



Enhancing women's diversification into tree growing for climate resilience

Producer organization: Tanzania Tree Growers Associations Union (TTGAU)



Tanzania - Climate Resilience Case Study No. 7

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EXECUTIVE SUMMARY

Tanzania Tree Growers Associations Union (TTGAU) was established in 2017 to promote the social and economic interests of smallholder tree growers in Tanzania. TTGAU groups together 146 regional tree grower's associations who pay membership fees and who have total membership of 10,106 of whom 3,224 are women and 6,802 are men. Membership to TTGAU is through tree grower's associations (TGAs) found in different villages. Within Tanzania there are 325,000 hectares of forest plantation: 100,000 ha owned by the state; 54,000 hectares under five larger industrial plantation companies; but 174,000 hectares belongs to small scale tree growers. It is this latter crucial and expanding smallholder tree grower's market that TTGAU serves.

The majority of TTGAU members are subsistence farmers growing various crops like maize, beans, wheat, potatoes and horticultural crops to earn their living. But these subsistence farmers have also begun to see timber production as a promising market opportunity. TTGAU was established to strengthen the collective voice of small scale tree growers with the main aim of increasing members' income at harvest of their woodlots through collective marketing and promotion and support for the use of improved tree seeds, alongside providing access to forestry technical advice so as to increase the asset value of the woodlots.

Climate change affects not only tree planting, but also farming activities which are the backbone of rural life. TTGAU members see forestry and farming as one integrated reality. Change in rainfall patterns, increased temperatures and occurrence of pests and diseases threatens the performance of both forestry and agricultural sectors and hence livelihood of rural population.

The main impacts of climate change have included a combination of shorter rain season and increased temperatures. These changing conditions have stressed crops and also led to new outbreaks of pests and diseases which in many areas were not common in the past. The conditions have also led to a decreased performance of some of agricultural crops and change of farming calendars. Prolonged dry seasons associated with high temperatures poses risk of fires which affect both forests and crops.

In the context of uncertain agriculture, diversification into tree planting is one way in which farmers can make sure that at least some components of their farming system provide returns. Strong national markets for tree products mean that there is more resilience for those who can sell both agricultural and forest products. While TTGAU's main business is linked to timber, it has also been helping members to diversify into avocado and other income generating activities such as beekeeping.

TTGAU wants to ensure that this resilience is inclusive. Consequently, engaging women in farming and forestry is crucial. TTGAU is working with local government authorities (LGAs) and families to facilitate women and young people access to land and to help them through the process of issuance of customary certificates of right of occupancy (CCROs). These newly secured tenure arrangements give women confidence to actively engage in tree planting and crop production. The newfound confidence in diversified agriculture and tree planting is improving household incomes and food security.

Another way in which TTGAU is supporting tree grower's associations (TGAs) to improve their resilience is by helping them to take on the agro-dealer role, so that farm and forest inputs such as seed, fertiliser, pesticides, tools and so on are available in their vicinity, in a timely manner and at lower cost. Taking on this role also helps to diversify income streams and build resilience.

Linked to the above, TTGAU has been both introducing new species of Pine and Eucalypt and promoting the establishment of seed orchards to provide improved tree seeds, and nurseries to grow up the plants. Good quality tree seed is not locally available at a fair price. So, establishing seed orchards and seedling nurseries is one of the endeavours that both supports diversification into tree planting and provides a further income stream itself. TTGAU aims to enable members to improve production, quality as well as equip them with the means of both adapting to and mitigating climate change. The combination of food and cash crops (including trees) enables members to diversify sources of income and ensure availability of food during hard times.

1. INTRODUCTION

1.1 NAME AND VISION

The name of the forest and farm producer organisation that is the subject of this case study is the Tanzania Tree Growers Associations Union (TTGAU). TTGAU is a member based, central body formed to promote economic and social interests of private commercial tree growers in Tanzania. The vision of TTGAU is '*an inclusive forestry sector in Tanzania*'.

To achieve that vision TTGAU provides a series of services to its members that include:

- i. *Facilitating a policy platform for advocacy and lobbying with Government*

Tree growers in Tanzania face many of the same challenges. But there are significant differences among them as to how they address them because of different knowledge and capacity. For instance, they all face a challenge of access to finance for establishment of tree woodlots. Money is needed up front to purchase improved planting materials as well as to manage the woodlots during their early growth. Public plantations get support from the government and large industrial companies borrow money from outside of Tanzania to cover these costs where there is conducive environment to borrow and invest in plantation forestry. Smallholders, on the other hand, have no option other than to mobilise their own limited financial resources to invest in tree planting. There are few sources of financial support at reasonable rates. Being a national umbrella, TTGAU was established to be a link between the tree growers, other actors such as larger companies and financial institutions and policy makers so that their concerns are heard. TTGAU is representing members in various national and international forums to discuss matters regarding to their social and economic wellbeing.

- ii. *Facilitating members' access to improved planting materials and forestry technical advice*

Smallholder tree growers often use genetically poor planting materials and have very minimal and / or no advisory services. This leads to low productivity and poor quality of their woodlots which in turn leads to low returns at harvest. Improved seeds that produce high quality, fast growing trees are being imported from South Africa and Zimbabwe or Latin America. They are sold at prices which most of farmers cannot afford. TTGAU in collaboration with various stakeholders and partners has, as a short term solution, supported its members to access genetically improved tree by procuring seeds in bulk at a reasonable price. It has also supported its members to establish and manage tree nurseries using that seed. This goes hand in hand with capacity building on nursery and woodlot establishment and management. As a long term intervention, TTGAU in partnership with Tanzania Forest Services (TFS) and Private Forestry Programme (PFP) is hoping to establish and manage seed orchards so farmers can produce their own high quality seed.

- iii. *Enhancing women and young people participation in tree planting and economic diversification*

Participation of women in tree planting is low because they usually don't own land. Additionally, young people's involvement in tree planting is hampered by the long-time taken to realize returns from tree investment. TTGAU in collaboration with LGAs is supporting women who are willing to engage in planting trees to get land either from village governments if at all they have idle land suitable for tree planting or by creating awareness to their parents to give land to women children so that they can plant trees. Also, TTGAU is encouraging women and young people to engage in economic activities which can give them income in a short time while waiting for trees to mature. Money obtained from these projects, is also used to manage the woodlots. To achieve this, TTGAU is supporting members with improved avocado planting materials and good agricultural practices of the same. It is also supporting members to improve production, quality and marketing of honey.

- iv. *Enhancing smallholder tree growers (STGs) access to better markets and integration in the value chains*

Smallholders account for 54% of planted area in Tanzania. However, this potential is not reflected in their market share because their woods are characterised by poor productivity and quality. Furthermore, technology used to process wood from smallholders is inefficient leading to low volumes and poor quality, thus low returns. Together with providing technical advice on good silvicultural practices, TTGAU is supporting members to process wood using improved technology to improve quality and increase their income.



Fig 1: TTGAU member's wood being processed for value addition at Iboya village

1.2 LOCATION

Tanzania Tree Growers associations Union (TTGAU) headquarters is located in Njombe Town Council, Mjimwema, Nazareth street; Block T 226. It is mandated to operate across Mainland Tanzania working with smallholder plantation forest growers.

1.3 FOUNDATION AND MEMBERSHIP

TTGAU was founded in 2017 to bring together smallholder tree growers for common voice. It was established following several requests from tree growers outside Southern Highlands where Southern Highlands Tree Growers Association (SHTGA) was active. Tree growers are members of TTGAU though their tree grower's associations (TGAs) located in different villages. Members of TGAs are merely subsistence farmers growing different crops like maize, wheat, potatoes and beans. Small savings that they collect from the sale of these crops are invested in tree planting. A majority of the members own land ranging from one to ten acres, and only part of this will be put into tree planting.

TTGAU is governed by the board of directors, two representatives from each district. The board is accountable to the general assembly (AGM). The Board has delegated its roles to the secretariat which is undertaking the role of planning, coordination and day to day implementation of budget and work plans. The Board is led by the chairperson who is an elected person and the Executive Director is the Secretary of the Board.

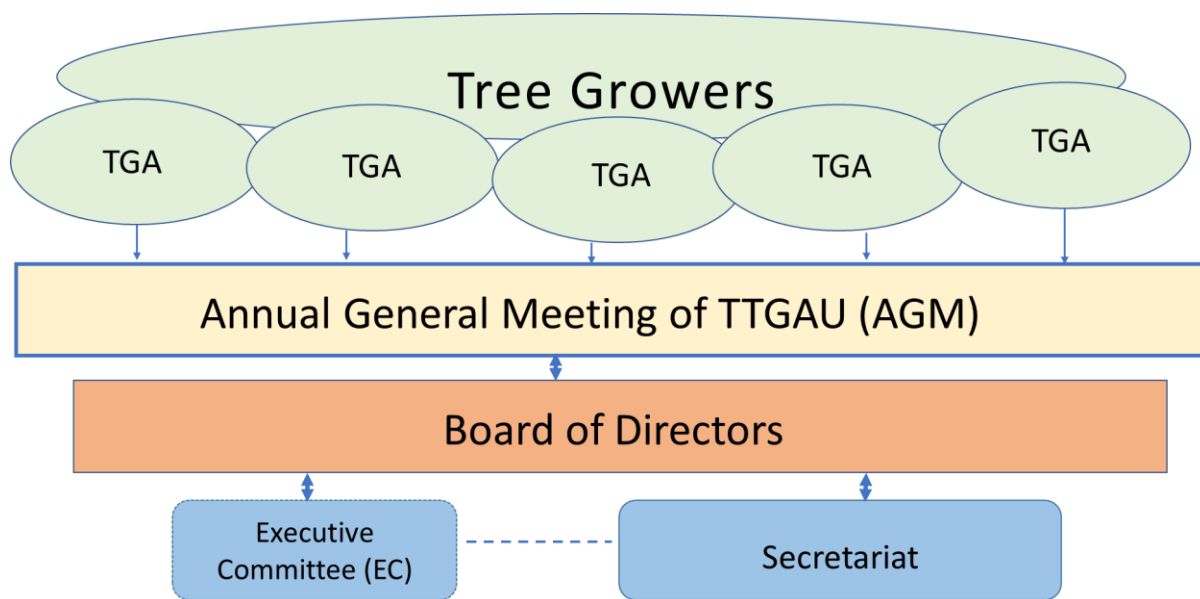


Fig 2: TTGAU organization structure

Membership to TTGAU is open to any registered tree grower association (TGA). In 2017, TTGAU had 116 member TGAs found in six district councils of Southern Highlands. By then, there was 7,647 (5,135 M and 2,512 F) tree growers who were members of the TGAs. During the last two years, TGA membership and overall TTGAU membership has increased by 25.9% and 32% respectively. Currently TTGAU and TGAs membership is summarized in the following table.

Table 1: TGAs and TTGAU membership status

| Period | # of TGAs | TGA members | | |
|---------------------|-----------|-------------|-------|--------|
| | | F | M | Total |
| 2017 | 116 | 2,512 | 5,135 | 7,647 |
| 2019 | 146 | 3,224 | 6,802 | 10,106 |
| Percentage increase | 25.9 | 28 | 32 | 32 |

1.4 BUSINESS PROPOSITION

TTGAU exists to bring together smallholder plantation forest producers and link them to them arket in an effective way.

TTGAU's smallholder tree grower members plant trees supply to various wood value chains. Sawlogs and poles are the main products from smallholders. Pine is planted for timber production for various uses like construction and furniture. A small proportion is also used for veneer production. Eucalyptus is planted for utility poles, timber and veneer production in some places. Black wattle (*Acacia mearnsii*) is planted and used to produce charcoal and firewood.

As noted above, the livelihoods of TTGAU's members depend largely on subsistence agriculture. Revenue from trees help them to undertake family projects that need larger amounts of money like building a good house, buying a car and re-investing in tree planting by increasing their area under trees.

Tree growers typically sell standing trees to timber and pole traders. It is a common phenomenon for traders to use scouters to search for mature woodlots and negotiate price on behalf of the traders. Farmers lack market information, both about what buyers want and about the collective volumes they have to sell. This situation undermines their strength when negotiating sales prices. TTGAU is supporting member TGAs with market information. It is also encouraging tree growers to sell timber from their woodlots collectively through the TGAs (not individually to the traders) so as to increase their negotiation power. Grading timber into quality classes is another ambition. Furthermore, to increase members income by increasing volumes and improve quality of sawn timber, TTGAU is

working with TGAs to upgrade their position in the timber value chain by supporting processing of trees instead of selling standing trees.

1.5 MARKET CONTEXT

In Tanzania, wood demand is far bigger than supply. It is estimated that by 2035, Tanzania's wood supply deficit will increase to 3 million m³ per year.

The total area of forestry plantations in Tanzania is estimated to be 325,000 hectares. Of these 325,000 hectares, the state owns approximately 100,000 ha; 54,000 hectares are under five larger industrial plantation companies; but 174,000 hectares belongs to small scale tree growers. Since land for further large-scale plantations is limited, the small-scale tree grower sector is therefore not only the country's main source of wood, but also the segment with strongest potential for growth in both productivity and area. If seen in this light, it can be regarded as a prime driver of growth in rural jobs.

However, despite all the potential, smallholders' timber currently only supplies 54% of the market. Woodlots are currently poorly managed, with little collective organisation, and their timber fetches low prices in the market because of low quality. Woodlots are often not well-managed and the majority of farmers harvest immature wood when they need cash rather than keeping it until it reaches the more lucrative size classes.

2. THE NATURE OF THE CLIMATE CHANGE THREAT

2.1 PERCEIVED THREATS

Climate change has brought about change of rain patterns, increased temperatures, occurrence of crop pests and diseases and prolonged dry seasons which were not experienced in the past. These changes have forced farmers to adjust their farm activities such that they can cope with nature. For instance, due to unreliable and short rains, farmers are increasingly moving towards the protected wet areas for agriculture.

Subsistence farming forms major part of livelihood of smallholder tree growers in the country. Income obtained from selling food crops or earning money from casual labour goes to investing in tree planting. Because of limited capital, the majority of the tree grower's own woodlots ranging only from one to five acres.

The impact of climate change on subsistence production has direct impacts on the cash flow of smallholders and therefore on their forest investments and income from forestry. Tree planting is a long-term investment. In Tanzania, it takes not less than sixteen years to realise reasonable income from the sale of trees. This reality is because trees are planted especially for sawn timber and utility poles production. Recently, pines and eucalyptus have started to be used for the production of veneer which can use young age trees – and so a small portion of the final timber in a few places serves that new market.

2.2 IMPACT ON FOREST AND FARM RESOURCES

As noted above, climate change has brought about perceived changes in rainfall patterns, increased temperatures, occurrence of new pests and diseases and extended dry seasons. These changes have adversely affected smallholders farming and management calendar as described in more detail below:

i. Change in rain patterns:

Farmers assert that the intervals between rain seasons and the overall total volume of rain are not reliable anymore. Over the last decade, the rain seasons are increasingly becoming shorter than normal. Coupled with inaccurate or unavailable weather forecasts, farmers are placed in a dilemma about what crops to grow and the associated management practices to undertake. Experience shows

that, for instance, in Makete district, traditional varieties of potato are no longer performing well, which is problematic as this is a main cash and staple food crop. The reason is due to the uneven distribution of rains. This means that crop varieties that used to grow in areas with a long rain season are not suitable any longer. To survive, farmers have no choice other than to change their preferences to new varieties which can withstand the climate change in order to cope with the situation. Although some of the new varieties gives high production and tolerate to weather changes, seeds are very expensive and difficult to obtain in the rural areas. Recently, fusarium and bacterial wilts, plus early and late blights have spread as diseases affecting horticultural crop farmers. Tree planting has so far been less affected, but changes in rain patterns have also led to changes in forest activity calendar like, establishment of forest plantations used to be done in December to February, now are carried out in the period of January to February.

ii. *Increased temperatures:*

Short rain seasons are associated with increased temperatures. Prolonged dry seasons gives enough time for grasses to dry. High temperatures raise the risk of wildfires which cause big losses for forests and agricultural crops and a loss of biodiversity. Although the rise in temperatures has led to performance increases for some crops (which in the past were not growing in some areas, especially horticultural crops), the new lack of rains has restricted farmers from growing them. For instance, sweet melon was formerly considered to be warm weather crop. Yet it is now grown in many parts of the Southern Highlands. However, it is also suffering from pests and diseases during the rainy season. Sweet melon would do better in the hot dry season - but water then becomes limiting to many common farmers, except a few who have either boreholes or can pump water from water sources for irrigation.

iii. *Occurrence of new crop pests and diseases:*

As noted above, the change in rain patterns coupled with increased temperatures have led to occurrence of pests and diseases which in many parts of the country were not experienced before. Such pests are affecting both indigenous crop varieties and plantation tree species which are failing to tolerate the pests and are widely affected. Many indigenous crop varieties have been wiped out by either pests or diseases which has led to farmers adopting new varieties which are tolerant. For example, tomato pests as *Tuta absoluta* are now affecting tomato farmers in Tanzania to the extent that some are giving up because they cannot afford controlling it. To ensure production, farmers have to use a lot of agrochemicals to ensure adequate marketable quality. New agrochemicals are entering the market every day. The chemicals are expensive such that many farmers cannot afford them. Limited knowledge on the proper use of the chemicals is also contributing to health problems alongside the ineffectiveness of the chemicals. To cope with these changes, farmers have no choice other than to adopt new modes of farming by use of faster growing, resistant varieties and agrochemicals.

2.3 IMPACT ON BUSINESS AND FINANCE

In Tanzania, smallholder tree growers contribute about 54% of sawlog supply. *Pinus patula*, *Eucalyptus grandis* and *Eucalyptus saligna* have for a long time been the species planted by smallholders. Occurrence of pests and diseases that affect these species has implication on their continued participation in tree planting and the supply chain in general.

Diversification into other timber species has been difficult since seeds are not locally available. Imported seeds are expensive, they cost around €1,000.00 per kilogram as compared to locally available seeds which are sold at € 208.00. Diversifying to new tree species is inevitable though, it requires farmers to work together to mobilise the required funding and approaches. Improved tree seeds are imported from Latin America South Africa and Zimbabwe.

2.4 IMPACTS ON VULNERABLE GROUPS

Women and children who are the most disadvantaged groups by the change of farming systems as they are the key actors of agricultural activities and guardians of limited incomes from agriculture. Traditionally, women's major responsibilities were seen to be engagement in subsistence farming,

particularly food crop production, children caring and community responsibilities. By affecting subsistence farming, climate change poses a major threat to women and to family harmony as it affects women's roles and identity in the society.

Tree planting, when carried out by women, could help to address these historic inequalities. But while tree planting is considered to be a family affair (father, mother and children), decision-making on harvesting, marketing and use of money from forestry has typically remained as the domain of men. This is cemented by the fact that it is usually men who own land – and this spills into perceptions that it is they who have the right to decide how to use the money. Further work is needed to ensure gender equality.

It is estimated that only 65% of farmers use improved inputs. This has affected yields which has negatively influenced food security, household financial assets, investments on tree planting and the social well-being of tree growers. The underperformance of the agricultural activities which are the main source of income of smallholder tree growers, has led to many of them to sell juvenile trees to get quick money to respond to financial needs and food security. The agricultural underperformance has also incentivised farmers in some parts of the Southern Highlands to convert agricultural land to tree planting. But this in turn threatens the future of food security. To adapt to climate change, families have been trying to find the right balance and grow different crops on same pieces of land. Families with smaller pieces of land have found it difficult to diversify thus are prone to food insecurity and they are driven to offer their labour to supplement them in obtaining food.

3. THE RESPONSE OF THE BUSINESS AND FINANCIAL MODEL TO IMPROVE CLIMATE RESILIENCE

3.1 AGRO-ECOLOGICAL DIVERSIFICATION

The key process with which TTGAU is helping smallholder farmers is to help them successfully diversify into tree planting. By increasing the agroecological options for farmers, the overall resilience of their integrated farming system will be enhanced. But the success of this diversification strategy depends ultimately on the health and profitability of the trees.

Over the years, smallholder tree growers have been using genetically poor planting materials which are locally collected which in combination with poor silvicultural practices affects productivity and quality. Likewise, smallholder tree growers have for a long time been planting one species of pine (*Pinus patula*) and two species of eucalyptus (*Eucalyptus grandis* and *Eucalyptus saligna*) as they are readily available in Tanzania.

To respond to climate change, TTGAU in collaboration with development partners have been supporting tree growers to diversify pine species. New species (*Pinus maximinoii* and *Pinus tecunmanii*) have now been introduced to smallholders in some parts of the country.

Furthermore, TTGAU in collaboration with Tanzania Forest Services Agency (TFS) under financial support from Private Forestry Programme (PFP) which is a bilateral agreement between the governments of Tanzania and Finland has established seed orchards of superior varieties of Pine and Eucalypt in the Southern Highlands. The seed orchards are of different species of pines and eucalyptus. It is expected eucalyptus will start producing seeds by 2022 and seeds from pines will start to be harvested in 2026. This constitutes a significant investment in a future business for TTGAU and participating TGAs, that will contribute to their long-term financial viability and help them also to reduce the costs of improved tree seed for TGA tree growers

3.2 ECONOMIC DIVERSIFICATION

To enable members to adapt to the changing climate, initially, TTGAU is supporting tree growers to diversify income through commercial beekeeping and avocado farming. Women are also encouraged to establish simple, cheap but valuable economic activities like making soap and batik.

Both avocado farming and beekeeping have been undertaken by tree growers for many years. However, avocado farming and beekeeping have been practiced as traditional activities rather than commercial enterprises. Lacking technical know-how on avocado farming and beekeeping has been among the limiting factors to commercializing them. Limited market information has also contributed to poor production of avocado in the country. TTGAU is promoting and supporting members to grow avocado to diversify their income. This will provide them with alternative income while waiting for trees to mature.

TTGAU is supporting members with commercial beekeeping practices by providing technical support on various matters pertaining to production, processing and marketing of honey and related products. To accumulate capital to invest in avocado farming and beekeeping, TTGAU is supporting TGA members to establish village savings and lending associations (VSLAs). These VSLAs can then offer loans to help farmers acquire planting stock or beehives.



Fig 3: TGA members grafting avocado seedlings

3.3 SOCIAL DIVERSIFICATION

In Tanzania, by custom, male children have the rights to inherit land. This has contributed to very few women being able to engage in tree planting. A few women, mostly single, do buy land for different uses.

TTGAU has been building social networks to help women address these issues. For example, it is working with local government authorities (village and district councils) and household with land to give land to women for both tree planting and crop production. In 2019, under special arrangements, a total of 60 acres of land was given to a group of 60 members (36 women and 24 men) by Uliwa village.

TTGAU's effort to diversify its social networks have also included conducted awareness raising to cultural and religious leaders who in turn managed to negotiate with several households and agreed to give 30 acres to their women children for tree and crop production. TGA members have been supported to get customary certificates of right of occupancy (CCROs). This has enabled inclusion of women in tree planting and crop production by enhancing them to own land.

3.4 OTHER RESILIENCE MEASURES

Most agro-dealers are concentrated in urban areas. Farmers have to travel from villages to district headquarters in search of inputs (seeds, fertilizers, pesticides and farm implements). This raises the cost of the inputs. In rare cases when the inputs are available in the villages, they are sold at an exorbitant prices, such that a big percentage of farmers cannot afford them. They consequently either apply less than the recommended rates or not at all, with further consequences being underproduction.

The problem above is aggravated by poor agricultural practices resulting from farmers lacking access to advisory and extension services. TTGAU is working with big input suppliers to enhance TGAs to undertake the role of agro-dealers in the villages so that inputs are made available at an affordable price. The small margin is shared between TTGAU and respective TGAs. Technical advice and extension services will be provided as part of the package.

3.4.1 PARTNERSHIPS

To achieve the above endeavours, TTGAU works in close collaboration with public and private players. This involves pulling together resources to meet farmers needs. TTGAU worked with Tanzania Forest Services Agency (TFS) and respective district councils (LGAs) to provide training on establishment and management of tree nurseries and woodlots. Likewise, TTGAU collaborated with KUZA AFRICA to build farmers capacity on commercial avocado farming. Collaboration with village and district governments enabled issuance of CCROs to 60 TGA members in Uliwa village.

3.4.2 CUSTOMERS

Smallholder tree growers accounts for more than 54% of sawlog supply in Tanzania, the remaining balance is shared between private industrial companies and government plantations which are under Tanzania Forest Services Agency (TFS). Ever increasing royalty on government plantations forces more traders to shift to smallholders woodlots. Coupled with a lack of standards or minimum cutting diameters on sawlogs creates pressure on smallholders' woodlots. Due to high demand, in most cases, smallholders sell immature woods. TTGAU is working with TGAs to improve collective selling and grading of timber.

In another important tree-based value chain, Tanzania avocado finds its market in Europe and Asia through Kenyan companies. Very few Tanzanians are engaged in exporting avocado. This is attributed to lack of awareness on avocado business, disorganised market, lack of market information and capital. Avocado from Tanzania is blended and then sold as if it had been produced in Kenya. There are few reliable customers, normally they come and go. So there is much work for TTGAU to do to improve the avocado value chain for its members (see Figure 1).

3.4.3 MARKETING STRATEGY

Within the Tanzanian timber market, ‘scouters’ play a role in linking producers and buyers. They are either contracted or employed by the buyer especially for sourcing avocado and sawlogs from villages. Some of the scouters sub-contract villagers to collect the avocado fruit or search for sawlogs on their behalf. In some areas, buyers have organized informal groups to facilitate collection of fruits.

TTGAU approach is to gradually help TGAs to be at the centre of communication between producers and buyers. TGAs will organise and coordinate the sale of fruits to buyers and play the role of collective marketing. TTGAU on its part will work to look for markets and organise producers for capacity building at TGA level. In order to enhance collective marketing and support to members to develop forest management plan, in 2019, TTGAU in collaboration with AgriCord, piloted development of a forest information system (FIS). However, due to limited resource and expertise, the intervention was done only in two TGAs.

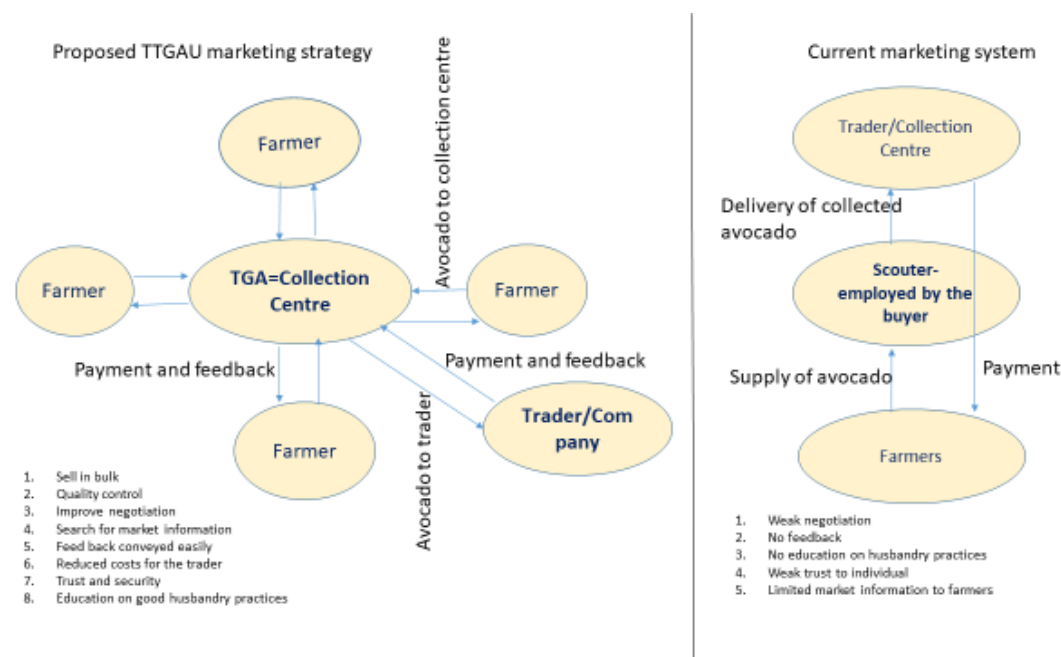


Figure 1: Current and proposed marketing strategy of avocado

4. CONCLUSIONS

4.1 MAIN CONCLUSIONS

In Tanzanian rural settings, women play a key role of taking care of the family especially household welfare while men concentrate on activities that earn them money. Women’s contribution to family economic wellbeing has mainly been through their provision of labour and men have been in the driver’s seat. This deprives women of realizing their full potential. As land is the main factor of development in the rural areas, women find themselves excluded from contributing to household economic welfare because they don’t own land. It is this structural inequality which TTGAU wishes to address with its TGAs over time.

4.2 INVESTMENT CHALLENGES

More than 99% of TTGAU members live in the villages, and agriculture is the key of income and food security. Tree planting, although a long term investment, gives them lump sums of cash when trees are sold. Avocado farming has also been taking place in some parts of the Southern Highlands since

colonial times. TTGAU is partnering with various organizations (AgriCord, We Effect and Ministry for Foreign Affairs of Finland) to enhance smallholder tree growers of both timber and avocado to mobilise their own resources through village saving and lending associations (VSLAs) where 60% of the members are women.

Farmers have been planting avocado for subsistence use until in the late 2000’s when commercial avocado farming started to be advocated by the government and development organizations. However, participation of smallholders in commercial farming of avocado has been low due to limited knowledge about commercial avocado farming in Tanzania starting from production (supply) to consumers (demand). Access to the right technical advice on good agricultural practices related to what is needed by the market, quality standards and quantities required is challenging. Furthermore, lack of supply of good planting materials that are needed in the market is posing threat to engagement of smallholders in commercial avocado farming. Commercial avocado farming is capital intensive. Lack of access to financial services puts smallholders at a disadvantage. Commercialization of both timber and avocado farming requires smallholders to move from subsistence production to a more modern farming that is attuned to the needs of a more competitive market, locally, regionally and internationally

To keep the members on the picture, TTGAU is working with big companies like KUZA AFRICA LIMITED which engage in production and marketing of avocado internationally. KUZA is a good source of improved planting materials and expertise on good avocado farming practices which is given to smallholders through TGAs.

Commercial avocado farming is a capital intensive investment. Low income smallholder tree growers lack access to financial services. Financial institutions on the other hand, have stringent and unfriendly conditions which automatically disqualifies smallholder tree growers from accessing loans for investing in farming. These barriers need to be overcome by helping TGAs to develop solid financial track records.

4.3 BENEFITS AND THEIR DISTRIBUTION

Sustainability of TTGAU itself, which relies on membership fees and other service charges, is dependent on how meaningful the services provided to TGA members are felt to be. The key is that they address the real economic and social difficulties members face in tree planting and day to day life. Support to improved tree planting materials and avocado goes hand in hand with capacity building on good silvicultural and agricultural practices. This aims at improving production and quality of products and hence increase farmers’ income at harvest.

In 2019, 35 TGAs received support on improved tree planting materials. Ten TGAs have benefited from beekeeping technical, tools and marketing support. Likewise, 47 TGAs have benefited from improved tree seeds. A further 12 TGAs got support on avocado farming. One TGA was supported to undertake processing of members’ wood. The following table provides information on farmers who benefited from these endeavours for the period of 2019 and /2020.

Table 1: Farmers beneficiaries from TTGAU support

| Duration | Beneficiaries | | | | | |
|----------|-----------------------------|-------|---------|-----|--------------------------------|----|
| | Improved planting materials | | Avocado | | Beekeeping | |
| | M | F | M | F | M | F |
| 2019 | 1,868 | 1,009 | 163 | 135 | 64 | 22 |
| 2020 | 2,483 | 1,201 | 396 | 289 | To be done in July to December | |