



Trans-SEC

Innovating pro-poor Strategies to safeguard Food Security using Technology and Knowledge Transfer

Contract number: xxxxxx

Work package 2	
March 2014	
Deliverable 2.1.2	
Title Stakeholder Mapping along Food Value Chains in Tanzania. A Case Study in Dodoma and Morogoro Regions.	
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Public use	
Confidential use	
Draft number	
Final	
Submitted for internal review	



Overview of work package

Work package number	2		Start date or starting event:	x					
Work package title	Stakeholder Mapping Along Food Value Chains In Tanzania. A Case Study In Dodoma And Morogoro Regions.								
Activity Type	Key Stakeholders along FVC								
Participant number	1	<u>2</u>	3	4	5	6	7		
Participant short name	<u>ARI</u>	TFC	ACT	MVI W ATA	SUA				
Person-months per participant:	Yes	Yes	Yes	Yes	Yes				

Objective

Carry out multidisciplinary research in semi-arid and semi-humid regions of Tanzania with the engagement of multiple stakeholders for improving household food security.

Specific objectives

1. Map stakeholder groups for engagement in participatory action research.
2. Develop knowledge sharing and communication strategies for various stakeholders involved in the entire food value chain.
3. Identify and prepare action research based on prioritisation for different upgrading strategies identified among food value chain components.
4. Conduct local and regional stakeholder workshops for the various Trans-SEC tasks.
5. Characterize household typologies, land uses, farming system typologies, marketing and gender systems using a participatory approach.
6. Develop a monitoring and evaluation (M & E) framework for evaluating the performance of the stakeholder involvement process among WPs and for initiating corrective measures if required.
7. Identify, analyse and monitor gender and socio-cultural differences along the FVC and the Trans-SEC tasks.



Description of work

Task 2.1

A preliminary organisation plan and time schedule for participative stakeholder involvement in the Trans-SEC tasks will be developed. This will be discussed and refined during the first Trans-SEC inception workshop to be conducted involving all stakeholders. The refined organisation plan and time schedule will include the following tasks: 1) developing methodological approach/tools and realisation of baseline surveys and stakeholders consultations; 2) create awareness and preparation of training modules and materials for distributing to the end users; 3) screening and identification of good practice technologies based on baseline survey analysis; 4) planning of action research; 5) develop knowledge sharing and communication plan on research findings; 6) development of a monitoring and evaluation framework for stakeholder involvement; 7) define roles of different actors identified from stakeholders' consultations and refine action research; 8) conduct training on Trans-SEC processes and tools involving stakeholders; 9) field and other practice learning visits to assess project impacts; 10) developing dissemination strategies; 11) monitoring and evaluation of disseminated technologies; 12) develop documentary videos.

Roles and decision rights of different stakeholders groups and actors as well as the allocation of specific research questions to expert groups of stakeholders will be identified among the different FVC components together with the involved NGOs. This is supported by both natural and social scientists to enhance complementarities and synergies and ensure that key stakeholders are fully engaged in the entire process of knowledge generation, sharing and dissemination. This process is realized using baseline survey and consultation reports. Farming system typologies will be generated in both target regions to serve as a basic planning base to other WPs. To ensure effective knowledge generation and dissemination processes, this Task will use innovation systems (IS) and learning platforms/alliances.

Task 2.1 Name

Identifying stakeholder groups, developing organisation plans for stakeholder involvement including defining roles and tasks of stakeholders
(ARI, MVIWATA, SUA, ZALF, ACT, TFC, DITSL, supported by all)

Milestones

M2.1 Stakeholder roles and tasks defined (month 2)

Deliverables

D2.1.1 Report on organisation plan for stakeholder involvement and roles and tasks of stakeholders (month 2) (ARI, SUA, ZALF, supported by all)



Identifying stakeholder groups, developing organisation plans for stakeholder involvement including defining roles and tasks of stakeholders

EXECUTIVE SUMMARY

This report highlights the findings of key stakeholders consulted along food value chain (FVC) in order to contribute to Task 2.1 of the Trans-SEC project titled “*Innovating Strategies To Safeguard Food Security Using Technology and Knowledge Transfer: A People-Centred Approach*”. The study to map stakeholders along FVC was undertaken at the main four scale levels as a sound strategy for identifying key actors for various components. The collected information was obtained from four scale levels namely the villages of Idifu and Ilole (Dodoma region) and Ilakala and Changarawe (Morogoro region); Chamwino and Kilosa districts; Dodoma and Morogoro regions; and the National level. The various stakeholders consulted were further categorized according to their activities. Therefore the eight categories of stakeholders mapped encompass producers, agro-dealers, processors/millers, buyers/traders/exporters, manufacturers, service providers, marketing, non-governmental organizations. The key roles and challenges of each stakeholder categories have been elucidated. The process of mapping stakeholders was done according to approaches that have been used by various scholars (Grimble, R. (1998); Walker et al., 2008; Grimble and Wellard. 1997) among others. In general there exists various numbers of stakeholders along FVC at all scales. At village level mainly producers/processors/millers were identified and their roles played differ according to specific commodities found in each CSS. The major challenges noted for all stakeholders across study sites were similar, for instance source of energy for milling machines was mainly diesel and this in turn is a constraint to the consumers. Furthermore, large numbers of stakeholders along FVC are mainly concentrated at districts and regional levels and their main source of energy is hydro-electricity. However, most of millers and processors in districts and regions are operating below capacity particularly in Kilosa district due to inadequate availability of crop produces. Findings clearly indicated that there is no value addition activity undertaken so far despite huge numbers of processors and millers existing in the respective locations.



LIST OF ABBREVIATIONS

ACT	Agricultural Council of Tanzania
AIDS	Acquired Immune Deficiency Virus
ARI	Agriculture Research Institute
ASA	Agricultural Seed Agency
CSS	Case Study Sites
DAICO	District Agricultural Irrigation and Cooperatives Officer.
DRT	Dar es salaam Regional Trading
FGDs	Focused Group Discussions
FO	Farmers Organisations
FVC	Food Value Chain
HIS	HELVETAS Swiss Inter-cooperation
HIV	Human Immuno Deficiency Virus
IFTz	INADES Formation Tanzania
MAMADO	Maji na Maendeleo Dodoma
MeTL	Mohamed Enterprise Tanzania Ltd
MIGESADO	Miradi ya gesi ya Samadi Dodoma.
MJUMITA	Tanzania Community Forest Conservation Network
MVIWATA Group Network)	Mtandao wa Vikundi vya Wakulima Tanzania (Tanzania Farmers’
POA	Planning of Action
REDD	Reducing of Emissions from Deforestation and Forest Degradation
RLDP	Rural Livelihood Development Programme
SC	Swiss Contact
SDC	Swiss agency for Development Cooperation
SUA	Sokoine University of Agriculture
TAPP	Tanzania Agricultural Production Programme
TASUPA	Tanzania Sunflower Promoters Association
TaTEDO	Tanzania Tradition Energy Development Organisation
TBL	Tanzania Breweries Limited
TBS	Tanzania Bureau of Standards
TFA	Tanzania Farmers’ Association
TFC	Tanzania Federation of Cooperatives
TFCG	Tanzania Forest Conservation Group
TFCG	Tanzania Forest Conservation Group
TFDA	Tanzania Food and Drugs Authority
TZS	Tanzanian Shillings
UPS	Upgrading Strategies
USAID	United States Agency for International Development



Contents

Overview of work package	2
Objective	2
Specific objectives	2
Description of work	3
Task 2.1	3
Task 2.1 Name	3
Milestones	3
Deliverables	3
1 Introduction and Objectives	8
2 Stakeholder mapping methodology and approach	9
2.1 Review of literature on stakeholders mapping	9
2.2 Stakeholders mapping phases.....	9
2.2.1 Phase One	9
2.2.2 Phase Two	11
2.3 Collection of information from stakeholders	11
2.4 Levels of stakeholders consultations	11
2.5 Write shop	12
3 Stakeholders at village level.....	12
3.1 Ilolo Village, Chamwino District	12
3.1.1 Producers	12
3.1.2 Millers/processors	13
3.1.3 Transporters	13
3.1.4 Middlemen.....	13
3.1.5 Challenges stakeholders face at Ilolo village	13
3.2 Idifu Village, Chamwino District	13
3.2.1 Producers:	13
3.2.2 Millers/Processors and Traders	14
3.2.3 Challenges stakeholders face at Idifu village.....	14
3.3 Changarawe village, Kilosa.....	14
3.3.1 Producers	14
3.3.2 Non-Governmental Organizations (NGO)	14
3.3.3 Processors and Millers	15



Trans-SEC

Innovating pro-poor Strategies to safeguard Food Security using Technology and Knowledge Transfer

Contract number: xxxxxx

3. 4 Ilakala Village, Kilosa District	15
3.4.1 Producers	15
3.4.2 Agro dealers	15
3.4.3 Processors and millers	16
3.4.4 Middlemen and Traders at Ilakala village	17
4 Stakeholder consultation at district level	19
4.1 Chamwino District	19
4.1.1 Markets	19
4.1.2 Agro dealers	19
4.1.3 Ngao Agricultural Inputs	20
4.1.4 Dodoma Farm Appliances	20
4.2 Kilosa District	21
4.2.1 Agro dealers/Stockiest	21
4.2.2 Processors and Millers	22
4.2.3 Non-Governmental Organizations (NGO)	23
5 Stakeholder consultations at region level	24
5.1 Dodoma Region	24
5.1.1 Non-Governmental Organizations providing services in Dodoma Region	24
5.1.2 Millers and processors in Dodoma Region	28
5.2 Morogoro Region	29
5.2.1 Inuka Agricultural Enterprises Limited	29
5.2.2 Agricultural Seed Agency (ASA) – Morogoro	30
5.2.3 Intermech Engineering Limited	30
6 Stakeholder consultations at national level	31
6.1 Power Foods Industries Ltd	31
6.2 Mohamed Enterprise Tanzania Ltd (MeTL)	31
6.3 Tanzania Tradition Energy Development Organisation (TaTEDO)	32
6.4 Chibuku Dar Brew	32
7 Conclusions	34
8 References	34



1 Introduction and Objectives

The stakeholders mapping exercise along food value chain was undertaken at village, district, region, and National levels in order to contribute to Task 2.1 for the Trans-SEC project titled “*Innovating Strategies To Safeguard Food Security Using Technology and Knowledge Transfer: A People-Centred Approach*”. The stakeholder mapping is subdivided into two phases. In essence, Phase One aims at generating an overview of stakeholders existing along the FVC. On the other hand, the second stakeholder mapping phase can be considered as an update more specifically related to the decision mapping process and the implementation of upgrading strategies (UPS) along the FVC. In view of these, the stakeholders mapping exercise along FVC focused mainly on common commodities identified in the four case study sites (CSS) CSS of Dodoma and Morogoro regions. To this end, stakeholders’ mapping process along FVC consulted key actors at all scale levels namely village, district, region and national scales.

In Trans-SEC we distinguish between different types of stakeholders: a) stakeholders relevant to food security such as scientists, farmers, traders, policy makers, and other actors; b) primary users/actors along the FVC at grass root level: farmers and pastoralists, processors, millers, stockiest, traders, middlemen, transporters, consumers; c) other interested stakeholders along the FVC: organisations, institutions, key informants, policy makers, extension officers, service providers, NGOs, churches, etc.

The study investigated key roles of all stakeholders consulted along FVC at the same time looked at their goals, mission, vision, and challenges which directly and or indirectly affects the respective actor in implementing the activities. Furthermore, our study explored the existing linkages with other stakeholders. The study has characterized stakeholders into eight categories in view of their key roles. These main categories established encompasses producers, stockiest, processors/millers, buyers/traders/exporters, manufacturers, service providers, non-government organization. The overall objective of stakeholder mapping was to examine the power stakeholders can exert, the relative likelihood of them using that power, and their level of interest in the FVC and thus also regarding the Trans- SEC activities. To this end, the stakeholder consultation envisioned to gauge those kinds of stakeholders or actors that have the greatest potential to influence the UPS which will be implemented along the FVC.



2 Stakeholder mapping methodology and approach

The stakeholder mapping process involved consultation of literature on stakeholder mapping analysis, development of data collection tools, consultation of stakeholders, compiling of information and finally synthesis and report writing.

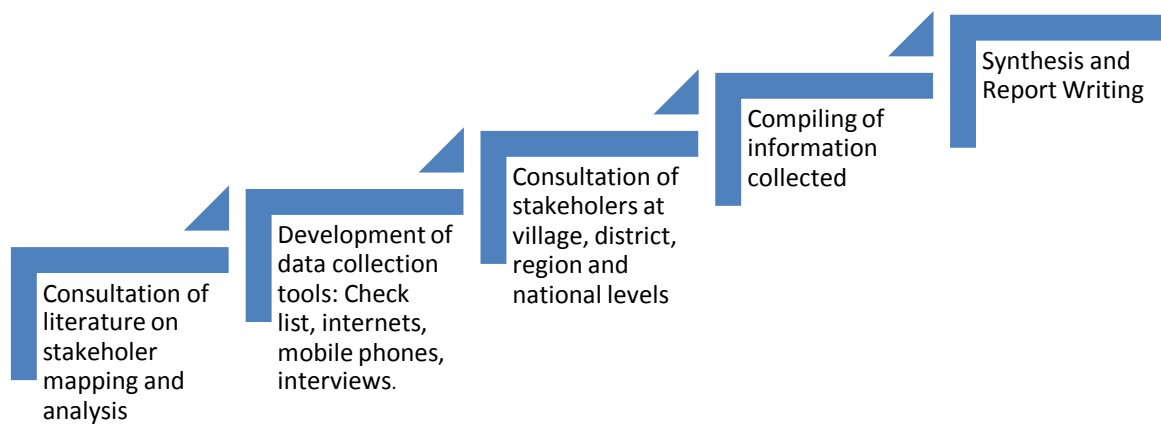


Figure 1: Stakeholder mapping process

2.1 Review of literature on stakeholders mapping

Stakeholders identification, mapping and analysis was done according to procedures described by Grimble, R. (1998) Walker et al., 2008; www.ithelp.com; Grimble and Wellard. 1997.

2.2 Stakeholders mapping phases

The stakeholder mapping involves two major phases in order to identify stakeholders along FVC during the Trans-SEC project duration.

2.2.1 Phase One

The phase one comprised the identification of key stakeholders along the FVC. At this stage our study focused primarily on generating in-depth information for important key stakeholders along FVC operating their activities at main four scales i.e. village namely Changarawe, Ilakala (Kilosa districts); Idifu and Ilolo (Chamwino districts); Chamwino and Kilosa districts; Dodoma and Morogoro regions and at national scale. Stakeholders' identified were further characterized into main eight categories basing mainly on similar key functions.

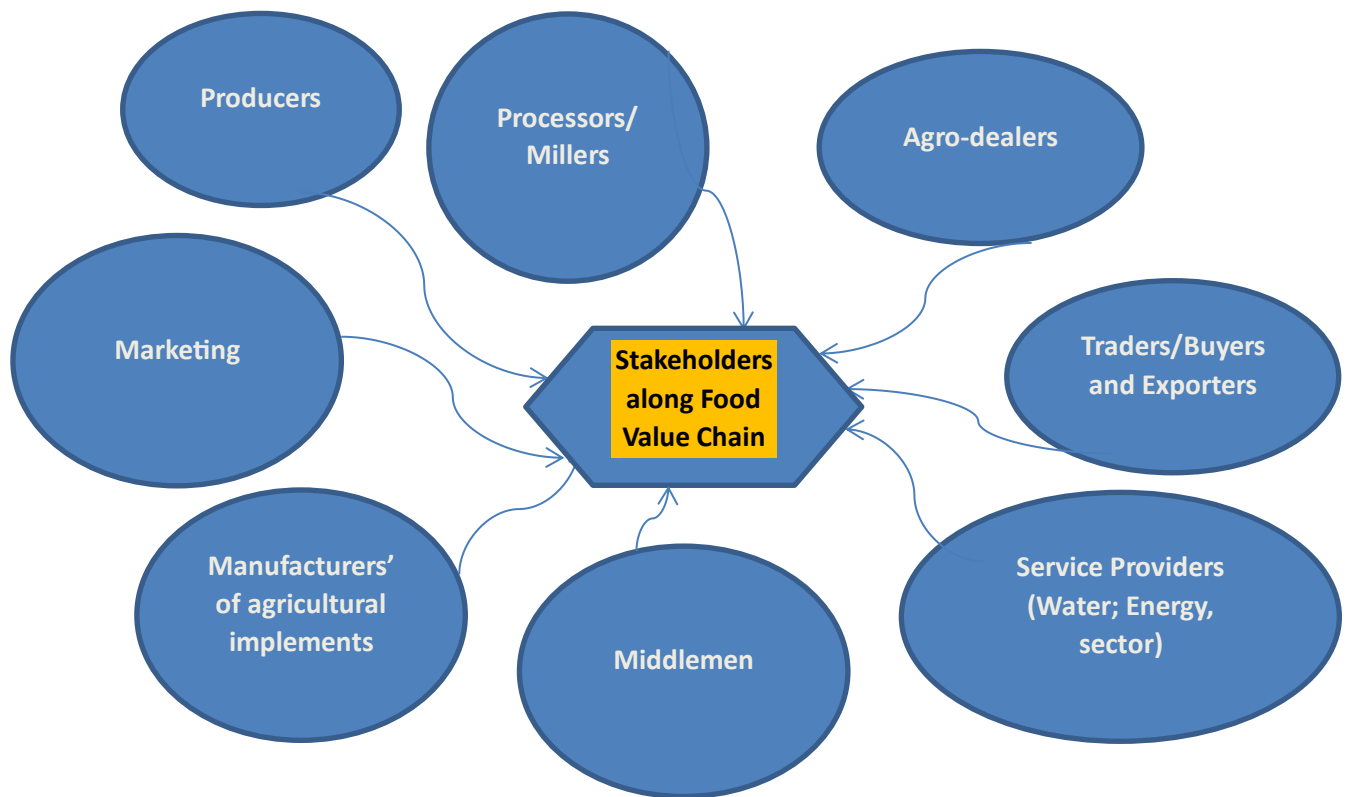


Figure 2: Categories of stakeholders mapped along FVC

Main categories of stakeholders along food value chain.

- Producers in case study sites: This category comprised mainly small-scale farmers whose main source of livelihoods is agriculture. This part of chain is also engaged in selling of products of natural resources such as charcoal, firewood and forest fruits among others.
- Agro-Dealers: Agro-dealers category is mainly involved on selling of seed of both main commodity crops and horticultural crops. They also sell pesticides and fertilizers to the farming communities.
- Traders/buyers: This category of stakeholders has capacity to handle business at national level by exporting and importing of commodities. They buy crop produce from middlemen and farmers. Traders interact very much with other actors particularly middlemen in accessing the commodities from farming communities.
- Millers/processors: This category deals with milling of cereal crops and processing of food crops such as shelling of groundnuts, extraction of oil for sunflower and baobab seeds. It is also involved in value addition to the agricultural produce by creating utility and use value to the crops.
- Middlemen: Middlemen normally link with traders in the chain by simply buying agricultural commodities from producers and sell to traders.
- Brewers: At village levels the crop produce is used for brewing local beer. Conversely, at national level Chibuku currently under TBL uses huge amounts of sorghum to brew alcohol locally known as chibuku.



Contract number: xxxxxx

- **Manufacturers:** This category of stakeholder is involved in manufacturing and fabricating agricultural implements and tools.
- **Non-government institutions/ government service providers:** These actors play key roles in supporting and complementing government initiatives in various FVC sectors. Services rendered by government include for example the water sector, health, communication and energy sector.

2.2.2 Phase Two

Phase two of the stakeholder mapping is an in-depth analysis after the UPS have been defined for implementation and/or have been implemented. Trans-SEC project implementers will analyse/decide which stakeholders to engage according to their role in the FVC and also for smooth implementation of the UPS selected. To achieve this, workshops comprising of key members will be conducted to specifically review and screen the stakeholders according to their functions in the FVC. Participatory criteria setting will be established by workshop participants through plenary sessions and/or focus group discussions (FGD). Examples of criteria that will be applied during this screening process may include the nature of interest, potential research impact and influence of/on the group.

2.3 Collection of information from stakeholders

In general various techniques were employed for capturing the relevant information from various stakeholders consulted. These included check lists, interviews, FGD, collection of secondary data. In addition, effective use of internets and mobile phones across study sites, districts, regions and national significantly provided valuable information.

2.4 Levels of stakeholders consultations

The stakeholders were consulted at main four levels namely village, district, region and national levels. Comprehensive understanding of stakeholders along FVC covered four villages namely Idifu and Ilo in Dodoma region; Changarawe and Ilakala in Morogoro region. Two districts are involved in the Trans-SEC project namely Chamwino and Kilosa districts.

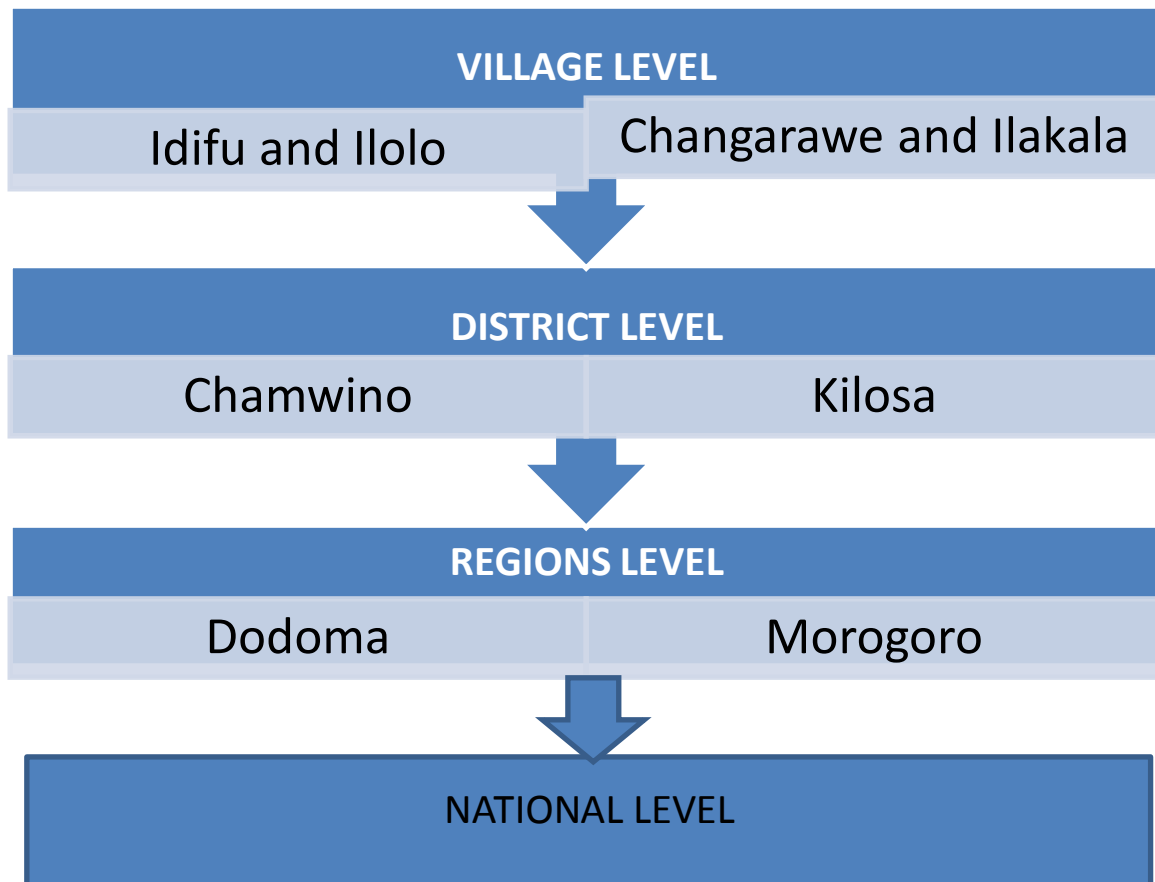


Figure 3: Levels of stakeholders' consultations

2.5 Write shop

This brought together project team members from ARI Hombolo and Ilonga; Agricultural Council of Tanzania (ACT); Mtandao wa Wakulima Tanzania (MVIWATA), Sokoine University of Agriculture (SUA) and Tanzania Federation of Cooperatives (TFC). During write shop participants shared the information gathered from various sources i.e at village, district, region and national at large.

3 Stakeholders at village level

3.1 Ilo Village, Chamwino District

At Ilo village the main stakeholders identified were maize and sorghum producers (farmers), millers, traders and transporters of agricultural produce. The following is the list of stakeholders and their functions:

3.1.1 Producers

Producers in Ilo village are predominantly small-scale farmers mainly engaged in subsistence farming. The main crops cultivated in the areas include pearl millet, sorghum,



Contract number: xxxxxx

maize, sunflower, sesame, groundnuts and bambara nuts. Of these crops, sunflower and sesame are considered as cash crop. Pearl millet is a principal cereal grain providing food to more than 70 % of the dwellers. In good crop season surplus food crops are also used as cash crops. Farmers with surplus have been accessing market of crop produce in Dodoma region. Yields of both food and cash crops is generally low and this was mainly attributed to the inherited low soil fertility status, limited access to improved seeds, inadequate and erratic rainfall among others.

3.1.2 Millers/processors

Joseph Lubeleje: started maize and sorghum milling machine business in the year 2012

Samwel Iguna: started maize and sorghum milling machine business in the year 2000

Mago Ndal: started maize and sorghum milling machine business in the year 2012

3.1.3 Transporters

a) Simon Magaji: In the year 2013 he started business of transporting agricultural produce from the village to the main market in Dodoma town.

3.1.4 Middlemen

a) Kenneth Chilassa: In 2006 he started buying crops from farmers after harvest and stock it till when the prices are high and sell back some to farmers in the village and wholesalers in Dodoma town at relatively higher prices.

b) Harlod Maswaga: In 2009 he started buying crops from farmers after harvest and stock it until the prices are high and then sell back some to farmers in the village and wholesalers in Dodoma town at relatively higher prices.

3.1.5 Challenges stakeholders face at Ilo village

Challenges faced by stakeholders at Ilo village include the following: Most of the farmers are used to eat ugali (stiff porridge) from maize, pearl millet and sorghum without dehulling, thus low volume of grain is being processed. Secondly, during the period of food insecurity (Dec –Feb) most of the milling machines lack customers because majority of farmers run out of food grain. Thirdly, there is lack of electric power in the village and therefore low efficiency of the machines due to using diesel operated machines with low capacity.

3.2 Idifu Village, Chamwino District

Stakeholders identified at Idifu village included producers, millers and traders only. The following is the list of those stakeholders having a role in the FVC of Idifu village:

3.2.1 Producers:

Producers in Idifu village are predominantly small-scale farmers mainly engaged on subsistence farming. The main crops cultivated in the areas include maize, sorghum and pearl millet.



3.2.2 Millers/Processors and Traders

- a) Jackson Magoso: In the year 2013 started maize/sorghum milling machine business.
- b) Asheri Ngosi: In the year 2011 started maize/sorghum milling machine business.
- c) Jonas Mwaluko: In the year 2009 started maize/sorghum milling machine business.
- d) Ivan Mkotta: In the year 2009 started maize/sorghum milling machine business.
- e) Ivan Wami: In the year 2011 started buying of agricultural crops from farmers right after harvest and sell to the same farmers and wholesalers in Dodoma town during food insecurity at relatively higher prices.
- f) Michael Macheho: In the year 2011 started buying of agricultural crops from farmers right after harvest and sell to farmers and wholesalers in Dodoma town during food insecurity at relatively higher prices.
- g) Ayoub Mnyanyika: In the year 2011 started buying of agricultural crops from farmers right after harvest and sell to farmers and wholesalers in Dodoma town during food insecurity at relatively higher prices.

3.2.3 Challenges stakeholders face at Idifu village

Challenges faced by stakeholders at Idifu village include the following:

- Most of the farmers are used to eat ugali (stiff porridge) processed out of maize, pearl millet and sorghum without dehulling, so during food insecurity (Dec –Feb) most of the milling machines have relatively few customers
- No electric power in the village therefore
- Low efficiency of the machines,
- Lack of knowledge among operators on service and maintenance of milling machines.

3.3 Changarawe village, Kilosa

Main stakeholders identified in Charangarawe village include producers, Non-governmental organizations, and processors/millers as follows:-

3.3.1 Producers

The main crops grown in Changarawe village are maize, rice, cassava, sesame, pigeon peas and sunflower. Maize occupies 90% of cultivated land. About 100% of households cultivate cowpeas though in small scale. In Changarawe village there are 11 maize millers however, there is no rice miller and sunflower processing plant.

3.3.2 Non-Governmental Organizations (NGO)

The only NGO operating in Changarawe village is USAID/TAPP (Tanzania Agricultural Production Programme). Its main objective is capacity building of youth groups by imparting



Contract number: xxxxxx

technical knowledge for increasing productivity of vegetable and other crops through using of recommended production technologies especially the use of drip irrigation system. The organization USAID/TAPP provides 40% of the production costs while the youth groups provide the remaining 60%. Each youth group comprises of 20 young men.

3.3.3 Processors and Millers

a) Jonathan Tambikiye Millers: The mill was established in 2011. It has a capacity of milling 1 ton of maize per day. At present it mills 5-7 bags (20 kg/ bag) per day. The main activities carried out by millers include milling of maize, sorghum and selling of maize bran. The crop produce comes from producers. Information gathered revealed that during March to April the maize and sorghum sold to millers is already damaged by storage insect pest infestation. The finished products are maize flour and bran. The maize flour is usually sold to consumers and retailers and maize bran is sold to livestock keepers. The limitations affecting the miller include limited availability of crop produce; miller has no capacity for undertaking value addition for processed products; the miller is working below capacity because there are many millers operating in the area and few customers, Poor supply of electricity due to power rationing; the milling machine is located far from the centre of the village.

b) Pastory Muya Millers: The mill was established in 2001. It has a capacity of milling 1ton of maize per day. Currently the machine mills 0.3tons per day. Main activities of the enterprise include milling of maize and sorghum and selling of maize and bran. Crop produce comes from farmers and middlemen. The owner also stocks maize which customers buy and mill. The crop produce brought is of good quality however, in some occasions maize grain are damaged by insect pests and in-turn leads to low quality of the maize flour. Finished products are maize flour and bran which is being sold to customers and livestock keepers respectively. The miller does not add value to the products processed.

Challenges faced by the enterprise are small number of customers especially during October to January because during this time of the year there is shortage of maize grain, for instance last season maize harvest were relatively low whereby millers operated below capacity which was reported to significantly influence wages for attendants/operators.

They collaborate with other millers especially in setting the prices for charging the customers; they interact with middlemen in accessing crop produce from producers; they also collaborate with retailers who sell flours so that they can supply flour to them

3. 4 Ilakala Village, Kilosa District

The main crops grown in Ilakala village are sorghum, maize, cassava, sesame, pigeon peas and sunflower. In Ilakala village there are maize millers, however, there is no rice miller and sunflower processor.

3.4.1 Producers

Producers in Ilakala village are predominantly small-scale farmers mainly engaged on subsistence farming. see 3.4

3.4.2 Agro dealers

Ben Mashaka Pembejeo Shop: The shop is situated at Mhenda village and was established in 2013. It offers services to Mhenda residents and neighboring villages including Ilakala since there are no agro-dealers selling agricultural inputs. The major activities undertaken by Ben



Contract number: xxxxxx

Mashaka Pembejeo shop include, selling of vegetable and cereal seeds, selling of pesticides and fertilizers notably Urea and booster to vegetable growers.

Challenges faced by Ben Pembejeo shop are low investment because the shop was recently opened, few customers in off-season because farming activities in this area depends mainly on rain.

3.4.3 Processors and millers

There is a number of processors and millers operating in Ilakala village which include the following:

a) Kikundi Cha Uchumi “sunflower” Mhenda: The group owns a sunflower oil extraction machine in Mhenda village which is neighboring Ilakala village. The machine has a capacity of pressing 10 bags (each bag weigh 65-70 kg) of sunflower seed per day and it started its operation since June 2012. The sunflower seeds are supplied by farmers from Mhenda and neighbouring villages such as Ilakala, Ihombwe and Ulaya-Kibaoni among others. The study noted that main activities carried out is extraction of sunflower oil and selling of sunflower cake left by customers who brings sunflower seed for oil extraction.

The major limitations affecting processor include:

- Price fluctuation of sunflower seed which leads to few customers coming for oil extraction of their produce.
- Rely only on use of diesel as a source of energy to run milling machine as a result prices for oil extraction is remarkably high as compared to Kilosa town where the processors are using electric operated machine.
- They lack expertise to maintain the milling machine.
- Low capital investment,
- Insufficient sunflower produce from producers.
- The component for filtering oil is not working.

Some farmers access market for their oil to wholesalers in Kilosa and Morogoro town and even in Dar-es-Salaam while small customers use the oil for home consumption and sell excess to their neighbours.

b) Samwel Mwatula Milling Machine: The milling machine is situated at Ilakala village. It was established in 2009. Main activities are maize grain milling. The machine has a capacity to mill 10 bags of maize per day. The crop produce for this machine comes from producers some of maize grains they receive are infested by insect pests therefore poor flour quality.

The study noted that from August to February number of customers is relatively low and this was attributed mainly to the food insecurity period associated by declining maize grain stored by farmers.

c) Ikowila Group Millers: The mill was established in September 2013. It has a capacity of milling 15 bags (1.5t) per day. For the time being the number of customers is small and it is milling 3 - 4 bags per day, mainly maize and sorghum grain.



Challenges:

- The contamination of maize and sorghum grain with stones and trashes was reported to cause problem to the milling machine.
- Between October to January most of the households have little crop produce and majority of them have nothing remaining in their stores as a result miller is almost idle during this period.
- Miller relies entirely on use of diesel for operating milling machine which is available at Mikumi Center 39 km away from Ilakala village.

Finding revealed that future plan for “Ikowila Group Millers is to engage in cultivation of rice, maize and simsim for generating income for the members and at the same time be able to supply maize grain for the milling machine they own.

d) Rajabu Mhinga miller: This mill was established in 2012. It has a capacity of milling 5 bags of maize per day and 2.5 to 5 bags of sorghum per day. The mill is specialized in milling of maize and sorghum grain only. Sources of crop produce are from producers of Ilakala village. The final products are maize flour and maize bran. The maize bran is sold to customers to feed their livestock.

Challenges observed were:

- Customers complain that the amount of maize flour after milling is less than what farmers normally obtain after milling elsewhere.
- Rajabu Miller complained about presence of many millers in the areas leading to limited numbers of customers due to competition.

e) Other millers at Ilakala: (i). Christian Abbas miller; (ii) Fransis Mashmo miller; (iii) John Ndoleki miller; (iv) Khadija Lilola miller

3.4.4 Middlemen and Traders at Ilakala village

Middlemen identified at Ilakala village were Hassan Saleh Kungumaro, Rashidi Ali Maegeo, Christia Abas Msigwa and Seleman Ali Seleman. These middlemen are mainly engaged in buying sesame, pigeon pea, sunflower, maize and cowpeas crops which have access to several traders and market located in Dar Es Salaam, Iringa and Kilombero.

Findings indicated that middle men are linked to main traders namely H.S Impex-Habour area, Olam limited-Matumbi, Export Limited-Mbagala, Mohamed Enterprises Tanzania Limited (MeTL) and Chinese market –near airport who buys sesame and pigeon peas. According to the middle men interviewed sesame produce was reported as major cash crop in Ilakala village with yields ranging between 3-4 bags per acre and the selling price ranges from 250,000-300,000 TZS bag of 100kg.

Challenges facing middlemen are contamination of sesame with sand which ultimately fetches lower price. Secondly, there is no central place for selling and buying crop produce and above all storage facilities are lacking. Thirdly, it was revealed that demand of sesame is indeed higher than what producers are able to supply to the buyers/middle men. Further probing noted that low quantity of crop produce supplied to the market was mainly attributed



Contract number: xxxxxx

to continued use of poor seed quality, recurrent drought and insect pest's infestation. Common variety preferred by buyers is Lindi 2.

Observations: It has been established that pigeon pea produced in Arusha and Kondoa areas consistently fetch good market prices compared to pigeon peas produced in other parts of Tanzania including Ilakala village. Local pigeon peas varieties grown in Ilakala village succumb to insect pest infestation leading low yield.

The same middlemen identified above buy sunflower produce from farmers and access market in Iringa Region. The prices for sunflower produce vary from season to season for example this season price ranged from 24,000 to 30,000 TZS per bag. The sunflower crop is now grown by many farmers as a cash crop and also for extracting cooking oil for family.

Similarly, the middlemen buy maize from producers and sell to traders and millers in Morogoro, Dar es Salaam and small quantity at Kilombero. Few millers usually after milling maize the flour is packed, labeled and sold to retail shops.

Challenges faced by middlemen and traders are poor quality of maize due to harvesting at high moisture content and poor storage facilities, also there is competition for produce because of many buyers.

The cowpeas commonly grown in the areas are predominantly local landraces. It has been noted that middlemen have access to cowpeas market located in Dar es Salaam specifically at Tandale, Kariakoo and Tandika markets. The price for cowpea produce ranges between 50,000 and 90,000 TZS per 100 kg bag. Interestingly it was reported that market for cowpea produce, is always available but cowpeas produce are more prone to storage insect pest infestation which impose challenge to middlemen and traders, middlemen also have low capital to invest in the business and there is tense competition between middlemen.



4 Stakeholder consultation at district level

4.1 Chamwino District

Stakeholders consulted in Chamwino district, Dodoma region include; Kibaigwa International Market, MS Agro Tech, Ngao Agricultural Inputs and Dodoma Farm Appliances.

4.1.1 Markets

Kibaigwa International Market: This market is located at Kibaigwa town in Kongwa district, Dodoma region. It originated from Cargo porters limited in 1992. In 1996 MVIWATA visited Cargo porters Limited to help them access fund for building a good quality market. The construction of this market including farmers trading centre started in the year 2002 and was completed in 2004 under sponsorship of Agence francaice de Development with 1.5 billion TZS in total together with farmers' training centre. It's now jointly owned by the Kongwa district council and MVIWATA under Kibaigwa market board limited. This market serve five regions; Manyara, Dodoma, Tanga, Morogoro and Iringa in the following districts; Kiteto, Babati, Hanang, Kongwa, Kondoa, Chamwino, Mpwapwa, Kilosa, Kilindi, Handeni and Iringa district and sell crop produce in national and international markets. National markets include, Dar es Salaam, Kilimanjaro, Mwanza, Morogoro, Pwani and Tanga, and external markets are Mombasa and Nairobi.

Main objectives of the Kibaigwa International Market include:

- Ensure equal access of market information during selling and buying of crop produce
- Ensure accessibility of good quality crop produce that meet national and internation standards
- Encourage more investors in the trade
- Provide technical business, education and inputs and services to farmers on postharvest handling at affordable cost
- Creation of employment to people living around the market.
- Awareness creation to all farmers on opportunities to trade with Kibaigwa market
- Provide daily updates to the general public on price changes for crop traded in the market
- Provide other services for standard assurance like measurement of grain moisture freely

Main activities of the Kibaigwa International Market are:

- Buying and selling of good quality cereal crops
- Buying and selling of other crops like sunflower, groundnuts, pigeon peas, beans, cowpeas, cashew nuts and rice
- Loading recommended weight in vehicles for transportation

4.1.2 Agro dealers

- MS Agro Tech:** MS Agro Tech started business in 1996. The company is the agent of Agricultural Seed Agency (ASA) for Dodoma region. Services provided include selling of seeds, agrochemicals and fertilizers; Advice to farmers on the best seed/agro inputs to be used in a specific area; Identification of pests and diseases from the samples brought by farmers; Providing explanations on the use of inputs for instance seed rate and dosage for fertilizer and agrochemicals. Clients are the farmers from



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Contract number: xxxxxx

Dodoma, Manyara and Singida regions. Inputs sold by MS Agro tech are often obtained from different sources such as Krishna Seed Company, ASA, East Africa Seed Company, Mkulima Seed Company and local seeds from contact farmers especially for cowpeas and Amaranthus.

Challenges: Farmers are used to certain trade names of agro inputs. Therefore they do not believe in any other trade name even though it has the same active ingredient; Climate Change, sometimes agro dealers supply a big lot of inputs but it remains unsold due to erratic rainfalls; High prices of hybrid seeds from seed companies lead to high selling prices by agro dealers which render farmers to opt for local seeds from market which has poor agronomic quality which in turn leads to household food insecurity; Poor quality of agro inputs (seeds and chemicals) from seed and chemical industries.

4.1.3 Ngao Agricultural Inputs: Ngao Agricultural Inputs started business in 1995. The services provided include selling of seeds, agro chemicals (crop and livestock pesticides); Advice to farmers on proper use agro inputs; providing loans to farmers (mainly inputs) which are then paid back after harvest. The main clients are farmers and livestock keepers from all the districts of Dodoma region. The inputs sold by Ngao Agricultural Inputs are obtained from different sources. For instance, seeds are obtained from seed companies namely East Africa Seed Company, PANNAR Seed Company and BYTRADE; Agrochemicals are obtained from Balton (T) Ltd, Mupa (T) Ltd, BYTRADE, Link Forward and Muphy Chemicals.

Challenges: Some farmers are reluctant to accept advices on proper use of pesticides; sometimes seeds from some companies are found to have low germination percentage when sown in the fields by farmers; sometimes agrochemicals have low efficacy against targeted pests or disease.

4.1.4 Dodoma Farm Appliances: Dodoma Farm Appliances started business in the year 2001. Services being rendered to customers include selling of seeds and agro chemicals specifically for crops; advisory services to farmers on the proper use of agro chemicals and precautions with respect to area and crop. Clients attended are mainly farmers from Dodoma municipality, Chamwino and Bahi districts. The inputs sold by Dodoma Farm Appliances are from different sources; seeds are mainly obtained from seed companies from Arusha region viz East Africa Seed Company, KIBO Seed Company and MKULIMA Seed Company. On the other hand, Agro chemicals are from Farmer's Centre and BAJUTA Company. In general the demand for both seeds and chemicals are high during the rainy season (i.e. December to February) due to the fact that during this period most of the farmers are planting and incidences of pests and diseases are high.

Challenges: Limited knowledge of farming communities on proper use of chemicals thus resulting to insect pests' resistance; Sometime seeds have low germination percentage which prompts farmers to reseed now and then or use their own local seed thus low yields. .



4.2 Kilosa District

The stakeholder consulted in Kilosa at district level included (i) Agricultural Inputs Dealer, Kirsec Farahani Rombo Kilimo na Mifugo, Emanuel Panga panga agricultural input shop, Yunisi Maro input shop, (ii) rice milling machines, (iii) sunflower oil extraction machine.

4.2.1 Agro dealers/Stockiest

a) Kirsec Farahani Rombo – Agriculture and Livestock Shop: Kirsec Farahani Rombo was established in 2004. It is mainly engaged on selling of seeds and offering short courses to farmers on how to use pesticides, offering input loan to farmers, Other services rendered is selling of agrochemicals notably herbicides, fungicides, insecticides and fertilizers (booster and super agro). Kirsec Farahani Rombo – Agriculture and Livestock Shop is also linked to supplier of seeds and agrochemicals namely PANAR and Agricultural Seed Agency (ASA), Tanzania Farmers Association (TFA). Customers are farmers of all categories but mostly small scale farmers.

Challenges: Some companies sell seeds of low quality to his company has and therefore is compelled to compensate the customers who suffer the loss. Similarly, company has been receiving pesticides of poor quality from some manufactures which poses some challenges and mistrust to farmers who have seen some failures. Also it was noted that some farmers go direct to supplying companies to buy inputs thus results in low volume of sales.

b) Emmanuel Pangapanga Agricultural Input Shop: The shop was established in 2009. It deals with selling of seeds of cereals, vegetables and oil seed crops, fertilizers and pesticides. The company obtains maize seeds from ASA - Msimba farm. Source of chemicals is from wholesalers in Morogoro and Dar es Salaam such as Agroscope Company.

Challenges: Some of farmers lack knowledge on type and use of pesticide to address specific problems and price fluctuation for inputs being sourced from suppliers. -

c) Yunis Maro Agricultural Input Shop: The shop was established in October 2008. It deals with selling of seeds, pesticides and fertilizers. Types of inputs sold are seeds of cereals and vegetables. All seeds are bought from wholesalers in Morogoro. Other inputs are fertilizers, (NPK, Urea, CAN and DAP).

Challenges: Short expiring dates and once expired they are disposed especially insecticides and herbicides; Poor quality seeds. The packages though properly packed and showing relatively longer expiring date however, once opened farmers have reported incidences of damaged seeds.

d) Agricultural Seed Agency (ASA) - Msimba farm: Agricultural Seed Agency (ASA) Msimba farm was established in 2006. In principle ASA produce both basic and certified seeds. The agency normally obtains breeder seed from Agricultural Research Institutes such as Ilonga and other research institutes in the country. Seeds produced for various crops include cereals (maize and sorghum; oil seeds (sunflower and sesame); legumes (cowpea and green gram). Findings revealed that Pigeon peas are produced at Mwele farm. The agency experiences some challenges for not being able to produce adequate seeds to meet the demands from various customers. This problem has been mainly attributed to the low investment capital for running the agency in order to operate at optimal capacity.



Despite the limitations spelt above the ASA has been contracting out-growers to produce certified seed of some crops. For instance, Agriseed Technologies Ltd Seed Company partner with ASA in seed production. In view of mutual understandings of their key roles Agriseed Technologies Ltd Seed Company has been buying basic seeds from ASA for producing certified seeds.

4.2.2 Processors and Millers

a) Bakhamis Maize and Sunflower Milling Machines Limited: The machine has a capacity of processing 15 bags of sunflower per day (each 60kg) and milling 10 to 20 bags of maize per day. Crop produce are from farmers and own farm. The products are sunflower oil and cake. Oil is fed to school children through tender. The sunflower by products namely cake is not sold however, it is fed to livestock of Bakhamis miller. For the case of maize grain after milling farmers take maize flour and bran. The miller acknowledged receiving good quality crop produce from customers.

The study noted that the low farm gate prices for maize and sunflower produce has been normally associated with the high yields in some seasons i.e. according to farmers in the area it is referred to as “good season”. To millers and middle men good season is considered to be worse for their business because majority of farmers are holding their stocks while waiting for favourable price of crop produce.

b) Mushi Maize and Sunflower Milling Machines: The miller deals with maize milling and sunflower oil extraction. The capacity of machine is to mill 30 bags (120 kg per bag) of maize per day, 100 bags (120 kg per bag) of paddy per day. Crop produce are obtained from farmers and middlemen. Maize flour, rice and maize bran are taken by customers but rice husks are burned or used for brick making. The miller reported to receive good quality of crop produce from customers. The findings noted that in good seasons with bumper harvest of paddy majority of farmers are generally food secured. As a result producers become reluctant to sell paddy to middlemen at relatively low price. This in turn affects the miller negatively due to low quantity of paddy coming for milling and thus operates below capacity. In addition, there are many millers competing for customers in the area which leads to stiff competition.

c) Ngola Maize and Rice Milling Machines: The Ngola Maize and Rice mill was established in 2009 with the capacity of milling 40 bags of rice per day and 15 bags (120 kg per bag) of maize. Crop produce are from farmers and they store customers crop produce at a cost of 1,000/= TZS per bag. Rice by products notably husks are disposed either by burning and or used for burning mud bricks for interested brick makers. Maize bran is normally sold at 1,000/= TZS. per 20 litre plastic container. Furthermore, Ngola Maize and Rice Miller reported that running cost is markedly high because in good year farmers are reluctant to sell their crop produce at relatively low price to buyers leading to few customers going to the miller while overhead costs remain constant. The milling machines are underutilized by operating below capacity for instance milling only 10 bags per day instead of 40 bags per day especially between January and May for paddy and maize grain. Also, there is tense competition between millers prompting some millers to charge less than the prices set and approved by the association of millers in the area.

d) Umoja wa Madereva Ujenzi Rice Milling Machine: The Umoja wa Madereva Ujenzi Rice Milling Machine was established more than 15 years ago. It has a capacity of milling 50



Contract number: xxxxxx

bags of rice per day (120 kg per bag). Crop produce milled at the Umoja wa Madereva Ujenzi Milling Machine are produced at Magomeni, Kilangali, Tindiga, Kivungu and Gezaulole villages. Fine husks are sold at 1000 TZS per 20 l bucket for livestock feed and rough husks at 500/= TZS per 20 l bucket to interested brick makers.

Major bottlenecks faced by “Umoja wa Madereva Ujenzi miller” are few customers when farmers have good harvest and are not ready to sell their crop produce at low price to middlemen and other buyers, frequent power cut offs and the costs of electricity being high, there is low supply of maize which leads to large quantity of rice being sold particularly in the months of September to December every year, Middlemen buys crop produce straight from villages where rice is grown, poor quality of crop produce due to contamination with non-crop materials, poor infrastructure especially during the rainy season and low knowledge of operators to service and maintain the machines.

4.2.3 Non-Governmental Organizations (NGO)

The study further identified Non-Governmental Organizations operating in Kilosa district council is called ***Tanzania Forest Conservation Group***: It is a NGO project launched in June 2012 dealing with production of sustainable charcoal in community managed woodlands. The project operates in Kilosa district, where Tanzania Forest Conservation Group (TFCG) has been supporting a community-oriented REDD project since 2009. Sustainably produced charcoal is made from wood woodlands under participatory forest management that applies ecologically sound harvesting principles. Charcoal is produced using efficient kiln technology and is transported and sold in accordance with national regulations.

The overall goal is to improve climate change adaptation and mitigation; to enhance environmental sustainability and to leverage returns on biomass resources; thereby delivering sustainable development to Tanzania and its people.

The project is financed by the Swiss Agency for Development Cooperation (SDC). Partners include Tanzania Forest Conservation Group (TFCG), Tanzania Community Forest Conservation Network (MJUMITA) and TaTEDO. TaTEDO is a sustainable energy development organization with the task of providing expertise on charcoal production techniques to train charcoal makers on how to make good charcoal i.e. charcoal with high calorific value and high heat content. Other collaborators include big and small charcoal traders. The project is trying to turn charcoal making into formal sector.



5 Stakeholder consultations at region level

5.1 Dodoma Region

5.1.1 Non-Governmental Organizations providing services in Dodoma Region

Different interventions have been geared by these institutions to improve food security and livelihood of the farming communities. Some of the important institutions currently working in the case study site include RLDP, MIGESADO, INADES Formation as follows:

a) INADES Formation Tanzania (IFTz): It is a legally independent, autonomous, and non-profit, non-governmental organization. It's a training institution at the service of rural communities. It was registered at Dodoma in 1989.

Vision: the general aim of IFTz is realization of social and economic development of the people of Tanzania with their free and responsible involvement in the transformation of the societies in which they live. This is derived from its vision of a social –political situation whereby ‘smallholder farmers in Tanzania achieve quality life by overcoming marginalization and poverty.

Mission: IFTz is seeking to contribute in facilitating changes in farmers’ livelihoods using action research training support in the following ways;

- Support farmers initiatives especially in controlling and managing sustainably their natural resources and marketing their produces
- Facilitate increase of farmers income savings and credit facilities
- Build the capacity of FOs in negotiation lobbying and advocacy in order to influence and develop national policies favourable to their own development.
- Facilitate and catalyse FOs own development processes and men is society
- Promote awareness on HIV/AIDS and other health concerns

Strategic objectives: Given the current operational context of IFTz, the following strategic objectives are pertinent;

- Mobilizing financial resources to finance the implementation of its POA and strategic decision.
- Build organisations capacity in training to support farmers’ initiatives in facing emerging development challenges such as agro-enterprise development marketing and value chain analysis, fund raising and proposal development, advocacy and lobbying and civic education.
- Improving communication at institutional level for enhanced sharing of information.
- Enhance of the role of IFTz national association in organizational development to more effectiveness and impact
- Build strategic alliances with other development actors in facing the challenges facing farmers. Use of the IFTz partnership policy is indispensable in this respect.
- Build staff capacity development in areas of administration and financial management, result oriented training, civil education and policy analysis, lobbying and advocacy.
- Operationalising gender policy with emphasis on integrating gender at all levels of the institution and internalizing indicators for its assessment.
- Reflection on a suitable exit strategy while sustaining the impact there of.



Sustainability of farmers' activities: This ensures community in the aftermath of project activities. It is revealed by the:

- Spill-over of training via the use of farmer to farmer learning and resource farmers. Also via the training approach used that emphasizes farmers continually reflecting on their actions.
- Farmers' organization and institutions such as rural markets, rural banks and saving and credit scheme practiced at group level.
- Cost sharing during workshops either by IFTz or by farmers themselves, emphasis is on using local knowledge that builds on locally available resources. It minimizes dependence on outside sources and ensures recognition and respect.

b) The Rural Livelihood Development Program (RLDP): The Rural Livelihood Development Program (RLDP) is an initiative of a Swiss government funded project working to improve the livelihoods of farmers in the Central Corridor of Tanzania. RLDP operates in seven poverty stricken semi-arid regions of central Tanzania and aim to reduce rural poverty in these areas by linking the poor rural with markets.

Vision: The vision of RLDP as a development programme is to be a leading facilitator of market development, applying the M4P approach, within its core mandate to improve livelihoods of smallholder farmers in the Central Corridor. The sustainability of market facilitation is achieved by anchoring improved market practices with market actors in selected agricultural sub sectors. Interventions of RLDP can be leveraged and roll out in partnership with other development interventions, in changing modalities such as sharing of lessons with other development partners.

RLDP vision: Poor rural households and communities participate in the market economy, improve their material livelihood and withstand economic shocks by employing their assets and potentials.

Mission: RLDC mission is to make market systems work better for rural producers to improve their welfare

The (RLDC) is non-profit organisation registered in Tanzania and own by two Swiss companies: HELVETAS Swiss Inter-cooperation (HSI) and Swiss Contact (SC). RLDC has managed RLDP since 2004 using a sustainable livelihood approach. But in 2008 an M4P approach to its work, so it is primarily interested in working with motivated partners in the agriculture sector who are willing to adopt new innovations and techniques and therefore are willing to commit financially and technically to these innovations. RLDP is also mindful of what happening after has ended its support to partners and they are left their own devices and strives to design interventions and solutions that are sustainable (will continue long after has ceased to exist). Since 2008 RLDP has impacted the livelihoods of over 100,000 household by intervening in the rice, sunflower, cotton, and dairy and poultry sectors. The programme has significantly broadened its outreach also by intervening in the media information services sector (radio) and encouraging the production and distributing the radio services aimed at rural agricultural listeners. RLDP also work at policy level to encourage the creation of encouraging local business environment.

In its final phase which started in April, 2012 and end in March 2016, RLDP is addressing constraints in three crops subsectors namely cotton; sunflower; and rice, along with these



Contract number: xxxxxx

subsectors RLDP is addressing cross sector themes namely gender and livelihood, Rural Advisory Services, and Rural Women information services.

RLDP Focus Sectors: in this phase RLDP focuses in fewer subsectors but aim more to scale up and replicate successful pilot interventions of previous phase in term III while also introducing new innovations of new interventions through piloting and then replicating. The sector strategies and interventions strategies/stories are designed in such a way they substantially contribute to the economic empowerment of smallholder farmers through improved productivity and production, access to quality services provision and input/output market, contribute to develop and strengthening private sector actors as a key players for ensuring the foundation of sustainable economic development in rural areas.

Sunflower: this crop is the main cash crop in the central corridor but has never been utilised to its full potential. The focus of RLDP intervention is to scale up contract farming; promoting and marketing of quality declared seeds, strengthening of collateral management system with financial institutions, testing mobile phone based agricultural information system, testing and piloting conversation agriculture and block farming and strengthening capacity of Tanzania sunflower promoters association (TASUPA).

Cross cutting topics of RLDP:

Rice sector: The interventions in this sub sector are on strengthening access to improved seeds, formation and strengthening rice millers association, scaling up village saving and landing associations, scaling up contract farming and testing community based seed production intervention along the central corridor. These interventions are expected to benefit smallholder farmers to access new variety of improved rice seeds.

Gender and Livelihood Poultry: This sector is one of the cross cutting sectors under RLDP, in this fourth phase, this subsector envisions working in all three crop sectors of rice, cotton and sunflower. It aims to complement interventions in these crop sectors without an additional burden and have more focus to women economic empowerment.

Media and Information Services: The media and information services sector remain to be transversal sector and aim at conveying message to large audience at one and with multiple messages.

Rural Advisory Services: this is cross cutting services sector to complement all other crop sectors. The purpose of rural advisory services is to build capacity to all those needs of smallholder farmers to acquire and use not only extension services but also better agronomic practices and services that add value during crop farming.

HIV/AIDS and Gender: this transversal theme applies to all other crops and cross-cutting services sectors. The focus of the theme is to complement all other sectors and embed the concept of gender and social equality in their interventions.

c) Maji na Maendeleo Dodoma (MAMADO) (Water And Development)

Maji na maendeleo Dodoma (MAMADO) is Non-Governmental Organisation (NGO) registered with the ministry of home affairs on 24th May 2000. Its registration number is SO



Contract number: xxxxxx

No.10301. MAMADO operates in all six Districts of Dodoma Region namely Dodoma Urban, Bahi, Chamwino, Kondoa, Kongwa and Mpwapwa. The three Districts of Bahi, Chamwino and Dodoma Urban access the daily services provided by MAMADO through its main office which is located in Dodoma Municipality. MAMADO has nominated contact persons in the remaining three Districts of Kondoa, Kongwa and Mpwapwa who normally make follow-ups on MAMADO activities on daily basis. However in its financial year of 2012/2013 MAMADO has established branch office in Kongwa District for the sake of enhancing effective provision of facilities and services in sustainable manner.

Vision: To have strong, capable and self - dependent communities which are able to plan, implement and manage their water supply and sanitation facilities and services in a sustainable manner.

Mission.: Maji na Maendeleo (Water and Development) Dodoma (MAMADO) is a Regional Non-governmental organization whose mission is to facilitate the communities of Dodoma region for the sake of improving the quality of their lives through provision of sustainable water supply, health education and sanitation services.

Activities Implemented: The activities to be mentioned in this regard are from all MAMADO implemented projects for the year 2012/2013 of above projects titles

- Community water resources management trainings
- Construction of community domestic point in several areas but recently 13 villages
- Rehabilitation of villages water bore holes (BH)
- Building of water supply organization (COWSO'S)
- Constructions of Sub surface Dams and sand storage dams
- Construction of school sanitation facilities in 9 schools
- Training of school committee and teachers on management and O&M to schools infrastructures
- Pupils training on menstrual hygiene management
- Community disseminations of health and water policy as related to poverty education
- Social accountability monitoring training to LGA's and MAMADO staff

Challenges: None of achievements possesses no challenges neither do lessons learnt. The following are some of the challenges met when implementing project activities strategy plan target;

- Acceptability of new upcoming water models
- Community dependence phobia over projects
- Technological choice and acceptability
- Far distance of the places where projects are implemented(its challenges during monitoring and follow ups)
- Community education and financial disciplines to village water funds
- Conflict interest between villages government and water communities and COWSOs
- community change by scale
- Community contribution is a problem because village leaders are not faithful to community contributions

Biogas and Other Alternative Fuel Technology (MIGESADO)

Biogas and Other Alternative Fuel Technology in Swahili is called MIGESADO. The MIGESADO is an abbreviation for "Miradi ya gesi ya Samadi Dodoma" that started since



Contract number: xxxxxx

1994. The livestock societies; zero and free range grazing; Vulnerable groups; reduce work load (fetching fuel wood) for women and children; Farming societies; use of bio-slurry by large and small holder farmers and all; have a good environment by reduced deforestation are beneficiaries of MIGESADO.

Goal: The aim of MIGESADO is to discourage environmental degradation especially deforestation by installation of biogas facilities for the domestic use like cooking and light, contracting rainwater harvesting structures for domestic use, upscale firewood cookers to be economical in fuel usage, afforestation, provide education on environmental conservation and awareness creation on environments in general and use of alternative sources of fuel.

The following are activities implemented by MIGESADO include:

- Installation of biogas facilities of 4 to 32 m³ volume, there are different facilities like water efficient use facilities with 4:1 ratio of animal dung to water(SSD) and others have ratio of 1:1(MCD)
- Construction of rain water facilities of up to 50 m³ volume.
- Environmental conservation and afforestation.
- Help to improve household income by encourage the use of bio-slurry in farming
- Provision of training on efficient use of fuel for domestic use
- Promote community on rain water harvest for domestic use and the use of biofuel in drought.
- Education on HIV protection.
- Education on how to cope with climatic change.
- Education on use of bio-slurry for fish farming.

5.1.2 Millers and processors in Dodoma Region

The Kato Maize Milling Machine, Madaraka Store and Groundnut Milling Machine, Smart Steps Enterprises, Msalali Sunflower Milling Machine and Kisasa Super Sembe Milling Machine are some of common millers visited in Dodoma region.

a) Kato Maize Milling Machine: Kato Maize Milling Machine started in the year 2008. Main activities undertaken include buying and selling of maize grain, maize milling and packing of maize flour and selling of maize bran. Source of raw materials i.e. maize is bought in town from farmers and middlemen who collect from farmers in the villages. Marketing of products Most of the farmers are food secured from June to December therefore there is less sells and from January to May most of the farmers are food insecure and therefore there is high demand and more sells of both maize and maize flour. Main challenges faced by the Enterprises include less consumers and power rationing/power cut off.

b) Madaraka Store and Groundnut Milling Machine: Madaraka Store and Groundnut Milling Machine started in 2006 with hand operated machine and in 2008 started with electric operated machine. Main activities undertaken include shelling and selling of groundnuts. Source of Raw materials are from Dodoma, Singida and Tabora for shelling. High supply is May to December after harvest of ground nuts and the supply is low during planting and pre harvest season. Waste Management of by products (notably shells) some are used during transportation of cattle as caution and the rest are burnt. Challenges faced by the Enterprise viz: fewer raw materials due to erratic rainfall which leads to low production and power rationing which happens seasonally.



Contract number: xxxxxx

c) Smart Steps Enterprises: The “Smart Steps Enterprises” started with selling of sardine and selling of packed sardine obtained from Lake Victoria Mwanza at home. The current town office was opened in July 2013. The activities pursued include packing of sardine, selling of flour (maize, cassava, sorghum and millet), selling of mixed flour at varied ratio (maize + millet, maize + sorghum, maize + cassava and sorghum +millet). Source of crop produce used is partly obtained from their farm particularly maize and cassava. Conversely, sorghum grain is obtained from Singida, whereas pearl millet is obtained from Dodoma and Cassava is obtained from Shinyanga. Future plan of the enterprise include drying of vegetables and planning to establish super market of indigenous food.

Challenges:

- Low availability of raw materials,
- low capital to invest in the activities of the enterprise, low quality of raw materials especially sorghum and Millet (contaminated with sand),
- high price of raw materials and
- lack of barcode which causes the products not to be accepted in super markets have significantly impacted the performance of Smart Step Enterprise.
- Prolonged period of accessing loans from financial institutions and since no promotion and advertisement has been done so far customers are not aware of the products they are selling.

d) Msalali Sunflower Milling Machine: Main activities of the enterprise sunflower oil extraction, selling of sunflower oil and selling of sunflower seed cakes. Sunflower produce are mainly obtained from villages of Dodoma region. The price of 1bag of sunflower ranges between TZS 40,000 and 45,000. Msalali Sunflower Milling Machine is able to process about 20 bags of sunflower per day and the oil content vary between 18 – 20 litres per 1 bag of sunflower (weigh approximately 65 to 70 k). Electric power rationing and inadequate raw materials are some of limitation affecting the processor.

e) Kisasa Super Sembe Milling Machine

Kisasa Super Sembe Miller started its operation year 2010. Main activities carried out include maize milling and packing of maize flour and buying of maize. Source of maize grain meant for various purposes are obtained from farmers coming straight to the factory. Currently the price of maize grain is TZS 400 per kg. Capacity of the milling machine is 10 to 20 bags (1 bag weigh 100 kg) per day. The maize flour is packed into different units ranging from 5kg, 10kg, 20kg and 25kg. Kisasa Super Sembe is the brand name of the maize flour milled. Usually the miller distributes its product to the wholesale and retail shops in Dodoma region. Challenges encountered so far by the miller include low efficiency of the machine; low market of the product; power cut off and frequent break down of the machines.

5.2 Morogoro Region

Three main stakeholders were consulted in Morogoro region; these include agro-dealers, Agricultural Seed Agency (ASA) and Intermech Engineering Limited,

5.2.1 Inuka Agricultural Enterprises Limited

It was established in 1995 with the aim of providing services to farmers and distributes input to agro dealers. The inputs are obtained from big companies such as ARISTAR Life Science, Twiga chemicals, Balton Tanzania limited and Suba-Agro chemicals. Other companies which supply inputs to this shop are TATA holdings (Chemical and Fertilizers), Ametec (Chemicals)



Contract number: xxxxxx

and Link forward (chemicals). Seed suppliers include Seedco, Pannar, and Kishnar seed companies. Seeds sold were found to be mainly of cereals and oil seed crops. The main sources of fertilizers are YARA Tanzania Limited, Minjingu Mines, Dar es salaam Regional Trading (DRT) Corporation. Inuka Agricultural Enterprises Limited is also a government agent for subsidized inputs.

Some of the bottlenecks encountered by Inuka Agricultural Enterprises Limited among others, include tremendous increase in competition with big companies which sell inputs direct to the villages, some of products sold are not genuine and farmers cannot distinguish between genuine and fake product, expiring of chemicals before selling is common because of increase in free market and lack of customers, high prices of inputs from suppliers, low knowledge of farmers on how to use the inputs, low investment capital, expiring of seeds before sell; this is exuberated by bad seasons.

5.2.2 Agricultural Seed Agency (ASA) – Morogoro

Agricultural Seed Agency (ASA) operates under the Ministry of Agriculture Food Security and Cooperatives. It has the following key functions, to increase seed production and distributions, to promote private –public partnership in seed production, to promote certified seed use by farmers and to collaborate with research institutes in matters related to introduction of new varieties.

The agency has the following mission: To produce, process and market sufficient high quality agricultural seeds for the local and international farming communities by using modern management and appropriate technologies to enhance food security.

Limitations accompanied with the activities undertaken by ASA include low capacity of farmers to buy certified seeds, also there are distribution challenges, stockiest get more profit margins by exploiting farmers, there is no agro dealers in the villages therefore the input prices are tremendously high.

5.2.3 Intermech Engineering Limited: Intermech Engineering limited is a privately owned manufacturing industry which fabricating implements and machines for land preparation, planting and post-harvest processing of cereals and oil seed crops.



6 Stakeholder consultations at national level

6.1 Power Foods Industries Ltd

Power Foods Industries Ltd is a company which is under the management of a Tanzanian Woman called Anna Temu. It has been in operation over the past 20 years buying raw food materials from farmers and traders. The main crops which are processed by this company includes but not limited to Maize, Finger millet, Wheat, Pearl millet, Cassava, White Sorghum, groundnuts, rice and soy beans. The company buys Sorghum and finger millet mainly from Dodoma while Soy beans and Pearl millet is coming from Sumbawanga. They enter into formal and informal agreements with farmers and/or traders who will deliver the raw materials at the company's factory. The Power Foods headquarter is located at Kawe, Old Bagamoyo road while the factory is located at Tandale, Kwamtogole. Furthermore, the company has marketing agents in Zanzibar, Morogoro, Arusha and Mwanza regions. The company has a minimum capacity of processing 3 tons per week.

Vision: To develop broad visibility and be a market leader in the processing, production and distribution of nutritious food, always mindful of quality assurance satisfying accrediting authorities, customers and all stakeholders.

Major challenges faced by power foods industries limited poor quality of crop produce notably Pearl Millet and finger millet which sometimes contains a lot of sand which is deliberately added by traders to maximize weight and profit. However, the company has sieving machines to clean various cereals although it is not easy to remove all the sand from the crop produce.

6.2 Mohamed Enterprise Tanzania Ltd (MeTL)

MeTL Group is one of the leading economic force in Tanzania with major investments and successful operating companies in all key business sectors. The Group employs more than 24,000 people across the country and has diverse interests in trading, agriculture, manufacturing, energy and petroleum, financial services, mobile telephone, infrastructure and real estate, transport and logistics and distribution.

Vision: A visionary organization, the MeTL Group continues to pave the path to industrial development in Tanzania, by continually striving for excellence and ethically sound growth. Currently, MeTL contribute 3.5 % of the GDP of the country and aim to be a USD five billion Group by 2015.

The major crops purchased by MeTL include maize, simsim and Pigeon Peas (from Arusha region). Minor crops include groundnuts, cowpeas and pigeon peas (from Mtwara & Shinyanga regions).

Mohamed Enterprise export more than 100,000MT/year of the above mentioned crops to India and Pakistan. These crops are bought at market price from farmers and traders through company's regional collection centers. Thereafter they are transported to the cleaning, processing and packaging factories in Dar es Salaam. Some final products are traded in local market and others are for export.

Major challenges faced by MeTL among others are; due to small scale farming practices of most Tanzanian farmers, it is not easy to access homogenous bulk variety of a specific crop. Each farmer is producing whatever variety of a given crop in a small quantity thereafter a



Contract number: xxxxxx

trader or middleman is aggregating from different farmers and hence coming up with a high heterogeneous commodity. This lead into incompetence of Tanzanian crops in the world market, 30% of sesame for instance, from Dodoma is sand and it is done deliberately by traders who want to gain illegal profit. This negative reputation if not addressed will distort the sesame market of Dodoma.

6.3 Tanzania Tradition Energy Development Organisation (TaTEDO)

Tanzania Tradition Energy Development Organisation is a sustainable energy development organization based in Dar es salaam, Tanzania with zonal offices in Shinyanga and Moshi towns, implementing activities in more than ten (10) regions, 30 districts and 70 villages in Tanzania. The organization has more than twenty years' experience actively involved in sustainable energy development projects and programs in rural areas. It is also hosting national and regional networks and is affiliated to several local and international sustainable energy development partners and networks. In this regard, TaTEDO executes its work based on the experience and knowledge drawn from such networks and partners at local, national and international level.

TaTEDO aims at improving quality of life of Tanzanians by contributing to availability of improved and sustainable energy services, employment and income generating opportunities, which are essential for poverty reduction, reducing environmental degradation resulting from increased use of wood and fossil fuels, assist the country to reduce dependence on imported energy, to bring about sustainable development and climate change mitigation and adaptation.

Main activities performed by TaTEDO are, Promoting the use of sustainable energy for productive uses (industrial, agriculture and basic infrastructure), consumptive uses (households and communities) and institutional uses (education, health, water etc.), implementing sustainable energy programs and projects at the local levels, providing energy related consultancy services, developing networks and partnership with local and international organizations, managing and disseminating energy information to stakeholders, conducting, lobbying and advocacy to influence energy related policies, legislations and strategies, support sustainable energy enterprises, conducting energy related applied researches.

The TaTEDO has been collaborating with different partners, in the efforts to enable the majority of Tanzanians to access sustainable energy services through two energy carriers and related technologies; solid biofuels and electricity; On solid biofuels, efforts have been on efficient cook stoves and charcoal production. More than 2 million stoves have been disseminated with support of TaTEDO and more than 1500 stoves artisans trained. On electrification efforts have been on promoting stand alone and mini grid based renewable energy technologies. More than 800 technicians have been trained and several thousand systems sold and installed with TaTEDO support. The improved practices promoted by TaTEDO has increased charcoal yield by up to 30 percent and also produce charcoal from forest and agro residues using simple retorts and briquetting machines.

6.4 Chibuku Dar Brew

The Chibuku Dar Brew was established in April 1st 2013 when Tanzania Breweries Limited took over from Dar Brew. Chibuku is a traditional local brew produced from a mixture of maize, red and white sorghum grains. Chibuku Dar Brew has a capacity to sieve and mill 2100 t/year of maize, 1900 t/year of red sorghum and 400 t/year of white sorghum. The main source of raw materials used for brewing is from Dodoma, Singida and Shinyanga regions.



Contract number: xxxxxx

However, it was noted that Dodoma sorghum is preferred compared to sorghum obtained from other regions in Tanzania. Main activities carried by Chibuku brewer include sieving sorghum, milling of maize and sorghum, brewing and selling Chibuku and bran.

Challenges:

- 1) Contaminated sorghum particularly from Shinyanga region. The problem may be caused by the farmers during processing because they lack harvesting and processing equipments and poor storage facilities before they sell to middlemen. However, middlemen may also mix sandy to increase the weight of sorghum because Chibuku Company buy the raw materials by weighing using kilogram;
- 2) The local brew have short shelf life (4 days it expires), this limits the markets for selling Chibuku, only sold in Dar and Morogoro regions. However, they have branches in Mwanza and Arusha, which enables the company to have broad market;
- 3) The production depends on demand;
- 4) The bran obtained after brewing Chibuku, have low demand in March and April, because there is plenty of grasses to feed livestock. The company have to find ways of disposing the bran during this period. This in turn increases the cost of production



7 Conclusions

There is high market potential available for sesame, sunflower, maize and rice but production levels of both food and cash crops in the case study areas are generally low. This is attributed to the low use of seeds of improved varieties of crops, poor soil and crop management practices, implying technologies for enhancing crop productivity is immensely important for improving food security and household income.

The case study sites have no agro dealers supplying agro inputs to the farming communities. This leads to low use of improved agricultural technologies leading to low crop production, recurrent food insecurity and problems associated with low income.

Production is below the potential market in the case study sites and neighbouring areas. This is attributed to absence of formal market of agricultural produce in the area, presence of middlemen who exploit farmers by buying their produce at low prices and sell to wholesalers and sometimes to farmers at relatively higher prices, Lack of standard measurements for weighing crop produce when sold by farmers to middlemen and lack of farmer groups to safeguard their rights and interests.

Findings clearly indicated that farmers are not producing enough food to take them till next harvest as a result milling machines are operating below capacity. The period noted for Ilakala ranges from August to February. The millers reported to receive crop produce mostly infested by storage insect pests, contaminated crop produce with sand and trashes. Therefore comprehensive knowledge on pest management both in the field and stores and handling of crop produce is of paramount importance in quality assurance. Across study sites and regions it has been established that milling machines are also operating below capacity and this was mainly attributed to the low production. Despite huge number of millers/processors existing in Dodoma and Morogoro regions value addition technology is generally lacking. The deliberate efforts are required to equip the millers and processors and many other along FVC with knowledge on value addition.

Low farm gate price of crop produce during on season causing few customers going to milling machines therefore farmers stock their produce till when market prices are attractive,

At case study sites main source of energy is diesel thus prompting millers to solely relying on diesel operated milling machines and this in turn may contribute to high running cost.

8 References

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