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BASELINE STUDY TO OPEC III SUPPORTED INTERVENTIONS (OFID FUNDS)

FINAL BASELINE SURVEY REPORT

Submitted by:

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BEST	Basic Education Statistics
CBD	Central Business District
CC	City Council
CCT	Christian Council of Tanzania
CMCs	Community Management Councils
COBET	Complementary Basic Education in Tanzania
DC	District Council
DEO	District Executive Officer
ESRF	Economic and Social Research Foundation
FHI	Family Health International
HH	Household
HIV	Human Immunodeficiency Virus
ITN	Insecticide Treated Net
JHPIEGO	Johns Hopkins Programme for International Education in Gynecology and Obstetrics
LGA	Local Government Authorities
LLITN	Long Lasting Insecticide Treated Net
MDGs	Millennium Development Goals
NAP	National Agriculture Policy
NBS	National Bureau of Statistics
NGOs	Non-Governmental Organizations
NHC	National Housing Corporation
OFID	OPEC Funds for International Development
OPEC	Organization of Petroleum Exporting Countries
PEDP	Primary Education Development Programme
RCA	Rural Construction Agency
REA	Rural Electrification Agency
SAGCOT	Southern Agriculture Corridor of Tanzania
SEDP	Secondary Education Development Programme
SPSS	Statistical Package for Social Scientists
TASAF	Tanzania Social Action Fund
TC	Town Council
TNVS	Tanzania National Voucher Scheme
TPRP	Tanzania Poverty Reduction
TV	Television
TZS	Tanzania Shilling
UNDP	United Nations Development Programme
UNICEF	United Nations Children Emergency Fund

URT	United Republic of Tanzania
USAID	United States Agency for International Development
VEO	Village Executive Officer
VETA	Vocational Training Authority
WEO	Ward Executive Officer
WHO	World Health Organization

DEFINITION OF KEY TERMS

Attendance rate

The ratio of number of days attended by a student to a number of days a student enrolled for in a particular school.

Child labor

Employment of children in any work that deprives children of their childhood rights that interferes with their ability to attend regular school, and that is mentally, physically, socially or morally dangerous and harmful.

Completion rate

Percentage of students completinglast year of primary or secondary school, calculated by taking the total number of students in the last grade of primary or secondary school, minus the number of repeaters in that grade, divided by the total number of children of official graduation age.

Dependency ratio

Is a measure of the portion of a population which is composed of dependents (people who are too young or too old to work). The dependency ratio is equal to the number of individuals aged below 15 or above 64 divided by the number of individuals aged 15 to 64 expressed as a percentage.

Dropout rate

The percentage of studentsfailing to complete a particular school such as primary or secondary school.

Early marriage

A formal marriage or informal union entered into by an individual before reaching the age of 18. It is also known as child marriage.

Economic infrastructure

Internal facilities of a country that make business activity possible, such as communication, transportation, and distribution networks, financial institutions and markets, and energy supply systems.

Enrolment rate

Expressed either as net enrolment rates (calculated by dividing the number of students of a particular age group enrolled in all levels of education by the number of people in the population in that age group),or gross enrolment (number of students enrolled in school at several different grade levels).

Extension services
Delivery of information inputs to farmers, also known as agricultural advisory services plays a crucial role in promoting agricultural productivity, increasing food security, improving rural livelihoods, and promoting agriculture as an engine of pro-poor economic growth.

Food insecurity
Inability to obtain sufficient amount of healthy food on a day-to-day basis as a result, people suffer from chronic hunger and poor nutrition.

Food supplements
Refer to re-concentrated source of nutrients or other related substances with nutritional or physiological effect whose purpose is to supplement the normal diet.

Gender
This is a cultural and social constructed difference between men and women that varies from place to place and time to time. In comparison, 'sex' denotes biologically determined, thus unchangeable, difference between them.

Households
Persons living under one roof, occupying same housing unit and having either direct access to the outside (or to a public area) or a similar cooking facilities.

Income
Earnings that an individual or business receives in exchange for providing a good or service or through investing capital.

Infant mortality
Deaths of young children typically less than one year of age measured by the Infant Mortality Rate (IMR), which is the number of deaths of children under one year of age per 1,000 live infant mortality.

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Literacy

Traditionally understood as the ability to read, write, and use arithmetic. The modern term's meaning has been expanded to include the ability to use language, numbers, images, computers, and other basic means to understand, communicate, gain useful knowledge and use the dominant symbol systems of a culture.

Livelihoods

A means of making a living, it encompasses people's capabilities, assets, income and activities required to secure the necessities of life.

Livestock

Domesticated animals raised in an agricultural setting to produce commodities such as food, fiber, and labor.

Maternal mortality

Death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Malnutrition

A condition that results from eating a diet in which nutrients are either not enough or are too much such that the diet causes health problems.

Nutrition

Intake of food, considered in relation to the body's dietary needs.

Pastures

A land covered with grass and other low plants suitable for grazing animals, especially cattle or sheep.

Public works

Public facilities and improvements financed by the government for the public good. Public works include hospitals, bridges, highways, and dams. These projects may be funded by local, state, or federal appropriations or

Poverty

Deprivation of people's basic needs for food, clothing, and shelter. Poverty is generally of two types: (1) Absolute poverty and (2) Relative.

Poverty level
A measurement of impoverished people in terms of income levels, lack of food, shelter, and other basic necessities.

Public good
A good or service consumed without reducing the amount available for others, and cannot be withheld from those who do not pay for it.

Social services
These are a range of public services provided by governmental or private organizations which aim to create more effective organizations, build stronger communities, and promote equality and opportunity.

Temporary employment
A situation in which employee is expected to remain in a position only for a certain period of time.

Waterborne diseases
Diseases caused by pathogenic microorganisms that most commonly are transmitted in contaminated fresh water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of food thus infected.

EXECUTIVE SUMMARY

This study was intended to conduct a comprehensive baseline study in selected LGAs of Karatu DC, Longido DC, Meru DC, Wanging'ombe DC and Makambako TC, which are supported by Tanzania Poverty Reduction Project (TPRP III Project)so as to generate primary data to establish benchmarks for assessing the intended outcomes and impacts of the Project's support to poor communities. Specifically, 12 areas of inquiry have been included in this investigation. Firstly, is the extent to which livelihoods enhancement activities reduce income poverty and increase ability of poor communities to meet basic needs. Secondly, is the extent to which support to water supply decreases time spent on fetching water by reducing the distance from water source to an average of 400 meters and how that reduces waterborne diseases. Thirdly, is the extent to which education increases enrollment, attendance, and completion rates in primary and secondary schools while reducing drop out and repetition. Fourthly, is the extent to which health improves health outcomes (e.g. morbidity, chronic malnutrition etc.). Fifthly, is the extent to which public works activities provide temporary wage employment to poor individuals and if income from short term employment improves livelihoods of beneficiary households or not, and sixthly, is the extent to which participation of poor communities in the TPRP III Project increases the uptake of social services such as education and health.

Other specific objectives include, the extent to which participation of poor communities in the TPRP III Project increases household income and assets; the extent to which participation of poor communities in the TPRP III Project influences the culture of saving and investment in various income generating activities; the extent to which participation of poor communities in the TPRP III Project changes consumption pattern of the families; look at the spillover effects of TPRP III supported subprojects, especially to non-beneficiaries that were not intended; the extent to which gender relations are positively and negatively affected; and establish types of economic activities undertaken by beneficiaries by gender and their viability in increasing incomes.

The findings clearly show that the selected communities are poor and overall livelihoods of the people are also poor. Most of these communities have limited livelihoods sources and opportunities. This is evident from the data associated with various indicators used for this study. The households' income brackets are low with limited purchasing power and capacity to mitigate shocks. A number of villages do not have primary schools and dispensaries. Some wards do not have secondary schools and health centers despite the government programmes addressing the challenges in the education and health sectors such as Primary

Education Development Plan (PEDP) and Secondary Education Development Plan (SEDP).

Livestock is one of the sources of income for the majority of the households in the surveyed LGAs. However, these livestock keepers do not earn sufficient incomes from livestock due to the poor and traditional practices of livestock keeping, limited grazing land, and frequent land conflicts and disputes. Therefore, much attention should be directed to how effectively and efficiently can the national land use plans and programmes be put into action to control unplanned livestock movements which in many cases have resulted into loss of properties and life, among others through deadly conflicts and disputes among the farmers, investors and livestock keepers especially in Arusha, Manyara, Kilimanjaro and Morogoro regions; environmental degradation and excessive loss of biodiversity.

Taking into account the importance of livestock subsector in the country's economic landscape, land use conflicts should be timely and appropriately managed in a way that land is allocated in accordance to different uses such as cultivation, grazing, reserves and many others. Regardless of its significance, the livestock subsector is still underdeveloped in the sense that it is challenged by inaccessible extension services and products, seasonality in pastures and water availability, poor participation of the private sector and overstocking in some areas which then lead to environmental destruction and regular conflicts with the farmers and investors. A comprehensive sensitization and advocacy programmes are needed to change the mindset of the pastoralist communities. In addition, other programmes for capacity building e.g. skills and competencies are also urgently required.

Traditionally, some livestock products are not produced in large quantities following lack of the associated production technologies including the necessary infrastructure to facilitate production. In addition, limited investment capital is also common and a serious barrier. Tanzania needs to demonstrate to farmers the yield potential of not only livestock, but also livestock products. There is therefore an urgent need to aggressively roll out such demonstrations in order to stimulate production of these products for both income generation but also food and nutrition security in Tanzania. Eggs and especially milk products also face serious marketing barriers thus discouraging further efforts to expand production. Tanzania does not have a culture of milk or eggs consumption partly due to cultural barriers. There is therefore a need to change people's mindset about locally processed livestock products such as milk, eggs, butter, etc. This can be done through sensitization of the public about the availability and quality (in

terms of precious nutrients) of the products and introduction of programmes in schools and hospitals on consumption of locally produced livestock products. These are among the strategic areas where the next TPRP III Project should target.

Limited marketing channels have also been a persistent barrier to livestock keepers in the study area. Consequently, most of the locally produced livestock products have not been marketed in large quantities. Instead they are consumed by households at home and sometimes wasted. Tanzania needs to create market linkages to enable community members' access the markets for both livestock and livestock products.

The pattern of consumption of food crops does not seem to promote food and nutrition security because majority of the surveyed households do not consume food products which are rich in protein, fat and iron. The majority of households primarily consume starch which may contribute to malnutrition, particularly in food insecure households. This is also the case with household expenditure pattern. Consumption pattern in terms of types of food products consumed has a serious implication to food and nutrition security, health status and therefore livelihoods and poverty levels in the respective communities. This behavior is largely influenced by cultural believes as well as limited purchasing power of the consumers. This is a serious concern as most households are rural based where most communities are smallholder farmers characterized by limited capacity for income generation. Farmers with no or lower regular cash income will certainly have limited purchasing power. This affects market demand negatively because most households will opt for cheaper and non-nutritious food products because they will feel that nutritious ones are out of reach and unaffordable. Income generating programmes are inevitable if these communities are to be transformed. The income generating programmes will not only improve incomes and purchasing power of the communities, but will also mitigate shocks and subsequently improve the livelihoods of the people.

Most villages and wards need more health and education facilities to avoid children and parents walking long distances to access health and education services. The present water services in the respective villages are not satisfying existing needs. More investments are required to improve access to quality water in the villages.

CHAPTERI

1.0 INTRODUCTIONAND BACKGROUND

1.1 Introduction

The Tanzania Social Action Fund phase III (TASAF III) is implementing the Tanzania's Third Poverty Reduction (TPRP IIIProject) funded jointly by Organization of Petroleum Exporting Countries (OPEC) Fund for International Development (OFID), the government of United Republic of Tanzania (URT) and participating communities. TPRP III Project targets at alleviating poverty of about 2,100,000 people (2002 Population Census), which is about 6.0% of the Tanzanian population. The TPRP III Project aims at improving access of poor communities to enhanced socio-economic services and livelihoods enhancement opportunities.

The main beneficiaries of the TPRP III Project are communities in two regions of Tanzania, Arusha and Njombe, including 13 Local Government Authorities (LGAs) and about 600 villages. In TPRP III Project, the focus is on the communities that are deprived of elementary social amenities that include education, water supply, infrastructure as well as impoverished individuals who are engaged in labor intensive works which present them with temporally employment opportunities through income generating and livelihoods enhancing activities. In turn, the target communities are expected to contribute to the in the form of labor, material and land.

1.2 Project Background

Basing on experience developed during implementation of TPRP I and II, the TPRP IIIProject was designed to mitigate risks and reduce community poverty in Tanzania.Lessons learnt from the TPRP I and II led to the design of TPRP III Project. Such experience include: targeting the communities has been viewed as an effective way of identifying the poor households; public works have become instrumental in assisting households to acquire more assets; cash transfers programmes have resulted into both improving consumption and access to services by households,just to mention a few.

The TPRP III Project aims to reduce poverty ina total of 13 LGAs in Njombe and Arusha regions. Njombe Region LGAs includes Ludewa, Makete, Njombe and Wanging'ombe District Councils and Makambako and Njombe Town Councils. Arusha Region LGAs include Longido,Monduli, Ngorongoro, Arusha, Meru,

Karatu District Councils and Arusha Municipal Council. Njombe is among the new regions created in 2012 by the Government in order to bridge administrative gaps. Additionally, some of the LGAs in Njombe are among the areas with high prevalence rates of HIV/AIDS. For instance, the HIV/AIDS prevalence[1] in Njombe Region was 14.8% compared to 1.5% in Manyara Region in 2015and 5.3% among adults aged from 15 to 49 years (URT 2014). Makambako is one of the districts mostly hit by HIV/AIDS and as a result a high number of households in Makambako District are headed by children and elderly persons.

Furthermore, TPRP III Project is designed to support drought-prone areas which are predominantly occupied by livestock keepers or pastoralists. In recent years, many livestock keepers lost their stock due to drought and the government had to support them to alleviate their food insecurity. Arusha Region is one of such regions. It is expected that provision of water to both people and their livestock will prevent communities from moving from one place to another in search of water (in all districts of Arusha Region) and pastures (especially in Longido and Ngorongoro districts) and therefore denying their children right to education.

Moreover, TPRPIII Project was designed to support capacity building initiatives such as capacity enhancement of beneficiaries and institutions that support the targeted communities and households. Funding of local government authorities capacity building activities is critical since TPRP III Project'sactivities are mainstreamed into LGAs that are responsible for facilitating and supporting communities to design, implement and monitor their subprojects. LGAs are also responsible for targeting the communities and households as beneficiaries of TPRP III Project's resources as well as appraisal and approval of community proposals prior to disbursement of funds for subproject implementation.

1.3 Project Rationale

The TPRP III Project is designed based on the successful implementation of TPRP I and II which aimed at mitigating risks and reducing community poverty in particular contexts of Tanzania. TPRP III Project will be implemented in 13LGAs of Arusha and Njombe regions to support not only areas hard hit by HIV/AIDS, but also severely affected by drought and therefore affecting pastoralist communities. Some of the districts that are targeted are highly impacted by food insecurity. Provision of water in the targeted communities will further help to

[1]Tanzania Global AIDS Response Country Progress Report

halt the need for these communities to constantly move in search for water and therefore reduce the number of out of school children in these communities.

1.4 Description of TPRP III Project

TPRP III Project aims at improving access of beneficiaries or targeted households to enhanced socio-economic services and income generating opportunities. These are communities in need of basic social services such as education, water, infrastructure and income generating activities. There is also targeting poor individuals implementing labor intensive works through temporary employment. Specifically, TPRP III Project hasthree key components, namely: community development support initiatives; management and coordination;and outreach and monitoringas summarized hereunder.

a. Community Development Initiatives

This component provides funds to the poor people implementing community subprojects including funding of intensive works through the provision of cash income, particularly to poor individuals as a safety net for targeted poor rural areas.

b. Management and Coordination

This component embraces the operational and administrative costs of the project implementation unit, as well as the running costs of the district level offices, vehicles, equipment and appliances.

c. Outreach and Monitoring

This component includes the dissemination of information, education and communication services to encourage as well as outline broad participation in the subprojects, evaluating operations and assessing the impact of the Projecton the targeted beneficiaries.

1.5 TPRP III Expected Outcomes

TheTPRP III Project is expected to improve beneficiaries' access to basic socio-economic services. These services include:

(a) Increased income of beneficiaries,
(b) Reduction in time taken to and from the facilities that provide the respective services,
(c) Improved access to and quality of learning environment,
(d) Increased access to improved clean and safe water sources, and
(e) Increased access to improved economic infrastructure such as roads and irrigation.

Furthermore, it is expected that the TPRP III Project will strengthen community empowerment, enhance livelihoods of beneficiary households and increase inclusion.

1.6 Objectives of the Baseline Survey

The overall objective of this assignment was to conduct a comprehensive baseline study in selected LGAs of Karatu DC, Longido DC, Meru DC, Wanging'ombe DC and Makambako TC, which are supported by TPRP III Project so as to generate primary data to establish benchmarks for assessing the intended outcomes and impacts of the Project's support to poor communities. This baseline study specifically focused on:

a. The extent to which livelihoods enhancement activities reduce income poverty and increase ability of poor communities to meet basic needs.

b. The extent to which support to water supply decreases time spent on fetching water by reducing the distance from water source to an average of 400 meters and how that reduces waterborne diseases.

c. The extent to which education increases enrollment, attendance, and completion rates in primary and secondary schools while reducing drop out and repetition.

d. The extent to which health improves health outcomes (e.g. morbidity, chronic malnutrition, etc.).

e. The extent to which public works activities provide temporary wage employment to poor individuals and if income from short term employment improves livelihoods of beneficiary households or not.

f. The extent to which participation of poor communities in the TPRP III Project increases the uptake of social services such as education and health.

g. The extent to which participation of poor communities in the TPRP III Projectincreases household income and assets.

h. The extent to which participation of poor communities in the TPRP III Projectinfluences the culture of saving and investment in various income generating activities.

i. The extent to which participation of poor communities in the TPRP IIIProject changes consumption pattern of the families.

j. Spillover effect of TPRP III supported subprojects, especially to non-beneficiaries that were not intended.

k. The extent to which gender relations are positively and negatively affected.

l. Types of economic activities undertaken by beneficiaries by gender and their viability in increasing incomes.

1.7 Scope of the Study

In implementing this baseline study, the consultant did the following tasks;

a. Purposeful sampled areas intended to form part of the studies in regard to intervention types,
b. Prepared study tools such as field work questionnaires and manuals,
c. Conducted field data collection, data entry, data processing, data analysis and report writing, and
d. Regularly reported to the client (TASAF) on the study progress.

1.8 Organization or Structure of the Report

This report is organized into four chapters: Chapter 1 provides the background of the project and has three other chapters. Chapter two describes study methodology by highlighting the approaches employed in data collection, sampling techniques, data types and sources and framework of analysis. Chapter three presents the discussion of the study findings. The final chapter concludes the report and makes some recommendations for further actions.

CHAPTERII

2.0 METHODOLOGY

This methodology was drawn based on the overall objective of this assignment as spelt out in the terms of reference. It was designed to reflect geographical spread of the two regions of study and capture relevant information for the TPRP III Project, in terms of the services (water supply, education, health, and public works) rendered to the poor communities, to improve access of these communities to enhanced social economic services and livelihoods enhancement opportunities. Thus, the methodology was geared towards collecting all data related to TPRP III Project's support in order to undertake baseline analysis and benchmarking.

2.1 Approach in Data Collection

2.1.1 Study Areas and Categories of Respondents

This study visited two categories of respondents, the first category was the key informants that comprises of government officials, villagers leaders and the second category was the heads of the households from the treatment and control areas.

The main reason for choosing Arusha and Njombe regions was the fact that these are the regions where TPRP III Project's operations are rolling out. Community support under TPRP III Project covers all 13 Local Government Authorities (LGAs) and about 600 targeted village communities and streets in Arusha and Njombe regions.

2.2 Sampling Technique and Sample Size

2.2.1 Sampling Frame, Sampling and the Sample Size: Local Government Authorities (LGAs)

As noted earlier, this study covered a total of two regions of Arusha with 1,031 households, equivalent to 64.0% of the sample frame and Njombe, with 524 households, equivalent to the remaining 36.0% of the sample frame. There are seven LGAs in Arusha region and six LGAs in Njombe region. The 13 LGAs formed the study sampling frame out of which a total of three LGAs from Arusha region and two LGAs from Njombe region had been purposive sampled and the survey has been conducted in that area (see Table 2.1).

Table 2.1: Sampling frame and the sample size

Frame	Sample	Frame	Sample
A: Arusha Region		**B: Njombe Region**	
1. Arusha CC	1. Karatu DC	1. Makambako TC	1. Wanging`ombe DC
2. Arusha DC	2. Longido DC	2. Njombe TC	2. Makambako TC
3. Karatu DC	3. Meru DC	3. Ludewa DC	
4. Longido DC		4. Makete DC	
5. Meru DC		5. Njombe DC	
6. Monduli DC		6.Wanging'ombe DC	
7. Ngorongoro DC			

Note: CC = City Council, DC = District Council, and TC = Town Council

As presented in Table 2.1, the total sampled LGAs drawn from Arusha Region are Karatu, Longido and Meru district councils, while the 2 LGAs drawn from Njombe Region are Makambako Town Council and Njombe District Council.The councils from both regions have been randomly selected.

2.2.2 Sampling Frame, Sampling and the Sample Size: Households per LGA

Other level of sampling involved selection of households in each of the five selected LGAs. The total number of households or beneficiaries in the five sampled LGAs of Meru, Karatu, Longido, Wanging'ombe, and Makambako is 172,764 according to the National Bureau of Statistics (NBS). Number of households for each of the sampled five LGAs is presented in Table 2.2. Out of 51,181 households in Meru, 451 were sampled. Total households in other LGAs and the number of sampled households in brackets are 37,197 (328) for Karatu; 26,051 (230) for Longido; 40,002 (353) for Wanging'ombe; and 18,333 (162) for Makambako. The sample size was therefore 1,524 households which is statistically acceptable and geographically representative.

However, the survey was conducted in a total of 1,555 households in five selected LGAs of the two regions in Tanzania equivalent to 102.0% response rate. The number of households was calculated from the proportional of population approach as per the formula below. Under this approach the survey used a confidence level of 95.0% with error margin of around 2.5%. Based on the Tanzanian Population Census of 2012, the total number of households in the

surveyed regions is 172,764, out of which nearly 1,524 households were surveyed based on the confidence level and margin of error specified earlier. This approach has assumed that the population is normally distributed with 50.0% propositions in calculating optimum sample size.

$$n = \frac{\frac{z^2 \, x \, p(1-p)}{e^2}}{1 + (\frac{z^2 \, x \, p(1-p)}{e^2 N})}$$

Where:

- *N = Population Size*
- *e = Margin of error*
- *z = z-score*
- *p = Proportion of population*
- *n = a sample calculated*

Table 2.2: Sampled households

S/No.	LGA	No. of Households	Sampled HHs	Surveyed HHs	Response Rate (%)
1.	Meru DC	51,181	451	423	94.0
2.	Karatu DC	37,197	328	346	105.0
3.	Longido DC	26,051	230	262	114.0
4.	Wanging`ombe DC	40,002	353	323	92.0
5.	Makambako TC	18,333	162	201	124.0
	Total	**172,764**	**1,524**	**1,555**	**102.0**

Principle investigators and enumerators spent a total of 10 days in the field. There were three principal investigators and 20 enumerators. While principal investigators were mainly taking a supervisory role and conducting key informant interviews, each enumerator was scheduled to complete at least eight questionnaires per day. Thus, at least 1,524 households were expected to be interviewed in 10 days. However, the team managed to collect information or data from a total of 1,555 households making 102.0% response rate.

2.2.3 Sampled, Surveyed and Response Rate of the Households per each Ward

Wards and villages were randomlysampled, villages (categorized into control and treatment, see Annex II) and households. Wards wereselected randomly from each LGA. Table 2.3 presents the number of households sampled, surveyed and response rate on each ward.

Table 2.3: Sampled regions, LGAs, wards, villages, and the number of sampled households, the number of surveyed households and response rate

Region	LGA	Ward	Village	Treatment	Control	Sampled	Surveyed	Response Rate
Arusha	Meru DC	Songoro	Kilinga		47	50	47	94.0
			Mulala		42	50	42	84.0
		Usa River	Manyata		48	50	48	96.0
			Lekitatu		36	50	36	72.0
		Kingori	Ngejusosia	41		46	41	89.1
			Nsengony	60		54	60	111.1
		Leguruki	Mbaaseny	49		50	49	98.0
			Maruvango	53		50	53	106.0
			Shishtony	47		50	47	94.0
	Karatu DC	Rhotia	Kilimatembo		57	50	57	114.0
			Rhotia Kati		56	50	56	112.0
		Qurus	Gongali	0	54	50	54	108.0
			Qurus	58	0	50	58	116.0
		Daa	MangolaJuu	64		50	64	128.0
			Endashangwet	57		50	57	114.0
	Longido DC	Mundarara	Mundarara	65	0	50	65	130.0
			Orgirah	0	67	50	67	134.0
		Matale	Matale A	52		50	52	104.0
			Matale B	30		50	30	60.0
		GelaiMeirugoi	Meirugoi	48		50	48	96.0
			Sub Total	**624**	**407**	**1,000**	**1,031**	**103.1**
Njombe	Wanging`ombe DC	Ilembula	Iponda		47	49	47	95.9
			Igula		55	55	55	100.0
		Wangingombe	Mayale	55	0	54	55	101.9
			Katenge	0	55	54	55	101.9
		Wangama	Imalilo	55		54	55	101.9
		Mdandu	Itambo	56		54	56	103.7
	Makambako	Mjimwema	Mjimwema A		45	52	45	86.5
			Mjimwema B		53	52	53	101.9
		Mahongole	Mtanga	51		50	51	102.0
			Manga	52		50	52	104.0
			Sub Total	**269**	**255**	**524**	**524**	**100.0**
			TOTAL	**893**	**662**	**1,524**	**1,555**	**102.0**

2.3 Data and Data Sources

Since the TPRP III Project objective is to improve access of poor communities to enhanced social economic services and livelihoods enhancement opportunities, the data collected relates to community welfare in the areas of education, health, water sector and the labour intensive public works.

Data collected includes poverty levels; water supply; enrollment rates;school attendance and completion rates and; dropout and repetition rates in primary and secondary schools; as well as on health and health outcomes. Additional

data was collected on public works activities, including employment generation, household incomes and ownership of assets, the culture of saving and investment in various income generating activities, consumption patterns of households and the status of gender relations.

The tools that were used for data collection are shown in Annex IV. These are the field instruments, including the structured questionnaire used to collect information from households in the villages and an interview guide which was used for discussion with government executive officials at LGA, ward and village levels (see Appendix II). Both of the field instruments were digitalized and saved in the tablets which were used in the field to collect data.

2.4 Data Collection and Cleaning

There were two methods that were used during this survey study to collect data. For the households,a structured questionnaire was usedto interview the head of the households. For qualitative data, the supervisors interviewed the key informants (Appendix II) by using interview guides.

Data capturing was done directly by using tabletsto capture data and store them into the central server at ESRF. Data was reviewed daily before the team left a village for quality control purposes. The data manager was in constant contact with field teams to clarify any issues and solve problems related to data collection.

For quality purposes the data cleaning was done daily during the data capturing.The cleaning involved verifications of various logic issues since the system was able to automatically capture issues such as enumerators being out of range, etc. Most of the logical and human errors were randomly checked. The issue of resolving discrepancies of data was also looked into very carefully before starting data analysis. Cleaning skip patterns to ensure consistency of responses by considering whether specific cleaning should be done in a forward manner (i.e. blank out a response based on a previous answer), or back-cleaned (i.e. change a previous response based on a later answer).

Validating numeric fields is usually done automatically for electronic surveys, but was manually validated by the ESRF staff to ensure accuracy.

Recording data values from discrete numbers to range categories was done to facilitate tabulation and analysis, thus modifying responses from arbitrary values in order to facilitate data analysis. Generation of calculated fields included simple

calculations such as creating years from date of purchase, creating age groups or other fields derived from survey responses (i.e. total spending etc.).The data was exported to SPSS for further check and analysis.

2.5 Framework of Analysis

Data on all indicators identified in Table 3.1 have been collected and analyzed to gauge and understand the current status of community livelihoods. This has been used to define the livelihoods levels of the targeted households prior to the TPRP III Project interventions (benchmarking) which will be used as reference point during the evaluation of TPRP III Project in future. The benchmarking has been done for both, at the household level and at the community level. This will help in future to able to establish if the impact is noted to some few households or to the entire community.

The analysis have based on the mentioned indicators on Table 3.1 to respond to the key questions as stipulated on specific objectives as spelt out in Section 1.3.

CHAPTERIII

3.0 ANALYSIS OF FINDINGS

3.1 Identification of Indicators

Prior to the field survey, a range of relevant indicators were identified to be used for preparation of the survey tools, data collection for benchmarking. Data collected using these indicators were used to gauge or determine the current status of community livelihoods. Thus, both quantitative and qualitative indicators were identified based on the overall but mainly specific objectives as spelt out in Section 1.3.

Table 3.1 summarizes the identified indicators in 15 categories namely, housing demographic characteristics, house conditions, assets, household income, livestock, and household expenditure. Others are water, education, heath, poverty, public works, consumption pattern, and gender relations. While the first category comprises of indicators related to household demographic characteristics which includes literacy, schooling status, and major income activities, the housing status is the second category. This category looks at type of the house, materials used for construction, ownership, size of the house etc.

Category Three of the indicators is ownership of the assets where ownership of various types of assets such as television set, radio, cars, chairs, bicycle and motorbike have been recorded. Land category consists land ownership, land size, land title, renting etc. Household income forms the fifth category which consists of employment status, income earning opportunities, remittances etc. Category Six is livestock where number of livestock, type of livestock, value of livestock etc. is the selected indicators. There is also household expenditure and consumption as Category Seven where proportion of total household income consumed, consumption pattern, type of goods and services consumed etc. are the major focus. Category Eight consists of health, education, water, wealth and public works related indicators such as the quality and distance to the nearest dispensaries and health centers, quality and distance to the nearest primary school and secondary school, quality and distance to the nearest water point, and whether or not there are public works where some local people have been employed. Lastly, shocks and coping mechanism category which looks at diseases and other human made calamities such as drought, floods, fire, hunger, etc. and measures taken by individuals to manage the shocks.

Table 3.1: Summary of the identified indicators

Category of Indicators	Identified Indicators
Housing demographic characteristics	This category includes sex of the respondents, literacy, age, and schooling status. Other indicators include the major income activity, years of education completed and status of the respondent in the community.
Housing status	This category looks at type of the house, materials used for construction, ownership, size of the house, and other related indicators.
Asset ownership	This category looks at whether or not the household own assets, type and the number of assets owned, time of acquisition, amount of money spent, and the value of assets.
Estimated household income	Includes sources of income, main income generating activities, amount earned, and control of household income.
Household livestock ownership	This category includes livestock ownership, livestock acquired the last 12 months, value of livestock, amount of livestock sold the last 12 months, total income earned, labour hired, cost of labour, other cost incurred (e.g. fodder) and the total expenses incurred, control of livestock income.
Livestock products	This category focuses on a number of indicators namely, type of livestock products produced, proportion of products used by the households, inputs used to produce the products, cost incurred for the inputs, total value of the products produced, and control of the incomes from products.
Household expenditure and consumption	The following indicators have been included in the survey: Type of food items consumed by the household, amount of food items consumed, proportion of consumption coming from purchases, the amount paid for purchases, proportion of the food items coming from own production, the amount of food item coming from gifts, what was consumed in the past 2 days, etc.
Long term expenditure	It includes education and medical services, clothing, shoes, school uniforms, Celebration, social event, funeral, wedding, airtime, charging phone, etc.
Water	Water sources, distance to water source, time it takes to water sources, status of water (clean or not clean, safe or not safe), taste, waterborne diseases,
Education	Availability of primary school facility, primary school enrollment (separated by official school age group i.e. pre-primary 5-6 years and primary 7-13 years), primary school attendance (separated by official school age group i.e. pre-primary 5-6 years and primary 7-13 years), primary school completion rate, primary school dropout (separated by official school age group i.e. pre-primary 5-6 years and primary 7-13 years), primary school repetition (separated by official school age group i.e. pre-primary 5-6 years and primary 7-13 years), distance to primary school, time it takes to primary school, availability of secondary school facility, secondary school enrollment (separated by official school

Category of Indicators	Identified Indicators
	age group i.e. lower secondary 14-17n years and 18-19 years upper secondary), secondary school attendance (separated by official school age group i.e. lower secondary 14-17n years and 18-19 years upper secondary), secondary school completion rate, secondary school dropout (separated by official school age group i.e. lower secondary 14-17n years and 18-19 years upper secondary), secondary school repetition (separated by official school age group i.e. lower secondary 14-17n years and 18-19 years upper secondary), distance to secondary school, time it takes to secondary school,
Health	Type of health facility available, distance to the nearest health facility, time it takes to the nearest health facility, proportion of births attended by skilled health personnel, health care seeking behavior (whether the respondent was sick in the last 1 or two months; whether he/she sought help or visited clinic; whether he took medication, whether beneficiaries have health insurance), maternal mortality, under – five mortality rate, infant mortality rate, chronic malnutrition,
Poverty levels	Household income per month, major source of income, income generating activities, household size, education level of household members, type of house, asset ownership, number of social services, savings made, investments made,
Public works	Available public works, type of public works, employment generated by public works, income earned from public works employment,
Consumption pattern	Meals per day, type of meals taken, source of food supplies,
Gender relations	Sex of head of household, asset ownership, decision making at household level, GBVs, ratio of girls to boys in primary school, ratio of girls to boys in secondary school,

3.2 Overview of the Study Area

This subsection discusses the overview of education, health, public works and water supply sectors for Makambako and Wanging'ombe LGAs in Njombe Region and Longido, Karatu and Meru LGAs in ArushaRegion.

3.2.1 Njombe Region

3.2.1.1 Education

The education sector covers pre-primary, primary and secondary levels.Njombe region has a total of 472 primary schools of which 462 are owned by the Government and 10 by private sector. There are 464 pre-primary schools of which 454 are owned by the government and 10 by private sector. It also has

109 secondary schools of which 80 are owned by the Government and 29 by private sector. The region has five primary and one secondary special education schools.

Wanging'ombe District Council

Wanging'ombe District Council has a total of 106 day and government owned pre-primary and primary schools. This is approximately 11.0% of the total number of pre-primary and primary schools in the region. The district council has a total of 21 secondary schools (16 ordinary level government owned and 5 private owned among which 2 are advanced level secondary schools). This is about 19.8% of the total number of secondary schools in the region.

Makambako Town Council

Makambako is an LGA in Njombe region which is located roughly 40 miles north of Njombe townby road. Makambako Town Council has a total of 16 secondary schools among which 10 are day schools with only 4 schools with girls' hostels and are all government owned while the rest 6 are boarding and privately owned. Among 16 secondary schools, 14 are ordinary level and 2 for advanced level. The number of secondary schools is approximately 15.0% of the total number of secondary schools in the region.

The current (2016) secondary school enrollment number for ordinary level 14 to 17 years is 3,889 students and 664 students for advanced level 18 to 19 years. The current (2016) secondary school attendance number is 5,297 for ordinary level 14 to 17 years and 272 for advanced level 18 to 19 years. The current (2016) secondary school dropout number for ordinary level 14 to 17 years is 115 while there is no dropout for advanced level that is from 18 to 19 years.

According to the results of the survey, school dropout rates are impacted by inability to provide school supplies such as uniforms, textbooks, exercise books, etc., attending to sick household members, petty business, early marriages and pregnancies, child labor, poor teaching and learning environments, divorce of students' parents, and indiscipline.

There are various education interventions in Makambako district. The Secondary Education Development Programme I &II (SEDP I&II), focus on constructing classrooms, teachers' houses, toilets etc. This is a government programme, but Makambako Member of Parliament (MP) Hon. Deogratius Sanga assists schools' construction and rehabilitation by providing construction materials like cement

and iron sheets. Furthermore, the Tear Fund in collaboration with Christian Council of Tanzania (CCT) assisted the town council by making approximately 375 desks for the newly established secondary schools.

3.2.1.2 Health

According to the Njombe Region strategic plan of 2014, the region has a total of 222 Health facilities. Out of 222 health facilities, 11 are hospitals, 21 are Health Centers and 190 are dispensaries. Among these Hospitals, one is Njombe Town Council Hospital which now serves as a Regional Referral Hospital, and Ilembula Hospital which serves as Designated District Hospital for Wanging'ombe District Council. The region has 569 pharmacies. There are 222 Dispensing Drug Outlets or "Duka la Dawa Muhimu" (ADDO or DLDM).

Wanging'ombe District Council

Wanging'ombe has 45 health facilities including 39 government owned dispensaries, four health centers (two government and two privately owned) and two privately owned hospitals. Average distance from the household to the health facilities ranges from 500 meters to 25 kilometers. The proportion of births attended by skilled health personnel was reported to be 96.0% in 2015, while the maternal mortality rate in 2015 was higher than the national average of 454 among 100,000 women of reproductive age, and in the first quarter of 2016 only two cases have been reported. The reasons behind maternal mortality among others are:

a. Postnatal infections
b. Anemia caused by excessive bleeding during delivery
c. Long distance from health facilities
d. Eclampsia

There are several efforts put in place to reduce maternal mortality at a district level, including efforts to scale up provision of antenatal services, increase the supply food supplements to reduce antenatal anemia, provision of emergency caesarian sections, regular checkups of sexually transmitted infections and scaling up blood donation campaigns.

The reported cases of infant mortality in Wanging'ombe in 2015 were 53 at the rate of 12 out of 1,000. In 2016, only four deaths were reported in the first quarter. The main causes of infant mortality were:

a. Premature complications or injuries
b. Asphyxia (lack or delay of first breath)

c. Hypothermia (abnormal low temperature)
d. Sepsis (bacterial infections)

To reverse the situation, this facility has been building the capacity of clinical attendants to help infants to take their first breath, and a premature section was recently established.

The malnutrition status in children (0-5 years) per category of malnutrition is: acute (0.9%), moderate (17.0%), and normal malnutrition (82.1%). The factors below have been associated with high rates of malnutrition:

a. Poor preparation and feeding habits
b. HIV/AIDS infections
c. Irresponsible parenthood

As a way forward, monthly health checkups and increased provision of food supplements and immunization (vitamins and de-worming) campaigns are highly encouraged. The ongoing health and nutrition interventions in Wanging'ombe are:

a. Labor theatre rehabilitation at Ilembula and Kidugala hospitals supported by UNICEF Tanzania
b. Tubadilike Nutrition (2015 – 2019) supported by UNICEF Tanzania
c. Tunajali in HIV/AIDS testing, care and treatment (2015 – 2019), supported by USAID
d. Sauti in HIV/AIDS testing, Family Planning and Gender Based Violence (2015 – 2019), implemented by JHPIEGO under the support of USAID

Makambako Town Council

Makambako has a total of 14 health facilities (two hospitals. Makambako and St. Joseph Ikelu; 11 dispensaries; and one health centre). The average distance from residence to health facilities range from 500 meters to 02 kilometers. Most of the births are attended by skilled health practitioners with exception of only few which arrive late at health facilities. The maternal mortality rate in 2015 was one and two in the first quarter of 2016. The main reason behind maternal mortality was obstructed labor that led to excessive bleeding and eventually death. Suggested efforts to reduce maternal mortality cases include: proper and regular pre, ante and post natal care, and provision of the required food supplements. In 2015 there were 11 reported cases of infant death and four cases in 2016 in the first quarter. Infant deaths were caused by still births, untimely health services provision, congenital malformation and asphyxia.

Malnutrition among both expecting and lactating mothers is reported to decrease, however, for children malnutrition is rising. The factors for raising malnutrition are shown hereunder:

a. Poor preparation and eating habits
b. Lack of food and nutritional literacy
c. Busy and irresponsible parenthood

Ongoing and completed health and nutrition interventions in Makambako include the following:

a. Groups forming for People Living with HIV/AIDS, supported by Family Health International (FHI 360), implemented between 2009 and 2014.
b. Tunajali (HIV/AIDS care and treatment), funded by USAID.
c. Male Circumcision Awareness Creation, supported by JHPIEGO started in 2011. Family Planning Outreach implemented by Marie Stopes.

3.2.1.3 Public Works

According to 2012 national census, Njombe region has a total population of 496,392 people aged 10 years and above working population of which 336,691 are employed,5,397 are unemployed, 30,835 are in home maintenance, 108,526 are full time students and 14,843 are unable to work (URT, 2012).

Makambako Town Council

Makambako Town Council has put in place a number of interventions for people's livelihoods, especially for women as shown below:

a. In 2012/2013 Makambako Town Council was established and issued more than TZS 100 million to both women and young men through WDF and YDF. The disbursements are normally preceded by capacity building in business management, entrepreneurship, financial literacy, etc.

b. There are also about 65 VICOBA in operation, each with 15 – 30 members who are above 18 years old.

Available income generating activities include:

a. Agriculture and livestock keeping (horticulture, forestry, corn, Irish potatoes, poultry). Women are largely involved in agriculture activities while men in livestock and forestry.

b. Business is another activity practiced in markets and shops, hotels and bars.
c. Public works (in roads maintenance, bricks making etc.).

Wanging'ombe District Council

In Wanging'ombe District Council, nearly 80.0% of the district inhabitants engage in agricultural activities. The main crops being: Irish potatoes, maize, sunflower, groundnuts, beans, fruits, water melon and wheat. Others are doing livestock keeping mainly in cattle (beef and milk), poultry, piggery, etc. Also other works such as timber trees planting, fish farming and bee keeping are employing some people in the district. Women are occasionally employed in public works through tasks such as fetching water, cooking etc. However, most of the jobs in public works are commonly viewed as masculine and therefore employment preference is given to men rather than women. Furthermore, women's involvement in public works is highly inhibited by other household chores such as cooking, taking care of the household, crops cultivation, animal husbandry etc. A number of public works in Wanging'ombe are currently employing people in the district. These include:

a. Building construction (such as the district council's new offices and schools). The number of employees depends much on the size and duration of the projectand payments are made in daily or weekly basis and range from TZS 3,000 to 5, 000.

b. Rehabilitation of roads and bridges. In this category contracted engineers normally come with their own laborers, though the council encourages them to employ labor from the projectsite.

Some interventions and projects in public works that have been put in place at the district level to enhance livelihoods activities include:

a. Classroom construction and electrification of some of the secondary schools, funded by World Bank (WB).

b. Bridge and road construction to enhance connectivity in areas with transportation difficulties, funded by Department for International Development (DFID).

However, implementation of public works in Wanging'ombe is faced with a number of challenges, these are:

a. Government funds are inadequate and sometimes are not timely disbursed, For instance, delays in compensating the evictees in case a project involves relocation of inhabitants.

b. The district council plans to maximize tax collections, promote public private partnership and solicit more funds from other development partners.

3.2.1.4 Water Supply

Njombe region is gifted with many sources of water, including rivers, natural springs, underground water sources and a lake. Water-pumping schemes, gravity schemes, wells and boreholes are the dominant means of producing water in the region. However, the region has not been able to supply clean and safe water to the entire regional population. While the region has a total of 266 water projects, it has experienced water shortages in some of the villages due to decline of water sources caused by human activities and weather changes. Furthermore, many of the projects are not executed successfully due to lack of competent skilled personnel from both consultants and contractors.

However, access to clean and safe water is increasing and the target is to reach 70.0%coverage by 2016. In urban areas, the average water coverage is 44.7% (Njombe Town 31.0%, Makambako Town 48.2%, Ludewa Town 58.0%and Makete Town 41.5%). The Water Sector Development Programme together with other stakeholders is implementing water projects in six councils aiming to improve water supply in the region.

Makambako Town Council

Makambako Town Council has approximately 16 water sources supplying water to the town council. The sources include springs, rivers and five boreholes, such as Upami, Usetule and Fukurwa. Water from the mentioned sources is not safe because the town council does not have capacity to treat water due to the high costs associated with treatment. The average distance from water sources to water supply tanks is about 30 kilometers, and the distance from water reservoirs to the users is ranges from5 meters to 1 kilometer. Town dwellers connect their homes with piped water, unlike in the rural areas where users fetch water from allocated water points.

Following the expanded human activities and subsequent contamination along water sources (rivers, springs, etc.), there are few cases of water borne diseases,

namely typhoid and diarrhea reported by medical practitioners. Some challenges experienced in water supply:

a. Insufficient financial support to facilitate raw water collection, purification, storage and distribution.

b. Delays in compensating the people relocating from newly established water projects particularly in rural places.

c. Water contamination through increasing human and social activities around water sources.

In addressing the above challenges, the town council is sensitizing communities to actively take part in ongoing water projects and own water facilities. The current water interventions in Makambako are:

a. Ikwete Water Supply Project (through water boreholes), supported by Shipo NGO in 2012/2013.

b. Kitandilio Water Supply Project, funded by RADA (Spanish NGO) implemented from 2013 to 2015.

In order to cater for increasing water demand, and to ensure the sustainability of available water sources, the town council is charging a TZS 300 fee for each unit of water consumed in urban areas and a monthly contribution of TZS 1,000 rural areas, though payment collections are not sometimes as consistent as planned.

Wanging'ombe District Council

Wanging'ombe District Council implements a total of 33 water projects that serve 54 villages through Wanging'ombe Water and Sewerage Authority (Wangiwasa). Major water sources include rivers and springs, 13 boreholes and six charcoal dams. Water available is clean but not safe in the dry season and during the rainy season water becomes dirty and unsafe for human consumption. The major barrier to the provision of clean and safe water is the dearth of water treatment facilities. However, there are plans to rehabilitate existing water facilities to include treatment. Existing water points are distributed according to the number of people and their scatteredness, and the average distance between water users and water source is approximately400 meters. Water borne diseases cases are there, though not so serious, cases of Typhoid and Diarrhea are

sometimes reported. The main reported causes for water borne diseases are human activities (crops cultivation, animal keeping, etc.) in or around water sources (catchment areas). Some challenges in ensuring sufficient water supply include:

a. Rural people lack skills and knowledge in managing rural water facilities.
b. Lack of funds to make regular rehabilitations.
c. Water contamination through human activities.
d. Lack of treatment facilities.

It is fortunate that most of the interventions (group schemes) in water sector in Wanging'ombe were completed in March 2016.

3.2.2 Arusha Region

3.2.2.1 Education

According to the 2013 Basic Education Statistics (BEST) report, the Arusha Region has a total of 648 primary schools and 221 secondary schools. Amongst the 221 secondary schools 137 are public owned and the remaining 84 are private owned schools.

The region has three universities, three colleges for management accounting and technical issues, four teachers training colleges and 50 vocational training centers registered by Vocational Education Training Authority (VETA).

Karatu District Council

According to Karatu district education officer, the current pre-primary and primary school enrolment rate in Karatu by official school age of 5-6 years old is 114.6%. Pre-primary enrolment rate for government schools is 116.3% and private school enrolment rate is 95.6%). Standard one current enrolment rate by official school age of 7-13 years old is 109.2%. Primary enrolment rate for government is 111.0% and private school enrolment rate is 66.4%). The current pre-primary and primary school attendance rate is 84.0% and 89.0%respectively. The current school completion rate is 80.7% and the primary school dropout rate is 10.0% while the current Primary school repetition rate is 0.4%. Enrolment is 109.6%due to free education policy and the effort made by the Head teachers, VEOs, WECs DEOs and other District Administrators to mobilize the community about the importance of education. Attendance is below the national average of 95.0%reported by the Ministry of Education due to a number of reasons, including:

a. The absence of school feeding programmes for pupils in a high number of primary schools (porridge & lunch);

b. Nomadic pastoralists' often move from one place to another with their children searching for the pastures of their livestock, and;

c. Pupils from poor families often engage in economic activities, such as small business e.g. selling of tours, commodities and conducting labour on plantations.

The main education interventions that have been put in place as livelihoods enhancement activities in Karatu are the introduction of free education (elimu msingi bila malipo) to encourage enrolment and attendance, and TASAF's effort, by supporting poor household circle.

In Karatu the current secondary school enrollment rate according to the 2012 – 2015 data is 75.0%for O level and 97.0% for 'A' level secondary schools. The secondary school attendance rate for O level is 85.0%and for 'A' level is 98.0% in 2015. The completion rate was 96.5%in year 2014 and 92.8% in 2015. The current secondary school dropout in 2015 was 3.0%. Approximately 11.9%of the students failed form two national examinations in 2015 and 1.0% of students repeat classes due to various reasons.

There are some factors which affected these results. For instance, the target was 100.0% enrollment, but actual enrollment is 75.0% because of the following reasons:

- Failure of some parents to afford school fees and other associated education costs
- Transfer
- Dropout due to economic hardship, which forces students to engage in economic activities to improve household income
- Pregnancy 0.2%in 2015

The following interventions have been put in place as livelihoods enhancement activities in education:

a. Introduction of free education (elimu msingi bila malipo), to encourage enrolment and attendance;

b. Support of poor households by TASAF III, which improved secondary school attendance rates;

c. Improvement of infrastructure through SEDP II, to encourage enrolment and attendance rate, and;

d. Provision of meals at schools.

Arumeru District Council

Data for Arumeru District Council on the pre-primary current enrolment rate by official school age of 5-6 years old is 99.0%, while primary current enrolment rate by official school age of 7-13 years old is 99.0%. The primary completion rate is 99.0%and the current drop out is 7.4%. The primary school repetition rate is higher than Karatu as it stands at 6.5%. The current secondary school enrollment rate is 92.2% for O level and 'A' level is 80.8%. The secondary school attendance rate is currently 88.7% for 'O' level and 100.0% for 'A' level. Meru District Council has secondary school completion rate of 98.0% and 81.3% for 'O' level and 'A' level respectively. The current rate of secondary school dropout is 1.0% for 'O' level is and 'A' level is 1.4%. The current secondary school repetition rate for 'O' level is 12.1% (Based on form II National Examination Results).Enrollment has been high due to various regional interventions, together with the provision of free education nationally.

Longido District Council

Current statistics show that there is a total of 9 secondary schools of which 8 are owned by the government and 1 privately owned. Total number of students and teachers in the public owned schools is 327 pupils and 14 teachers respectively. The challenges facing the education sector in Longido district are: lack of teacher's houses, lack of laboratories,lack of latrines and low-income community and lack of motivated in investing in education.

3.2.2.2 Health

The 2007 data shows that the region had total of 258 health facilities. This comprises of 11 hospitals, 34 health centers and 213 dispensaries whereby 8 hospitals, 17 health centres and 109 dispensaries are privately owned, while, 3 hospitals, 17 health centres and 104 dispensaries are publicly owned.

Karatu District Council

In Karatu 77.0% of births are attended by skilled health personnel. The maternal mortality rate, the under-five mortality rate and the infant mortality rate arestill high. Commonfactors for maternal mortality are Postpartum Haemorrhage (PPH), Antipartum Haemorrhage APH, and anaemia. Commonfactors for infant mortality are severe pneumonia, anaemia, septicemia, birth asphyxia, congenital abnormalities, neonatal sepsis and prematurity. The commonfactors for under–five mortality arediarrhoea, severe pneumonia, anaemia, septicemia, birth asphyxia, sepsis, prematurity, congenital abnormalities, intercesception, accident, poisoning and epilepsy.

Arumeru District Council

In Arumeru District Council, the status of malnutrition is 44.0% stunting and 28.0% underweight.The reasons behind this status (birth, mortality, and malnutrition) are availability of good health facilities that are available in Arumeru District Council and availability of work force which are key to the health improvement in Arumeru District Council.

LongidoDistrict Council

According to the 2007 statistics, Longido district had a total of 20 health facilities of which 2 were heath centers and 18 dispensaries.The dominant disease is malaria, in part because only 1 in 10 household has a mosquito net, and many households which own a mosquito net do not have an insecticide treated mosquito net.

3.2.2.3 Public Works

3.2.2.3.1 Arusha Regional Status

According to 2012 national census, Arusha region has a total population of 1,175,236 people aged 10 years and above working population of which

673,966 are employed, 37,620 are unemployed, 145,775 are in home maintenance, 286,002 are full time students and 31,874 are unable to work.

Karatu District Council

The main income generating activities in Karatu are Livestock keeping, Agricultural activities, Small scale industries, Trading – wholesale and retail shops, fisheries and beekeeping. Public works include road construction (labour base works), construction of culverts, fixing of formworks, excavation works, pouring of concert, curing of culverts, excavation of miter drains and catch water drains and construction of public buildings.

Arumeru District Council

The main income generating activities in this community by men and women are mostly farming and others keep livestock. Temporary employment is made available during public works like road maintenance or construction, house building, etc. Broadly speaking, the income generated from public works projects are minimal, and are used to supplement low incomes. Both men and women are encouraged to apply for public works projects. The strategy of the district is focusing on ensuring those citizens are involved in various opportunities that are available for public works projects.

Longido District Council

Longido District Council is largely occupied by the Maasai community who mainly are engaged in pastoralism or nomadic pastoralism. Therefore the main occupation of households in this district is livestock keeping. Households heavily rely on milk, meat and blood of livestock and thus income from livestock sales is the most common and known source of income in the district.

3.2.2.4 Water Supply

3.2.2.4.1 Arusha Regional Status

Availability of adequate supply of clean potable water for the residents of Arusha Region particularly those residing in Arusha Municipality are of utmost importance. According to the Population and Housing Census results for year 2002, 68.0% of the total private households in Arusha Region used piped water as the main source of drinking water; 53.0% of the rural households and about 96.0% of the urban households were using piped water. By year 2007 a total

of 588,468 people were being served with piped water as opposed to 369,771 people in year 2004 an increase of about 59.1%. Currently, the water access coverage in the municipal is only about 44.0%. Table 3.2 below shows water area in Arusha districts.

Table 3.2: Abundance of water in Arumeru District

District	Land Area (Sq.kms.)	% of Land Area (Sq.kms.)	Water Area (Sq.kms.)	% of Water Area (Sq.kms.)	Total Surface Area (Sq.kms.)	% of Surface Area (Sq.kms.)
Monduli	6,419	18.6	128.4	13.4	6,547.4	18.5
Arumeru	2,896	8.4	407	42.6	3,303	9.3
Arusha	93	0.3	0	0	93	0.3
Karatu	3,300	9.6	10.6	1.1	3,310.6	9.3
Ngorongoro	14,036	40.7	252.6	26.4	14,288.6	40.3
Longido	7,782	22.4	156.6	16.4	7,938.6	22.4
Total	34,526	100	955.2	100	35,481.2	

Source: TASAF Baseline Survey, 2016.

Karatu District Council

There is clean and safe water supplied tomany communities. No water treatment is practiced in the District. The distance to the nearest water source ranges from 350m-5800m. Some water borne diseases are cholera and dysentery, mainly affecting Matala village and Karatu town. This is due to contamination of water especially in rivers,national parks and in unprotected hand dug shallow wells. In the last three years, the council has invested in four new water projects, which are now serving six villages. Also, construction of other four projects is ongoing and when completed will serve other five villages. Development partners in collaboration with district council and communities have also constructed five more water projects which are serving six villages (Field data, 2016). Construction of all these projects was accompanied by awareness creation on sanitation to the communities in all involved villages.

Arumeru District Council

The topography of Arumeru District Council is highland and a lot of its area is blessed with water catchment. In general water availability in Meru is not a big problem as majority can get clean water within a distance of about 200 m. Due to availability of tap water in Meru, cases of water borne disease are very few.The district has implemented water enhancement activities through water committees.There is a water committee in every village.

Longido District Council

Longido District Council is one of the driest areas in Arusha region. In 2009 the district suffered from severe drought which affected a large part of the inhabitants, most of whom are pastoralists.Accessibility to clean and safe water is still a challenge; however since late 2011 the provision of water has improved due to the construction of sand dams that help to tap enough water during the rainy seasons.

Nevertheless, the district still face water problems as by late 2011 only 2 dams were completed andas the ongoing climate change and serious droughts condition continue to threaten peoples' livelihoods.

3.3 Discussion of the Baseline Results

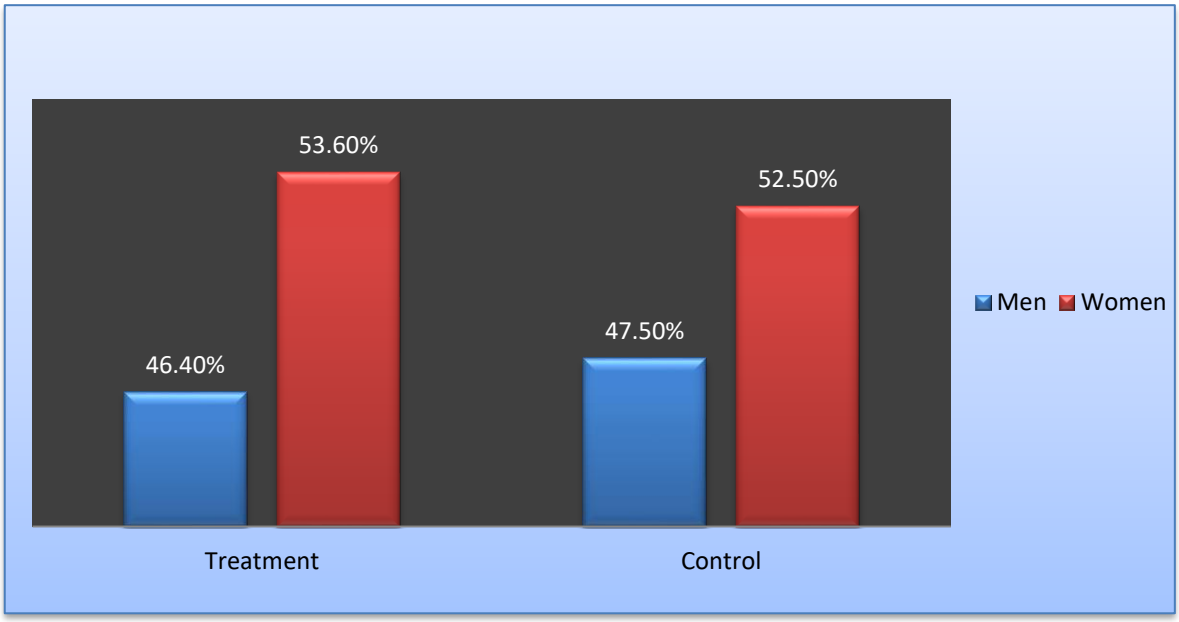
This section discusses the results from the conducted comprehensive baseline study in the selected four district councils and one town council supported by TPRP III Project in Arusha and Njombe regions. It should be noted that this survey was conducted at a household level, and the households were categorized into both treatment and control groups. The results are discussed as follows.

3.3.1 Household Demographic Characteristics

3.3.1.1 Gender

During the baseline survey, the selected households were found to have a total of 6,422 household members. Gender wise, 46.9%(3,010) were men and 53.1%(3,412)were women in all five (5) LGAs. Category wise, in the treatment group about 46.4%(1,695) were men, and women were 53.6%(1,959). In the control group, men were 47.5%(1,315) of all household members, women 52.5%(1,453),(see Figure 3.1). No wonder that the presented proportion of women members of the households is greater than men; this is also supported by National Population and Housing Census 2012 in which women were 51.3% and men 48.7% of the total population.

Figure 3.1 Households members by gender



Source: TASAF Baseline Survey, 2016.

3.3.1.2 Literacy Levelsof Households Members

The baseline survey results show thatin the treatment group about50.3% of the members of the surveyed households had both reading and writing skills while 49.7% were illiterate. On the control side, 57.7% were reported to at least have basic literacy requirements of reading and writing while 42.3% had no such literacy. The information shown in Table 3.3 obviously suggests a need for deliberate efforts to scale up literacy programmes such as Adult Education (AE) and Complementary Basic Education for Tanzania (COBET) programmes among the poor communities.

Table 3.3 Reading and writing skills

Category		Yes	No	Total
Treatment	Number	1,837	1,817	3,654
	Percent	50.3	49.7	100.0
Control	Number	1,597	1,171	2,768
	Percent	57.7	42.3	100.0

Source: TASAF Baseline Survey, 2016

3.3.1.3 Household Members' Age

The surveyed households in the baseline survey had household members of various age groups, which we resorted into three categories for comparison. In treatment category there were 41.5% (1,517) ofhousehold members aged 0 to 14 years; 46.4%(1,697) aged between 15and64 years;12.0% (440) falling in age group 35 and 64 years; and 12.0% (440) aged between 65 years and above. The control group had 39.1% (1,082) household members aged 0 to 14 years; 49.7% (1,377)aged 15to64 years; 11.2% (309) aged between64 years and above (see Table 3.4).

Table 3.4 Household members' age

Age group	Treatment		Control		Total
	Number	Percent	Number	Percent	Number
0-14	1,517	41.5	1,082	39.1	2,599
15-64	1,697	46.4	1,377	49.7	3,074
65+	440	12.0	309	11.2	749
Total	**3,654**	**100.0**	**2,768**	**100.0**	**6,422**

Source: TASAF Baseline Survey, 2016

Dependence Ratio = (No.of individuals aged below 15) + (No.of individuals aged above 64)x100
No. of individuals aged 15 to 64

Dependence Ratio = (2,599 + 749) X 100 = 108.9%
3,074

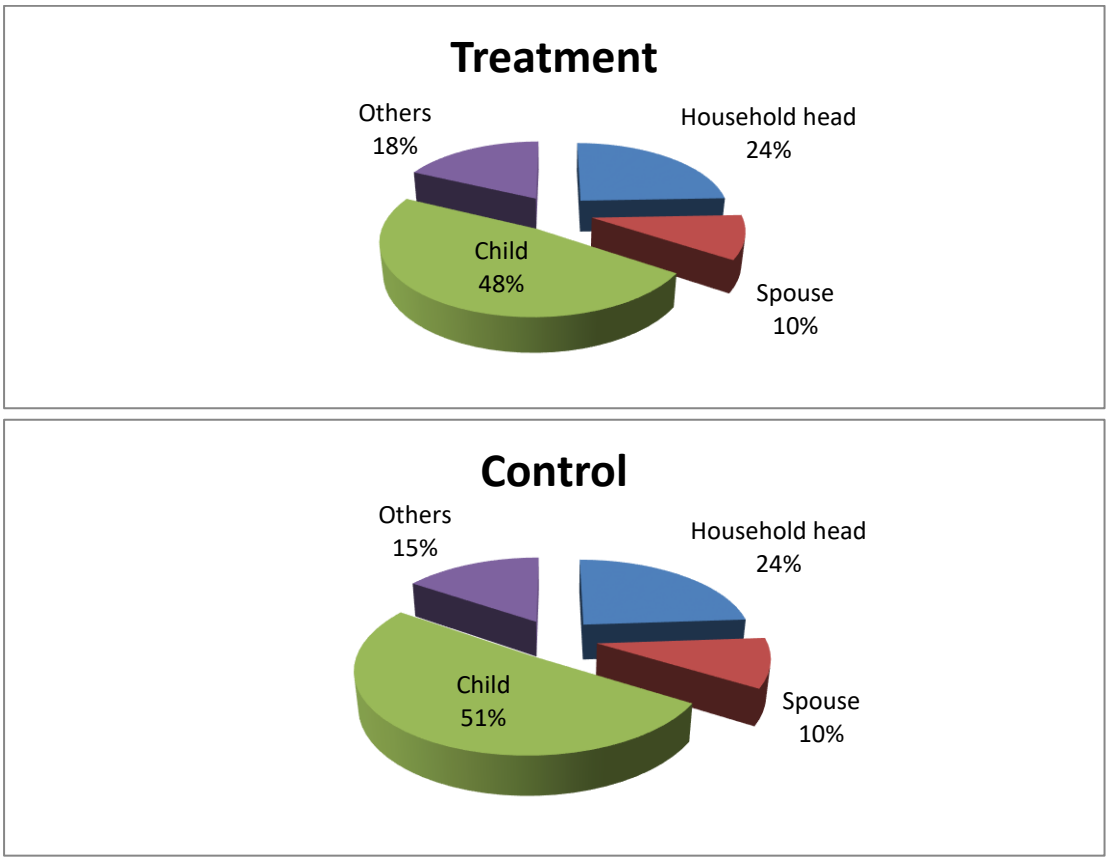
The information from the table above signals burden from a high number of dependents per household experienced by poor communities, and therefore the need for more participation of such communities in TPRP III Project so as to increase their income generating capacities that will enable them to support themselves and their dependents, including children, grandchildren, sick and disabled.

3.3.1.4 Relationship with the Head of the Household

From the interviews it was found out that 48.4% (1,555) were heads of the household (57.4%in the treatment group and 42.6% in the control group). The findings further show that 19.6% (630) were related to the head of household as spouses (9.8% in treatment and 9.8% in control groups); 98.5%(3,150) were

identified as children (47.8% and 50.8% in both treatment and control groups) as well as 33.5% (1,087) were other relatives of the household heads (18.0% in treatment group and 15.5% in control group).

Figure 3.2 Relations among Households



Source: TASAF Baseline Survey, 2016

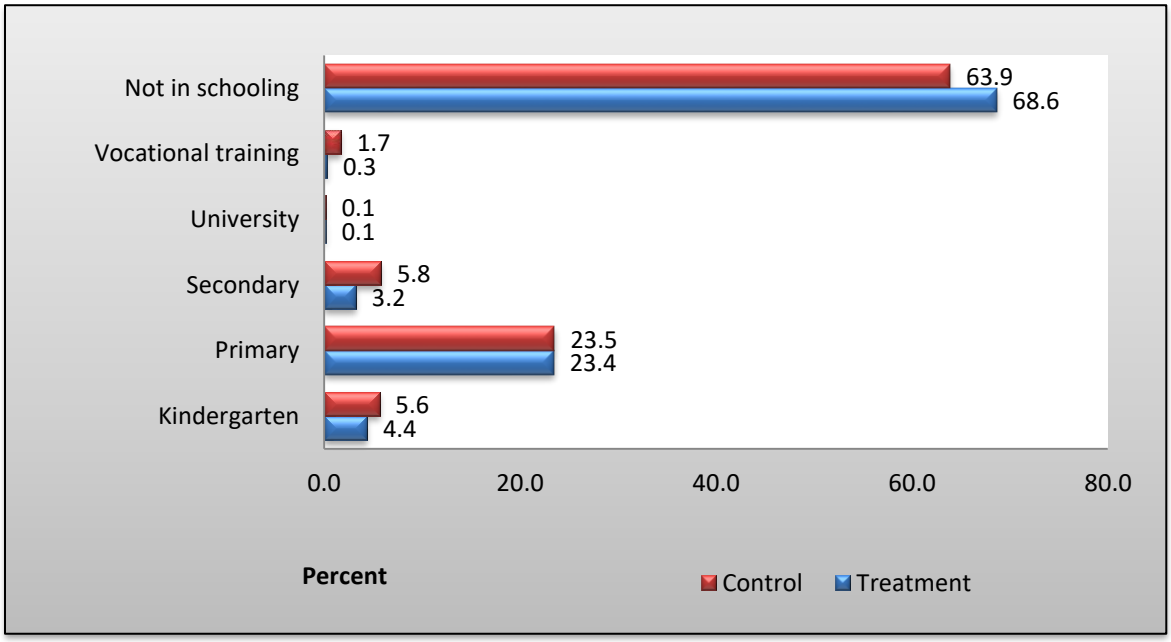
From figure 3.2, it is worth to note that, apart from the large number of children and regardless levels of poverty in a household, the heads of the households seem to relate with other members of their households who are neither their spouses nor children. In some situations other members of the households may be taken care of either by the head of the household or by children and spouses depending on the households' economic status.

3.3.1.5 Current Schooling Status

From the treatment category of the baseline study results, the majority of the heads of the households 23.4% (855) reported to have children or other house members currently studying in primary schools; 4.4% (159) are in pre-primary schools; 3.2% (118) attend secondary schools; 0.3% (10) in vocational training and very few 0.1%(5) are studying in various higher learning institutions

(universities and colleges) within the country and 68.6% (2,507) were not in school. The control group has a similar distribution trend of current school status, 23.5% (650) of households have members who are currently in primary schools;5.6% (156) in kindergarten; 5.8%(160) in secondary schools; 1.7% (30) in vocational training; 0.1%(4) attend universities and 63.9% (1,768) members of the surveyed households were not currently attending any school or training institution.

Figure 3.3 Households members schooling status



Source: TASAF Baseline Survey, 2016

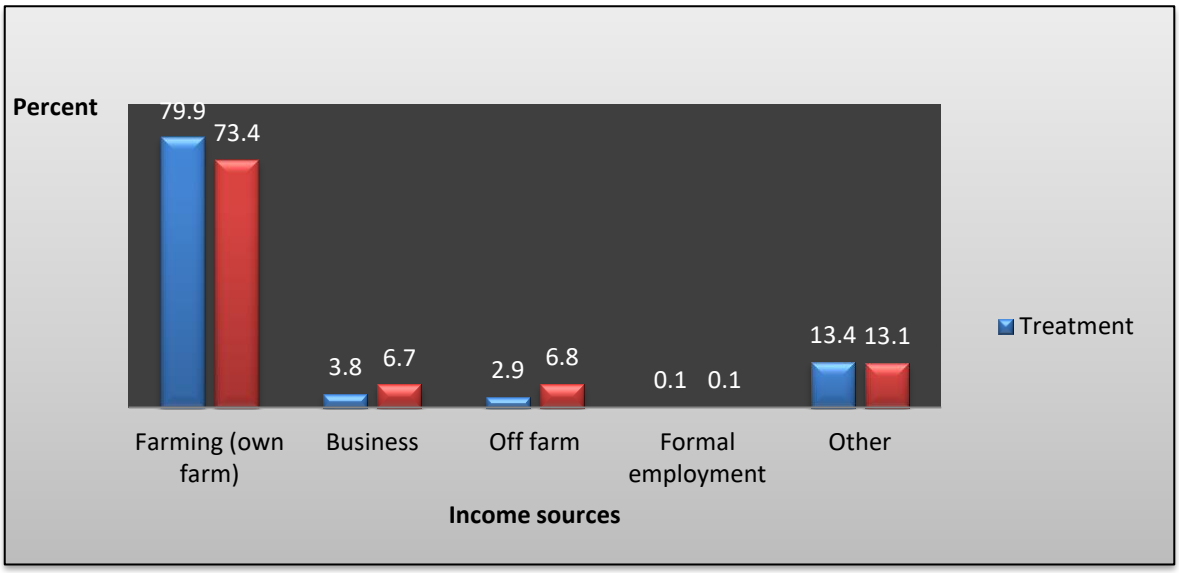
Information displayed in Figure 3.3 confine itself in surveyed households and implies decline in enrollment and attendance in the post primary education and vocation training levels which is contrary to the ongoing national efforts (programmes) such as Primary Education Development Programme (PEDP), Complementary Basic Education in Tanzania (COBET) Secondary Education Development Programme (SEDP). More education investments in classrooms, laboratories, libraries and competent teachers are needed in the poor households. Such investments supported by both public and private sectors are expected to have positive impact (reduction in schooling expenses apart from school fees, construction of teaching and learning infrastructure).

3.3.1.6 Major Income Generating Activities

Interviewees from the treatment group pointed out income from own farms (79.9%) as their main source of income; followed by other activities such as

poultry (13.4%); business activities (3.8%); off farm[2] activities (2.8%); and formal employment (0.1%).In the control category of respondents, farming was (73.4%), other activities including animal husbandry stood at 13.1%; business and off farm activities composed 6.7%and 6.8% respectively; and 0.1% formal employment (see figure 3.4).

Figure 3.4 Households income sources



Source: TASAF Baseline Survey, 2016

Despite the fact that agriculture is the principle income generating activity, it is predominatly conducted in a traditional way (using hand hoes and entirely depending on raifall) mainly meant for subsistance purposes by the rural poor households. This this situation then calls for a comprehensive shift from practising subsistance agriculture to a commercial farming, from traditional to modern farming practices and from labor intesive to mechanized agriculture which will enable poor households not only to get food for survival but also excess for marketing.

[2]Farm activities on other small holders' farms

3.3.1.7 Years Spent in Education

It was learnt from this baseline survey (in both treatment and control groups) that 60.0% equivalent to 1,310 members of households had never attended any class; 30.2% (659) had completed primary school level; 1.1% or 24 of them had spent about 12 years (probably in secondary school education); and only 0.2% equal to 2 had 13 - 17 years spent in education and training (see Table 3.5).

Table 3.5 Member of households schooling years

Years	Treatment		Control	Total
0	Number	807	503	1310
	Percent	64.5	53.9	60.0
1 – 6	Number	93	97	190
	Percent	7.4	10.4	8.7
7	Number	340	319	659
	Percent	27.2	34.2	30.2
8 – 12	Number	9	15	24
	Percent	0.7	1.6	1.1
13 – 17	Number	2	0	2
	Percent	0.2	0.0	0.2
Total		**1,251**	**934**	**2,185**

Source: TASAF Baseline Survey, 2016

Given that a large number of household members have never been in school, it is anticipated that TPRP III Project will have a significant role to play in improving enrollment, attendance, completion rates as well as increasing number of years an individual can spent in schooling in poor communities.

3.3.1.8 Respondents' Status in the Community

In the surveyed communities, respondents had different social statuses (Table 3.6). There were a total of 2,044 (1,182 from treatment group and 862 in control group) ordinary villagers assuming no any administrative, religious or political posts. From both treatment and control groups, respondents with leadership positions were as follows: religious leaders (11); youth leaders (2); women leaders (3); one tribal leader; one village elder; and 9 representatives from the village governments.

Table 3.6: Social status of respondents

Status	Treatment	Control	Total
Village elders	0	1	1
Youth leaders	0	2	2
Women leaders	2	1	3
Religious leaders	4	7	11
Tribal leaders	0	1	1
Others	8	8	16
Villagers	1,182	862	2,044
Village government representative	2	7	9
Total	**1,198**	**889**	**2,087**

Source: TASAF Baseline Survey, 2016

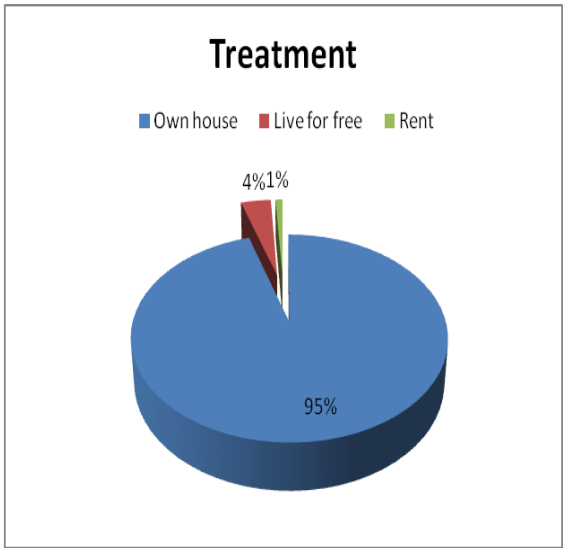
Since the results showed number of religious leaders outnumber the rest, it then follows that the respective leaders stand a better chance in influencing the communities' attitude and behavior towards rational utilization of available skimpy resources, harmony and hardworking which act as drivers of poverty reduction and increase ability of poor communities in meeting basic needs.

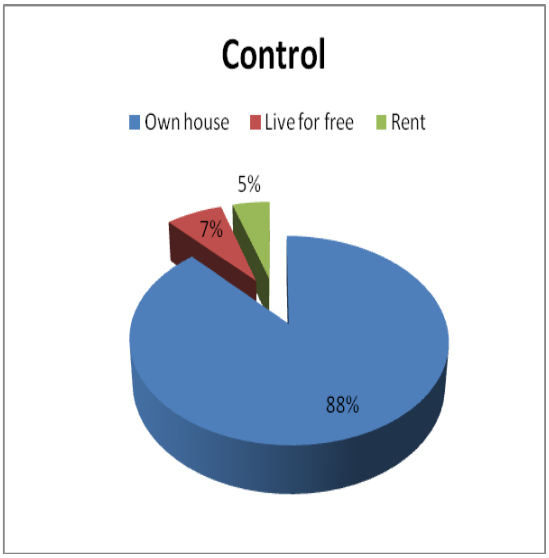
3.3.2 Housing Status

3.3.2.1 Housing Ownership

During the baseline survey the respondents) who answered that the houses they are currently residing belong to them were about 95.3% in treatment group and 88.2% in control group); those who were living free in either their relatives or friends' houses were 3.8% in treatment group and 7.1% in control category); whereas the smallest proportion of households accommodated in rented houses stood at 0.9% in treatment group and 4.7% in control category that belonged to their land lords or ladies (see Figure 3.5)

Figure 3.5 Houses ownership





Source: TASAF Baseline Survey, 2016

The respondents who were accommodated in rented houses paid their rent on monthly basis. Their rent payment schedule was as follows: in the treatment group, 75.0% had rent ranging between TZS 1,000 and 10,000; 12.5% pay monthly rent from TZS 10,000 to 15,000; another 12.5% pay TZS 15,001 to 20,000 and none paid above TZS 20,000. In the control group, 38.7% pay rent from TZS 1,000 through 10,000; 29.0% of the respondents mentioned a rent ranging from TZS 10,001 to 15,000; 12.9% TZS 15,001 to 20,000; and 19.4% pay a monthly rent above TZS 20,000 mostly likely in urban areas.

About 739 respondents (431 in treatment and 308 in control groups) had houses with two rooms; 395 of them (245 in treatment and 308 in control groups) possessed houses with only a single room; 320 interviewees (169 in treatment and 151 in control groups) resided in houses with three rooms; and very few of them had four or more rooms (see Table 3.7). On average the numbers of occupants per room range from two to three persons in both the treatment and control groups, which further showed that the more the rooms a household has the fewer the number of individuals occupying a particular room. Given the reality that many of the rural poor families are extended in nature households are often obliged to have more than one house constructed in the same compound so as to cater for residence needs of those families.

Table 3.7: Number of rooms per household

Number of rooms	Treatment	Control	Total
1	245	150	395
2	431	308	739
3	169	151	320
4	36	41	77
5+	12	12	24
Total	**893**	**662**	**1,555**

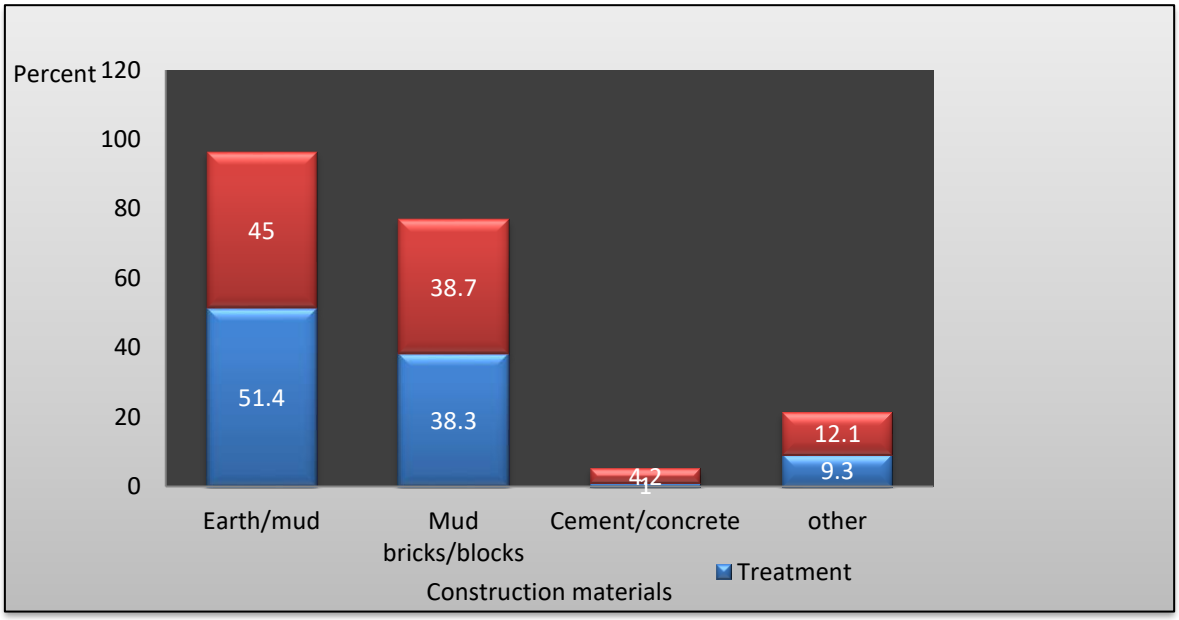
Source: TASAF Baseline Survey, 2016

To ensure that there is decent living for all rural people need more livelihoods enhancing activities that will aid in the reduction of poverty and simultaneous increase households' ability to meet basic needs such as shelter, food and clothing. Can rural population benefit from some of the National Housing Corporation (NHC) cheap houses projects? It is high time now for NHC to scale up its modern house construction programmes beyond district level or urban and peri-urban.

3.3.2.2 Construction Materials

In constructing their houses, respondents use different wall construction materials such as earth or mud, bricks or blocks, cement and others (Figure 3.6). In the treatment group, 51.4% of the outside walls were made of earth or mud; 38.3% made of mud and burnt bricks, 1.0%were built using cement or concrete; and 9.3% used other building materials including tin and timber.

Figure 3.6 Types of construction materials



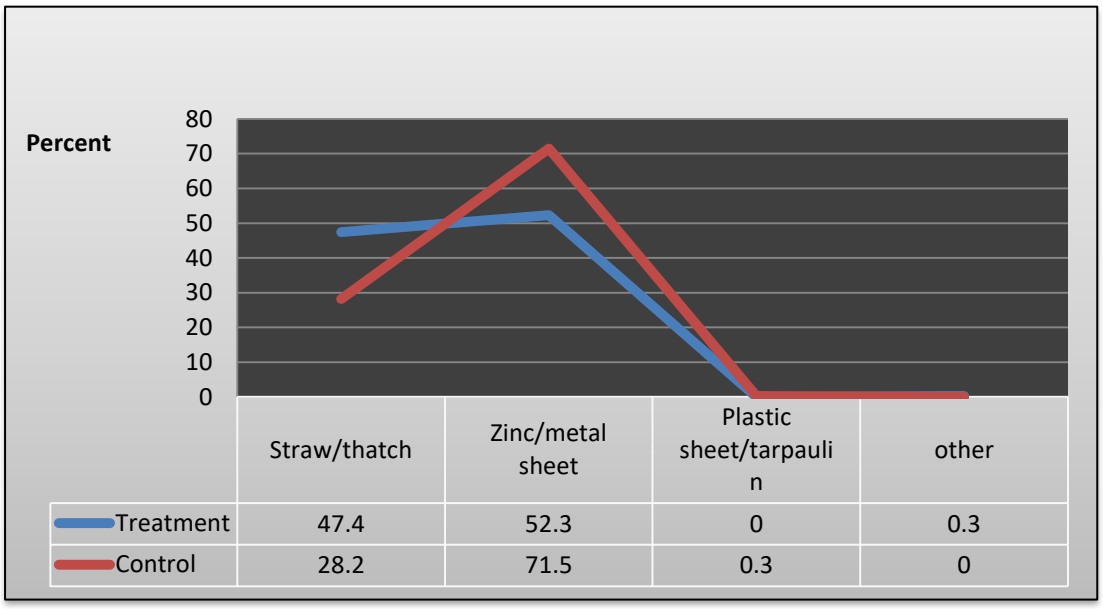
Source: TASAFBaseline Survey, 2016

In the control group, 45.0% of households had their house walls made of earth or mud; 38.7% mud and burnt bricks; 4.2% made of cement and the remaining 12.1% of walls were made of other materials.

When it comes to roofing materials (see Figure 3.7) 52.3% of households in the treatment category roofed their houses with zinc or metal sheets; 47.4% used straw or thatches as roofing materials; and only 0.3% had their roofs covered with plastic sheets or tarpaulin.

In the control category, 71.5% of the houses were roofed by zinc or metal sheets; and 28.2% with straw or thatches.

Figure 3.7 Roofing materials



Source: TASAF Baseline Survey, 2016

In regard to floor materials (as seen in Table 3.8), in the treatment category about 93.7% of the houses had floors made of earth or stones; and only 6.3% made of cement. In the control category, 79.2% of houses had earthen floors; and 18.7% built with cement.

Table 3.8: Floor materials

Floor materials	Treatment	Control
Earth or stones	93.7	79.2
Wood	0.0	0.3
Cement	6.3	18.7
Tiles	0.0	0.3
Other	0.0	1.5
Total	**100.0**	**100.0**

Source: TASAF Baseline Survey, 2016

By and large the findings have shown that availability and affordability of major construction materials such as cement is still an extremely big challenge to majority of the rural poor population. The government and other stakeholders including business people and construction industry should come up with a business model that will be affordable to enable poor households to acquiring construction materials at competitive prices,

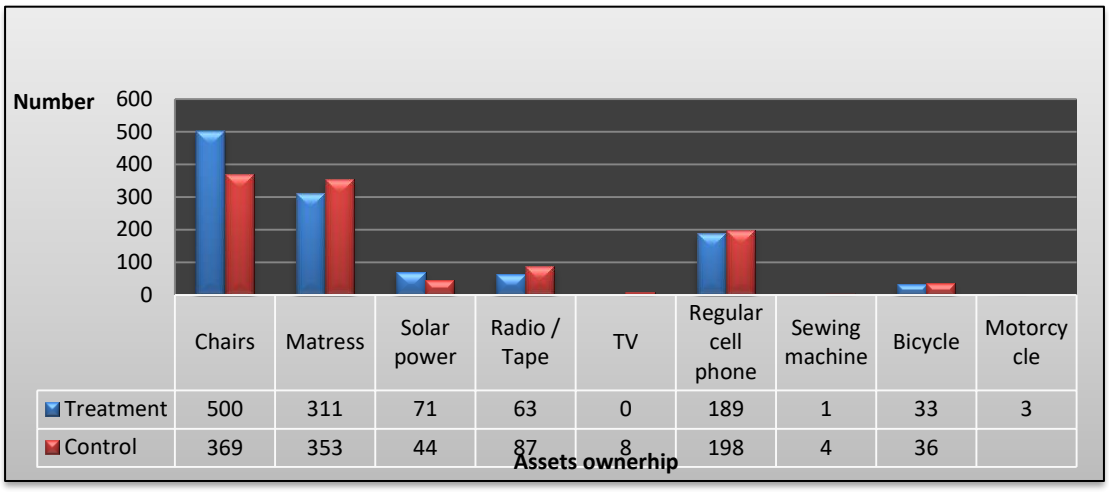
3.3.3 Household Asset Ownership

3.3.3.1 Number of Household Assets

Household assets were categorized as fixed (such as furniture and sewing machines) and non-fixed (means of transport and communication). From economic benefit point of view, household assets are expected to assist households in generating income or supporting further production of goods and services of which in turn enable them to earn their living and enhance poverty reduction. For instance, sewing machines can elevate household income by producing clothes for sale and household use; motorcycles and bicycles are widely used to transport both goods from farms to market places for traveling; cell phones, television and radio play an important role in enhancing communication (regarding available production and marketing opportunities) among communities; and solar power guarantees power (charging cell phones, lighting and television shows) to rural households. However, the use of solar powered gadgets by majority rural population as described above attempts to point out a significant role ahead of Rural Energy Agency (REA) to scale up rural electrification projects or programmes.

The surveyed households said to own a number of assets (see Figure 3.8), but the findings have illustrated that the most commonly owned assets among others included: 20.0% of the households possessed hoes or axes in the treatment group and 17.3% was found in control group; 22.5% of households owned mosquito nets in treatment group whereas 19.4% of them owned the same asset in the control group; chairs owned by 16.5% of households in treatment category and 13.2% in control group; mattresses were 10.3% of all the household assets in treatment group and 12.6% of the same asset in control group; regular cell phones owned by 6.2% in treatment and 7.1% in control groups); radio or tapes 2.1% in treatment and 3.1% in control groups; solar power 2.3% in treatment and 1.6% in control groups; bicycles owned by 1.1% of households in treatment group and 1.3% in control group; 0.1% of households owned sewing machines in treatment group and 0.1% of the same in control group; as well as 0.1% of the surveyed households possessed motorcycles only found in treatment group.

Figure 3.8: Commonly owned assets



Source: TASAF Baseline Survey, 2016

It is worth noting that mosquito nets outnumbered other households' assets, resulting mainly from a successful National Malaria Control Programme which has been in the forefront in distributing both conventionally Insecticide Treated Net (ITN) And Long-Lasting Insecticide Treated Net (LLIN) through its widespread component known as Tanzania National Voucher Scheme (TNVS) or "Hati Punguzo".

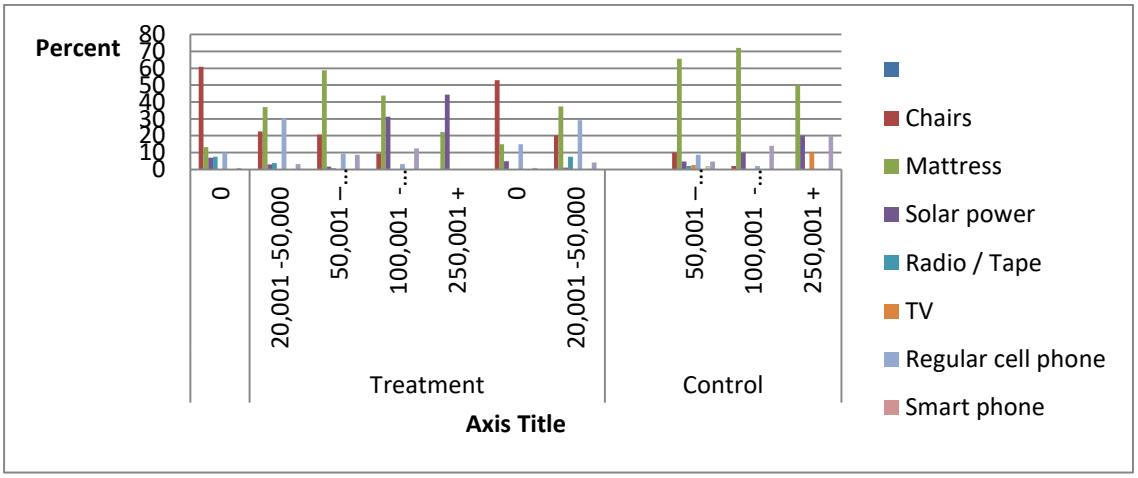
Apart from mosquito nets ownership, rural communities mentioned possessing hand hoes and axes which symbolize predominance of traditional farming and eventual subsistence economy of the rural people. In the long term, these farm implements which are rudimentary in nature cannot enable the poor communities in whether moving out of extreme poverty or sustain such movements. Given the poverty status, poor infrastructure and low levels of technology, hence there is a need to steadily revamp and strengthen farming and savings cooperatives as well as scaling up of the special funds like micro finance, agricultural insurance schemes and pension funds.

3.3.3.2 Money Spent in Acquiring Household Assets

Observation on the treatment category indicated that: 60.8% of the surveyed households acquired chairs at a cost no more than TZS 20,000 TZS between 20,001 and 50,000 was spent by 37.1% of the households in acquiring mattress and 30.2% of them used the mentioned money amount in buying regular cell phones; TZS 250,001 and above was spent by 44.4% of the households in purchasing solar power equipment.

In the control group, TZS 0 to 20,000 was spent by 52.8% of the surveyed households in buying chairs while 15.0% of the households incurred the same expense in purchasing regular cell phone; between TZS 100,001 and 250,000 was spent by 72.0% in acquiring mattresses whereas TZS 250,000 and above was spent by 20.0% in purchasing bicycles. For more household assets and their monetary values (see Figure 3.9).

Figure 3.9 Money spent to acquire household assets



Source: TASAF Baseline Survey, 2016

The findings from both treatment and control groups are very interesting in way that at lower price bands. This can indicate that lower purchasing power prevailing in the surveyed households as a necessary but not the sufficient condition. Since TPRP III Project aims at improving access of poor communities to enhanced socio-economic services and livelihoods enhancement opportunities, it is high time now TPRP III Project highly ensure that more labor intensive public works are made available to the poor households.

3.3.3.3Value of Assets

Households in the surveyed places valued their assets differently. For instance in the treatment category 49.3% of the households valued their assets (chairs) between TZS 0 and 20,000; a large proportion of households (42.1%) valued their assets (mattresses) in a value band TZS 20,000 and 50,000; 52.9% of the households said their solar equipment could worth TZS 100,000 and 250,000 once sold out; and 66.7% of them valued their motor cycles at TZS 250,000 and above.

In the control group 29.4% was the highest of the surveyed households that valued their assets (mosquito nets) between TZS 0 and 20,000; there were

49.5% of households who described that their assets (mattresses) could generate an income from TZS 20,001 to 50,000; bicycles could enable 11.9% of the surveyed households to earn between TZS 50,001 and 100,000; solar power equipment when disposed off would make 35.7% of households earn between TZS 100,001 and 2500,000; television ownership was valued between 250,000 and above by 33.3% of the surveyed households.

These results revealed that households own many assets that have low monetary value and few assets with the highest value. In order for them to improve their livelihoods, this situation therefore suggests that the respective communities need to be sensitized more in acquisition of high valued assets that can be easily turned into cash when convenient.

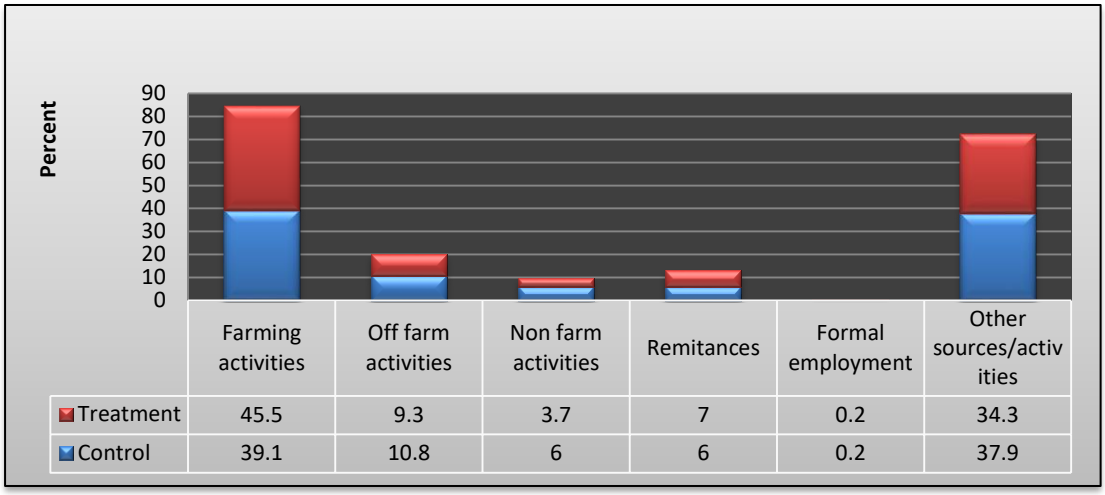
3.3.4 Household Income

3.3.4.1 Income Generating Activities

The surveyed households depend much on various activities as their sources of income which earn them their living. Among the activities that were mentioned and observed during the baseline survey included: farming activities for domestic consumption and selling purposes which in fact accounted for the major income source (see Figure 3.10); non-farm activities was another income source type which comprising handcraft, carpentry, charcoal making, fishing and many others. The other recorded income source was remittances received from close relatives and friends; off farm activities and formal employment were as well the other income sources.

The analysis on the survey findings shows that within the treatment group, activities that generated income to the surveyed households sources were as follows: farming 45.5%; off farm activities such as public works 9.3%; nonfarm activities 3.7%; remittances 7.0%; formal employment 0.2%; and 34.3% other income sources or activities. In the control group there was no a significant difference whereasfarming activities counted 39.1%; off farm activities accounted for 10.8% of all the activities; nonfarm activities 6.0%; remittances 6.0%; formal employment 0.2%; and 37.9% for other activities.

Figure 3.10: Main household income sources or generating activities



	Farming activities	Off farm activities	Non farm activities	Remitances	Formal employment	Other sources/activities
Treatment	45.5	9.3	3.7	7	0.2	34.3
Control	39.1	10.8	6	6	0.2	37.9

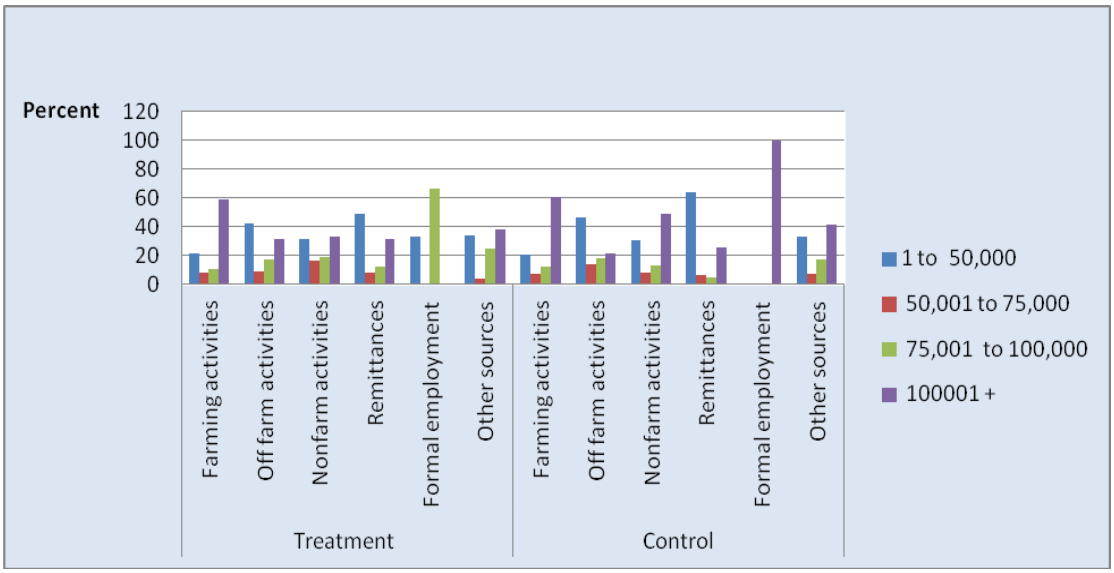
Source: TASAF Baseline Survey, 2016

From the information provided in the Figure 3.8 above, agriculture is the leading income generating activity to the majority households. Unfortunately, farming activities in rural areas are characterized by poor and undeveloped infrastructure, insufficient agriculture extension services, limited active participation of the private sector, unfavorable climatic conditions including environmental degradation as well as crop pests and diseases which result in low crop productivity. To counter this situation the government, through its National Agriculture Policy (NAP 2013), has been focusing on transforming the agriculture sector through commercialization, modernization, and policy reforms that attract private sector investment such as the Kilimo Kwanza and Southern Agriculture Corridor of Tanzania (SAGCOT) initiatives.

3.3.4.2Income Earned from Household Activities

The results from the surveyed households indicated that farming was the main income generating activity. It was observed that In the treatment group, respondents who earned more than TZS 100,000 from agriculture were 59.3%, formal employment primarily in public and other works counted for 66.7% earning between TZS 75,001 and 100,000 as well as 48.9% of all respondents received amount below TZS 50,000 as remittances from relatives and friends. In the control group, from farming activities, 60.2% of the interviewees earned more than TZS 100,000, remittances were the other major source of income since 63.5% reported to have received between TZS 1 and 50,000 while off farm activities enabled 46.4% of the respondents to earn the same band of income (see Figure 3.11).

Figure 3.11 Income amount (TZS) earned from various activities



Source: TASAF Baseline Survey, 2016

Given the significant role played by farming activities, non-farm farming activities and remittances in creating employment and later generating incomes, the baseline survey results show a clear necessity for enhanced efforts to modernize and commercialize rural farming activities, scale up financial inclusion and deepen programmes and interventions (microfinance and micro insurance) to deliberately reach the rural and poor communities.

Diversification of income generating activities by the surveyed households is of supreme importance. Apart from predominantly farming activities, some respondents involve themselves in other income creating activities. For example 37.7% in the treatment group mentioned to be in position of earning more than TZS 100,000 from other sources such as trade, while in the control group 41.8% reported to receive more than TZS 100,000 from the same source (Table 3.9). Thus, a comprehensive diversification of economic activities, products and markets will be meaningful in intensifying employment creation and income generation capacities.

Table 3.9 Income generation per activity

Group	Activity	Amount Earned (TZS)				Total
		1 to 50,000	50,001 to 75,000	75,001 to 100,000	100,001 +	
Treatment	Farming activities	21.6	8.5	10.6	59.3	100.0
	Off farm activities	42.1	9.1	17.4	31.4	100.0
	Nonfarm activities	31.2	16.7	18.8	33.3	100.0
	Remittances	48.9	7.8	12.2	31.1	100.0
	Formal employment	33.3	0.0	66.7	0.0	100.0
	Other sources	33.9	3.8	24.6	37.7	100.0
Control	Farming activities	20.2	7.4	12.2	60.2	100.0
	Off farm activities	46.4	14.3	17.9	21.4	100.0
	Nonfarm activities	30.2	7.9	12.7	49.2	100.0
	Remittances	63.5	6.3	4.8	25.4	100.0
	Formal employment	0.0	0.0	0.0	100.0	100.0
	Other sources	33.4	7.1	17.6	41.8	100.0

Source: TASAF Baseline Survey, 2016

3.3.4.3 Control and Management of the Income

The baseline survey revealed that there were more female than male headed households in both regions. Among the factors behind the higher proportion of female headed households compared to their counterpart males include that majority of males are dying earlier than females in HIV/AIDS related cases particularly in Njombe region. In Arusha region, nomads are roaming from one place to another searching for animal pastures (water and grasses) leaving behind women and children some times for a substantial period of time. During analysis, this situation led to the following results as discussed hereunder.

In the treatment category, this survey found out that 67.8% of the income received from remittances is under the control and management of female headed households where as 66.7% of income generated from formal employment falls under females who decide on the way such income should be spent (reinvesting in subsequent income generating activities or businesses and meeting daily household living expenses on school fees, food, health, clothes and other social obligations).

Table 3.10 Controlling of the earned income

Group	Activity					Total
		Male household head	Female household head	Spouse	Others	
Treatment	Farming activities	31.2	54.4	8.3	6.1	100
	Off farm activities	44.6	43.0	5.8	6.6	100
	Nonfarm activities	31.2	56.2	8.3	4.2	100
	Remittances	22.2	67.8	4.4	5.6	100
	Formal employment	33.3	66.7	0.0	0.0	100
	Other sources	26.7	62.8	5.7	4.8	100
Control	Farming activities	32.1	51.5	10.3	6.1	100
	Off farm activities	30.4	54.5	12.5	2.7	100
	Nonfarm activities	30.4	54.5	12.5	2.7	100
	Remittances	27.0	68.3	1.6	3.2	100
	Formal employment	100.0	0.0	0.0	0.0	100
	Other sources	20.9	66.1	7.7	5.4	100

Source: TASAF Baseline Survey, 2016

In the control group male headed household had full control, that is 100.0%, of the all income earned from formal employment, while females were observed to have a great chance of taking care of and making decisions on income received from remittances by 68.3% and from other sources by 66.1% as seen in Table 3.10.

The milestone observed in the survey includes women empowerment in terms of accessibility to and ownership of major means of production such as land, decision making avenues and utilization of essential productive resources. Despite this achievement, women in both urban and rural areas need to be more empowered in aspects related to financial literacy, entrepreneurship and social innovations.

3.3.5 Household Livestock

3.3.5.1 Household Livestock Ownership

The household survey respondents in Arusha and Njombe regions reported to keep and own livestock such as cattle, sheep, goats, beehives, donkeys, pigs, poultry and cocks (see Table 3.11). A total of 700 households (40.4%) reportedly keep and own poultry, 457 respondents (26.4%) kept goats, 275 respondents (15.9%) own cattle in their homesteads. Ownership of other types of livestock is summarized in Table 3.11.

Table 3.11: Livestock ownership

Livestock	Number of households	Percentage
Cattle	275	15.9
Sheep	178	10.3
Goats	457	26.4
Beehives	5	0.3
Donkeys	44	2.5
Pigs	52	3.0
Poultry	700	40.4
Cocks	1	0.1
Other	20	1.2
Total	1732[3]	100.0

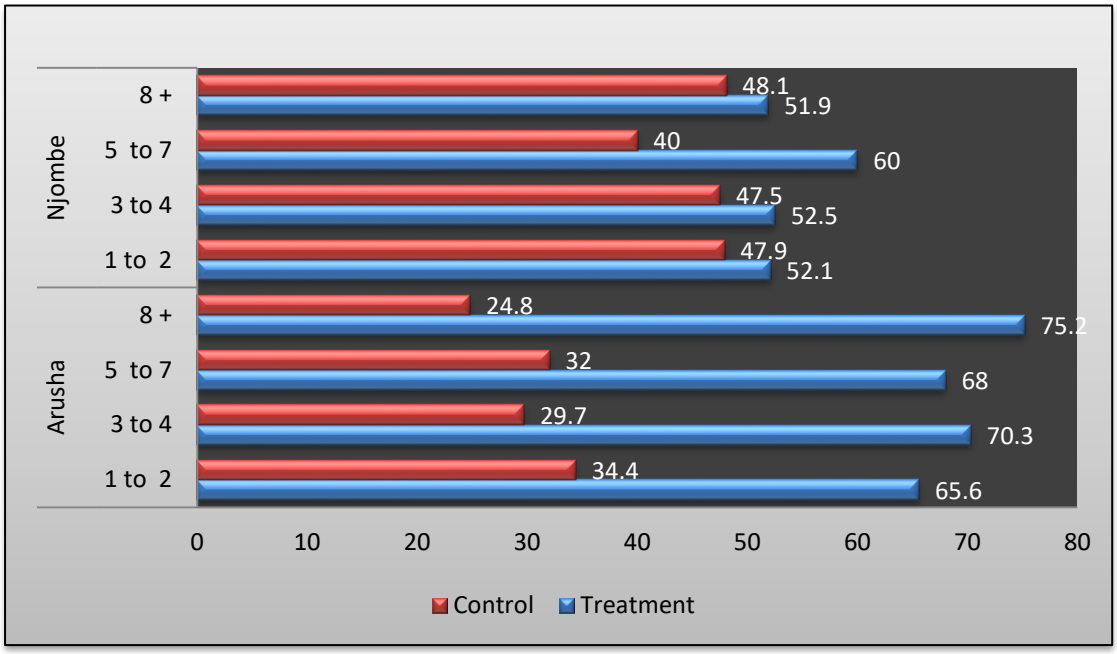
Source: TASAF Baseline Survey, 2016

Historically livestock keeping is largely practiced in both regions though this activity is more dominant in Arusha than in Njombe. The household survey findings in the treatment group (Arusha region) showed that 75.2% (124 households) of the surveyed households owned about eight (8) and above livestock, 68.0% (123 households) of the interviewed households owned between 5 and 7 livestock, 70.3% (185 households) owned between 3 and 4 livestock, and 65.6% (438 households) owned between 1 and 2 livestock. In the control group, 32.0% (58 households) owned more than 8 livestock, 29.7% (78 households) owned between 5 and 7 livestock, and 34.4% (230 respondents) of the respondents owned 1 to 2 livestock.

In Njombe region, for the treatment group, the majority households i.e. 52.1% (76 households) owned between 1 and 2 livestock, 52.5% (53 households) owned between 3 and 5 livestock, 60.0% (45 households) owned between 5 and 7 livestock, while 51.9% (69 households) owned more than 8 livestock. The corresponding numbers for the control group were, 47.9% (70 households), 47.5% (48 households), 40.0% (30 households), and 48.1% (64 households) respectively.

[3]

Figure 3.12: Livestock ownership



Source: TASAF Baseline Survey, 2016

Location wise, rural areas have been found to keep more livestock (73.4% for the treatment group and 25.7% in the control group) than in urban places where only 13.6% of the control group reported to have acquired livestock during the past 12 months. This is because the urban settings does not provide conducive environment for substantial livestock keeping such as pastures and adequate water.

From the findings it is observed that, in Arusha region the number of owned livestock (8+) is high (75.2% of the interviewed households) particularly in the treatment group, the same trend applies to Njombe region. Therefore, much attention should be directed on how effectively and efficiently the national land use plans and programmes can be put into action to control unplanned livestock movements which in many cases have resulted into loss of properties and life, among others through deadly conflicts and disputes among the farmers, investors and livestock keepers especially in Arusha, Manyara, Kilimanjaro and Morogoro regions; as well as environmental degradation and excessive loss of biodiversity.

Taking into account the importance of livestock subsector in the country's economic landscape, land use conflicts should be timely and appropriately managed in a way that land is allocated in accordance to different uses such as cultivation, grazing, reserves and many others.

3.3.5.2 Livestock Amount Acquired in Last Twelve Months and Its Value

In the last year, the 65.2% of the respondents under treatment group acquired 3 to 4 livestock, 64.7% of the respondents acquired at most 2 livestock, and 59.1% had more than 8 livestock. In the control group, the majority of the households (40.9%) had acquired 8 and livestock, 35.3% acquired1 to 2 livestock (see Table 3.12). The acquired livestock had different monetary values in both treatment and control groups. In treatment category, 77.0% of the surveyed households acquired livestock valued between TZS 150,001 and 200,000 in the last 12 months; 70.9% of respondents got livestock worth TZS 200,000 and above; and 59.1% of the respondents acquired livestock worth of TZS 1 to 50,000during the same period. In the control category of respondents, most respondents (40.9%) had their acquired livestock with a value ranging from TZS 1 to 50,000; and just few of them (23.0%) valued their livestock between TZS 150,001 and 200,000.

Table 3.12: Livestock amount acquired in last 12 months

Livestock amount	Treatment (%)	Control (%)	Total (%)
1 to 2	64.7	35.3	100.0
3 to 4	65.2	34.8	100.0
5 to 7	62.7	37.3	100.0
8 +	59.1	40.9	100.0

Source: TASAF Baseline Survey, 2016

These results suggest that majority of the households (65.2%) in the treatment group could not afford to acquire as many livestock as one would expect possibly because households have started to diversify their wealth portfolios. This is the right decision given the fact that majority operate in a high risk environment, whereas only 40.9% of households in the control group could not afford to acquire as many livestock as expected.

3.3.5.3Amount of Livestock Sold, Its Value and Income Control

The survey findings have shown that majority of households (88) in treatment category were able to sell only few livestock (1 to 2) while in the control category, 32 interviewees reported to have sold the same amount of livestock (1 to 2). Few households (14) in the treatment group managed to sell more (8+) number of livestock and 6 of them sold livestock whose number ranged between 5 and 7 in the last twelve months (see Table 3.13).

Table 3.13: Livestock sold in last 12 months

Livestock sold in last 12 months	Treatment	Control	Total
1 to 2	88	32	120
3 to 4	26	10	36
5 to 7	22	6	28
8 +	14	7	21
Total	**150**	**55**	**205**

Source: TASAF Baseline Survey, 2016

However, region wise, 85 households in Arusha in the treatment category stated to have sold between 1 and 2 livestock, in the control category the same amount of livestock was sold by 21 households. In Njombe region, 7 respondents in treatment group sold 3 to 4 whereas 11 interviewees sold 1 to 2 livestock.

Note that majority of the households under treatment group were able to earn incomes from the sales of livestock. The highest sales value was TZS 200,000 and above made by 85.3% of the respondents in the treatment group. In the control group the situation was a bit different in a way because majority of livestock keeping households (35.5%) had the lowest livestock sales valued between TZS 1 and 50,000.

The livestock sales earned the respective households incomes. Note also that, female headed households seem to have more control of incomes from sales of livestock than male headed households. From this household baseline survey, the results indicated that in the treatment group 43.7% of the respondents stated that female heads of households had control over whatever income the household obtained from sales of livestock. On the contrast, 39.7% of the male heads of households had the control over incomes from sales of livestock. In the control group, 50.0% of interviewees showed livestock sales incomes to be under the control of female headed households against 29.5% of the respondents who reported that male headed households control the income from sales of livestock.

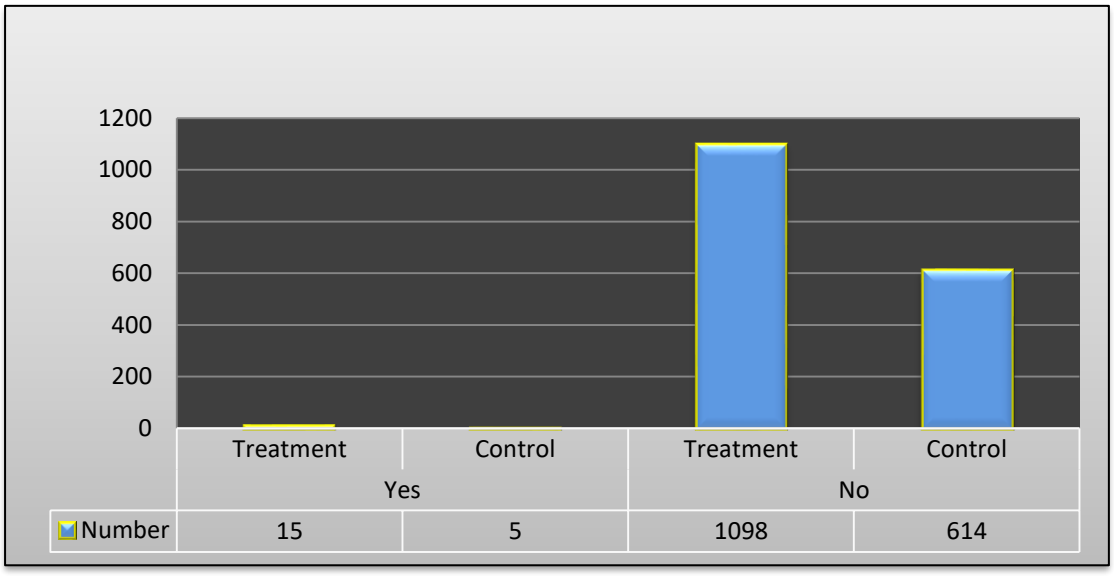
These findings indicate that livestock keepers are either not easily willing to sell their livestock regardless of the value or price offered by the market or they cannot afford the set market standards and requirements. It is obvious that livestock keeping has enabled many Tanzanians especially in rural areas to earn their living through employment, enhancing food and nutrition security. However, to some extent livestock is kept for prestige and sometimes as a

symbol of power, which discourages business. Regardless of its significance, the subsector is still underdeveloped in the sense that it is challenged by inaccessible extension services and products, seasonality in pastures and water availability, poor participation of the private sector and overstocking in some areas which then lead to environmental destruction and regular conflicts with the farmers and investors.

3.3.5.4 Laborers Hired and the Costs Involved

Very few respondents from both treatment (15) and control (5) groups managed to hire laborers who assisted them in taking care of livestock in both regions of Arusha and Njombe. Majority of the respondents (1,098 or 65.0%) in the treatment group and (614 or 35.0%) in the control group could not hire laborers, the reasons behind this situation included inability to pay wages (whether in cash or in kind), as well as the fact that most of their families are extended in nature so livestock are normally taken care of by household members (see Figure 3.13).

Figure 3.13: Hiring laborers in livestock keeping



Source: TASAF Baseline Survey, 2016

The total cost of hiring laborers in livestock keeping was as follows: 7 respondents in the treatment group described to have incurred between TZS 1 and 50,000 but in the control group there was no any respondent that reported to have paid any amount of money with exception of wage in kind such as livestock, food crops, etc. Only 1 respondent reported to have paid TZS 200,000 and above as a laborer hiring cost in the last twelve months.

Regarding the role of livestock keeping in enhancing rural livelihoods, the findings show that most of the surveyed households are too poor to hire and pay decent wages to their laborers. The findings further unveil the existence of unpaid labour in most of the families where labour is mainly implicit, i.e. labour provided by household members, including wives and children.

3.3.5.5Additional Livestock Keeping Expenses

In the treatment category, a total of 344 respondents said to incur extra livestock keeping expenses in purchasing animal feeds, vaccinations and other veterinary services and goods in the past twelve months. In the control category, 188 interviewees incurred the same additional costs. Other respondents (769 in the treatment group) did not spend their money as additional expenses in taking care of the livestock, while 431 from the control group did not incur extra expenses (Table 3.14).

Table 3.14: Extra expenses

Response	Category	Number	Percent
Yes	Treatment	344	64.7
	Control	188	35.3
No	Treatment	769	64.1
	Control	431	35.9

Source: TASAF Baseline Survey, 2016

Among the respondents who incurred additional expenses, from the treatment group 313 (65.0%) spent between TZS 1 and 50,000; 14 (58.0%) had their extra expenditure on livestock valued between TZS 50,001 and 100,000; and only 2 respondents (33.3%) exceeded expenditure of TZS 200,000 during the past 12 months. In the control group, 168 respondents claimed to spend between TZS 1 and 50,000; 10 interviewees mentioned extra expenses ranging from TZS 50,001 to 100,000; while 4 (66.7%) of them had their additional expenditure on livestock keeping worth TZS 200,000 and above.

It is very clear from the findings that livestock farmers are facing several challenges such as inadequate extension services to control livestock diseases, insufficient pasturing land and water, and lack of livestock market information. Efforts to counter these challenges often lead into pilling up of unaffordable additional expenses in keeping the livestock. Therefore, it is suggested that

implementation of TPRP III Project in selected sectors (education, health, water and public works) will support and stimulate development of the livestock subsector as well.

3.3.6 Livestock Products

About four indicators associated with livestock products have also been used to assess and determine the 2016 baseline conditions or status in the five selected district councils and one town council supported by TPRP III Project.

3.3.6.1Production of Livestock Products

Table 3.15: Production of livestock products during the last 12 months

Livestock Product	Treatment		Control	
	Yes	Percent	Yes	Percent
Arusha				
Milk	128	69.6	56	30.4
Butter	6	2.9	0	0.0
Meat	9	69.2	4	30.8
Eggs	57	54.3	48	45.7
Skin	4	100.0	0	0.0
Others	2	40.0	3	60.0
Njombe				
Milk	0	0.0	3	100.0
Meat	2	66.7	1	33.3
Eggs	104	51.7	97	48.3
Honey	0	0.0	1	100.0
Others	3	75.0	1	25.0
Total: Arusha and Njombe				
Milk	128	68.4	59	31.6
Butter	6	100.0	0	0.0
Meat	11	68.8	5	31.2
Eggs	161	52.6	145	47.4
Honey	0	0.0	1	100.0
Skin	4	100.0	0	0.0
Others	5	55.6	4	44.4

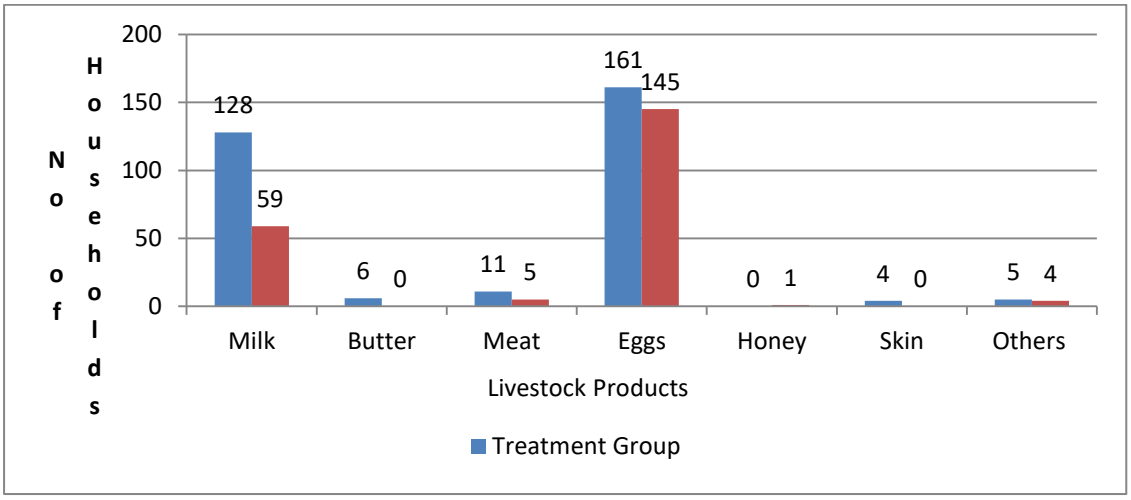
Source: TASAF Baseline Survey, 2016

The findings show that majority of the households produce milk and eggs, followed by meat, skin and butter. While a total of 128 and 161 households from the treatment group produced milk and eggs, 59 and 145 households from the control group respectively produced milk and eggs during the past 12

months. This is far above the number of households producing other livestock products such as butter, meat, honey and skin.

These findings are also supported by perception of most respondents who observed that, traditionally some livestock products are not produced in large quantities following lack of associated production technologies, including the necessary infrastructure to facilitate production. Other barriers include limited investment capital. This is a common and serious barrier to most community members in Njombe and Arusha Regions (see Figure 3.14). There is therefore an urgent need to aggressively roll out efficient and high productive demonstration farms around the surveyed communities in order to stimulate production of these products for both income generation but also food and nutrition security in Tanzania.

Figure 3.14: Production of livestock products



Source: TASAF Baseline Survey, 2016

Eggs and especially milk products also face serious marketing barrier thus discouraging further efforts to expand production. Tanzania does not have milk or eggs consumption culture. For example, milk per capita consumption in Tanzania is very low, standing at 43 liters per capita per year. This amount is below Kenya (120 liters), Uganda (53 liters)[4], as well as the World Health Organization (WHO) recommended amount of 209 liters. High domestic demand for locally processed products is crucial for the industries to grow. In Tanzania there is a need to change people's mindset about locally processed livestock products such as milk, eggs, butter etc. This can be done through sensitizing the public about the availability and quality of the products and

[4]See http://www.africa.com/dairy-consumption-in-africa-part-1/

introduction of programmes in schools and hospitals on consumption of locally produced livestock products. These are among the strategic areas where the next TPRP III Project should target.

3.3.6.2 Use of Livestock Products

The livestock products produced by different households in the surveyed areas are mainly consumed or sold through the local market. Table 3.16 summarizes the proportions of the produced livestock products used by the households during the last 12 months (see also Figure 3.14).

Table 3.16: Proportion of livestock products used by the households during the Past 12 Months

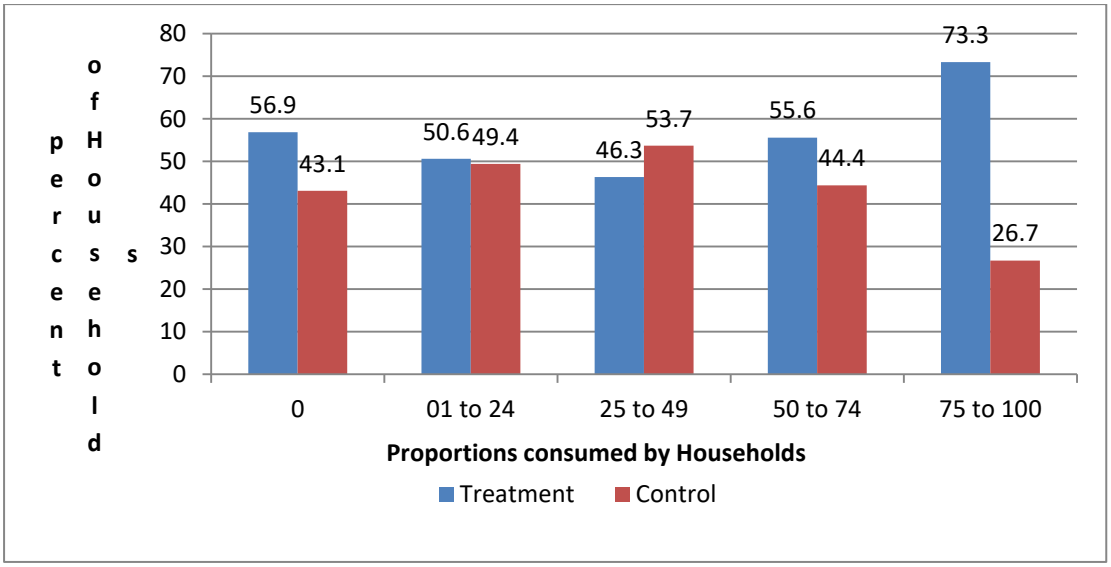
Proportion	No. of Respondents: Treatment	%	No. of Respondents: Control	%
Arusha				
0	20	69.0	9	31.0
1 – 24	17	48.6	18	51.4
25 – 49	12	50.0	12	50.0
50 – 74	25	58.1	18	41.9
75 – 100	131	74.4	45	25.6
Njombe				
0	62	53.9	53	46.1
1 – 24	23	52.3	21	47.7
25 – 49	19	44.2	24	55.8
50 – 74	0	0.0	2	100.0
75 – 100	1	25.0	3	75.0
Total: Arusha and Njombe				
0	82	56.9	62	43.1
1 – 24	40	50.6	39	49.4
25 – 49	31	46.3	36	53.7
50 – 74	25	55.6	20	44.4
75 – 100	132	73.3	48	26.7

Source: TASAF Baseline Survey, 2016

The broad picture which comes out from Table 3.16 and Figure 3.14 reveals that significant share of the locally produced livestock products is consumed directly by households. For example, 55.6% and 73.3% of the treatment group respondents observe that between 50.0%-74.0% and 75.0%-100.0% of the locally produced livestock products respectively are consumed by households at home. This conclusion matches very well with the previous observation that limited marketing channels have been a persistent barrier to livestock keepers in

the study area, or, households are not producing enough to sell in the market.Consequently, most of the locally produced livestock products have been consumed by households at home. Though slightly different, control group shows a similar trend (see Figure 3.15).

Figure 3.15: Proportions of the produced livestock products used by householdsduring the past 12 months



Source: TASAF Baseline Survey, 2016

3.3.6.3Sales of Livestock Products

Unlike the findings on own consumption of the livestock products above (Table 3.16 and Figure 3.15), majority of the households observe that a very insignificant proportion of the livestock products produced are sold to the market. Table 3.17 for example shows that 95.0%and 90.0% of the respondents from treatment and control groups respectively noted that the marketed surplus of the livestock products is zero; while 19.0%and 18.0% of the respondents observed that between 1.0%and 24.0% of the livestock products are sold.

Table 3.17: Proportion of livestock products sold by the households during the past 12 months

Proportion	No. of Respondents: Treatment	Percent	No. of Respondents: Control	Percent
Arusha				
0	22	55.0	18	45.0
1 – 24	8	53.3	7	46.7
25 – 49	12	60.0	8	40.0
50 – 74	30	61.2	19	38.8
75 – 100	7	41.2	10	58.8
Njombe				
0	73	50.3	72	49.7
1 – 24	11	50.0	11	50.0
25 – 49	13	56.5	10	43.5
50 – 74	5	62.5	3	37.5
75 – 100	2	33.3	4	66.7
Total: Arusha and Njombe				
0	95	51.4	90	48.6
1 – 24	19	51.4	18	48.6
25 – 49	25	58.1	18	41.9
50 – 74	35	61.4	22	38.6
75 – 100	9	39.1	14	60.9

Source: TASAF Baseline Survey, 2016

3.3.6.4 Value of Livestock Products

Table 3.18: Total value of livestock products produced during past one year

Region	Value in TZS	Households: Treatment	Households: Control	Total No. of Households	% of Total
Arusha	1 – 50,000	79	33	112	60
	50,001 – 100,000	18	7	25	13
	100,001 – 150,000	7	3	10	5
	150,001 – 200,000	4	4	8	4
	≥ 200,000	24	7	31	17
Total (A)		**132**		**186**	**100**
Njombe	1 – 50,000	3	5	8	67
	50,001 – 100,000	2	2	4	33
	100,001 – 150,000	NA	NA	NA	NA
	150,001 – 200,000	NA	NA	NA	NA
	≥ 200,000	NA	NA	NA	NA
Total (N)				**12**	
Total (A&N)	1 – 50,000	82	38	120	61

Region	Value in TZS	Households: Treatment	Households: Control	Total No. of Households	% of Total
	50,001 – 100,000	20	9	29	15
	100,001 – 150,000	7	3	10	5
	150,001 – 200,000	4	4	8	4
	≥ 200,000	24	7	31	16
Total (A&N)		**137**		**198**	100

Source: TASAF Baseline Survey, 2016

3.3.7 Household Expenditure and Consumption

Investigation on the household expenditure and consumption pattern was also included during the field inquiry to establish the type of products dominating consumer baskets in the sampled communities. Table 3.19 presents different products consumed by households in Arusha and Njombe Regions. Maize appears to be the most consumed cereal during the last one week compared to other products. Approximately, 877 and 648 households (treatment and control groups respectively) consumed maize during the past 7 days. Maize is followed by beans, peas, lentils (564 and 483 households), vegetables (589 and 538 households), sugar (575 and 454 households) and salt (733 and 600 households).

This is also supported by other research results where it has been observed that maize is a main staple food in Tanzania and Kenya as more than 80.0% of the population depends on the crop (Bamwenda et al 2013). In the contrast, not many households consume meat and milk despite their importance for protein. A total of 186 and 146 households (treatment and control groups respectively) consumed meat during the same period and; 226 and 147 households (treatment and control groups respectively) consumed milk in the past 7 days.

Table 3.19 Food items consumed at household level: Total – Arusha and Njombe Regions

S/No.	Food Item	No. of Households	% of Total No. of Households	No. of Households	% of Total No. of Households
		Treatment		Control	
1.	Rice	399	8.0	348	8.0
2.	Maize	877	17.0	648	15.0
3.	Wheat	32	1.0	21	0.0
4.	Beans, peas, lentils, and other pulses	564	11.0	483	11.0
5.	Tomato, onion, carrots, green pepper	454	9.0	413	10.0
6.	Vegetables	589	11.0	538	13.0

S/No.	Food Item	No. of Households	% of Total No. of Households	No. of Households	% of Total No. of Households
7.	Irish potatoes	51	1.0	16	0.0
8.	Cooking banana	62	1.0	57	1.0
9.	Meat	186	4.0	146	3.0
10.	Milk	226	4.0	147	3.0
11.	Salt	733	14.0	600	14.0
12.	Sugar	575	11.0	454	11.0
13.	Tea	361	7.0	285	7.0
14.	Local beer	83	2.0	46	1.0

Source: TASAF Baseline Survey, 2016

Note that, these are only 13 food items out of 41 included during the survey

The same trend emerges when individual regional cases (Arusha and Njombe regions) are examined. Consumption pattern in terms of types of food products consumed has a serious implication to food and nutrition security, health status and therefore livelihoods and poverty levels in the respective communities. Consumption behaviour is largely influenced by cultural beliefs, as well as purchasing power of the consumers. As demonstrated in the previous sections, households perceive living costs to be high relative to their low levels of income. This is particularly so to the high value products such as protein, fat, iron etc. This is a serious concern as most households are rural based where most communities are smallholder farmers characterized by limited capacity for income generation. Farmers with no or lower regular cash income will certainly have limited purchasing power. This affects market demand negatively because most households will opt for cheaper, less nutritious food products because they will feel that nutritious ones are out of reach and unaffordable.

These findings match very well with expenditure pattern which is presented in Table 3.19 where 98.0% and 99.0% of the households under treatment and control groups respectively spent between TZS 1 and 35,000 which is a minimum expenditure category, signifying the widespread low purchasing power of members of the surveyed communities.

Table 3.20: Total expenditure against consumed food products at household level: Total – Arusha and Njombe Regions

TZS Paid	Treatment Group		Control Group	
	Number of Households	% of Total	Number of Households	% of Total
1 – 25,000	1,318	98.0	1,097	99.0
25,001 – 50,000	25	2.0	8	1.0
50,001 – 75,000	0	0.0	3	0.0
75,001 – 100,000	4	0.0	1	0.0

Source: TASAF Baseline Survey, 2016

3.3.8 Long term Expenditure

Long term expenditure includes spending on education, health, clothing and shoes, celebration, social event, funeral and wedding, airtime, changing phones, taxes, fines, construction, house repair, repayment of debts, savings, and domestic workers. Households' long term expenditure pattern as summarized in Table 3.21 also shows that ay TZS 1 up to TZS 25,000, the value of food products purchased and consumed by majority of the households are of low value. The total value of food products purchased and consumed by approximately 51.0% and 58.0% of the interviewed households under treatment and control groups respectively falls under the lowest expenditure category (see Table 3.21), which conforms with the conclusion made earlier that purchasing power of majority of households in the surveyed communities is low to the extent of making it difficult for them to access basic needs.

Table 3.21: Household long term expenditure January – June 2016: Total Arusha and Njombe Regions

Value in TZS	Households: Treatment Group	% of Total	Households: Control Group	% of Total	Total No. of Households
1 – 25,000	1,113	51.0	935	58.0	2,048
25,001 – 50,000	599	27.0	329	20.0	928
50,001 – 75,000	117	5.0	112	7.0	229
75,001 – 100,000	361	16.0	246	15.0	607
≥100,001	6	0.0	4	0.0	10
Total	**2,196**	**100.0**	**1,626**	**100.0**	**3,822**

Source: TASAF Baseline Survey, 2016

3.3.9 Heath Service, Education, Water, and Public Works

(a) Health Services

Judging from selected indicators used in this study, the health services in the country are inadequate and therefore unable to meet needs of the people. Despite achievements in some areas, challenges still persist in the areas of availability of health facilities, distance covered to available facilities, time it takes for patients to reach these facilities, and prevalence of diseases. Table 3.22 up to 3.25present the findings of this survey. Significant number of households in both treatment as well as control groups in Arusha (170 households or 37.6%) and Njombe (324 households or 64.2%) regions reported an absence of health facilities in their localities (see Table 3.21).

Table 3.22: No. of households reported type and availability of health facilities

S/No.	Region	Type	No. of Households: Treatment	No. of Households: Control	Total No. of Households
1.	Arusha	Hospitals	34	20	54
2.		Health Centers	153	90	243
3.		Dispensaries	407	186	593
4.		No. Health Facility	106	64	170
		Total	**679**	**349**	**1,028**
1.	Njombe	Hospitals	3	37	40
2.		Health Centers	3	35	38
3.		Dispensaries	94	37	131
4.		No. Health Facility	116	208	324
		Total	**214**	**310**	**524**

Source: TASAF Baseline Survey, 2016

Most of the households in Arusha region are served by dispensaries (593 or 53.3%), while 131 (43.3%) households in Njombe region are served by dispensaries. Only a few households are served by health centers and hospitals. Note also that, majority of households in Arusha (997 households) and Njombe (492 households) regions covers between 1 and 15 km to the nearest health facility, followed by a few who cover between 16 and 30 km (33 and 30 households in Arusha and Njombe regions respectively). Almost none of the households cover a distance beyond 30 km (see Table 3.23).

Table 3.23: No. of households covering the following distances to the nearest health facility

Region	Distance in km	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	1 – 15	648	349	997
	16 – 30	32	1	33
	31 – 45	1	0	1
	46 – 60	0	0	0
	Total	**681**	**350**	**1,031**
Njombe	0 – 15	195	297	492
	16 – 30	17	13	30
	31 – 45	0	0	0
	46 – 60	2	0	2
	Total	**214**	**310**	**524**

Source: TASAF Baseline Survey, 2016

Most of the interviewed households in Arusha (405 households or 39.9%)and Njombe (181 households or 34.5%) take between 1 and 30 minutes to reach the health facility. There are also a fairly large number of households who take between 30 minutes and 3 hours (see Table 3.24)

Table 3.24: Time it takes to reach the nearest health facility

Region	Time in Minutes	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	1 - 30	251	154	405
	31 - 60	162	84	246
	61 - 90	45	38	83
	91 - 120	89	32	121
	≥121	134	42	176
Njombe	0 - 30	84	97	181
	31 - 60	19	96	115
	61 - 90	33	28	61
	91 - 120	23	59	82
	≥121	55	30	85

Source: TASAF Baseline Survey, 2016

Prevalence of diseases in the study areas of Arusha and Njombe regions is also evident, where the most common diseases include malaria, water borne diseases, TB, eye related diseases, asthma and marasmus. Other diseases include coughing, flu and pneumonia (see Table 3.25). Malaria, water borne diseases, eye related diseases and TB are the most prevalent diseases reported by respondents.

Table 3.25: Members of the household who fell sick the last six moths

Region	Disease	No. of Households: Treatment	No. of Households: Control	Total No of Households
Arusha	None	158	86	144
	Malaria	341	144	488
	Water borne diseases	41	30	71
	TB	34	20	54
	Eyes related diseases	52	24	76
	Asthma	15	13	28
	Marasmus	17	1	18
Njombe	None	88	103	190
	Malaria	51	81	132
	Water borne diseases	7	4	11
	TB	7	11	18
	Eyes related diseases	8	10	18
	Asthma	10	1	11
	Marasmus	1	1	2

Source: TASAF Baseline Survey, 2016

(b) Education Services

Approximately, 26 households or 3.0%and 7 households or 1.3% in Arusha and Njombe regions respectively reported that they do not have primary schools in their villages. About 623 households or 60.0% and 473households or 90.0%in the two respective regions indicated that they have only one primary school in their villages; 279 households or 27.0% and 12 households or 2.0% reportedly have 2 primary schools; 50 households or 4.8% and 15 households or 2.9% households have 3 primary schools; while 53 households or 5.1% and 17 households or 3.2%respectively have 4 primary schools in their villages. Thus, there is at least one primary school in most of the village communities in the two regions which matches very well with the government's policy of at least one primary school in each village under the Primary Education Development Plan (PEDP). In terms of number of primary schools, Tanzania has achieved its

national goals as well as Millennium Development Goals (MDGs), despite the fact that a few village communities are still lacking this important education facility.

Table 3.26: Number of primary schools available

Region	No. of Primary Schools	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	0	15	11	26
	1	449	174	623
	2	198	81	279
	3	3	47	50
	4	16	37	53
Total		**681**	**350**	**1,031**
Njombe	0	4	3	7
	1	206	267	473
	2	4	8	12
	3	0	15	15
	4	0	17	17
Total		**214**	**310**	**524**

Source: TASAF Baseline Survey, 2016

One of the shortfalls related to primary school education is the poor quality of education offered by most of these schools. This is particularly serious judging from quality and number of class buildings, number of teachers, availability of desks, availability of books and other requirements. In many cases, classes are overcrowded and children sit on the floor for lack of desks. In other villages only one teacher is stationed to serve the whole primary school which is less that 7.0% of the total requirement of the school. In addition, the location of most primary schools is not convenient despite the fact that majority of the households (676 or 67.0%) and (377 or 73.0%) households in Arusha and Njombe regions) reported that their primary school facilities is located less than 1 km. About 853(85.0%) and 475(92.0%) households are served by primary school facilities which are located between 1 and 3 km away, which makes it difficult for the children to reach them. Table 3.28 presents the time it takes for children and parents to reach the nearest primary schools.

Table 3.27: Distance to the nearest primary school

Region	Distance in km	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	0-1	440	236	676
	2	70	56	126
	3	34	17	51
	4	19	7	26
	≥4	103	23	126
Total		**666**	**339**	**1,005**
Njombe	0-1	149	149	298
	2	126	26	152
	3	51	11	62
	4	26	8	34
	≥4	126	16	142
Total		**478**	**210**	**688**

Source: TASAF Baseline Survey, 2016

While about 537(53.4%) and 366(70.8%) households in Arusha and Njombe regions respectively take between 1 and 30 minutes to reach their schools, 283(28.2%) and 133(25.7%) households respectively take between 31 minutes and 1.30 hours to reach their schools. This is too long a time for children attending primary school education. For children, walking long distance to school is tiring to the extent of discouraging children to attend schools on a daily basis.

The findings show that there has been significant improvement in dropout rates as most households in Arusha (965 or 93.6%) out of 1,031 households and Njombe (848 or 94.7%) out of 895 reported that they have not experienced drop outs of the school age children during the past two years (see Appendix III).

Table 3.28: Time it takes to reach the nearest primary school

Region	Time in Minutes	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	1 – 30	345	192	537
	31 – 45	53	29	82
	46 – 60	92	52	144
	61 – 90	44	13	57
	≥91	132	53	185
Total		**666**	**339**	**1,005**
Njombe	1 – 30	141	225	366
	31 – 45	24	47	71
	46 – 60	17	17	34
	61 – 90	17	11	28
	≥91	11	7	18
Total		**210**	**307**	**517**

Source: TASAF Baseline Survey, 2016

Most villages in Arusha and Njombe regions do not have a secondary school. About 521 (76.5%) out of 681 households in Arusha region and 460 (87.8%) out of 524 households in Njombe region reported that their villages do not have secondary schools. The remaining 160 (23.5%) and 64 (12.2%) households in Arusha and Njombe respectively reported that they have secondary schools in their villages. These findings reflect the national situation in Tanzania where, following the government's Secondary Education Development Plan (SEDP) which requires each ward to have at least one secondary school, most villages do not have a secondary school. However, since the distance covered and time spent by children and parents to reach the nearest secondary school facilities is long, there is an urgent need for the government and other partners to ensure that more secondary schools are constructed in each ward (Appendix III). Like in primary education, the drop out findings shows that, the dropout rate at secondary schools in the surveyed communities has improved significantly (Appendix III).

Table 3.29: Number of secondary schools available

Region	No. of Secondary Schools	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	0	376	145	521
	1	256	172	257
	2	47	25	47
	3	1	8	1
	4	0	0	0
Total		**681**	**350**	**681**
Njombe	0	208	252	460
	1	6	51	57
	2	0	4	4
	3	0	2	2
	4	0	1	1
Total		**214**	**310**	**524**

Source: TASAF Baseline Survey, 2016

Despite the progress and achievement made based on a few indicators included in the study, a number of other challenges were raised by respondents which undermine performance of the health services in Tanzania. For example, the critical shortage of trained health staff was mentioned to be among the major challenges facing the health sector, aggravated by low motivation of the few available staff. Other challenges facing the health sector include lack of effective staff supervision, poor transport and communication infrastructure and shortage of drugs and medical equipment. We recommend appropriate action be taken by the government and other stakeholders to provide more financial and human resources for the sector while ensuring their efficient and effective utilization to improve services delivery.

(c) Water Services

Water service is another indicator used during the survey to gauge the economic and welfare status of the sampled communities in Arusha and Njombe regions. Majority of households in Arusha 334 (37.4%) out of 893 households and Njombe (327 or 49.5%) out of 661 access piped water in the neighborhood. About 264(17.0%) out of 1,554 households in both Arusha and Njombe regions access water through open well for the community; 229 households (14.7%) through rivers or lakes; 4 households (0.3%) through street vendors (which is particularly common in urban areas); and 78 households (5.1%) through

protected streams. Note that, 61 households (3.9%) only in both Arusha and Njombe regions access running water in their houses (see Table 3.30).

Table 3.30 Main water sources

Water Source	Treatment Group		Control Group		Total Number of Households
	No. of Households	% of Total	No. of Households	% of Total	
Running water in the house	3	0.0	58	9.0	61
Piped water in the neighborhood	334	37.0	327	49.0	661
Open well for the community	181	20.0	83	12.0	264
River or lake	148	17.0	81	12.0	229
Water vendors	2	0.0	2	0.0	4
Protected stream	54	6.0	24	4.0	78
Other	171	19.0	87	13.0	258
Total	**893**	**100.0**	**661**	**100.0**	**1,554**

Source: TASAF Baseline Survey, 2016

3.3.10 Shocks and Coping Mechanism

Approximately 91.0% of the interviewed households were affected negatively by economic and social shocks during the last 12 months. The corresponding percentages by categories are 90.0% and 81.0% for treatment and control groups respectively in Arusha region, and 98.0% and 81.0%, for treatment and control groups respectively in Njombe region.

Shocks are therefore common in Arusha and Njombe regions and they affect livelihoods of the people negatively. Many times effects are catastrophic mainly because capacity of the people to mitigate shocks is limited. The most common shocks in the surveyed communities include illness (diseases), drought (mainly due to the effects of climate change), food inflation, and death of household members. Other shocks experienced by people in the survey area include loss of livestock, crop damage, floods, death of relatives (outside the households), theft, robbery, chaos and rise of price of inputs. Note that, illness, drought, food inflation and death of household members are the most frequent shocks. They rank high in Table 3.31 and occur and therefore affect people frequently.

Table 3.31: The most significant shocks experienced by households during the last 12 months

Rank[5]	Type of Shocks	Number of Affected Households	Percentage
1.	Illness of HH member	319	27.1
2.	Drought	247	21.0
3.	Price rise of food items	185	15.7
4.	Death of HH member	83	7.0
5.	Death of Livestock	78	6.6
6.	Crop damage	68	5.8
7.	Floods	31	2.6
8.	Death of relative (outside the HH)	30	2.5
9.	Theft, robbery and chaos	21	1.8
10.	Price rise of inputs	13	1.1

Source: TASAF Baseline Survey, 2016

Shocks have led to a decrease in household incomes, assets and properties, food production, food reserves and ability to purchase food according to the responses of the interviewed households (see Table 3.32) where an average of 80.0% of the respondents testify that they have experienced these effects or changes in household incomes, assets and properties, food production, food reserve and ability to purchase food.

Table 3.32: Effects of the shocks experienced by HH during the last 12 months

S/No.	Variable	Effect	Number of Households (Out of 1,178 Households)	Percentage
1.	Household income	Decreased	999	84.0
2.	Assets	Decreased	920	78.0
3.	Food production	Decreased	971	82.0
4.	Food reserve	Decreased	951	81.0
5.	Food purchase	Decreased	973	83.0

Source: TASAF Baseline Survey, 2016

To mitigate shocks most households have the following coping mechanisms:

a. Receiving unconditional help from relatives and friends
b. Relied on own Savings
c. Religious Organizations
d. Changed eating patterns (relied on less preferred food, reduced the number of meals per day, household members skipped days of eating etc.).

[5]Ranked the 10 most significant shocks

Other households have mainly relied on credit, selling crop stocks, selling livestock, selling labor and sending children to relatives (see Table 3.33).

Table 3.33 Copingstrategies after experiencing shocks

Strategy	Number of Households (Out of 1,178Households)	Percentage
Received unconditional help from relatives and Friends	427	36.0
Relied on own savings	218	19.0
Did not do anything	137	12.0
Religious organizations	62	5.0
Changed eating patterns (relied on less preferred food, reduced the number of meals per day, household members skipped days of eating etc.)	46	4.0
Received credit	28	2.0
Sold crop stock	23	2.0
Sold livestock	19	2.0
Sold labor	18	2.0
Sent children to live elsewhere	15	1.0

Source: TASAF Baseline Survey, 2016

CHAPTERIV

4.0 CONCLUSION AND RECOMMENDATIONS

This study was intended to conduct a comprehensive baseline study in selected Local Government Authorities (LGAs) of Karatu DC, Longido DC, Meru DC, Wanging'ombe DC and Makambako TC, which are supported by TPRP IIIProject so as to generate first-hand information that will establish benchmarks for assessing the intended outcomes and impacts of Project's support to poor communities.

The preceding analysis shows clearly that majority of households in the surveyed communities are relatively poor and overall households' livelihoods are low. These communities are generally characterized with limited livelihoods sources and opportunities. This is evident from data associated with most indicators used for this study such as production, consumption, income earnings, expenditure, education and health services and facilities.

The households' income brackets are low with limited purchasing power and capacity to mitigate shocks. A number of villages do not have primary schools and dispensaries, whereas some wards do not have secondary school and health centers despite the government programmes addressing the challenges in the education (such as Primary Education Development Plan "PEDP" and Secondary Education Development Plan "SEDP") and health (Health Sector Support Programme III and Primary Health Service Development Programme "PHSDP")sectors

Livestock is one of the sources of income for the majority of households in the surveyed LGAs. However, these livestock keepers do not earn sufficient incomes from livestock due to poor and traditional practices of livestock keeping, limited grazing land, diseases and frequent land conflicts and disputes. Therefore, much attention should be directed to how effectively and efficiently the national land use plans and programmes can be put into action to control unplanned livestock movements which in many cases have resulted into loss of properties and life, among others, through deadly conflicts and disputes among the farmers, investors and livestock keepers especially in Arusha, Manyara, Kilimanjaro and Morogoro regions; environmental degradation and excessive loss of biodiversity. Taking into account the importance of livestock subsector in the country's economic landscape, land use conflicts should be timely and

appropriately managed in a way that land is allocated in accordance to different uses such as cultivation, grazing, reserves and many others.

Regardless of its significance, the livestock subsector is still underdeveloped in the sense that it is challenged by inaccessible extension services and products, seasonality in pastures and water availability, poor participation of the private sector and overstocking in some areas which then lead to environmental destruction and regular conflicts with the farmers and investors. A comprehensive sensitization and advocacy programmes are needed to change the mindset of the pastoralist communities. In addition, capacity building programmes e.g. skills and competencies development is also required.

Traditionally some livestock products are not produced in large quantities following lack of the associated production technologies and the necessary infrastructure to facilitate production. In addition, limited investment capital is another serious barrier. Tanzania needs to demonstrate to farmers the yield potential of not only livestock, but also livestock products by establishing efficient and highly productive demonstration farms where livestock will be kept and livestock products will be produced and sold. There is an urgent need to aggressively roll out such demonstrations in order to stimulate production of these products for both income generation but also food and nutrition security in Tanzania.

Eggs and especially milk products also face serious marketing barriers thus discouraging further efforts to expand production. Tanzania does not have a culture of milk or eggs consumption. There is therefore a need to change people's mindset about locally processed livestock products such as milk, eggs, butter etc. This can be done through sensitization of the public about the availability and quality of the products and introduction of programmes in schools and hospitals on consumption of locally produced livestock products. These are among the strategic areas where the next TPRP III Project should target.

Limited marketing channels have also been a persistent barrier to livestock keepers in the surveyed communities of Njombe and Arusha Regions. Consequently, most of the locally produced livestock products have not been marketed in large quantities. Instead a small proportion is consumed by households at home, while large proportions are wasted due to lack of storage facilities. Tanzania needs to create market linkages to enable community members' access the markets for both livestock and livestock products.

The pattern of consumption of food crops does not seem to promote food and nutrition security because majority of the surveyed households do not consume food products which are rich in protein, fat and iron. Majority of the households primarily consume starch which may contribute to malnutrition, particularly in food insecure households. This is also the case with household expenditure profile. Consumption pattern in terms of types of food products consumed has a serious implication to food and nutrition security, health status and therefore livelihoods and poverty levels in the respective communities. This behavior is largely influenced by cultural believes as well as limited purchasing power of the consumers. This is another serious concern as most households are rural based where most communities are smallholder farmers characterized by limited capacity for income generation. Farmers with no or lower regular cash income will certainly have limited purchasing power. The low income levels affect market demand negatively because most households will opt for cheaper and non-nutritious food products because they will feel that nutritious ones are out of reach and unaffordable. Income generating programmes are inevitable if these communities are to be transformed. The income generating programmes will not only improve incomes and purchasing power of the communities, but will also mitigate shocks and subsequently improve the livelihoods of the people.

Most villages and wards need more health and education facilities to avoid children and parents walking long distances to access health and education services. The present water services in the respective villages are not satisfying existing needs. More investments are required to improve access to quality water in the surveyed communities.

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APPENDICES

Appendix I: List of Key Informant Interviewees

S/No.	NAME	INSTITUTION	DESIGNATION	PHONE/TEL
1.	Mr. LukimbililoLaiko	Makambako TC	Community Dev. Officer	0767 387243
2.	Mr. MwitaMroni	Makambako TC	Water Engineer	0752 237280
3.	Mr. Joseph Mwinuka	Makambako TC	Ag. Education Officer	0768 803588
4.	Ms. Veronica Mgoda	Makambako TC	Tuberculosis & Leprosy Co.	0766 846821
6.	Mr. Obeid Suleiman	Makambako TC	Health Man. Sys. Specialist	0754 045132
7.	Mr. Michael Haule	Wanging'ombe DC	Community Dev. Officer	0757 108956
8.	Mr. HarunaMlilapi	Wanging'ombe DC	Education Officer	0715 817246
9.	Mr. M. Christopher	Wanging'ombe DC	Planning Officer	0743 067689
10.	Ms. NuruKway	Wanging'ombe DC	Planning Officer	0717 000162
11.	Mr. Emanuel Kiluno	Wanging'ombe DC	Planning Officer	0766 055949
12.	Mr. HamisiMashindike	Wanging'ombe DC	Water Engineer	0767 983193
13.	Dr. James Ligwa	Wanging'ombe DC	District Medical Officer	0769 993800
14.	Mr. FelicianMtega	Wanging'ombe DC	MCH Coordinator	0755 730073
15.	Mr. JairoSajiku	Wanging'ombe DC	Tuberculosis & Leprosy Co.	0769 993800
16.	Ms. Zainabu Hussein	Wanging'ombe DC	Nutrition Officer	0769 993800
17.	Ms. AjilwaNsole	Wanging'ombe DC	Clinical Officer	0769 993800
18.	Ms. Sophia Abel	Meru DC	TASAF – TA	027 2553737
19.	Mr. Bonita Komba	Meru DC	TASAF staff	027 2553737
20.	Mr. ProtasBureta	Meru DC	TASAF Coordinator	027 2553737
21.	Mr. Abel Mulokozi	Meru DC	Secondary Educ. Coord.	027 2553737
22.	Mr. Tumsifu Moshi	Meru DC	Primary Educ. Coordinator	027 2553737
23.	Mr. John Nnko	Meru DC	Water Engineer	027 2553737
24.	Ms. Christina Kaaya	Meru DC	Water Officer	027 2553737
25.	Mr. Manyo Mohamed	Meru DC	Water Officer	027 2553737
26.	Mr. Bakari	Meru DC	Water Officer	027 2553737
27.	Ms. RestitutaNgowi	Meru DC	DRCHW - Meru	027 2553737
28.	Ms. AsiaMbaga	Meru DC	Nutrition Officer	027 2553737
29.	Mr. AloyceKowira	Meru DC	District Medical Officer	027 2553737
30.	Mr. PokeaHeriNnko	Meru DC	VEO –Mulala	027 2553737
31.	Mr. Josephat Ephraim	Meru DC	Village Chairman -Mulala	027 2553737
32.	Ms.ApikundaNasary	Meru DC	VEO - KilingaMulala	027 2553737
34.	Mr. Joshua Ndaga	Longido DC	District Medical Officer	0272539 602/3
35.	Mr. Lotaoli Jacob	Longido DC	Community Dev. Officer	0272539 602/3
36.	Mr. JumanneMasuke	Longido DC	Education Office (Primary)	0272539 602/3
37.	Mr. ShigangaLwende	Longido DC	Education Office (Sec.)	0272539 602/3
38.	Mr. Clement Ringo	Longido DC	Economist	0272539 602/3
39.	Mr. SalimMshana	Karatu DC	TASAF – TA	027253 4396
40.	Ms. RestielAyuma	Karatu DC	TASAF Coordinator	027253 4396
41.	Mr. Johnson Mariki	Karatu DC	PAA	027253 4396
42.	Mr. AminiMataula	Karatu DC	Accountant	027253 4396

Appendix II: Further Household Baseline Survey Results (in Tables)

Table 2.1: Food items consumed at household level: Arusha Region

S/No.	Food Item	No. of Households	% of Total	No. of Households	% of Total
		Treatment		Control	
1.	Rice	309	9.0	262	6.0
2.	Maize	610	17.0	395	8.0
3.	Wheat	12	0.0	14	0.0
4.	Beans, peas, lentils, and other pulses	373	10.0	273	6.0
5.	Tomato, onion, carrots, green pepper	291	8.0	2258	48.0
6.	Vegetables	334	9.0	284	6.0
7.	Irish potatoes	31	1.0	12	0.0
8.	Cooking banana	57	2.0	54	1.0
9.	Meat	139	4.0	108	2.0
10.	Milk	217	6.0	141	3.0
11.	Salt	480	13.0	355	8.0
12.	Sugar	440	12.0	310	7.0
13.	Tea	295	8.0	204	4.0
14.	Local beer	3	0.0	6	0.0

Note that, the first 4 item consumed during the past 30 days (1 month), and the rest items consumed during the past 7 days, see only 14 food items out of 41 included during the survey

Table 2.2: Food items consumed at household level: Njombe Region

S/No.	Food Item	No. of Households	% of Total	No. of Households	% of Total
		Treatment		Control	
1.	Rice	90	6.0	86	5.0
2.	Maize	267	17.0	253	15.0
3.	Wheat	21	1.0	11	1.0
4.	Beans, peas, lentils, and other pulses	191	12.0	210	13.0
5.	Tomato, onion, carrots, green pepper	175	11.0	189	11.0
6.	Vegetables	241	15.0	240	15.0
7.	Irish potatoes	20	1.0	4	0.0
8.	Cooking banana	5	0.0	3	0.0
9.	Meat	47	3.0	38	2.0
10.	Milk	5	0.0	6	0.0
11.	Salt	253	16.0	345	21.0
12.	Sugar	135	8.0	144	9.0
13.	Tea	66	4.0	81	5.0
14.	Local beer	80	5.0	40	2.0

Note that, the first 4 item consumed during the past 30 days (1 month), and the rest items consumed during the past 7 days, see only 14 food items out of 41 included during the survey

Table 2.3: Food items consumed at household level: Total – Arusha and Njombe Regions

S/No.	Food Item	No. of Households	% of Total	No. of Households	% of Total
		Treatment		Control	
1.	Rice	399	8.0	348	8.0
2.	Maize	877	17.0	648	15.0
3.	Wheat	32	1.0	21	0.0
4.	Beans, peas, lentils, and other pulses	564	11.0	483	11.0
5.	Tomato, onion, carrots, green pepper	454	9.0	413	10.0
6.	Vegetables	589	11.0	538	13.0
7.	Irish potatoes	51	1.0	16	0.0
8.	Cooking banana	62	1.0	57	1.0
9.	Meat	186	4.0	146	3.0
10.	Milk	226	4.0	147	3.0
11.	Salt	733	14.0	600	14.0
12.	Sugar	575	11.0	454	11.0
13.	Tea	361	7.0	285	7.0
14.	Local beer	83	2.0	46	1.0

Note that, the first 4 item consumed during the past 30 days (1 month), and the rest items consumed during the past 7 days, see only 14 food items out of 41 included during the survey

Table 2.4: Household long term expenditure January – June 2016

Region	Value in TZS	Households: Treatment Group	% of Total	Households: Control Group	% of Total	Total No. of Households
Arusha	1 – 25,000	827	48.0	507	56.0	1,334
	25,001 – 50,000	507	29.0	191	21.0	698
	50,001 – 75,000	85	5.0	69	8.0	154
	75,001 – 100,000	297	17.0	143	16.0	440
	≥100,001	3	0.0	2	0.0	5
Sub-Total		**1,719**	**100.0**	**912**	**100.0**	**2,631**
Njombe	1 – 25,000	286	60.0	428	60.0	714
	25,001 – 50,000	92	19.0	138	19.0	230
	50,001 – 75,000	32	7.0	43	6.0	75
	75,001 – 100,000	64	13.0	103	14.0	167
	≥100,001	3	1.0	2	0.0	5
Sub-Total		**477**	**100.0**	**714**	**100.0**	**1,191**
Total (Ar + Nj)	1 – 25,000	1,113	51.0	935	58.0	2048
	25,001 – 50,000	599	27.0	329	20.0	928
	50,001 – 75,000	117	5.0	112	7.0	229
	75,001 – 100,000	361	16.0	246	15.0	607
	≥100,001	6	0.0	4	0.0	10
Grand Total		**2,196**	**100.0**	**1,626**	**100.0**	**3,822**

Table 2.5: Health status of household members compared to most other households

Region	Health Status	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	Much more health problems	233	107	340
	A little bit more health problems	448	243	691
Total		**681**	**350**	**1,031**
Njombe	Much more health problems	60	99	159
	A little bit more health problems	154	211	365
Total		**214**	**310**	**524**

Table 2.6: School age children dropped out of school the past 2 years

Region	No. of Children	No. of Households:Treatment	No. of Households:Control	Total No. of Children
Arusha	0	643	322	965
	1	20	20	40
	2	16	6	22
	3	2	1	3
	4	0	1	1
Total		**681**	**350**	**1,031**
Njombe	0	283	488	848
	1	21	26	25
	2	3	6	19
	3	1	2	3
	4	2	2	0
Total		**310**	**310**	**895**

Table 2.7: Distance to the nearest secondary school

Region	Distance in km.	No. of Households: Treatment	No. of Households: Control	Total No. of Households
Arusha	0-1	172	125	297
	2	49	39	88
	3	12	14	26
	4	16	3	19
	≥4	56	24	80
Total		**305**	**205**	**510**
Njombe	0-1	3	32	35
	2	1	8	9
	3	0	8	8

Region	Distance in km.	No. of Households: Treatment	No. of Households: Control	Total No. of Households
	4	0	4	4
	≥4	2	6	8
Total		**6**	**58**	**64**

Table 2.8: Time it takes to reach the nearest secondary school

Region	Time in Hours	No. of Households:Treatment	No. of Households:Control	Total No. of Households
Arusha	0 – 30	103	98	201
	31 – 45	50	17	67
	46 – 60	51	37	88
	61 – 90	20	37	57
	≥91	81	16	97
Total		**305**	**205**	**510**
Njombe	0 – 30	3	31	34
	31 – 45	1	7	8
	46 – 60	0	9	9
	61 – 90	0	7	7
	≥91	2	4	6
Total		**6**	**64**	**64**

Table 2.9: School age children dropped out of school the past 2 years

Region	No. of Children	No. of Households:Treatment	No. of Households:Control	Total No. of Children
Arusha	0	656	331	987
	1	25	14	39
	2	0	4	4
	3	0	1	1
	4	681	350	1,031
Njombe	0	208	289	497
	1	5	17	22
	2	1	4	5
	3	0	0	0
	4	214	310	524

Table 2.10: The most significant shocks experienced by householdsduring the last 12months

Rank[6]	Type of Shocks	Number of Affected Households	%	Number of Affected Households	%
		Treatment		Control	
Arusha					
1.	Illness of HH member	98	18.0	37	18.0
2.	Drought	174	32.0	71	34.0
3.	Price rise of food items	103	19.0	47	22.0
4.	Death of HH member	37	7.0	23	11.0
5.	Death of livestock	52	10.0	20	10.0
6.	Death of relative (outside the HH)	3	1.0		
7.	Price rise of inputs	4	1.0	6	3.0
8.	Flood, landslide, heavy rains preventing work	27	5.0	1	0.0
9.	Crop damage	31	6.0	1	0.0
10.	Illness of relatives outside HH	12	2.0		
11.	Loss of non-farm jobs of HH member			1	0.0
12.	Fire			3	1.0
Njombe					
1.	Illness of HH member	73	47.0	111	56.0
2.	Drought	37	24.0		
3.	Price rise of food items	7	4.0	28	14.0
4.	Death of HH member	9	6.0	12	6.0
5.	Death of livestock	3	2.0	3	2.0
6.	Crop Damage	4	3.0		
7.	Death of relative (outside the HH)	9	6.0	15	8.0
8.	Theft, robbery and other Violence	9	6.0	8	4.0
9.	Price rise of inputs	2	1.0	9	5.0
10.	Flood, landslide, heavy rains preventing work			3	2.0
11.	Involuntary loss of house or land	3	2.0	2	1.0
12.	Displacement			9	5.0

1. Approximately 90.0% of the interviewed households were affected negatively by shocks during the last 12 months – Treatment in Arusha
2. Approximately 81.0% of the interviewed households were affected negatively by shocks during the last 12 months – Control in Arusha
3. Approximately 98.0% of the interviewed households were affected negatively by shocks during the last 12 months – Control in Njombe
4. Approximately 81.0% of the interviewed households were affected negatively by shocks during the last 12 months – Treatment in Njombe

[6] Ranked the 10 most significant shocks

Table 2.11: Number of assets owned

Asset Type	Number			Percent		
	No. of Households : Treatment	No. of Households : Control	TotalNo. of Households	No. of Households : Treatment	No. of Households : Control	TotalNo. of Households
Chairs	500	369	869	16.5	13.2	29.7
Mattresses	311	353	664	10.3	12.6	22.9
Couch or sofa	30	108	138	1.0	3.9	4.9
Coal pot	25	81	106	0.8	2.9	3.7
Kerosene lamp	267	276	543	8.8	9.9	18.7
Car battery	0	1	1	0.0	0.1	0.1
Solar power	71	44	115	2.3	1.6	3.9
Mobile Solar Lamp	140	86	226	4.6	3.1	7.7
Radio or tape	63	87	150	2.1	3.1	5.2
TV	0	8	8	0.0	0.3	0.3
Regular cell phone	189	198	387	6.2	7.1	13.3
Sewing machine	1	4	5	0.1	0.1	0.2
Mosquito net	684	542	1226	22.5	19.4	41.9
Hoe or axe	607	482	1089	20	17.3	37.3
Shovel or spade	22	27	49	0.7	1.0	1.7
Bicycle	33	36	69	1.1	1.3	2.4
Motorcycle	3		3	0.1		0.1
Cart	1	3	4	0.1		0.1
Plough	26	12	38	0.9	0.4	1.3
Wheelbarrow		2	2		0.1	0.1
Battery torch	60	72	132	2.0	2.6	4.6
Total	**3,033**	**2,791**	**5,824**	**100.0**	**100.0**	**100.0**

Table 2.12: Types of construction materials

Construction materials	No. of Households:Treatment	No. of Households:Control
Earth or mud	51.4	45.0
Mud bricks or blocks	38.3	38.7
Cement or concrete	1.0	4.2
Other	9.3	12.1
Total	**100.0**	**100.0**

Table 2.13: Abundance of water in Arumeru District

District	Land Area (Sq.kms.)	% of Land Area (Sq.kms.)	Water Area (Sq.kms.)	% of Water Area (Sq.kms.)	Total Surface Area (Sq.kms.)	% of Surface Area (Sq.kms.)
Monduli	6,419	18.6	128.4	13.4	6,547	18.5
Arumeru	2,896	8.4	407	42.6	3,303	9.3
Arusha	93	0.3	0	0.0	93	0.3
Karatu	3,300	9.6	10.6	1.1	3,311	9.3
Ngorongoro	14,036	40.7	252.6	26.4	14,289	40.3
Longido	7,782	22.4	156.6	16.4	7,939	22.3
Total	**34,526**	**100.0**	**955.2**	**100.0**	**35,481**	**100.0**

Table 3.14: Years in which household assets were acquired

Category	Treatment				Control			
Asset Type	1960 – 2000	2001 – 2005	2006 – 2010	2011 – 2016	1960 – 2000	2001 –2005	2006 – 2010	2011 – 2016
Chairs	161	48	78	213	138	44	47	140
Mattress	63	26	46	176	73	47	51	182
Couch or sofa	6	2	6	16	36	13	20	39
Coal pot	0	2	4	19	2	4	8	67
Kerosene lamp	38	19	17	193	47	22	44	163
Car battery	0	0	0	0	0	0	0	1
Solar power	0	0	3	68	2	0	3	39
Mobile solar lamp	0	1	2	137	0	0	0	86
Radio or tape	9	2	10	42	10	7	10	60
TV	0	0	0	0	0	0	1	7
Regular cell phone	4	2	18	165	6	8	15	169
Smart phone	1	0	0	0	0	0	0	0
Sewing machine	0	0	1	0	1	0	2	1
Mosquito net	0	0	6	678	0	0	3	539
Hoe or axe	86	33	76	412	55	23	54	350
Shovel or spade	1	1	4	16	7	4	2	14
Bicycle	8	5	5	15	9	2	5	20
Motorcycle	0	0	0	3	0	0	0	0
Cart	0	0	0	1	0	1	2	0
Plough	9	3	3	11	5	1	0	6
Wheelbarrow	0	0	0	0	1	0	0	1
Battery torch	9	3	3	11	2	1	1	68