve smallholder growers in order to stimulate and sustain tea production.

Fourthly, farmers have complained about low green leaf prices. Most farmers recommended a price increase from the current T.shs. 55/= per kilogram of green leaf to or above Tzs.100/= per kilogram. According to farmers, the price setting mechanism did not consider the growers' tea production costs. As a result "unprofitable" tea growing has become unattractive for many smallholders.

Lastly, delayed payments for delivered green leaf is another important issue in smallholder tea production. The pattern of tea revenue cash flow in smallholder tea production is closely tied to both tea inputs purchases and procurement of basic household requirements. Delayed payments causes a bottleneck to the sustainability of tea production and to the general welfare of the households. Farmers get easily discouraged when payments are not forthcoming; they embark on other production options and neglect their tea.

(B) SUPPORT SERVICES-INPUTS SUPPLY

In the past, input for tea to smallholders were supplied by TTA on loan. Currently there is no reliable input supply system to replace TTA in Muheza, Korogwe and Lushoto districts. The situation has contributed significantly to decline on productivity as the condition of supply of fertilisers, herbicides and other necessary farm inputs contributes to the productivity of the tea industry in a particular area.

In Muheza district EUTCo offers to supply inputs to associations of farmers, e.g. Amani Tea Growers (ATG) on loan basis. This is a very important service to smallholder tea growers. However, repayment modalities do not always conform to the ability and interests of some growers.

In Korogwe district, the tea inputs supply problem is very critical because there is no identified supplier in Korogwe town. The distance to potential suppliers in Tanga municipality is big. Farmers in Bungu division have indicated to be able to make independent or group arrangements for buying inputs from stockists in Tanga if the market of their greenleaf improves. Farmers have complained on the inability of leaf buyers to supply inputs to them on credit.

In Lushoto district where farmers used to get inputs through TTA the situation is very difficult, as there is one inputs supplier, a branch of Shellcraft Tanga Ltd.. This supplier is mostly specialised in inputs for other crops apart from tea. The supplier d stock the tea inputs if the demand increases..

(C) ORGANISATION OF THE SMALLHOLDERS TEA GROWERS

With the absence of TTA to unite smallholders, there is a need now for farmers to establish associations at various levels to represent them in the current liberalised tea industry. In order to be effective such organisations need to consider the following;

The organisation should be focused and specialised on specific crop e.g. tea in order to ensure that efficiency is achieved. The organisation should have specific strategic objectives. There is a very wide range of options in promoting crop production. However, with the limited resources, it is important to opt for more critical intervention measures. The desired farmers organisation need to have that capacity of identifying critical constraints and adopt rational approaches to solving these constraints.

The farmer organisations should be effective by having few people in order to avoid overhead costs and bureaucracy.

The group members agreed that the issues found out during the survey are relevant and indeed do contribute to the weak linkages between factories and smallholder tea growers.



PLATE 3: *Member of Technology Transfer Unit discussing plucking standards with farmers. Factories can only produce premium quality tea if farmers are able to deliver greenleaf of acceptable standards*

CONSTRAINTS AND BOTTLENECKS PER DISTRICTS

Muheza District

Constraints

The following have been identified to be constraints affecting smallholder tea sector in Muheza district;

- *Lack of clear mechanism for setting green leaf prices, which has led to a prolonged constant low price paid to smallholders. Farmers are not represented in the current price setting process.*
- *Lack of forum between factory owners and smallholders to discuss greenleaf prices, farm inputs, business contracts and transportation of greenleaf*
- *Prices of inputs particularly fertilisers are too high for average farmers to afford on cash basis. In Tanga (TFA) for example, a 50kg bag of Sulphate of ammonia fertiliser is sold at 8,000/= while that of Triple super phosphate (TSP) is 10,000/= without transport.*
- *Lack of adequate processing facilities/factories to smoothly accommodate smallholder tea particularly during peak production periods.*

Recommended intervention measures

1. Need to have a strong and effective farmers association that will represent interests of the smallholder tea sector in the district. Currently *Umoja wa Wakulima wa Chai Amani* (UWAA) is being formulated from the grassroots to negotiate *inter alia* the following with processors.
 - 1.1. Tea prices,
 - 1.2. Green leaf transportation,
 - 1.3. Inputs supply and
 - 1.4. Contractual obligation by both processors and farmers, this will ensure that fair handling of excess produce during peak production seasons prevails.
2. Need for subsidising the input prices through government policy, donor assistance and potential investors in tea sector was highly recommended by the group.
3. Need to encourage suppliers to set up delivery/retail shops closer to consumption centres is another strategy suggested by the group. Farmers will then have an easy access to the required inputs so that they can be able to plan on the purchase and use of inputs more effectively.
4. The processors should plan to expand their processing capacities in order to accommodate smallholder tea crop comfortably all the time. This is the most feasible option for preventing this imminent problem in Muheza (Amani) in the short-term.
5. The long-term strategy towards solving the problem of overproduction is to build or reopen an additional factory that will cater for smallholders in the district. However, this strategy will only work if there will be economic justification for such expansion investment. This strategy can only work if the tea hectrage increases substantially and if there are funds set aside for the purpose.

Korogwe district

Constraints

The following have been identified to be constraints affecting smallholder tea sector in Korogwe district:

- *Lack of reliable and permanent markets for green leaf has been pointed out as an outstanding constraint in Bungu division.*
- *Prices of inputs particularly fertilisers are too high for average farmers to afford on cash basis. Fertiliser prices escalate due to added transportation cost from the stockists in Tanga municipal.*
- *Lack of focused farmers' organisation that deals with genuine issues of concern for smallholder tea growers. The current Usambara Tea Growers' Association (UTEGA) has been registered. The association started at village level and has representatives from Bungu division to attend at various meetings of the association. The effectiveness of UTEGA as an institution capable of co-ordinating the activities of smallholder tea growers is however, vested in a good market for greenleaf in Korogwe.*
- *The Ambangulu and Dindira tea factories are ideally situated for receiving smallholder leaf in Korogwe district. The farmers are not taking their crop to these factories because of delayed or non-payment. However, the participants were informed that this outstanding issue was being resolved and a way forward for the future will be paved.*

Recommended intervention measures

1. The long-term solution is for the government, farmer associations and all important stakeholders to encourage the factory owners to buy the smallholder tea crop in a sustainable way, i.e. good price, regular payment and abundant factory capacity. Experience in the tea processing business, particularly when factories change management/ownership and adequate operating capital should be the main criteria for the government to base on when selecting investors.
2. Need for subsidising the input prices through government policy, donor assistance and potential investors in tea sector was highly recommended by the group.
3. The need for setting up an inputs supply system where farmers can get inputs on loan basis was emphasised. This system worked very well during TTA tenure. It still can work well in Korogwe through efficient farmer organisations. The loan will normally be recovered through deductions from sold green leaf within an agreed period.
4. Need to encourage input suppliers to set up delivery/retail shops closer to consuming centres is another strategy suggested by the group.
5. There is a new investor for Mponde tea factory who has agreed to buy greenleaf from smallholders in Korogwe and carry it a long way to the factory. This procedure is impeded by the bad state of roads and the long distances.
6. Need for a strong and purposeful smallholder tea association was seen as a necessary pre-requisite towards a more dynamic smallholder tea industry in Korogwe. The role of the association should be to unite all groups and individual farmers and link them with the prospective markets, input suppliers and other necessary services demanded by smallholders tea producers.

Lushoto District

Constraints

- *There is an outstanding debt that TTA owes smallholders in Lushoto for the received, processed and sold leaf. The defunct TTA is almost finishing paying the debt in piecemeal. There was an outstanding power bill that necessitated removal of a transformer at Mponde tea factory by TANESCO.*
- *Prices of inputs particularly fertilisers are too high for average farmers to afford on cash basis. In Tanga a 50kg bag of NPK fertiliser is sold at 13,500/= before transportation.*
- *Due to long term problems relating to marketing of tea in Lushoto, most tea fields had either been abandoned or neglected for long. It is important that these fields become properly rehabilitated for new production, in the light of a new Mponde factory owner.*
- *Tea production potential in Lushoto is by far higher compared to the current Mponde factory processing capacity.*
- *In Lushoto district where farmers used to get inputs through TTA, the present situation is very difficult, as there are very few private input suppliers. These suppliers mostly specialise in inputs for other crops other than tea.*

Recommended intervention measures

1. Need to expand and rehabilitate the available factories i.e. Herkulu and Mponde in order to create ample factory capacity to accommodate increasing smallholder tea production potential.
2. Consider expansion of the processing capacity by building a new factory for Lushoto and Korogwe districts. The government through TTA had set aside 1000 hectares of land at Sakare, Bungu, Korogwe for fuel wood and factory construction in 1984. The project ended up with establishment of 110 ha eucalyptus and planting 14.7 ha of tea.
3. Need to encourage input suppliers to set up delivery and retail shops closer to consumption centres is another strategy suggested by the group. Lushoto district was sighted as an example of areas where lack of an inputs supply system will continue to affect management of tea fields even where some farmers can afford to buy inputs when available.
4. Need for subsidising the input prices through government policy, donor assistance and potential investors in the tea sector was highly recommended by the group.
5. The need for setting an inputs supply system where farmers can get inputs on loan basis was emphasised. This system worked very well during TTA tenure and is still expected to work well in Lushoto between Mponde factory runners and smallholders. The loan will normally be recovered through deductions from green leaf revenue within a specified period.
6. Effort to rehabilitate the fields that have been abandoned in order to utilise the current prospective good marketing environment should be given higher priority.
7. Roads to villages where tea is grown need to be rehabilitated and maintained throughout the year.

GROUP B: SMALLHOLDER RESEARCH-EXTENSION LINKAGES AND INPUTS SUPPLY SYSTEMS

Group B comprised of researchers from MARTI Mlingano, District Agricultural Department officials and potential tea inputs suppliers. The agenda for group B was to discuss issues relating to:

- Tea planting materials
- Management practices of tea fields
- Introduction of new tea clones
- Tea extension services and
- Availability of inputs

The topics for group B had many similarities with that of group D, however group B focused more on institutional framework issues whereas group D focused more on the practical roles of field staff in strengthening tea extension and research services.



PLATE 4 Members of Group D (Tea Research, management practices and planting materials) sharing views on the topic. Linkages seem to be the major challenge ahead.

THE SUMMARIZED FINDINGS OF THE SOCIO-ECONOMIC DIAGNOSTIC SURVEY:

(A) **TEA PLANTING MATERIALS**

Lack of reliable sources of planting materials was found to be a constraint in Muheza, Korogwe and Lushoto. In the past, TTA established central nurseries to avail planting materials to smallholder tea growers on loan basis. The TTA nurseries are no longer operational. Currently farmers in Korogwe and Lushoto are trying to solve this problem by gathering efforts to establish their own nurseries using old TTA centres. However, resources are limiting and farmers are not well versed with nursery husbandry techniques. During the survey hardly any farmer had a plan to plant new farms or fill gaps in the existing fields mainly due to poor market for the greenleaf.

During the TTA/EUTCo smallholders' project, farmers in Muheza district got their planting materials freely or by paying a small fee from EUTCo outgrowers service but this was stopped in 1994 after the termination of the project.

EUTCo would now prefer cash payment. Planting materials to outgrowers (about 100/= per sleeved plant) TRIT has, through TTU, started to intervene by offering nursery technology to smallholders in Amani division in collaboration with staff at Marikitanda Tea Research Station. The aim is introduce village-based nurseries as a sustainable way to alleviate shortage of tea planting materials in villages.

(B) MANAGEMENT PRACTICES OF TEA FIELDS

Farmers in Korogwe and Lushoto are well informed about good tea management practices. However, application of the good management practices in their tea fields is still poor. This is mostly due to the marketing constraints and the lack of access to the required inputs. As a result a substantial proportion of the tea fields are abandoned by farmers in favour of alternative crops.

In Korogwe, it was found during the survey that, smallholder tea growers realise low tea yields ranging from 200-500kgs of made tea per ha per annum. Poor management especially low plant population due to vacancies, poor weed control, low fertiliser use, poor plucking and pruning strategies has contributed to low yields. According to the interviewed farmers, the production potential for smallholders condition in the villages of Bungu, Dindira, Vugiri and Lutindi tea schemes of Korogwe is up to 2500kgs of made tea per hectare per annum.

In Lushoto district there are two marketing scenario whereby growers near Herkulu factory Soni sell their greenleaf at 40/=per kg greenleaf and those near the recently restarted Mponde factory receiving 55/= per kg for their leaf. The long term poor management of the tea fields has affected farmers' knowledge of the standard and recommended management practices. During the survey some farmers suggested a need to retraining on good tea husbandry practices.

The critical areas include pruning strategies, rehabilitation of abandoned fields, plucking skills, good tea quality aspects, soil and water conservation measures.

In Amani division, Muheza district, the growers are well informed about tea management practices due to long term experiences and their proximity to a reputable company, EUTCo that buys their tea crop. Despite this awareness, farmers hardly follow recommended management practices. Major reasons for non-adoption are marketing constraints, limited support services especially inputs supply and inadequate extension services

(C) LIMITED DIVERSITY OF CLONAL MATERIALS

The bulk of tea planted by smallholders in Muheza, Korogwe and Lushoto districts was planted under the TTA expansion program between 1974 and 1984. EUTCo in Amani further supported additional planting until 1994. The range of types of the planting materials was very narrow due dependency on commercial nurseries that produced a large number of limited clones notably, clones 6/10, 31/8, 6/11 and seedling have been found to be widely grown in Muheza district.

In Korogwe and Lushoto districts clones 6/8 and seedling tea were predominant. This narrow diversity of planting materials poses risks to the smallholder tea industry in case of occurrence of any disaster (disease, drought etc). The survey has revealed that most of the smallholder tea in all the three districts is seedling tea and only a few clones introduced long time ago. This situation offers limited room for increased productivity. Most growers are on the verge of moving away from seedling tea in favour of new clonal tea material.

(D) TEA EXTENSION SERVICES

The tea extension system in Muheza, Korogwe and Lushoto is closely linked with the historical perspective of the existence of TTA. The TTA had its own extension system with leaf officers as the basic field staff. The TTA continued to use leaf officers as their outreach independent extension structure. The government village based extension workers concentrated mostly on annual food crops as well as cash crops. Presence of leaf officers seemed to detach tea crop from the mainstream extension system, except in Bungu sub-scheme where the government employed extension staff were seconded to TTA to work specifically for tea.

Due to structural reasons, the level of competence of government employed extension staff to address tea issues is very low. This is due to limited knowledge on tea husbandry. Unfortunately these extension workers have a mandatory status of addressing extension issues covering all grown crops including tea. They also work on livestock in villages.

(E) AVAILABILITY OF TEA INPUTS

TTA used to supply most of the tea inputs for smallholders. Currently there is no reliable input supply system for tea. The problem is prevalent in Muheza, Korogwe and Lushoto districts with the exception of Amani tea scheme (ATS) where EUTCo procures and supplies the inputs to outgrowers. The vast hilly distances from potential stockists in the district towns and regional centres in Tanga municipal hinder the alternative procurement arrangements by farmers. The farmers also mentioned that due to lack of reliable input supply, most of them are no longer knowledgeable with the details on tea inputs application. The price of knapsack sprayers for herbicide application and other protective gears were mentioned to be very expensive in the light of the current greenleaf prices.

CONSTRAINTS AND INTERVENTION MEASURES FOR EACH ISSUE

Planting materials



PLATE 5: Good and reliable source of planting materials is a necessary pre-requisite for feasible rehabilitation and expansion of smallholder tea sector in Usambara

Constraints

- *This problem affects smallholder in all three districts, Muheza, Korogwe and Lushoto.*
- *Lack of reliable and good source of planting materials has lead to;*
 - *Limited opportunity for expansion of the tea fields.*
 - *Limited opportunity for filling vacancies in existing tea.*
 - *Lack of opportunity for new farmers to start growing tea.*

Recommended intervention measures

1. Where opportunities exist like areas near EUTCo estates, Amani, smallholders and large scale producers can work out a system where smallholders will obtain planting materials from estate nurseries on certain agreed terms of trade.
2. Village based tea nurseries spearheaded by appropriate technology can cheaply provide a sustainable, reliable and good source of planting materials. However, concerted efforts are required for training farmers (and extension workers in some cases) on the best tea nursery practices.
3. Individuals and groups should be encouraged to establish small commercial nurseries in areas where demand for planting materials is high. TRIT has a role to play in assisting such groups and/or individuals by providing the technical backup on proper tea nursery establishment.
4. Various stakeholders should be involved in designing a self-sustaining mechanism for production and supply of good quality planting materials for smallholders. Collaborators like, Research institutions (TRIT), private tea companies (BBTC, EUTCo, etc), smallholders tea growers associations (UTEWA, UWAA), donors and individual farmers (smallholders) need to work together towards achieving the desired objectives for tea planting materials availability.
5. Resources need to be mobilised from farmers themselves and other interested stakeholders such as local governments, non governmental organisations, farmers associations and the donor community in order to facilitate provision of reliable source of planting materials for smallholder tea growers.
6. Several materials are required for establishing a tea nursery. These may be obtained from commercial input suppliers or from stocks of private tea companies. The role of research is to give advice and to recommend types and sources of planting materials (cuttings).

Management practices



PLATE 6: Infilling and proper husbandry practices must be emphasized for farmers to attain potential productivity existing in Usambara

Constraints

This problem has a variable manifestation in different tea growing areas. Whereas in some areas the problem is caused by;

- *Lack of knowledge on better and improved management practices.*
- *Lack of resources to procure the necessary inputs required for tea production.*
- *Low yields per unit area and hence lack of profitability in the tea production business.*
- *Poor market of the harvested crop. This leads to lack of incentives to farmers and hence low productivity of smallholder tea.*
- *Poor livelihood of the tea growers as the non- breakeven tea production does not sustain the farmers' daily needs adequately.*

Recommended intervention measures

1. Extension efforts focusing on proper tea spacing for new planting, use of inputs (fertilisers, herbicides), proper pruning strategies, infilling and proper plucking policies should be intensified.
2. Farmers should be educated on the importance of using more productive relatively new clonal materials compared to the current old clones and (self-set) seedlings in use.
3. Farmers, researchers and extension workers should work together towards identifying more productive and desirable tea management practices.
4. Institutional support is needed for providing necessary inputs for searching, testing and supplying desirable clones to smallholder farmers.
5. Researchers in collaboration with extension staff and farmers need to set demonstration plots in key smallholder tea growing areas for demonstrating good tea management practices.

Limited diversity of clonal materials

Constraints;

- *There are known sources of proven and better clones, which are not accessible to smallholders due to distance, and/or lack of a mechanism to avail them to the smallholders.*
- *In most areas there is over dominance of one or two clones. This limits the possibilities for improvement on productivity and on the quality of made tea.*
- *Farmers are not aware that there are better clones/planting materials than their traditional ones. As a result farmers are not looking for alternative planting materials.*
- *Dominance of single clone on the farming systems poses greater risk for catastrophes like disease and insects attack.*

Recommended intervention measures

1. Research and extension system in tea growing areas should establish a feasible mechanism for exposing and making available various planting materials to smallholders. Use of demonstrations plots, clonal mother bushes, extension

- leaflets, video shows, farmers' fields days etc can contribute significantly in creating awareness of the existence of better clones for farmers.
2. Research should continue to search and produce appropriate clones for farmer's use. Farmers in collaboration with researchers should define the desired qualities for the new clones.
 3. In order to achieve maximum impact, joint efforts involving researchers, extension staff and farmers are required so that farmers can define their preferences for the suitable planting materials.

Inputs supply system

Constraints;

- *There is evident lack of co-ordination on input supply whereby suppliers are not aware of the demand and also users have no information on the supply side including basic product prices and delivery costs.*
- *The demise of TTA has led to lack of institutional set-up to make pre-season inventory of inputs requirement from individual farmers.*
- *The group also noted that substantial proportions of input suppliers are not conversant with the type and quality aspects of the key tea inputs. This is more critical with fertilisers where most suppliers are more used to fertilisers for crops other than tea.*

Recommended intervention measures

District councils must co-ordinate and monitor the input supply system by strengthening interdepartmental co-operation i.e. Agriculture and trade. The specific areas of concern are;

1. Establishing demand levels for different types of inputs.
2. Ensuring that potential suppliers are informed and assisted to make the required inputs available in the district at the appropriate time.
3. To facilitate smooth supply of inputs to various demand centres
4. To strengthen extension work, particularly on how best to apply the inputs in the context of timing, quantities, application ratios, handling and safety. The potential benefits from use of inputs should be clearly explained as opposed to non-use of the inputs.
5. Putting in place a strict monitoring system that will ensure only quality and recommended products are supplied to farmers. Collaboration with national agricultural laboratories in conducting random sample analyses of fertilisers was a strongly suggested intervention measure for quality control.

GROUP C: LAND REFORMS, TRANSPORTATION, LABOUR DEMANDS AND DATABASES IN SMALLHOLDERS TEA PRODUCTION.
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The group comprised of district planning officers for Korogwe and Lushoto, the Regional Agricultural and Livestock Development Officer (RALDO) for Tanga region, an agricultural economist based in the Technology Transfer Unit (TTU) of TRIT, the district crop officer for Korogwe and one estate manager from EUTCo. The composition of the group was slightly inadequate notably due to absence of data base specialists at regional

level, who would have contributed significantly to the practical issues of developing tea based databases in the region. The group was assigned the task of assessing issues relating to land reforms, transportation, labour demand and database issues.

SUMMARIZED FINDINGS OF THE SOCIO-ECONOMIC DIAGNOSTIC SURVEY:

(A) LAND PRESSURE FOR TEA CULTIVATION:

The vast proportions of land in East Usambara lies within the conserved area where people are not allowed to clear the forest for tea cultivation. During the survey, it was found out that farmers recognise the importance of establishing tea on virgin land. However, with the currently restrictions there is such a big land pressure that it is difficult to find idle virgin land for tea farming. Most of the arable land is cultivated with annual food and cash crops. Most of the potential tea growers has the opinion that replacing conserved forests with tea fields will not bring about environmental degradation as tea plants has a significant role of conserving soils. Farmers are demanding for review of some of the stringent conservation bylaws to give flexibility that will give farmers access to more land in East Usambara.

(B) TRANSPORTATION AND COMMUNICATION:

This is a very important service in tea industry. Perishability of green leaf is a serious bottleneck in areas with a poor transport infrastructure. Since the smallholders started growing tea in East Usambara, EUTCO in collaboration with TTA placed all necessary infrastructure for greenleaf collection and delivery to the factories. This included maintaining the feeder roads and tractor fleet. Currently the task of maintaining feeder roads is under the auspices of the local governments. There is no direct incentive or priority for local governments to maintain the roads. As the result most of these roads are in bad conditions hence complicating the greenleaf collection activities. Neglected feeder roads and uncertainties in the future of these roads are questions that must be addressed by stakeholders in smallholder tea growing areas. The situation is very critical in Bungu particularly during wet season where some of the feeder roads become impassable. Due to greater distances and poor road condition, trucks can only collect green leaf from few locations leaving other farmers stranded.

(C) DATA BASE:

The survey has revealed that, farm level data keeping is very poor in smallholder tea sector in Muheza, Korogwe and Lushoto. At higher levels data fragmentation has been found to be a serious problem, particularly during this era of a liberalization of marketing system. The sets of missing data by locations include;

Production, population, acreage, farm size and input use.

These data are important in estimating and monitoring productivity, production trends, and expansion of the tea industry. In addition, adoption of the recommendations can be monitored from the information. The inputs use data can also be used to facilitate and attract potential input suppliers

(D) LABOUR DEMANDS:

Labour requirements for tea production fluctuates according to the farming operations. Labour demand in tea is highly influenced by seasonal nature of tea production over time. Family Labour is the major source of farm Labour in all three districts. Occasionally use of hired Labour has been reported. Hired labour is more pronounced in specialist operations like pruning. Hired Labour is also extensively employed by families with larger acreage during the peak production period.

Marketing constraints has recently emerged as an important factor that influences labour use patterns in tea production. Farmers in less accessible villages, with market uncertainties tend to spend relatively less labour time for plucking. In these areas, a substantial proportion of tea fields has been abandoned.

However, some of the interviewed farmers have pointed out that this situation is only temporary as things are likely to change with the availability of reliable market outlets for greenleaf.

Competition with other crops, particularly major staple food crops like maize tends to stretch the Labour demand peaks.

The group noted that some issues are linked to the prevailing policy environment hence need to notify policy makers particularly on land reforms. While discussions ensued remarks were made on the great need for the presence of a Regional agricultural statistics adviser, RAS' office, in future workshops.

CONSTRAINTS AND INTERVENTION MEASURES FOR EACH ISSUE

Land scarcity for tea cultivation

Constraints:

- *The group observed that land is not a renewable resource once used up. There is no feasible way for increasing its availability. Land reclamation and other options used elsewhere in the world were considered to be difficult option under the prevailing technological level.*
- *Causes of land scarcity were noted to be the increasing population density and lack of intensification in agricultural production.*
- *In East Usambara conservation policies tends to further deny farmers access to land.*

Recommended intervention measures

1. In areas where land is scarce such as the forest areas of Amani, Muheza, the district councils through their agricultural and livestock department should promote efficient use of the available land. Use of intensified agricultural practices should be encouraged in order to ensure that farmers get maximum production per unit area.
2. Researchers should investigate the economic optimum combination of inputs that will maximise output per unit area of land. The results of such investigation should reach farmers in the quickest way possible.
3. Land reforms need to be introduced to ensure that all arable land is properly allocated and used by farmers. The reforms should also consider some of stringent conservation bylaws that can accommodate tea production as environmentally friendly economic activity.

Transport and communication

Constraints:

- *A substantial area in the tea growing districts is not accessible particularly during wet season. The roads are in bad condition with poor drainage and lack necessary bridges.*
- *The situation worsens during wet season hence posing serious constraint to efficient collection of greenleaf from farmers during peak production season.*
- *Other communication media like newspaper, telephone, TV and radio are very poor and in most case not accessible to tea growers.*
- *The mass media options mentioned above rarely cover issues relating to tea production hence rendering them less useful to smallholder tea growers.*
- *The greenleaf collection trucks are not adequate and most of those operating are makeshift with frequent breakdowns. The condition of the trucks combined with bad roads leads to unnecessary loses to both farmers and factory owners.*

Recommended intervention measures

The district councils with the support of the central government, the community, tea institutions and interested donors should consider ways for improving the bad roads situation by making provisions on their budgets for:

1. Maintaining rural/feeder roads in tea growing areas on regular basis
2. Building and repairing bridges and other road structures
3. Encouraging the factory owners to reserve resources that can be used to maintain the roads with support from other stakeholders.
4. Need to replace the green leaf trucks with more reliable and properly designed ones in order to ensure efficient delivery of good quality greenleaf to the factory gates.

Labour demands



PLATE 7: Partially pruned tea field in Lushoto; Labour related constraints also influences the pace of rehabilitation in the Usambara

Constraints:

- *The poor marketing system has caused poor labour utilisation in tea fields. When payments come late the hired tea pluckers look for other jobs elsewhere.*
- *The price of greenleaf is so low that farmers cannot always afford to employ hired labour on their tea.*
- *Some families grew tea when they were younger. With old age and disablement their capability to maintain tea fields declines significantly. School age children are not always readily available for tea production related activities. Older children normally migrate to towns.*

Recommended intervention measures

1. The Ministry of agriculture, tea institutions, farmers, tea factory owners and marketing institutions should jointly review from time to time, farmer greenleaf prices to ensure that what is paid matches with the tea production costs.
2. Prompt payment upon receiving the farmers' leaf is essential to prevent desperation, suspense and distrust by workers on the tea crop. Paying fortnightly is preferable to many tea farmers in Korogwe, Lushoto and Muheza districts.
3. Factory owners must ensure that they have enough capacity for handling all the farmers' plucked leaf all the time.
4. Marketing information should always be made available to all producers in the most effective way.
5. Where old age, disablement and loneliness prevail in a family the tea enterprise should be taken over by the family chosen able individuals.

Tea data bases**Constraints:**

- *Poor data keeping at farm level by most of the farmers in tea growing areas.*
- *Aggregated data particularly on production, population, acreage, farm sizes and inputs use are highly missing. This has been caused by fragmentation of data sources with complete absence of a central system to consolidate aggregation of various data sources.*

Recommended intervention measures

As pointed out earlier, lack of representation from data base specialists confounded the group versatility to assess the constraint and draw concrete plans and recommendations. However the need for setting comprehensive central data base for tea was clearly felt by the group members. The strategy should incorporate ways to collect, collate, interpret and disseminate the information to all relevant stakeholders.

GROUP D: TEA RESEARCH, MANAGEMENT PRACTICES AND PLANTING MATERIALS

Group D was comprised of participants from Marikitanda tea Research Station, farmers, farmer's association and village extension workers. The group discussed about:

- Tea research and related utilisation issues
- Tea management and
- Planting material

THE SUMMARIZED FINDINGS OF THE SOCIO-ECONOMIC DIAGNOSTIC SURVEY:**(A) POOR RESEARCH AND EXTENSION LINKAGES**

Tea research in Tanzania has been undergoing transformation that started with the Tea Research Institute of East Africa (TRIEA) that was later preceded by Ministry of Agriculture through its two stations based in Mufindi and Amani. Recently further reforms have paved way for establishment of TRIT. Throughout this transformation process, lack of strong linkages between farmers, extension staff and researchers has been evident. This weakness has reduced the potential impact of research in tea Industry. With the emergency of TRIT, which has a special unit, dealing with Technology Transfer there is prospect for big improvement on this area.

(B) HUSBANDRY PRACTICES OF TEA FIELDS

Smallholder tea growers in East Usambara (Muheza) realize low tea yields despite the fact that production in the Usambaras is higher compared with most of the tea growing areas of Tanzania under rain-fed conditions. It was found during the survey that the main reasons for low productivity include; Poor management especially low plant densities, poor weed control, sub-optimal or non-use of fertiliser. Some interviewed farmers recalls using 2 bags (100kgs) of NPK fertiliser per acre per annum, the quantity that is below half of the recommended amount. Another shortcoming is the poor plucking and pruning strategies.

The poor communication that prevailed in most of the smallholder tea growing areas led to significant loss of plucking rounds. Farmers also have challenged the relevance of the three-year pruning cycle recommended by TTA. Most of the farmers prefer a more responsive recommendation determined by the combination of both yield levels and the height of the tea bushes.

In West Usambara, most of the farmers particularly in Bungu division are very conversant with standard tea management practices.

This is partly due to commendable effort done by TTA during introduction of the crop in the area. TTA operated effectively between 1961/62 to 1994/95 spearheading all tea extension work.

Currently a substantial proportion of farmers' prune their tea bushes in less than three years cycle mainly for the purpose of bringing down un-plucked overgrown bushes to give room for intercropping maize and beans as well as chasing wild animals and vermin.

Marketing problems has caused a lot of changes in the overall management of the tea fields. Use of inputs has declined significantly, plucking rounds has not been adhered properly and general cleanliness of the tea fields has declined significantly. All these changes have influenced the growth rate of the tea bushes, and hence distorting the relevance of having a fixed pruning cycle based on time scale.

(C) SOURCE OF TEA PLANTING MATERIALS

The first batch of planting materials in Amani for smallholder tea growers in the district was supplied by East Usambara Tea Company (EUTCO) through a smallholders project that was implemented in collaboration with TTA. However, smallholder growers were given planting materials on credit to be deducted later after they start to produce

greenleaf. Currently most of the estates in East Usambara have no provision for producing planting materials for smallholders and where the possibility occur they prefer cash payment. There is no village based nursery operational in the entire east Usambara that could cater for smallholders requirements.

Lack of reliable source of planting material is a serious setback towards expansion and intensification of smallholders tea production in East Usambara.

In West Usambara most of the planted smallholder tea in Bungu Scheme is of seedling origin. Earlier planting in the estates was mostly seedling tea that was later preceded by clonal tea in most of the expanded fields. The most common clones include 6/8, K35, 100/5 and TN 14/3 that originated from Tea Research Institute of East Africa (TRIEA) which was based in Kericho, Kenya.

Smallholder tea growing in Korogwe district started soon after independence in 1961. The government of Tanzania initiated smallholder tea growing with the assistance of the World Bank, the initiative that later was handed over to Tanzania Tea Authority (TTA). Tea was mostly planted in marginal land where other crops performed poorly. In Korogwe the largest proportion of smallholder tea was planted through the Bungu Tea scheme that was established under the auspices of the TTA Lushoto branch. The Bungu tea scheme consists of three sub-schemes namely Bungu, Dindira and Vugiri/Lutindi. There is a small proportion of farms planted with clonal tea. This situation offers limited room for increased productivity. Most growers are moving away from seedling tea in favour of clonal tea.

CONSTRAINTS AND INTERVENTION MEASURES FOR EACH ISSUE

Tea Research and the related utilisation issues

Constraints:

- *Poor Research – Extension – Farmers linkages: There is very limited forum for Researchers, Extension staff and farmers to interact. This fragmentation has vastly contributed to poor technology uptake by farmers.*
- *Researchers had lost basis for setting priorities particularly in smallholder sector as a result of poor involvement of farmers in the research process.*
- *Lack of streamlined input supply system had also limited the impact of research recommendations as farmers and other research output users are constrained by lack of supply of inputs recommended by the researchers.*

Recommended intervention measures

1. Forum for interaction between Research – Extension and farmers should be established and strengthened with clear objective of facilitating institutionalisation of demand driven and client oriented research and extension effort.
2. On –Farm research other Farming Systems Research Approaches should be emphasised by researchers in order to improve farmers participation in developing the appropriate technologies.
3. Researchers and extensionists should strive to capture the realistic farmers socio-economic conditions in order to develop relevant, feasible and realistic recommendations.

Tea husbandry practices

Constraints:

Various constraints has been identified to contribute to the poor management of the tea farms by smallholders in both East and West Usambara. More prominent are;

- *Lack of information on better and modern production techniques by smallholders.*
- *Lack of resources to procure and use necessary inputs required in the improved management practices recommended by farmers. This constraint has been intensified by delayed and non-payment of the greenleaf facing farmers.*
- *Low productivity of the smallholders tea sector contributed by both poor yield and lower quality of the product that lead to overall low returns from tea production.*

Recommended intervention measures

1. Extension effort focusing on proper spacing for tea, use of inputs like fertilizers, herbicides, and proper pruning strategies, plucking policies should be intensified.
2. Farmers should be advised on the importance of using more productive clonal materials compared to the use of self-set seedlings.
3. Farmers, researchers and extension workers should work together towards identifying more productive and desirable management practices.

4. Institutional support is needed for providing necessary inputs for searching, testing and supplying desirable clones to smallholder farmers. Marikitanda Tea Research Station in collaboration with Mlingano Agricultural Research Institute should take a leading role in assisting farmers to develop improved management practices that will contribute to increased productivity.
5. Researchers in collaboration with extension staff and farmers need to set demonstration plots in key smallholder tea growing areas for demonstrating good tea management practices.

Planting materials

Constraints

- *This problem affects smallholder in all three districts, Mufindi, Njombe and Rungwe.*
- *Lack of reliable and good source of planting materials has lead to;*
 - *Limited opportunity for expansion of the tea fields.*
 - *Limited opportunity for filling of the gaps in the existing tea fields.*
 - *Potential new farmers can not get planting materials for new establishments.*

Recommended intervention measures

1. Where opportunity exist, smallholders and larger scale growers can work out a system where smallholders will obtain planting materials from estates nurseries on agreed terms of trade. This opportunity exists in areas like East Usambara where EUTCo and smallholders can work out such partnership.
2. Village based nurseries will go a long way towards providing a sustainable, reliable and good source of planting materials. However extension efforts is required in the area of nursery management practices, as most of the smallholders have no skills in this area.
3. Individual and groups should be encouraged to establish small commercial nurseries in areas where demand for planting materials is high. TRIT has a role of assisting such groups and individual in terms of technical backup on proper ways of running tea nurseries.
4. Involvement of various stakeholders is necessary in order to set-up a self-sustaining mechanism for production and supply of planting materials of acceptable quality for smallholders. Collaborators such as, Research institutions (TRIT), private tea companies (EUTCo, Marvera, Herkulu and New Mponde), smallholders tea growers associations and individual farmers (smallholders) need to work together towards achieving desired objectives.
5. Resources need to be mobilised from farmers themselves and other interested stakeholders such as local governments, non governmental organisations, farmers associations and donors community in order to facilitate provision of reliable source of planting materials for smallholder growers.
6. Several materials are necessary for establishing a tea nursery. These may be obtained from commercial input suppliers, private companies. The roles of research are to advice and provide sources of planting materials (cuttings).

GROUP E: RESPONSIBILITIES OF THE VILLAGE EXTENSION WORKERS TOWARDS IMPROVING SMALLHOLDER TEA PRODUCTION

The group comprised of the field level extension workers from key smallholder tea growing areas, representative of farmers' organisations and some representative farmers from various villages. The task of the group was to discuss issues relating to tea extension services and information uptake pathways. Having noted that the issues mainly require the attention of the village based extension workers, the group appreciated the action topic to be coined as; '*Responsibilities of the village extension workers towards improving smallholder tea production*'.

THE SUMMARIZED FINDINGS OF THE SOCIO-ECONOMIC DIAGNOSTIC SURVEY:

(A) EXTENSION SERVICES

- *In Muheza, Korogwe and Lushoto districts, the tea extension system was molded around TTA establishment. TTA used to have their own extension workers known as leaf officers. These leaf officers concentrated more with commercial aspects of input supply and quality aspects of the product (green leaf). Their role in solving other production related constraints was very limited.*
- *In Korogwe district at Bungu division TTA activities were phased out in the early nineties. However, the division continued to use Leaf officers and other ex-TTA infrastructure as an outreach independent extension structure, ready to receive any enterprising beneficiary taking over tea production/support business in the locality.*
- *The government village based extension workers concentrated mostly in annual food crops as well as cash crops. Presence of leaf officers seemed to detach tea crop from the mainstream extension system. A further evidence to this is the exclusion of tea related topics in the District Extension system periodic training sessions and lack of follow up from higher authorities on the performance of tea sub -sector.*
- *Due to structural reasons, the level of competence of government employed extension staff to address tea issues is very low. Unfortunately these extension workers have a mandatory status of addressing extension issues covering all grown crops.*
- *In Muheza and Lushoto districts, a similar situation exists whereby the TTA system staff still operate but in suspense for lack of knowledge about the winding up of their previous employer and their positions in their prospective new employer..*

(B) INFORMATION UP-TAKE PATHWAYS

- *The survey has found out that the tea husbandry practices in use by smallholder tea producers are usually copied from neighbouring estate growers. Some of the practices are copied wrongly and hence are causing more harm than good to their tea..*
- *On the other hand the survey has found also that smallholders tea growers are very reluctant to copy or learn from their fellows within the village even where tea is typically performing well. This is a very big constraint on the potential of demonstration plots as an effective technology transfer approach.*

CONSTRAINTS AND INTERVENTION MEASURES

Extension Services

Constraints;

- Tea extension services are not adequate due to limited number of experienced tea extension staff.
- Limited availability of working facilities for available extension staffs e.g. transport, working gear and other essential tools.

- Due to lack of exposure to tea, most extension workers are not experienced in the crop. They are incapable of advising on tea production problems with confidence.
- Lack of experienced tea subject matter specialists and lack of tea related topics in the periodic training sessions for district extension staff.
- Poor linkages between research, extension and farmers.

Effects to smallholder tea sector

1. *Poor management of the tea fields leading to an overall lower productivity of smallholder tea production.*
2. *Abandonment and neglect of the smallholder tea fields due to despair by some farmers.*
3. *Extension staff lacks confidence and interest to get involved with the tea crop.*
4. *Widening knowledge gap on tea management practices by both farmers and extension workers.*
5. *Unnecessary losses to farmers caused by lack of effective linkages with research and extension particularly on getting advises on the importance of quantity, quality and timing for input use for economic tea production.*

Recommended intervention measures

Group members proposed the following intervention measures in order of importance:

1. For the extension workers to be effective, working tools such as work gears, measuring equipment, handbooks, brochures and leaflets are necessary. There is a need to equip extension staff with these tools in order to increase their efficiency.
2. Regular training for both farmers and extension workers on key management issues should be strengthened. The training should be both formal and informal while sharing experiences. Seminars, workshops, study tours, farmer exchange visits and farmers' field days are potentially useful training sessions if prepared well and if attended by the appropriate participants.
3. Linkages between research, extension and farmers should be strengthened. With the current privatisation policies, it is very important to involve all stakeholders in ensuring that the smallholder tea sector is dynamic, well linked and functioning properly.
4. The district agricultural authorities must make deliberate efforts to include on regular basis tea related topics in their respective districts training sessions. Such sessions could be more effective if subject matter specialists are invited from recognised interested institutions like TRIT, large-scale tea estates etc.
5. Government employed extension staff should be encouraged to get themselves involved in tea extension work. Where possible academic support need to be extended to them in order to equip them with the necessary tea husbandry knowledge.
6. TRIT, local governments, central government, factory owners and village based extension staff, should work in collaboration to set in place an effective extension system capable of linking farmers to research outputs that will improve tea productivity and hence the general livelihood of the targeted smallholder tea growers.

Information up-take pathways

Constraints:

- *The group had noted that farmers could not learn voluntarily from their neighbours. This has been observed in almost all tea growing areas.*
- *This fact may well limit the potential impacts of demonstration plots set on individual farmer's plots.*
- *Slow uptake of improved tea husbandry practices leading to generally low productivity of the smallholder farms.*
- *Reduced impact of extension activities due to non- involvement of external change agents.*

Recommended intervention measures

1. Institutional plot sites belonging to schools, churches, prisons etc. can provide ideal sites for setting up demonstration plots that will be easily accessible to all. This will eliminate farmers' reluctance to learning from neighbours.
2. Farmers should be sensitised about the need to change and look for solutions of their constraints/problems initially at village level before elsewhere.
3. Farmers should be encouraged to learn from one another. Use of farmers exchange visits has a role to play in making this strategy a success.
4. Presence of well performing larger estates in the vicinity of smallholders coupled with well-facilitated extension staff tends to enhance adoption of new technology by curious farmers.
5. More studies on factors that contribute to the adoption process by farmers need to be done by researchers. The results should be applied to derive more responsive and adaptable recommendations for farmers.
6. Human resources (researchers, extension staff and farmers), funds for organising farmer visits, procurement of inputs for demo plots and materials such as plants, farm inputs and transport should be mobilised in order to facilitate all necessary measures earmarked for effective implementation.

PRIORITISATION OF ISSUES PER DISTRICTS

Discussion of issues by participants in sub-groups was followed by priority setting exercise. A total of 33, 34, and 35 participants prioritised the issues for Lushoto, Korogwe and Muheza districts respectively. The priority list of issues and hence strategies for implementation will serve in case resources for implementation are limiting. An issue with lowest average score is the highest priority in implementing its strategy by TRIT or any potential collaborator. The results of priority setting of issues per district are presented in table 3.

Table 3: Priority setting of issues by district

DISTRICT	ISSUE	SCORE	RANK
MUHEZA	1.Source of tea planting materials	4.7	6
	2. Land pressure for tea cultivation	4.6	5
	3 Husbandry practices.	3.2	1
	4.Marketing channel and prices	3.8	4
	5.Support services	3.4	2
	6.Smallholders organisation	3.7	3
	7. Data bases	5.8	7
	8. Information uptake path-ways.	5.9	8
KOROGWE	1.Limited diversity of clones	4.7	5
	2.Labour demands	5.1	6
	3.Husbandry practices	3.5	3
	4.Marketing channel and prices	2.6	1
	5.Support services	2.8	2
	6.Smallholder organisation	3.9	4
	7.Data base	5.6	7
LUSHOTO	1.Tea planting materials	5.0	6
	2.Management practices	3.8	4
	3.Marketing	3.4	2
	4.Support services	4.8	5
	5.Outstanding debts	3.0	1
	6.Reliability & timely payment of green leaf	3.7	3
	7.Data base	7.2	8

Table 3 show a mixture of priority across the three districts. The diversity on the ranking emphasise the specific nature of an issue in a location. In addition the diversity indicates the need for developing a strategy that is specific for each location.

- Marketing channel and prices was regarded as the first priority in Korogwe whereas in Lushoto outstanding debts of green leaf was given first priority. While in Muheza husbandry practices of established tea fields were considered a priority area.
- Other three important issues per district are support services especially inputs supply, transport and communication, research, tea extension and linkages, smallholders organisation and marketing green leaf especially channel and prices for Muheza. Supporting services, husbandry practices of established tea fields and smallholders organisation for Korogwe. Marketing, supporting services and husbandry practices of established tea fields for Lushoto.
- In order to maximise efforts, attain impact and sustainability in developing smallholders tea growers resource mobilisation (human and capital) through scheduling of activities in order of importance is necessary.

GENERAL CONCLUSIONS

ACHIEVEMENTS OF THE WORKSHOP

- The workshop has opened an important venue for various stakeholders in smallholders tea industry to meet and address key issues facing the industry after very substantial policy changes of trade liberalisation has occurred.
- The workshop has also initiated a transformation process on the part of the government employed extension staff to start taking tea seriously in their extension work. This was not the case in the past as the policies kept on alienating tea from mainstream extension activities.
- The workshop also was able to identify potential collaborators from within the participants for most of the recommended intervention measures. This is a very big achievement, as most of the strategies will be implemented in collaboration with the very people who have participated in the formulation of the strategies.

FUTURE PROSPECTS

- Need to involve stakeholders at policy level such as members of the tea board. This will contribute significantly towards setting good environment for better and effective policies for smallholders.
- Frequency of such workshops needs to be increased in order to facilitate integration of various stakeholders in addressing key issues of concern for smallholders.
- Development of smallholders' tea policy can effectively be achieved through convening meetings and or workshops that incorporate wider categories of stakeholders.
- More representation of farmers in such workshop is necessary.

CONSTRAINTS AND PROBLEMS

- The workshop has revealed a huge fragmentation of various stakeholders in smallholder tea sector. This leads to disconcerted efforts towards a common goal.
- Researchers have for long been out of touch on what was really happening in the smallholder tea sector.
- The mainstream extension system was operating in exclusion. The input supply system was also working independently under the auspices of TTA. The demise of TTA has created a big vacuum in the co-ordination of these activities. The initiatives taken by TTU/TRIT have a profound influence in filling up this vacuum.

ANNEXES**Annex 1. TIMETABLE FOR THE WORKSHOP**

INTRODUCTORY SESSION:		
CHAIR PERSON: Prof. B.J. Ndunguru, Research Director, TRIT		
DATE	ACTIVITY	RESPONSIBLE
27-Feb-00 pm	- Arrival of participants to Korogwe	All participants, OiC
28-Feb-00 am	- Registration and logistics, Council Hall	TTU
	- Welcome to Workshop	Officer In-charge TTU
	- Participants self introductions	All participants
	- Welcoming address	Research Director, TRIT
	- Opening speech	RC - Tanga
	- Group photograph	All participants
	- Tea break	All, TTU staff
SESSION 1:		
CHAIR PERSON: Dr J.M. Kigalu, Officer In-charge, MTRS		
28-Feb-00 am	- Introductory remarks, MTRS logistics, etc.	Dr. Julius M. Kigalu
	- Description of TTU within TRIT, and its mandate	Dunstan M Ndamugoba
	- Genesis of the Workshop (background)	Anna W Nyanga
SESSION 2:		
CHAIR PERSON: Mr. L. S. M. Tungu, RALDO, (RAS's office) Tanga		
28-Feb-00 am	- Presentation of PRA & SHA survey findings	Emmanuel F Simbua
	- General discussions on the findings (Combining together similar issues for subgroups work)	All participants
	- Participants split into subgroups based on specific topics to discuss issues guided by provided Terms of References (ToR)	All participants, TTU Staff
Lunch Break		
28-Feb-00 pm	- Continue to discuss issues in subgroups	All groups
	- Start documenting issues ready for presentation in session 3.	„
Adjourn		
SESSION 3:		
CHAIR PERSON: Dr. B. Marawiti, DALDO, Korogwe District		
29-Feb-00 am	- Review of Workshop progress report	Anna W Nyanga
	- Presentations from subgroups	District Representatives
	- Tea break	
SESSION 4:		
CHAIR PERSON: Ms A. W. Nyanga, Social Scientist TRIT (TTU)		
29-Feb-00 am and pm	- Combine common issues from Districts	TTU/All participants
	- Identify / isolate specific issues for Districts	District Representatives
	- Wrap-up session	Emmanuel F. Simbua
29-Feb-00 pm	CLOSING REMARKS	Officer In-charge TTU Research Director TRIT

Annex 2. LIST OF THE WORKSHOP PARTICIPANTS

Sn	NAME	ORGANISATION /DISTRICT/	DESIGNATION	ADDRESS
1.	Capt. G. Mkuchika	Tanga Region	Regional Commissioner	P.O Box 5095 Tanga
2.	Capt. H.H. Kabanja	Korogwe District	District Commissioner	P.O Box 532 Korogwe
3.	Mr. Y. Tesua	Korogwe District	(DED)District Executive Direct	P.O Box 584 Korogwe
4.	Mr. Jonas Ndauka	RC's Tanga	Secretary	P.O Box 5095 Tanga
5.	Mr. R. M. Magesa	RC's office Tanga	Personnel Administration	P.O Box 5095 Tanga
6.	Mrs. Aziza Almasi	Amani, Muheza	Smallholder Tea Grower	P.O Box 53 Amani
7.	Mr. F. Lwejuna	EUTCo	Estate Manager	P.O Box 5707 Tanga
8.	Mr. J. S. Mbelwa	Korogwe District	District Extension Officer (DEO)	P.O Box 172 Korogwe
9.	Mr. L. S. M. Tungu	Tanga Region (RAS)	Region Agric. adviser	P.O Box 1474 Tanga
10.	Ms. S. Rwiza	Kilimo/Mifugo Muheza district	Village Extension Worker (VEW)	P.O Box 70 Muheza
11.	Mr. P. K. Kyakaisho	Kilimo/Mifugo Muheza	District. Extension Officer (DEO)	P.O Box 70 Muheza
12.	Mr. S. Mshango	Kilimo/Mifugo Lushoto	District. Extension Officer (DEO)	P.O Box 22 Lushoto
13.	Mr. T. M. Kizuguto	Kilimo/Mifugo Lushoto	DALDO Lushoto	P.O Box 22 Lushoto
14.	Mr. M. W. H. Sabuni	Lushoto District Council	District Planning Officer (DPLO)	P.O Box 32 Lushoto
15.	Mr. S. M. Massomo	Kilimo/Mifugo Korogwe	District SMS Tea	P.O Box 172 Korogwe
16.	Mr. R. L. Ndesanjo	Korogwe Tea Project	Branch Manager (Bungu)	P.O Box 556 Korogwe
17.	Mr. R. Sanyange	Korogwe Tea Project	Representative (UTEWA) Korogwe	P O Box 556 Korogwe
18.	Mr. M. Kazule	TAMOTA / Lushoto	Village Extension Worker (VEW)	P.O Box 22 Lushoto
19.	Mr. N. Kihula	Amani Division	Division Extension. Officer (DVO)	P.O Box 13 Amani
20.	Mr. A. Kitoo	EUTCo	Division Manager	P.O Box 5707 Tanga
21.	Mr. R. Bunto	Amani Bulwa	Village Extension Worker (VEW)	P.O Box 5707 Tanga
22.	Mr. A. J. Kuziwa	Amani-Misalai	UWAA/ Representative	P.O Box 5707 Tanga
23.	Mr. A. Sozzi	Amani-Misalai	Farmer/ Representative	Amani-Antakae

S/ NO	NAME	ORGANISATION /DISTRICT/	DESIGNATION	ADDRESS
24.	Mr. B.W. Salim	Shellcraft-Tanga	Input supplier	P.O. Box 210 Tanga
25	Mr. G. Mhina	Kilimo/Mifugo Korogwe	District Extension Officer (DEO)	P.O Box 172 Korogwe
26.	Mr. D. J. Ulaya	Dindira Estate	Estate Manager	P.O Box 29 Korogwe
27.	Mr. A. Kazingumu	Mponde Factory	Branch Manager	P.O Box 70 Soni
28.	Mr. S. Hamisi	Research Officer	MARTI Mlingano	P.O. Box 5088 Tanga
29.	Mr. R. S. A. Mmbuji	Kilimo/Mifugo Bungu	District Extension Officer (DEO)	P.O Box 177 Korogwe
30	Prof. B.J. Ndunguru.	TRIT	Research Director	P.O Box 2177 D'salaam
31.	Dr. J. M. Kigalu	TRIT	Officer In-charge MTRS	P.O Box 2177 D'salaam
32.	D. M. Ndamugoba.	TRIT	Officer In-charge TTU	P.O Box 2177 D'salaam
33.	Mr. E.F. Simbua.	TRIT	Research Officer – TTU	P.O Box 2177 D'salaam
34.	Ms. A.W. Nyanga	TRIT	Research Officer – TTU	P.O Box 2177 D'salaam
35.	Mrs. I. K. Ndamugoba	TRIT	Senior Research Officer – MTRS	P.O Box 2177 D'salaam
36	Mr. G. M. Rinwi	Korogwe District Council	District Planning Officer (DPLO)	P.O Box 584 Korogwe
37	Dr. B. K. Marawiti	Kilimo/Mifugo Korogwe	DALDO Korogwe	P.O Box 34 Korogwe
38	Mr. I. Mshangamo	Lushoto District	UTEKA- Kwehangala	P.O. Bumbuli Lushoto
39	Mr. J Mtitu	Ambangulu Tea Estates Ltd.	Division Manager	Private Bag Korogwe
40	Mrs. L. Makundi	Tanga Region	Branch Manager TFA Tanga	P.O. Box 5080 Tanga
41	Mrs. E. Muhiddin	Radio Tanzania Tanga	Press RTD	P.O. Box 5980 Tanga
42	Mr. W. Mngazija	Radio One/ITV	Press ITV	P.O.Box 232 Tanga
43	Mr. J. A. Kiroga	TSHTDA DSM.	Rep. TSHTDA	P.O.Box 5137 DSM