



CROPS DIVERSIFICATION WITH COFFEE IN PRIMARY AGRICULTURAL MARKETING CO-OPERATIVES IN KIGOMA AND KAGERA REGIONS, TANZANIA

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Abstract: Co-operative diversification is an important factor that can enable coffee co-operatives to deal with sustainability and members' livelihoods currently shaken due to coffee decline in production and decline in market price. The study is aimed at uncovering how co-operatives can execute diversifications through the identification of other non-coffee crops that can be sold alongside coffee in traditional coffee co-operatives. The study was cross-sectionally designed to obtain qualitative data from coffee producing districts of Karagwe, Muleba, Buhigwe, and Kigoma. The study collected data through Focus Group Discussions (FGDs) and Key Informant Interviews. Data were analyzed through content analysis. The study findings show that the traditional coffee production areas are endowed with a variety of other crops than coffee where about 16 food crops were identified and proposed by the members to be sold via co-operatives. Among the suggested crops grains including maize and beans scored the highest percentages of selection. The study also found that access to market, access to and highest price of inputs together with the inadequacy of diversification knowledge to be factors that may delay diversification among coffee AMCOS. The study concludes that, many crops grow well in the coffee-producing area that can potentially be used to enhance coffee AMCOS diversification. The study recommended coffee AMCOS to choose among the suggested crops in their area and enjoy the opportunity for diversification. Also, the study recommends co-operative actors like TCDC, Unions, and regional and district co-operative offices to support the co-operative diversifications through training and market search.

Keywords: *Primary Agricultural Co-operative Societies; non-coffee crops, diversification.*

1.0 Introduction

In Tanzania coffee is listed among advantageous crops which employ about 500,000 families let alone the indirect beneficiaries who are amounting to 2.5 million. Despite this high contribution by coffee, we have however, observed a tremendously decline in production and prices for coffee not only in Tanzania but also worldwide. According to the international coffee organization (2019), World coffee production in the year 2019/20 decreased by 1.6% to 168.55 million bags as a consequence of a 5.1% decline in Arabica output. In Tanzania, the situation does not fall far from this as the production of coffee indicates a decline between 2013- 2021 years (TCB, 2021). These declines have



adversarial effects on the sustainability of AMCOS and the members' livelihood (FAO, 2018). Marketing diversification for AMCOS selling only coffee seems a promising future for Coffee AMCOS members to reduce over-dependency on coffee marketing and focus on other ways of increasing AMCOS members' welfare through crop diversifications (Wagai, et al., 2019; Rwekaza et al., 2019). Although the aspect of crop diversification is applied in agricultural sectors example in some countries in Africa like Vietnam and Brazil, this has been used as a solution for improving production rather than a marketing strategy (Rwekaza and Mhihi, 2016; Lario *et al.*, 2014; Likwata and Venkatakrishnan, 2014; Carter *et al.*, 2010; Chambo, 2007).

Marketing diversification for Coffee based co-operatives means involvement of these co-operatives in selling more than one crop hence increasing income to the members. The significance of market diversification over traditional single crop marketing was suggested by vast researchers as a way to improve co-operatives and members' livelihood (Wagai, et al., 2019; Elbers et al., 2015; Kazungu, et al. 2014). Co-operative diversification is said to have a good contribution to employment creation let alone promoting sustainable agriculture and marketing of agriculture products (Thanasomboon, et al., 2020; Obaga and Mwaura, 2018). Over 70% of farmers in Africa and 80% in Tanzania sell their farming products through AMCOs (Rwekaza et al., 2018; Anania and Bee, 2018; ICA and ILO, 2014; Chambo, 2008). In Tanzania, most of the AMCOs are operating through the collection and selling of one crop. Tanzania coffee producers have experienced a tremendous decline in both production and prices for coffee and hence the AMCOS selling only coffee is negatively affected. Research on co-operatives specifies that co-operatives specifically the primary AMCOS have the potential in diversifying their businesses in terms of quality and quantity hence increasing their market ranges. (Rwekaza et al., 2019; Wambugu et al., 2018; FAO, 2018; Miho, 2017; Rwekaza and Mhihi, 2016) This would surge member incomes and enhance livelihood in rural areas where the majority of AMCOS are found.

Diversification of these AMCOs may be a great solution to serve the AMCOs and their members whereas other crops that grow well in the same geographical area where coffee is grown can be marketed alongside coffee through their AMCOS to increase market portfolios. According to Wambugu (2018), African coffee production has experienced a lot of dynamics, which makes the production trend go down yearly. Therefore, the question of expanding markets by exploiting other available crops to be marketed by co-operative has become an imperative element to salvage the problem. The article is aimed at finding out other non-coffee crops grown in coffee-producing areas that can be marketed along with side coffee in the traditional coffee AMCOS.

The article is guided by the Resource-Based Theory of diversification which stresses that



firms like co-operatives can use their available resources to diversify their production to obtain competitive advantages. Based on this, co-operative is one among business firms that can diversify through marketing crops other than coffee to increase their members' livelihood and AMCOS's sustainability.

Firms' diversification can either take place at a business level (homocentric) or corporate level (conglomerate). At a business level firm like a co-operative will diversify to a product that is similar to the initial product i.e., products of the same segment of which the firm is producing, and if is a business then the same business segment (Liu and Hsu2011). Primary co-operatives that are marketing coffee can diversify to the same segment by marketing other crops that grow similarly to coffee. At the corporate level co-operatives can diversify to a new segment or product or market that is not done by the firm currently for example AMCOS establishing a local financial institution or building schools or owning real estate. According to Akgül (2015) in his study on product diversification on the company profit, through the use of resource-based theory found that diversification can increase the profit margin of the organization when such a firm has diversified to the related products homocentric than when diversifying to the dissimilar ones(conglomerate). This article is based on co-operative diversification based on similar products as it will allow such co-operatives to use the available resources in diversification rather than diversifying on the conglomerate level that will require soliciting new resources hence affecting members' stakes.

Resource-Based Theory has three fundamental assumptions. Firstly, the theory says that firms have varied resources. The assumption is related to fact that firms have varied resources in form of material and other resources that firms as co-operatives can use the same to improve their competitive advantages which can result in improving members' welfare (Lee, 2017; Corte and Del 2017). In that assumption, co-operatives have varied resources including members, funds, storage, different kinds of crops grown in their area, and skilled unions which can be used to diversify the co-operatives.

The second assumption is that "firms' resources are immovable'. Below this hypothesis, RBT believes that a firm's resources are non-moveable. We can equate this to crops that grow well in a certain cooperative area compared to other areas. That helps firms to enjoy viable competitive advantages since the immovable resources like those crops can be diversified and enable co-operatives to increase their market niche and also improve their members' well-being. The third assumption is that firm's resources are valuable since they can be used to produce the customer appealing products (Ndungu and Wanjira, 2019). Based on this assumption co-operative have many resources which are valuable example the ability to collect produce from various members is valuable because it enhances the reliability of co-operatives having produced to market all the time as compared to a firm



that resource only from a single source. But also, co-operatives can collect and market more quality products due to collective quality checks by the members. Therefore, the study aimed at other crops that can be sold by coffee co-operatives to initiate diversification of these traditional co-operatives but also found out if any expected factors could inhibit or encourage co-operatives diversification.

2.0 Methodology

The study is built within strong ties of the constructivism approach which is based on human constructions and experiences to understand reality. The study thus used the AMCOS member's constructs and experiences to formulate the reality about how Primary Co-operatives can diversify and increase members' livelihood. The study adopted a cross-sectional design which involved visiting the list of 19 pre-determined coffee primary AMCOS in the Kigoma and Kagera region the aim was to understand what are the other food and non-food crops that can be grown and marketed alongside coffee. The study was conducted in four selected districts of Karagwe and Muleba of Kagera Region, Buhigwe, and Kigoma district of Kigoma Region as they were considered as districts with higher coffee production but also the environments of the district permitted to have other crops that could be grown along with coffee and enable co-operative diversifications. Primary co-operatives were taken as the unit of analysis and members were the unit of observations. Furthermore, the study involved the unions which were the main marketing coordinates for coffee co-operatives where in Kagera there were Karagwe District Co-operative Union (KDCU) and Kagera Co-operative Union was taken and in Buhigwe and Kigoma districts Kanyovu Co-operative union was taken. The regions and districts chosen were considered as the leading in coffee production (URT 2016/2017). Also, purposive sampling was used to select respondents who constituted of co-operative members from selected AMCOS co-operative development department and Tanzania Co-operative Development Commissions (TCDC) and the co-operative movement to get information on different types of crops that can be sold in line with coffee.

The data for the study was collected through Focus Group Discussions (FDG) for the AMCOs and in-depth Interviews with the Key Informants. Likewise, the Key Informant Interview involved managers of the three unions, co-operative officers from four districts, and TCDC officers. This intended to triangulate the data obtained from FDGs on the alternative crops that could be marketed alongside coffee. The study used content and descriptive analysis to analyze the data on possible crops that could be sold alongside coffee.



3.0 Findings and Discussion

3.1 Profiles of Surveyed primary AMCOS in the Kagera and Kigoma Region

A study involved a total of 19 AMCOS from Kagera and Kigoma as indicated in Table 1. One FDG which involved members, farmers, and leaders was carried out on each listed AMCOS to understand the availability of crops that could be sold via their AMCOS but also to find out the inhibiting / encouraging factors that will enable the co-operatives to diversify. Further discussions were also carried out on the suggested crops on their possibility to be marketed by co-operatives.

Table 1: Primary AMCOS included in the study

S/N	NAME OF AMCOS	DISTRICT	NO OF MEMBERS
1	RUNYAGA	KARAGWE DC	450
2	BISHESHE		518
3	KAMAANGU		676
4	NYABWEGIRA		266
5	NDAMA		158
1	TUKUTUKU AMCOS	MULEBA DC	560
2	KIBANGA		320
3	KABUTAIGI		346
4	MUBUNDA		382
5	KASHARUNGA		250
1	KIBIGWA	BUHIGWE DC	485
2	MANYOVU		366
3	MAHWENYI		400
4	NAKIMUHE		270
5	MWAYAYA		380
1	RUMAKU	KIGOMA DC	2000
2	KALINZI		400
3	MKIBANDA		554
4	MKIGU		370

3.2 Identified Non – coffee crops to be sold via coffee AMCOS

The study investigated the non-coffee crops that members of AMCOS were having in their areas and whether these crops can be sold via co-operatives to increase members' livelihood. About 16 crops were identified and suggested to be marketed through AMCOS where 15 were food crops and 1 cash crops as indicated in Table 2.



Table 2: Suggested alternative crops in AMCOS

S/N	Suggested crops	Frequency Karagwe	Frequency Muleba	Frequency Buhigwe	Frequency Kigoma	Total frequency	%
1	Beans	5	5	4	3	17	89%
2	Maize	5	3	4	1	13	68%
3	Cassava	2	1	1	1	5	26%
4	Bananas (matoke)	2	5	1	1	9	47%
5	Irish potatoes	1	1	1	1	4	21
6	Vanilla	2	1	0	0	3	16%
7	Chia Seeds	3	1	0	0	4	21%
8	Sunflower	2	3	1	3	9	47%
9	Groundnuts	1	3	0	0	4	21%
10	Soy beans	1	0	0	0	1	5%
11	Pineapples	2	0	1	1	4	21%
12	Avocado	0	2	2	0	4	21%
13	Groundnuts	0	1	0	0	1	5%
14	Cotton	0	1	0	0	1	5%
15	Pigeonpeas	0	1	3	2	6	31%
16	Hot chill	0	0	5	4	9	47%

3.3 Identified crops for diversification

Table 2 shows the identified non-coffee crops from the four districts involved in the study together with percentage scores on the suggestion of each identified crop where beans and maize were among the crops that scored the highest percentage of preferences while Groundnuts and cotton scored the lowest percentage among all mentioned crops. From the mentioned crops it was learned that members preferred food crops more than non-food crops as 99% of all suggested crops for diversification were food crops. For example, one member from Kibwigwa AMCOS pointed out the reason for this preference when he says, "yes, we are suggesting most food crops because we need to be thinking how we can market it. Everyone eats then I find it easy to sell food crops than a cash crop". These findings were in line with that of Anderson (2010) who discussed that as the population keeps increasing among urban Africa the food needs also keep increasing because urban population is mostly depending to be fed by the rural population who are involved in agriculture. Other AMCOS participant was also in support of food crops because of the market accessibility but also because their areas had an abundance of food crops than cash crops.



FGD members did not just stop in suggesting the crops that can be used in AMCOs diversifications but also, debated how each of the identified crops in their area can be marketed via their respective AMCOs. Members provided information on the possibility for diversification but also expected hindrances that might impede diversification on each identified crop as presented and discussed in imminent sections.

3.3.1 Possibility of selling beans via co-operatives

Beans were the leading identified crop with 89% of acceptance and 17 out of 19 AMCOs members who participated in the study suggested it as the potential crop that can be sold via co-operatives. Comparing the four targeted districts beans got higher acceptance in Karagwe and Muleba for example members from the Karagwe district pointed out that there were different types of beans grown in their area including soya, white, grey and red beans that bear different local names and grow better in their area. They suggested that these species can be researched to identify which one is more needed to encourage the farmers in growing such species and sell them via co-operative.

Further, the farmers from Karagwe said that they are sure that beans will do well to be sold with coffee because they had once done it during the National Milling Program where big and small types of beans were sold via co-operatives. These findings indicate that farmers are willing to diversify to the food crops they have experience with than to other crops that they had not experienced in terms of marketing. Similar findings were suggested by Makate et al (2016) on farming diversification and farmers' livelihood in Zimbabwe where it was learned that farmers' experience influenced diversification.

The farmers also pointed out that selling beans through AMCOs will increase their marketing negotiation power than selling individually. One farmer from Kamahungu says; *"Selling beans through AMCOs is much easier than how is it now where brokers (middlemen) are taking advantage of our situation of not having a market"*. The collective nature of AMCOs is taken to be a competitive advantage over marketing the farmers' produce because farmers collectively collect the farming produce and they can sell as any entity hence increasing their marketing negotiation power due to the volume of production and high negotiation skills AMCO members have over an individual negotiation. According to resource-based diversification theory firms have various resources that can be used to diversify to obtain competitive advantages, from the above finding co-operatives have collective marketing negotiation power as their important resource that can be used in diversifying to other crops besides coffee.

Market presence is another important factor that was identified by members during FGD that will enhance the members' willingness to produce more and to sell their beans through co-operatives. One member from Kabutaigi AMCOs in Muleba district said that the



production of beans is still very low, people only produce for consumption because there is no reliable market, but if we can find a reliable market through AMCOS then farmers will be encouraged to produce more. This finding is an indication that members of AMCOS can start by doing the market research as it will enable the farmers to produce more knowing that they can access the readily available market.

During the FGD in Karagwe and Buhigwe, it was learned that beans are grown in two seasons that is in spring and autumn time. This is a clear indication that farmers can collect the beans in two seasonal times and have enough product that can be sold out to larger consumers like in schools, prisons, and larger retail shops and cereal companies that requires a higher amount of produce than it was pointed out by a cereal company which was collecting beans directly from farmers *“I have a collection point here, farmers come with their beans and we check for quality and buy”*.

The farmers pointed out that they see diversification potential in beans and other cereal crops but the main hindrance will be the access to farming inputs. It was further learned that the farmers were experiencing the same problem in coffee and it has affected their level of production in coffee farming. The same was learned by the study by Musimu (2018) who found that the high price of farm inputs has been a major challenge for beans production as it affects the production process and marketing. The farmers and members at Nahimuhe AMCOS also pinpointed that education will be needed both in terms of how they can produce better but also how the AMCOS can sell other crops than coffee in the same co-operative.

3.3.2 Possibility of selling maize via co-operatives

Maize was the second leading with 68% of acceptance where 13 co-operatives involved in the study suggested that maize could potentially be sold through their co-operatives. In the FDG with Kibigwa AMCOS from Buhigwe District, one of the participants said that they have a good production of maize in their area also most of the members in the FGD admitted that in the last season (i.e. 2021) the maize production was well and some said that they had sold it out at a low price as they could not get a proper market which would have offered better prices but also others have stored for selling in the future as they noted that maize prices may go up during cultivation seasons. Furthermore, in FGD with Bisheshe AMCOS from the Karagwe district, it was learned that maize is the best crop that can be sold with coffee because of its nature that it sold when dried as coffee, it can also be stored for a long time without being destroyed.

Other co-operatives from four visited districts were also in support of maize because maize preparation for marketing does not differ from coffee. After all, all can be sold dried so this is manageable to the AMCOS as they can use the same storage for coffee in



storing the maize which has a different season in a year. This is a clear indication that AMCOS members in the studied districts can use maize as the diversified crop that could be sold out in line with coffee. Barreiro-Hurle, (2019) in his study on maize incentives identified that Tanzania is termed the breadwinner for East Africa because is the main producer and marketer of maize in East Africa. The co-operatives can then grab this opportunity to collect maize and sell through co-operatives and helps the farmers to improve their livelihood and strengthen their AMCOS sustainability.

3.3.3 Possibility of selling bananas via co-operatives

Bananas, sunflower, and a hot chill took the third rank of 47% acceptance where about 9 AMCOS of 19 visited suggested it as the crops that can be sold along with coffee. Bananas were highly favoured by co-operatives from Karagwe and Bukoba as 5 out of 9 suggested bananas came from the two districts, this was since the two districts are from the Kagera region which is leading in the country for banana production. However, it was learned that selling bananas through co-operatives can be challenging due to its difficulties in the collection, storage, and marketing arrangement because of its short stay after harvest. The availability of bananas in the area is a resource that AMCOS can use to diversify as suggested by the resource-based theory of diversification. The important factor that needs to be taken into account is for co-operatives to have a marketing channel that will favour bananas.

The farmers suggested that a suitable marketing arrangement will be the one where buyers will agree with co-operatives to mobilize farmers to bring bananas at a specified date, time, type, and size of the agreed bananas and the buyer be available at that time to pick up the produces. This kind of marketing is called Just in time marketing which intends in reducing inventory time by having the required amount of inventory to sell to the markers hence reducing wastage Anel et al (2000).In this particular marketing arrangement, the AMCOS will serve as a mobilizer, price negotiator, and collection centre for the bananas from the FGD it was also learned that the issue of strong communication between the AMCOs and Buyers was needed to facilitate quick collection of bananas as they can't stay for a long time at the collection centre.

3.3.4 Possibility of selling sunflower seeds through co-operatives

Sunflower is another crop falling on the same rank as bananas and it was highly suggested in Muleba and Kigoma districts. During the FDG the farmers pointed out that sunflower seeds are another crop that they see as potential to be sold alongside the coffee. However, the crop was not cultivated in all districts that were included in the study. The farmers who suggested the crops said that they have heard a good story about sunflower farming from other farmers in Siginda and Mwanza and they think that if they are offered education on how to produce sunflowers and secure good seeds they can



grow and sell via co-operative as raw material or as a value-added product in form of oil and animal feeds. The co-operatives have taken diversification to a new level through adding value to the farming produces, example in the Philippines one of the banana co-operatives decided to add value to their sweet banana by making banana bread and smoothies.

3.3.5 Possibility of selling pepper via co-operatives

Different types of pepper such as pequin pepper, bell pepper, and others are other crops that scored the same percentages as bananas and sunflower that were suggested by farmers to be grown and sold via co-operatives. The crop was suggested in Buhigwe and Kigoma districts. The farmers pointed out that pepper farming is a new crop that has been introduced in their area though they have heard a lot of success stories about this kind of farming and they have been so interested in growing it. The farmers also explained that they see very great potential for pepper to be sold via co-operatives because there were readily available markets where they had one company that was selling seedlings and later buying from farmers inform of contractual farming. For example, this one farmer from Rumaku AMCOS in Kigoma DC says; *“I have my relative in Tabora who is involved in pepper farming; it pays, from the experience I have gained from him I have already bought my pact for chill seeds and I want to start farming”*.

Furthermore, during the interview with the co-operative officer in Buhigwe, it was learned that the district agriculture department had received this company that wants the farmers to grow pepper as it guarantees a market. DCO further indicated that several sensitization meetings were done with the farmers through AMCOS for farmers to start production. DCO also acknowledged that the sensitization was done through co-operatives and some of the co-operatives bought the seedlings for their member to start production example Kibwigwa AMCOS had done it with the expectations that the produces will be sold via their respective co-operative. This finding is a clear indication that co-operatives can easily diversify through contract farming which guarantees the farmers' market for the produces that are collected and sold via co-operatives.

3.3.6 Possibility of selling pigeon peas by co-operatives

Pigeon peas took the fourth rank among the suggested crops to be sold via co-operatives where 31% of the visited AMCOs said that is a potential grown crop that could be marketed with coffee. It was mainly suggested in Kigoma and Buhigwe than Karagwe and Muleba districts. Inthe FDG with the farmers, it was learned that Pigeonpeas grow well in the two districts of Kigoma and Buhigwe through farmers were selling it individually; even others claimed to have grown it and lacked a reliable market for it hence receiving low prices in the local market. However, one of the co-operatives visited explained that; *“This (2021) year some company had approached us on the need for Pigeonpeas and they*



specifically wanted to buy from co-operatives, unfortunately, when they come back, we didn't have any because we thought that our registration was only on coffee" (Manyovu AMCOS-Buhigwe, October 2021).

The above quotation is a clear indication that Pigeonpeas is an important resource which co-operative can use to diversify their marketing of agricultural produces. Furthermore, the quotations show the lack of AMCOS awareness on the issue of diversification something that needs the responsible bodies such as TCDC, District Co-operative offices, and even the private stakeholders to join hands to increase the awareness of the AMCOS and its members on the issue of diversification. Another issue that was raised by the above finding was poor communication and coordination among the co-operatives that are operating in the same District and Region. The Union has a great role to play in coordination because in some visited AMCOS like Mkigu AMCOS alleged that they had Pigeonpeas without a market while at Manyovu AMCOS they had a market without produces so if there was better coordination this Market would have not been lost and opportunity for diversification would have happened.

3.3.7 Possibility of selling cassava via co-operatives

Cassava took the fifth rank of the crops suggested being sold via co-operatives where 31% of the AMCOS visited suggested it. The farmers through FDG pointed out that cassava is a good non-coffee product that can be sold via co-operatives due to its feature that it can be sold dried thus offering easy collection and storage. One farmer from Kigoma DC pointed out that cassava is the best because they have a ready market in Burundi and that it is being produced in excess in their area the main advice that was granted by some farmers, co-operative and union officers were that because there is a different way to dry the cassava so producers who are farmers need to come into agreement with the buyers of which kind is required to ease marketing and business generally

3.3.8 Possibility of selling Vanilla, Pineapples, Irish potatoes, and Avocados via co-operatives

Other crops that were suggested and scored percentages below 30% included Pineapples, Irish potatoes, avocado, chia seeds vanilla, and Groundnuts. Starting with pineapples the farmers from Karagwe district and some parts of Kigoma District suggested that pineapple is grown in their area although the production was only done on a small scale. From Karagwe it was learned that pineapple production was only grown on a small scale in Kagutu, Mugeta, and Likole wards and the main marketing approach that is used is lorries collections where farmers collect pineapples in different collection points for lorries to collect this is a clear indication that co-operatives can be used as the collection



points but also as the price negotiator for farmers instead of using the middlemen at the collection points to enhance farmers economic levels due to price.

“Pineapples are growing much better in our area, if at we get an investor who is willing to buy from us it will be the right crop to rescue farmers against poverty considering that it has two seasons in a year” (Mkibanda, Kigoma DC)

Pineapples were also suggested in Kigoma and Buhigwe District Councils where the farmers indicated that they are just selling on the local market where they receive low prices but if they could get a proper arrangement for it to be sold via co-operatives to other regions like Mwanza, Tabora, etc. They are sure if getting a good price compared to what they have now. Irish potatoes were another non-coffee crop which was also suggested by farmers, AMCOS, and some of the key informants even though this crop obtained a lower rating percentage of below 30 but farmers suggested that the availability of market will make farmers produce more of it and it can be sold via co-operatives using similar marketing strategies for selling bananas.

Other farmers suggested avocado fruits be sold via co-operatives as they were highly produced in the four districts visited. This can be evidenced by the discussion from one farmer who says; *“We have an excess of avocado that is grown all year long, they are traditional ones. We can sell them through co-operatives”* (farmer Kibwigwa, Buhigwe). A similar suggestion was given in Karagwe, Muleba, and Kigoma DC. This indicates that the districts have a potential resource (avocadoes) which are grown together with coffee and can be sold via co-operatives. However, the findings also show that the avocadoes that are grown in the area are traditional ones which may suffice for the local market therefore the farmers in the area may adopt the new avocado species that earn not only higher production but suffices both local and international markets. Such species includes *Hass*, *Fuerte*, and *Pinkerton*, which are grown in Songwe and some parts of Kilimanjaro which share similar geographical characteristics to the visited districts and have benefited farmers and co-operatives in the respective areas (Juma *et al.*, 2019).

Chia seeds were also identified by some AMCOS members and farmers in Karagwe and Muleba districts as the non-coffee crop that can also be sold via co-operatives. In the FDG farmers in three of four districts visited said that Chia seeds are a new crop that is growing well in their area and that they had once been emphasized to grow it as it was thought to offer a good price and many farmers were excited to grow it. However, the farmers complained that they only received a good price the first time but currently the crop price has declined to a point that they can't get anyone interested in buying these crops and many farmers just remained with their Chia and bad enough is that the farmers are not aware of Chiauses so they can't even consume it. This discussion is evidenced by the quotations from a farmer Karagwe, *This a very new crop(Chia) in our area, we started*



growing it without having proper information on its uses but also because we were promised a good price, we ended up producing so much where in the first days we sold it at a good price but now we have remained with our produce,(AMCOS member Runyaga – Karagwe October, 2021).

Vanilla as well scored the smallest percentage of below 30% among the crops that were suggested to be sold via co-operatives. It was learned through the FGD that vanilla was also a new crop as chia and that some farmers had started producing it, that many farmers were excited to grow it but there is not enough information and education about its production and market. During FDG members suggested that 'because vanilla seems to have a better price and because is grown well in same area as coffee then the farmers may be educated about its production and sell it together via their existing coffee co-operatives'.

Groundnuts scored the lowest percentage among all suggested crops that can be used in diversifying the coffee-based co-operatives. The FGD with Mubunda AMCOs in Muleba District identified that some of the farmers in Muleba were growing groundnuts which are growing well in the area though they are facing a shortage of market. The members pointed further that the crop is well growing in the area so if they could be assisted on how and where to acquire the market, they will be ready to grow more and sell via the same coffee co-operatives.

3.4 Expected impediments towards co-operative diversification

The need for diverse education and training was the main aspect that was realized in the course of doing the study. In mentioning the potential crops that could be sold by the coffee co-operatives together with the main crop (coffee) the need for education and training on producing the crops was mentioned to achieve the essence of diversification. The AMCOS members stressed that they have a lot of crops that could be sold via co-operatives as mentioned in FGD but what is needed is the education and training on how to select these crops because not all crops mentioned could be sold at once; how to achieve higher production; how to carry out the collection operations and marketing the produces. These findings support what was suggested by Bansal, (2020) in his study on factors that inhibit crop diversification in Haryana India where it was found that lack of training on diversification and lack of technical know-how was inhibiting farmers from practising crop diversification.

Furthermore, the findings from interviews and FGD identified another aspect that may inhibit or allow diversification of co-operatives. In mentioning the possible crops that can be used in diversification the farmers and key informants mentioned the availability of farming inputs as an important factor that can make farmers interested in diversification.



Farming inputs that were mentioned during the study included the availability of quality seeds, fertilizers, pesticides, and farming tools. It was pointed out that coffee farmers face the problem of lack of farming inputs therefore an introduction of other crops for diversification may face the same problem. Furthermore, the farmers reported higher prices for the farming inputs and one of the farmers during FDG from Kabutaigi in Muleba District said that “*we are facing a big challenge in getting farming inputs, first its scare but also very expensive*”. The farmers suggested that the availability of farming input at a lower price will help them in producing more and have quality produces which can be sold via co-operatives and increase their income and a way to strengthen their co-operatives. Similar findings were learned in the study by Adjimoti (2017) on crop diversification and input policies in Benin, where it was found that access and prices of farming inputs had a positive influence on crop diversification where the study recommended the need to revise the government input policy to suit diversification purposes.

Another important aspect that was enlightened by the study was Market accessibility as one of the main important factors that coffee co-operatives will need to diversify successfully. The discussion from the FGD indicates that the co-operatives are ready to diversify as long as they can get a reliable market that will buy the products that are produced and collected by co-operatives. This finding is similar to Mwangi et al (2013) who found out that the market was the key determinant factor that influenced the diversification among small-scale tea farmers in Kenya.

4.0 Conclusion and Recommendations

The study had two main objectives first identifying other crops that can be sold by coffee co-operatives to initiate diversification of these traditional co-operatives and the second was to find out the inhibiting / encouraging factors that will enable the co-operatives to diversify. From the first objective, it can be concluded that many crops grow well in the coffee-producing area that can potentially be used to enhance coffee AMCOS diversification. On the second objective it can be said that, despite the opportunity for diversification among the coffee co-operatives but factors like market, input prices and training on diversification are potential threats toward co-operative diversification.

From the conclusion, it can be recommended that coffee co-operatives conduct a thorough assessment on which crop, they can start to market to expand their marketing portfolio and improve their members' livelihoods. Furthermore, the study recommends that co-operative actors like TCDC, co-operative union, and regional co-operative offices intervene in enhancing co-operative diversification through offering training and capacity building to farmers and AMCOS leaders and members on how they can diversify by selling identified crops through co-operatives.



Since agriculture contributes more than 70% to citizen livelihood through employment and income creation, there is a necessity for national agricultural policy on the provision of farming incentives to promote the production of more diversified crops that can be sold via co-operatives. Also, there is a need to encourage contractual farming which will facilitate the marketing of the diversified crops that are sold by AMCOs. In that way, farmers will be motivated to produce more as they are sure of the market.

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