

**AN ASSESSMENT OF PUBLIC-PRIVATE-PARTNERSHIPS IN PROVISION OF
AGRICULTURAL EXTENSION SERVICES IN MTWARA
DISTRICT, TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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ABSTRACT

Over the years the provision of extension services in Tanzania was dominated by the public sector. However, effectiveness of the public sector extension has declined greatly during the past decade. In recent years several private extension providers have emerged to fill the gap created by reduced presence of public sector extension. Thus, this study was conducted to assess Public-Private-Partnerships (PPPs) in provision of agricultural extension services in Mtwara District, Tanzania. Specific objectives were to: identify types of parties involved in PPPs in the study area; determine different roles the identified parties play; and examine forms of PPPs partnerships. Data were collected from 154 respondents, including 120 household heads, four extension agents, 30 key informants and various documentary sources using questionnaires, researcher's diary and checklist. Quantitative data were analysed by using Statistical Package for Social Sciences (SPSS) computer programme and qualitative data were analysed using "content analysis" technique. The study identified types of PPPs involved in the provision of agricultural extension services, different roles played by identified PPPs parties and forms of PPPs partnerships. It was concluded that the role of government in PPPs is to build an environment in which plurality of extension providers can thrive. Special attention should be given to those service providers who have vested interest in long-term success of services they are providing. It was therefore recommended that a loose network of formal association of private service providers is deemed necessary for any interaction with the government. The study also suggested undertaking studies on forms of PPPs in provision of extension services in other parts of the country in order to enable generalisation of observations.

DECLARATION

I, MARY MBAZI KISSIMBO, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

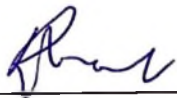


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LIST OF ABBREVIATIONS

AEE	Agricultural Education and Extension
AKDN	Aga Khan Development Network
ATMA	Agricultural Technology Management Agency
AMCOS	Agricultural Marketing Cooperatives Societies
ASDP	Agricultural Sector Development Programme
ASLM	Agricultural Sector Lead Ministry
ASPs	Agricultural Service Provider
BOO	Build Own Operate
BOOT	Build Own Operate Transfer
BOT	Build Own Transfer
CBO	Community Based Organisation
CCM	Chama Cha Mapinduzi
CONCERN	Concern (Charity) worldwide
COSTECH	Commission for Science and Technology
DADPs	District Agricultural Development Plans
DAEE	Department of Agricultural Education and Extension
DC	District Council
DDD	District Development Director
DED	District Executive Director
EU	European Union
FAO	Food and Agriculture Organisation
FBOs	Faith Based Organisations
FFS	Farmer Field School
FHHs	Female Households Head

FPA	Focal Point Approach
FSRE	Farming System Research and Extension
G20	Group of 19 countries and the European Union
HHs	Households Head
IA	Improvement Approach
IBEC	Irish Business and Employers Confederation
IFPRI	International Food Policy Research Institute
ILP	Integrated Livelihood Programme
MAMCU	Masasi and Mtwara Cooperative Union
MAFC	Ministry of Agriculture, Food and Cooperative
MCH	Mother and Child Health
MDC	Mtwara District Council
MHHs	Male Households Head
MITM	Ministry of Industry, Trade and Market
MLD	Ministry of Livestock Development
MoA	Memorandum of Agreement
MW	Ministry of Water
NALERP	National Agricultural and Livestock Extension Rehabilitation Project
NARI	Naliendele Agricultural Research Institute
NGOs	Non - Governmental Organizations
NSGRP	National Strategy for Growth and Reduction of Poverty
PMO-RALG	Prime Minister's Office-Regional Administration and Local Government
PPPs	Public Private Partnerships
R&D	Research and Development
RDD	Regional Development Director
RIDEPs	Regional Integrated Development Plans

ROT	Rehabilitate Operate Transfer
SAPs	Structural Adjustment Programme
SNAL	Sokoine National Agricultural Library
SPSS	Statistical Package for the Social Sciences
SUA	Sokoine University of Agriculture
TA	Transformation Approach
T&V	Training and Visit
UN	United Nations
URT	United Republic of Tanzania
USA	United States of America
VADP	Village Agricultural Development Plans
VEO	Village Extension Officer
WBG	World Bank Group

CHAPTER ONE

1.0 INTRODUCTION

This is a study of Public-Private-Partnerships (PPPs) in provision of agricultural extension services. Over the years the provision of extension services in Tanzania was dominated by the public sector. However, effectiveness of the public sector extension has declined greatly during the past decade. In recent years several private extension providers have emerged to fill the gap created by reduced presence of public sector extension. The purpose of this study was therefore to assess Public-Private-Partnerships (PPPs) in provision of agricultural extension services in Mtwara District, Tanzania; in order to draw policy implications on possible ways for improvement of PPPs participation in provision of agricultural extension services in the study area and beyond.

1.1 Background Information

Agricultural extension originated from the adult education programmes organised by Oxford and Cambridge Universities that started in 1867, which helped to extend the work of universities beyond the campus into the neighbouring communities. The term "Agricultural Extension" was adopted in 1914 when the United States Federal Smith Lever Act of 1914 formalised a nationwide cooperative federal state country programmes and gave operational responsibility for this to the land grant colleges and universities. Initially agricultural extension was concerned primarily with the improvement of agriculture, using conventional teaching methods. As time went on, home economics, youth programmes and rural community resource development were included. Agricultural extension spread to tropic Africa, the Caribbean, Asia and Latin America following the involvement of the United States of America (USA) in bilateral AID programmes after the Second World War (Adedoyin, 2008). In most developing countries, the term "extension" was used to

establish public agricultural extension or advisory institutions and was commonly recommended by the donor agency that helped create these public agricultural extension or advisory systems (Swanson and Rajalahti, 2010).

Agricultural extension services in Tanzania during the colonial period were provided using the Focal Point Approach (FPA), which was an integral part of the administrative system. Its basic functions were agricultural inspection of law enforcement. The concern was to extend extension services to production of cash crops, most of them used as raw materials for expanding industrial sector in the metropolitan countries. This approach received negative reaction on the part of farmers. The result was a modification of the Focal Point Approach, into "Progressive Farmer Approach" which focused extension resources on "early adopters" usually the rich, owning more than average farms and greater ability to follow extension advise (Iliffe, 1971). The approach contributed towards widening the gap between the haves and the have-nots, a situation which could not be tolerated in a county that was striving for socialism and self-reliance (Kauzeni, 1979). When Tanganyika got independence in 1961, it abandoned enforcement of the by-laws. People were to be encouraged to move into villages to facilitate self-reliance and development through application of socialist principles (Nyerere, 1962).

In 1964 Improvement Approach (IA) was introduced which involved expansion of assistance and guidance through the agricultural extension workers and community development workers working together (Amani and Mkumbo, 2012). This approach did not last long because it relied much on farmers contacting with extension workers who were few and inadequately trained. Provision of services proved to be difficult as farmers lived in scattered villages or holdings not easily accessible by extension workers. In overcoming some of the prevalent deficiencies, Transformation Approach (TA) was introduced which

involved moving some of the farmers from their traditional villages to new villages or settlement schemes. The approach failed because of over mechanisation and use of advanced technologies far beyond the general skills of peasants, mismanagement of schemes and lacked involvement of farmers in planning and decision-making.

Amani and Mkumbo (2012) also noted that Tanzania declared to pursue the policy of Ujamaa and Self-reliance in 1967. Among other things, the policy aimed at ensuring that major means of the economy were under the state. Villagisation in which people were moved into villages started in 1975. The government undertook broad initiative to provide social services to the people in the villages, however, villagisation had little impact on increasing production. Several approaches were also tried within this framework. The Regional Integrated Development Plans (RIDEPs) were one of them. Every region was allocated to a donor to support in rural development. Lack of co-ordination, different focus and approaches, too much donor dependence, excessive political interference and misuse of resources contributed to the failure of this approach. Moreover, the RIDEPs failed because they excluded the communities in the process of decision-making, thus communities perceived the programmes as owned by donors.

A major decentralisation of the government structure, including the Ministry of Agriculture, was instituted in 1972 in order to bring decision-making closer to the people, facilitate an integral approach and give greater scope to the Party (CCM) for guiding and controlling development at all levels (Nyerere, 1972). The Policy of decentralisation transferred the administration of extension services from the Ministry of Agriculture to the Prime Minister's Office through Regional Development Directors (RDD's) and District Development Directors (DDD's). This mode of modification proved ineffective since the Ministry of Agriculture which is responsible for agricultural development and is supposed to provide

technical and supervisory services to extension workers, lost control of these workers. The government also experimented with the “Commodity Extension Approach” whereby different Crop Authorities had separate extension services dealing separately with individual crops. This mode of organisation, despite its positive effects, resulted in duplication of efforts and bureaucratic competition (Mattee and Mvena, 1987).

In 1988, the Government launched the National Agricultural and Livestock Extension Rehabilitation Project (NALERP) based on the training and visit (T & V) system as an approach to improve agricultural extension. The basic features of the T & V system include: professionalism, single line of command, concentration of efforts, time bound trends, field and farmer orientation, regular and continuous training and linkage with research (Benor and Baxter, 1984). The general outcomes of this approach were farmers’ awareness of specific technical messages, less emphasis placed on capacity building of farmers and single line of command professionalism (Rutatora and Mattee, 2001).

Existing models are typically a general or modified T&V model housed in the Ministry of Agriculture, although many countries including Tanzania are using multiple models with pluralistic service providers for example; Farmer Field School (FFS), Sasakawa Global 2000 (SG 2000), group based approach, modified Farming System Research and Extension (FSRE) from Sokoine University of Agriculture’s Centre for Sustainable Rural Development, private extension and decentralised Participatory District Extension (Davis, 2008). In 2006/7 the Tanzanian Government launched the first nation-wide Agricultural Sector Development Reform Programme (ASDP). The local agricultural services sub-component under ASDP support the shift to contracting of agricultural services and greater control over resource allocation decision by farmers. The contracting of agricultural services is engaged through agreements and contracts directly between farmer groups and service

providers through local government outsourcing. District/ward/village extension staff play key roles in supporting private agricultural services providers (ASPs) and farmer groups, supporting the up-scaling of successful activities and ensuring the dissemination of success stories between farmer groups, village and ward farmers fora and between districts (URT, 2007).

Observations from Tanzania reveal that several non-governmental organisations (NGOs) and farmer-led initiatives have, over time, supplemented extension service delivery of the public extension services with cost-sharing, but these experiences have not been formally integrated into the extension system nor has their potential to reduce public expenditure and improve quality of extension service been considered. As the government continues to face financial difficulties, it has started to reconsider the issue of public extension service and is currently entertaining the possibilities of gradually divesting the public sector of extension, leaving the private sector and users to take an increasing responsibility (Rutatora and Mattee, 2001). Public-Private-Partnerships (PPPs) has been identified as a viable means to effectively address constraints of financing, managing and maintaining public goods and services (URT, 2009).

Most PPPs implemented in Tanzania are concession arrangement for running existing enterprises with limited provisions for rehabilitation and new investments. It is noteworthy that in the case of services, PPPs have been implemented successfully by Faith Based Organisations (FBOs) in education, health and water sectors for many years. However, in the case of other sectors, the performance has been mixed largely due to the complexity of such projects and lack of clear guidelines on the criteria for public and private sector partnership. To achieve the goal of poverty reduction by 2025, Tanzania has chosen to initiate and implement measures for the realisation of green revolution by

adopting KILIMO KWANZA resolution. This is the development vehicle for modernising agriculture and thereby attaining economic transformation needed for sustained poverty reduction (URT, 2009). According to URT (2005), it is now clear in Tanzania that more efficient outcomes can generally be achieved if the private sector is involved in the provision of public services. Many governmental functions can be contracted to specialised private sector firms and non-governmental organisations (NGOs) under competitive bidding. The government can also partner with the private sector including producer organisations, NGOs and trade associations in areas such as policy formulations and provision of extension services. The partnership of public and private sectors in agriculture also exist in Mtwara District (Schulz and Mbuvi, 2010).

Mtwara Region (where data for this study were collected) is one of 30 administrative regions of Tanzania Mainland (Fig.1). It is the southernmost region. It borders Lindi region to the north, the Indian Ocean to the east and separated by the Ruvuma river from Mozambique in the south. To the west it borders Ruvuma region. The region occupies 16 720 sq. kms or 1.9% of Tanzania Mainland land area of 885 987 sq. kms. It is the second smallest region after Kilimanjaro (URT, 1997). The region is divided into five administrative districts of Tandahimba, Newala, Mtwara, Masasi and Nanyumbu. It comprises of 27 divisions, 145 wards and 680 villages with population of 1 124 481 and annual growth rate of 1.7 (URT, 2012a). The study was conducted in Mtwara District (Fig.1). Administratively, Mtwara District is divided into 6 divisions namely Mpapura, Ziwani, Kitaya, Nanyamba, Dihimba and Mayanga. The District consists of 28 wards, 157 villages and 637 hamlets. The District covers about 3597 km² with population of 220 823 and annual growth rate of 1.4 (URT, 2012b).

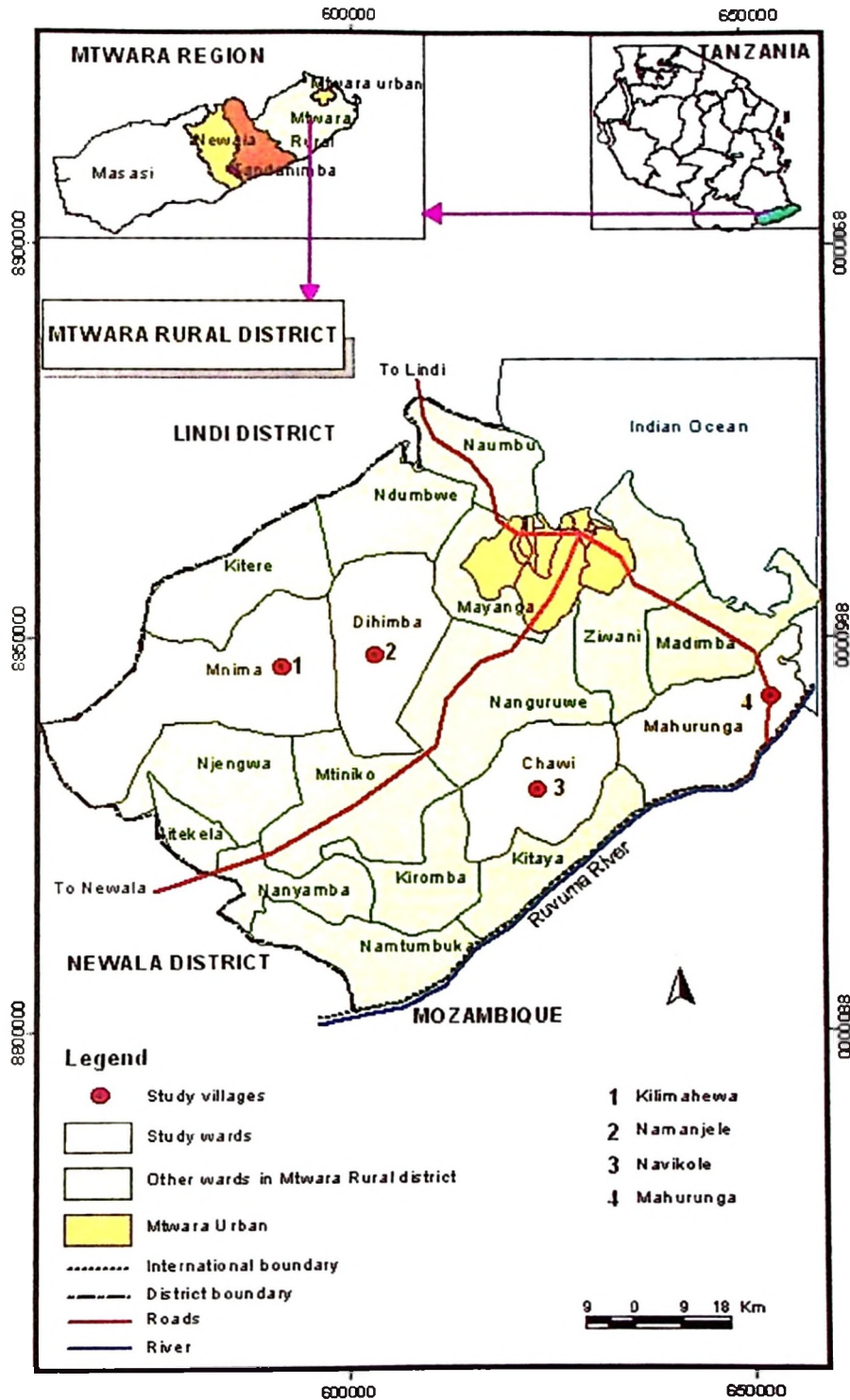


Figure 1: Mtwara region map showing Mtwara district with study villages

Mtwara District community members are among farmers and livestock keepers who are involved in implementation of PPPs in agricultural activities which are among the DADPs funded group activities under the ASDP that should be profitable in order to improve people's livelihood. DADPs are developed in participatory manner taking into considerations development priorities of the District. The PPPs in provision of agricultural extension and their policy implications remain to be clarified by this study. With this in mind, the problem outline for the study is set in perspective.

1.2 Problem Statement and Justification

Manda (2002) observed that over the years the provision of extension services in Tanzania was dominated by public sector. However, the effectiveness of public sector extension provision has declined greatly during the last decade due to various constraints and challenges brought about by Structural Adjustment Programmes (SAPs) and liberalisation policies. The challenges include reduced staffing, funding for operations and maintenance (Rutatora and Mattee, 2001; Kyaruzi *et al.*, 2010). Rutatora and Mattee (2001) noted that in recent years several other extension providers have emerged to fill the gap created by the reduced presence of public sector extension. These include NGOs, Community Based Organisation (CBOs), FBOs and Community Based Private Companies. Although this is a positive development, several challenges have emerged. These include dissemination of conflicting messages to clients, unnecessary competitions, duplications of efforts and general lack of synergy among the extension providers.

The purpose of this study was therefore to assess the public-private-partnerships in the provision of agricultural extension services in Mtwara District, Tanzania. In order to establish sustainable PPPs, it is necessary to have a fair dialogue among the partners about their roles in order to ensure that the needs of different parties are met. It was

therefore worthwhile to assess PPPs in the provision of agricultural extension services in the study area in order to advocate decision makers. Recognising substantial differences of individual functions of PPPs could result to improved provision of agricultural extension services in the study area in particular and the country in general.

1.3 Objectives

1.3.1 General objective

The general objective of the study was to assess Public-Private-Partnerships (PPPs) in provision of agricultural extension services in Mtwara District.

1.3.2 Specific objectives

The specific objectives were:

- (i) To identify types of parties involved in PPPs in the study area.
- (ii) To determine different roles parties identified in (i) above play as part of partnership.
- (iii) To examine forms of PPPs partnerships.

1.4 Research Questions

- (i) What are the types of parties involved in PPPs in the study area?
- (ii) What are the different roles played by the parties in (i) above as part of partnership?
- (iii) What forms of PPPs partnerships are used in the study area?

1.5 Operational Definition of Terms

The terms that are used frequently in this text are defined to provide a common basis for conveying meaning. These include: rural/agricultural development, agricultural extension

services, public sector, private sector, public-private-partnerships, agricultural extension agent and key variables used in the study.

1.5.1 Rural/agricultural development

Rural development is a process integrated in economic and social objectives, which must seek to transform rural society and provide better and more secure livelihood for rural people. According to Jones (1986), usually this implies the development of agriculture as a means to an end. In this study, “rural/agricultural development” will be used interchangeably to mean the perception of rural communities of possible often new ways and means of developing their economies.

1.5.2 Agricultural extension services

Hazelman (2010) defined agricultural extension as the information and advisory services needed and demanded by farmers and other actors in agrifood systems and rural development. This included information on technologies, new research findings, markets, input and financial services, climate changes, business skills and market linkage development, linkages between farmer organisations and market actors, support to institutional development, facilitating access to supporting government programmes and mediating in conflicts over access to natural resources. In this study, agricultural extension services means any contribution to facilitate delivery of useful information to farmers and assisting them to acquire the necessary knowledge, skills and attitudes to utilise effectively this information or technology for example financing, provision of technical staff, transport, implements, equipments, inputs and involvement of farmers in doing research in the study area.

1.5.3 Public sector

The public sector, sometimes referred to as the state sector or the government sector, is a part of the state that deals with either the production, ownership, sale, provision, delivery and allocation of goods and services by and for the government or its citizens, whether national, regional or local/ municipal (Wikipedia, 2013a). In this study, public sector will include government institutions, enterprises and employees.

1.5.4 Private sector

According to Wikipedia (2012), the private sector is that part of the economy, sometimes referred to as the citizen sector, which is run by private individuals or groups, usually as a means of enterprise for profit, and is not controlled by the state. In this study, private sector will refer to individuals, groups, institutions and enterprises which are not under the government.

1.5.5 Public-private-partnerships

The concept of PPPs entails an arrangement between the public and private sector entities whereby the private entity renovates, constructs, operates, maintains, and/or manages a facility in whole or in part, in accordance with specified output specifications. The private entity assumes the associated risks for a significant period of time and in return, receives benefits and financial remuneration according to agreed terms; which can be in the form of tariffs or user charges. PPPs is therefore a cooperative venture built on the synergy of expertise of each partner that best meets clearly defined public needs through the most appropriate allocation of resources, risks and rewards (URT, 2009). In this study, PPPs will be referred to as any collaborative effort for provision extension services between the public and private sectors in which each sector contributes to the planning, resources and activities needed to accomplish a mutual objective in the study area.

1.5.6 Agricultural extension agents

According to Swanson and Claar (1984), extension agent is an individual who influences clients' innovation decisions in a direction deemed desirable by a change agency. In this study, agricultural extension agents are the agricultural and livestock technical staff employed by public or private sector in the study area.

1.5.7 Key variables

The operational definitions of different key variables (background, independent and dependent variables) as used in the study are given in Appendix 1.

CHAPTER TWO

2.0 LITERATURE REVIEW

This Chapter review literature from the findings of other studies in order to provide a theoretical framework which guided the development of the study model on which the analysis of data for the study was based. It focuses on: agricultural development, agricultural extension, public-private-partnerships in provision of agricultural extension services and conceptual framework for analysis of the study data.

2.1 Agricultural Development

Over the past 200 years, nearly every part of the developed world has seen an agricultural transformation. As farming improved incomes, health, and economies also improved. More recently there was an amazing progress in parts of the developing world. During the Green Revolution, which took place from the 1960s to the 1980s, improvements in staple crops such as maize, wheat, and rice helped double the amount of food produced, saved hundreds of millions of lives, and drove broader development throughout much of Asia and Latin America (Bill and Melinda, 2011). Science based technology is a key driver of agricultural growth. Low level of agricultural Research and Development (R&D) funding is therefore a clear threat to much needed future agricultural innovations in Africa and other low income countries. High food prices serve as an opportunity to increase investments in agricultural R&D so that desired increases in productivity and production become a reality (Asenso-Okyere and Davis, 2009). Global collaboration is urgently needed to ensure sustainable agricultural growth and food security following the growing global population and rising incomes (IFPRI, 2012).

Increasing agricultural production and productivity is essential to promote food security and foster sustainable economic growth (G20, 2012). Increasing production and

productivity in a sustainable basis in economic, social and environmental terms, while considering the diversity of agricultural conditions, is one of the most important challenges that the world faces today. This will have global implications in strengthening the resilience of food markets, enhancing food security, improving well being and promoting the rural economy, as well as contributing to positive externalities and to a sustainable use of natural resources, in particular land, water and biodiversity. Pandya (2012) pointed out that as governments, donors and other key actors deepen their commitments to improve food security and reduce poverty; they increasingly focus on how successful development interventions can be scaled up, i.e. expanded, replicated and adapted to new and different contexts, for greater and sustained impact.

2.2 Agricultural Extension

According to Wikipedia (2013b), agricultural extension was once known as the application of scientific research and new knowledge to agricultural practices through farmer education. The field of extension now encompasses a wider range of communication and learning activities organised for rural people by professionals from different disciplines including agriculture, agricultural marketing, business studies and health. Qamar (2005) pointed that agricultural extension is taking a new dimension because of a global movement for reforming the national extension systems in developing countries that started in the late twenty century. New learning needs of farming communities are emerging as the world enters into an era of globalisation, democracy, privatisation and decentralisation, affecting the farmers of both developed and developing countries in different ways. There is a fresh and firm resolve worldwide to fight the menaces of hunger and rural poverty. Extension workers no matter whether they belong to government departments, NGOs, private institutions or farmers' associations, could constitute a formidable force in this fight.

Qamar (2005) further noted that extension in developing countries indeed has a very new role to play and needs the serious attention of policy-makers for its meaningful reform and modernisation. In an effort to increase the impact of extension on agricultural and pro-poor growth in developing countries, public-sector agricultural extension systems around the globe are implementing reforms that include demand-driven and decentralised approaches (Glendenning and Babu, 2011). Such reforms attempt to increase the accountability of agricultural extension staff to their clients (the farmers) and increase the relevance of extension activities. The effectiveness and efficiency of extension service is contingent upon the overall policy environment for agricultural development. Availability of credit and input supply services and availability of stock of appropriate technologies can be limiting factors for agricultural development. Lack of political commitment, partly arising from urban bias and poor understanding of the role of rural development in the overall economic development effort of a country has been another common problem confronting the extension service in many developing countries. In this regard, Purcell and Anderson (1997) posit that implementation of about half of the World Bank assisted extension projects was seriously affected by lack of commitment by senior government officials.

2.3 Public-Private-Partnerships in Provision of Agricultural Extension Services

Globally, public-private-partnership approach in agricultural extension is considered more effective, efficient and responsive to different categories of farmers (Haq *et al.*, 2009). The strength of Public-Private-Partnerships (PPPs) include the speedy, efficient and cost effective delivery of projects; value for money for the taxpayer through optimal risk transfer and risk management; efficiencies from integrating design and construction of public infrastructure with financing, operation and maintenance/upgrading; creation of added value through synergies between public authorities and private sector companies, in particular, through the integration and cross transfer of public and private sector skills,

knowledge and expertise; alleviation of capacity constraints and bottlenecks in the economy through higher productivity of labour and capital resources in the delivery of projects; competition and greater construction capacity including the participation of overseas firms, especially in joint ventures and partnering arrangements and accountability for the provision and delivery of quality public services through performance incentive management/regulatory regime and innovation including diversity in the provision of public services and effective utilisation of state assets to the benefit of all users of public services (IBEC, 2009).

According to Rawa (2002) the weakness of PPPs includes the very large tendering and contracting costs. PPPs contracts are typically much more complicated than conventional procurement contracts. The costs of contract re-negotiation are often high. Given the length of the relationships created by PPPs and the difficulty in anticipating all contingencies, it is not unusual for aspects of the contracts to be renegotiated at some stage. The difficulty with PPPs is ensuring good performance especially with respect to “soft” performance dimensions. One of the difficulties with performance specification in the area of service delivery is that performance sometimes has dimensions which are hard to formulate in a way that is suitable for an arms-length contract. Given the difficulty in estimating financial outcomes over such long periods, there is a risk that the private sector party will either go bankrupt, or make very large profits. Both outcomes can create political problems for the government, causing it to intervene.

Swanson and Rajalahti (2010) noted that in the beginning to build strong PPPs in India, for example, different relationships like under the Agricultural Technology Management Agency (ATMA) model, private sector representatives sat on ATMA governing boards to help review and assess the annual extension work plans. The National Institute of

Agricultural Extension Management started to organise one year agricultural extension training courses for input supply dealers to improve their technical, communication, and extension skills. Dealers receive up-to-date training on current recommendations for the specific crop grown in their specific district. In so doing when these input dealers asked about new problem being faced by farmers they will know who to call in extension for example the state agricultural university or nearby research centre.

Naluwairo (2011), for example, noted that Uganda's agricultural innovation system aim to promote cooperation, linkages, interactions and feedback mechanisms between and among players such as National Agricultural Research Organisation, National Agricultural Advisory Services, Makerere University and other higher institutions of learning involved in research and development, private sector, extension staff, civil society organisations, farmers, policy makers and regulatory bodies. On the other hand, in Tanzania the private sector can provide support services in the area of provision of consultancy services and undertaking construction works for irrigation development under contracts with the government and farmers. Furthermore there are opportunities in the management of large/complex irrigation infrastructures for water delivery (URT, 2009).

Public-Private-Partnership involves a contract between a public sector and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project (Wikipedia, 2013c). PPPs can take a wide range of forms varying in the degree of involvement of the private entity in traditionally public infrastructure. PPPs are generally memorialised in a contract or agreement to outline the responsibility of each party and clearly allocate risk (WBG, 2011). Experience from Netherlands indicated that the Dutch national authorities are subject to European Union (EU) regulation on open government procurement. These

rules have been transposed into even stiffer legislation which offers different procedures which can be or should be applied, depending on characteristics of the project to be procured (UN, 2008). Experience from Tanzania show that although there are various pieces of legislation and guidelines in the country that could be used to initiate and design PPPs models and projects, there is no specific regulation for PPPs and the level of awareness of general laws is very low (Itika *et al.*, 2011). Itika *et al.* (2011) further noted that the initiation of PPPs in Tanzania has taken various forms depending on the situation at hand. It also depended on the readiness, willingness and ability of the private sector individuals to sense the opportunity for collaboration and benefit.

Public-private partnerships may offer opportunities to provide services to the poor, while linking them to viable market opportunities. There are several different forms of PPPs-type contracts (Bharat and Ferroni, 2009). These range from a simple technical assistance contract to far more complex services such as the design, building, operation, maintenance and financing of infrastructure and new equipment. Examples include management contracts, concessions, Build-Operate-Transfer (BOT) projects and related forms, especially Rehabilitate-Operate-Transfer (ROT) projects, Build-Own-Operate (BOO) projects and Build-Own-Operate-Transfer (BOOT) projects (Fall *et al.*, 2008). Bharat and Ferroni (2009) also pointed out that there is no universal model for PPPs in agricultural extension; it varies from location to location and project to project thus policy should be flexible.

2.4 Conceptual Framework for Analysis of the Study Data

The literature for this Chapter has been reviewed from a wider perspective of public private partnership in provision of agricultural extension services. The reflections drawn in the review provides the basis for assessing parties involved in PPPs, roles played by the

different parties and the forms of PPPs in the study area, as shown in Fig. 2. This conceptual framework provides basis for analysing a large volume of data and is oriented towards establishing findings which fulfil the objectives of the study. The conceptual framework is a bridge between paradigms which explain the research issue and the practice of investigating that issue. It is also viewed as a map of theories and issues relating to the research topic.

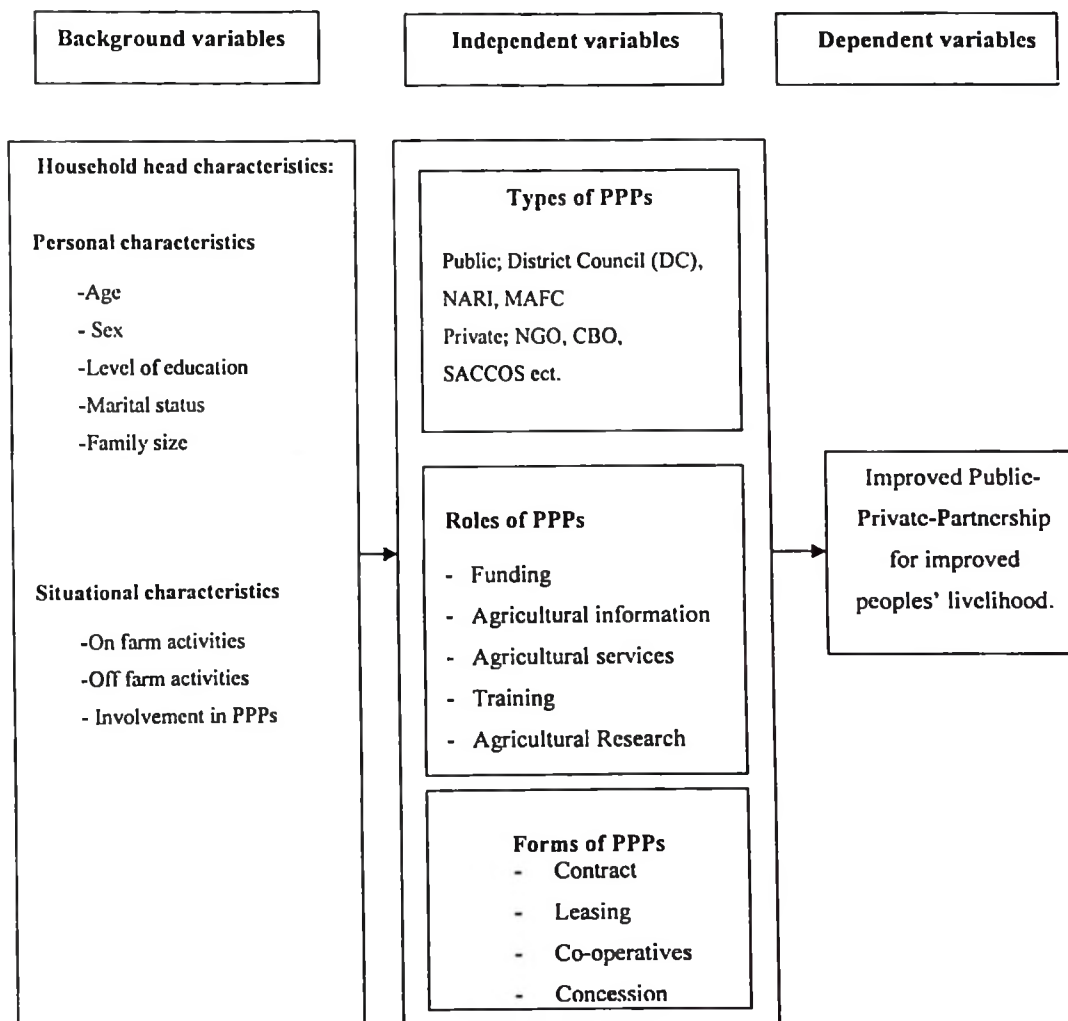


Figure 2: Conceptual Framework

This map gives meaning to the relationship between variables, by showing that theories have the potential to provide insight and understanding insight on research topics. The researchers are urged to view the conceptual framework as a device that makes sense of their data (Leshem and Trafford, 2007). The conceptual framework shown in Fig. 2 allows drawing implications on the extent to which Public Private Partnership in provision of agricultural extension services could result to peoples' improved livelihood in Tanzania. The model suggests that the dependent variable for PPPs is influenced by background variables and independent variables under Public-Private-Partnership in provision of agricultural extension services. The definition of key variables (background, independent and dependent variables) used are given in Appendix 1.

CHAPTER THREE

3.0 METHODOLOGY

This Chapter discusses the methodology adopted under eight parts: (a) study area; (b) study design; (c) sampling procedures; (d) sample size; (e) data collection instruments; (f) data collection procedures; (g) data processing and analysis; and (h) limitations of the study.

3.1 Study Area

The study was conducted in Mtwara District, Mtwara Region. The study area was purposively selected because it is one of the marginalised and poorest regions in the country (Albee *et al.*, 2009). Also there is existence of PPP in provision of agricultural extension services such as the government and NGOs like Concern Worldwide and Aga Khan Foundation.

3.2 Study Design

This study employed a cross-sectional research design. The design is useful for descriptive purposes as well as determination of relationships between and among variables (Bailey, 1998). This design was considered to be favourable because of the time limit and resources available for data collection (Casley and Kumar, 1988).

3.3 Sampling Procedures

The study used multi-stage sampling technique under two main stages.

Stage 1: First stage involved purposive selection of divisions, wards and villages based on evidence of involvement in public-private-partnerships (PPPs) in agricultural extension services. There were 6 divisions, 28 wards and 157 villages during data

collection period in Mtwara District. Each division had more than 2 wards and each ward had more than 2 villages. Thus, two divisions were purposively identified, namely Dihimba and Kitaya. In turn, two wards were purposively selected from each division, namely Mnima, Dihimba, Mahurunga and Chawi. Purposive sampling was also used to select one village from each selected ward which was Kilimahewa, Namanjele, Navikole and Mahurunga villages. Finally the same procedure was used to select one private extension provider in each selected village.

Stage 2: The second stage involved selection of respondents. A sample of 120 community member households heads (HHs) including 76 male household heads (MHHs) and 44 female household heads (FHHs) (30 from each village) was obtained from the four selected villages. Stratified and purposive sampling techniques were applied to get the names of community members HHs respondents' (MHHs and FHHs) from the corrected register of 173 (106 males and 67 Females) community members HHs from the study villages. Each of the selected village had more than 30 HHs on corrected register and one extension agent who was involved in the study. In addition, 30 key informants were also selected using snowball technique. Thus a sample of 154 respondents was identified and involved in the study.

3.4 Sample Size

The study used total number of 154 respondents including 120 HHs, 4 extension agents and 30 key informants, as shown in Table 1.

Table 1: Distribution of respondents (n= 154) involved in the study

Type of respondent	Number		
	Male	Female	Total
Community members HHs	76	44	120
Extension agents	4	0	4
Key informants	23	7	30
Total	103	51	154

3.5 Data Collection Instruments

- (a) **Questionnaire:** One type of interview schedule was used to collect primary data from household heads, namely HHs interview schedule (Appendix 1). All the interview schedules were completed by means of personal interviews conducted by the researcher.
- (b) **Researcher's diary:** Researcher's diary was used to collect secondary data from relevant documentary sources including official reports, websites, Department of Agricultural Education and Extension (DAEE) library and Sokoine National Agricultural Library (SNAL) as well as data through researcher's observations of PPP activities in the study area.
- (c) **Checklist:** This was used to collect primary data from extension agents and key informants (Appendix 2) to supplement information gathered through questionnaires (interview schedules) and researcher's diary.

3.6 Data Collection Procedures

Data collection exercise was carried out from January to February, 2012. The permit for data collection was obtained from the Mtwara District Council Executive Director (DED) after getting an introductory letter from the Director of Research and Postgraduate Studies, at Sokoine University of Agriculture (SUA). Structured and unstructured interview schedules were used as a tool for interviewing selected household heads.

The interview schedules were designed and translated in Kiswahili to permit gaining of both qualitative and quantitative data and were pre-tested before being subjected to the field for actual data collection in order to ensure their reliability and validity of items. The first draft of the HHs interview schedule was pre-tested in 15 HHs respondents not included in the study sample. In addition, necessary changes were made on the basis of the pre-testing results before the final administration to the study respondents. Direct researchers observations were made to verify some of the information given during survey. Primary data were collected using checklist from key informants through directed discussions. Secondary data were also collected through review of documentary information from SNAL, DAEE library, websites, and official reports from district, ward and village offices using researcher's diary.

3.7 Data Processing and Analysis

3.7.1 Data processing

Data from completed household heads interview schedules were coded for computer analysis. Each schedule had 331 variables. Data from researcher's diary and checklists were summarised manually. In summarising the data great care was taken to ensure that it accurately reflected the original meanings of the statements made.

3.7.2 Data analysis

Data from community members' HHs interview schedules coded for computer analysis were analysed using statistical package for Social Science Programme (SPSS). The analysis used techniques of frequency counts, means and percentages. Furthermore, data processed from researcher's diary and checklists were also examined. Qualitative data were analysed using "content analysis" technique which mainly involved transcription of recorded note books and then clustering information into sub-themes.

Quantitative data were processed and analysed to produce frequencies and percentages to facilitate assessment of public-private-partnership in provision of agricultural extension services in the study villages.

3.8 Limitations of the Study

- (i) Some respondents got difficulties in explaining the roles and forms of different parties involved in PPPs. Thus, the researcher had to probe more to get required information.

- (ii) Many respondents had limited time due to their involvement in farm activities during data collection period. Thus, the researcher had to ensure effective use of farmers' time by concentrating to the questions in the interview schedule.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

This Chapter presents the major results and discussions arising from the data analysis related to public-private-partnership (PPPs) in provision of agricultural extension services in Mtwara District. This discussion falls under four main sections. The first section involves the farmers HHs respondents' characteristics. The second section focuses on the types of parties involved in PPPs. The third section discusses the roles played by PPPs. Finally, the fourth section examines forms of PPPs. The findings from these sections were examined from the perspective of their implication in PPPs provision of agricultural extension services in the study area.

4.1 Farmers Household Heads (HHs) Respondents' Characteristics

Farmers HHs characteristics covered personal and situational characteristics in PPPs which were expected to influence the provision of agricultural extension services. This part is therefore organised in two main categories. The first category involved personal characteristics. These included sex, age, marital status, level of education and family size. The second category dealt with situational characteristics, which included: on-farm activities, off-farm activities; income from on-farm and off-farm activities and involvement in PPPs.

4.1.1 Farmers HHs respondents' personal characteristics

The personal characteristics of HHs have important social and economic implications to involvement in Public-Private-Partnerships (PPPs) in provision of agricultural extension services. Among the more important household heads personal characteristics dealt with in this study are: sex, age, marital status, level of education and family size.

The examination of HHs respondents' sex revealed that of the 120 HHs respondents, 76 were males (MHHs) and 44 were females (FHHs). Further examination of HHs respondents personal characteristics are presented under age, marital status, level of education and family size, as shown in Table 2.

Table 2: Percentage distribution of farmer HHs respondents (n =120) by personal characteristics

HHs respondents' personal characteristics	Number	Percentage
Sex		
Male	76	63.3
Female	44	36.7
Age		
18- 30	25	20.8
31 -50	62	51.7
51- 60	18	15.0
61- 70	15	12.5
Level of Education		
None formal education	9	7.5
Adult education	3	2.5
Primary education	92	76.7
Secondary education	16	13.3
Marital status		
Single	1	0.8
Married	114	95.0
Divorced	3	2.5
Widowed	1	0.8
Separated	1	0.8
Family size		
2-3 (small)	16	13.3
4-6 (medium)	71	59.2
7 -9 (Large)	33	27.5

(a) Age

The age distribution of farmer respondents was between 18 to 70 years. The majority (72.5%) were below 51 years of age. The results generally suggest that HHs study respondents were drawn from different age groups of farmers in the study area. However, involvement of farmers with 51 years and above was a rich source of information on assessment of public-private-partnerships in provision of extension services in the study area.

(b) Marital status

It was expected that marital status of farmer respondents would influence their involvement in PPPs on provision of extension services. The farmer HHs respondents' marital status is given in Table 2. Data in Table 2 show that the majority (95%) farmer HHs respondents were married. This implies that marital status did not significantly influence the study results.

(c) Level of education

Education is believed to be a basic tool for the total liberation of a man as it can be neutral (Freire, 1974). It is designed to maintain the existing situation, imposing on people the values and culture of the dominant group or it helps them become critical, creative, free, active and responsible members of society. It was therefore assumed that the extent to which rural people were educated would tend to influence their ability to gain knowledge. This may also affect their involvement in extension services provided under PPPs. The farmer HHs respondents were therefore asked to indicate their level of education, as given in Table 2. Data in Table 2 show that the majority (76.7%) of the HHs respondents had primary level schooling. Hence it is impressive that most of the HHs respondents had some formal education that can enable them to read leaflets related to various messages from PPPs.

(d) Family size

Data in Table 2 show that the majority (86.7%) of the HHs respondents had family size ranging from 4 and above. The study revealed that medium to large family sizes were common in HHs respondents. The study further found that average family size was 4.3. This figure is higher than the one found during the population census of 2002 which was 4.0 in Mtwara District (URT, 2003). This situation could be attributed by less awareness of high cost of living that trigger the need of a small household family sizes as well as

family planning due to availability of Mother and Child Health (MCH) services in the study area.

4.1.2 Farmers HHs respondents' situational characteristics

Situational characteristics dealt with were in four main categories. The first category involved factors related to on-farm activities. These include land ownership, crop and livestock production. The second category involved off-farm activities engaged by HHs respondents. The third category focused on HHs respondents' average annual income from on-farm and off-farm activities. Finally, the fourth category dealt with HHs respondents' awareness of PPP parties involved in provision of extension services in the study area.

(a) On-farm activities

(i) Land ownership

Land is one of the most important factors and means of agricultural production. Access to land enables production of both food and cash crops for individuals as well as households. Results in Table 3 reveal that farm size of respondents ranged from less than 0.8 hectares to above 2 hectares with an average of 0.9 hectares per household. The findings suggest that both types of HHs respondents' farm size were very representative of the general farm size situation in the study villages. The findings reflect what has been reported by URT (2011) that most smallholder farmers in Tanzania cultivate between 0.92 and 3 hectares of land for crop production. This implies that farm size situation of study respondents was not different from that of smallholder farmers in the country.

Table 3: Distribution of HHs respondents (n=120) by area cultivated

Area cultivated in acre	HHs Respondents			
	MHHs (n=76)		FHHs (n=44)	
	Number	%	Number	%
<2	5	6.6	6	13.6
2-3	50	65.8	20	45.5
>3-5	16	21.1	15	34.1
>5	5	6.6	3	6.8

(ii) Crop production

The HHs respondents' opinions on area cultivated, types of crop grown and average crop yields in kilograms per hectare (kg/ha) were examined in this part in terms of food and cash crops grown. The average crop yields for food and cash crops commonly grown in the study villages was computed as shown in Table 4.

Table 4: Distribution of HHs respondents (n=120) by type of crops grown 2010/11 season

Type of crop	HHs Respondent	
	MHHs (n=76)	FHHs (n=44)
	Average crop yield (kg/ha)	Average crop yield (kg/ha)
Cash crops		
Cashewnuts	742	744
Sesame	442	429
Groundnuts	875	838
Food crops		
Cassava	2568	2576
Sorghum	639	620
Maize	855	853
Paddy	1125	1083
Average	1035	1020

In general, data in Table 4 revealed that MHHs and FHHs respondents produced average crop yields of 1035 kg/ha and 1020 kg/ha, respectively. The findings in Table 4 indicate that MHHs and FHHs average crop yields were almost similar. This implies that both MHHs and FHHs respondents were concerned with crop production for fulfilling family basic needs, medical services and sending children to school, all of which require the use of money.

(iii) Livestock production

The numbers of livestock owned by HHs respondents were expected to indicate their economic status. The HHs respondents were therefore asked if they owned livestock and their types as summarised in Table 5. Data in Table 5 indicate that the major types of livestock owned by MHHs and FHHs respondents in the study area were chicken and goats in declining order. None of the MHHs respondents reported to have been involved in cattle and sheep keeping while 4.6% of FHHs reported to keep sheep. Data in Table 5 generally indicate that livestock keeping is not an important economic activity in the study villages.

Table 5: Percentage distribution of HHs respondents (n=120) by type of livestock kept

Type of livestock	HHs Respondents			
	MHHs (n=76)		FHHs (n=44)	
	Number	%	Number	%
Cattle				
0	76	100	44	100
1-3	0	0	0	0
>3	0	0	0	0
Local chicken				
0	9	11.8	7	15.9
1-10	33	43.4	31	70.5
>10	34	44.7	6	13.6
Local goats				
0	50	65.8	29	65.9
1-10	21	27.6	14	31.8
>10	5	6.6	1	2.3
Sheep				
0	76	100.0	42	95.5
1-3	0	0.0	1	2.3
4-10	0	0.0	1	2.3

(b) Off-farm activities

Off-farm activities are carried besides farming in which people are engaged in order to supplement their income generation. The HHs respondents' opinions were therefore

sought on the extent to which they were engaged in off-farm activities. The particular off-farm activities engaged with by HHs respondents are shown in Table 6. Data in Table 6 show that the major off-farm activity carried out mainly by MHHs was small scale business (27.6%) while 40.9% of FHHs respondents were engaged in casual labour. On the other hand, data in Table 6 also show that only small proportion of MHHs and FHHs respondents were generally engaged in off-farm activities. Thus, suggesting that engagement in off-farm activities was not an important undertaking for community members HHs respondent in study villages. However, the findings imply that there was a potential for off-farm employment for community members in the study villages.

Table 6: Distribution of HHs respondents (n=120) by off-farms activities

Type of Off-farm activity	HHs Respondents			
	MHHs (n=76)		FHHs (n=44)	
	Number	%	Number	%
Selling fish	3	3.9	1	2.3
Timber making	8	10.5	0	0
Small scale business	21	27.6	8	18.2
Employment	9	11.8	2	4.5
Casual labour	18	23.7	18	40.9
Carpentry	4	5.3	0	0.0
Veterinary services	1	1.3	0	0.0
Making beds	1	1.3	0	0.0

(c) Average annual income generated from on-farm and off-farm activities

The HHs respondents were asked to estimate the annual income in Tshs by their households from on-farm activities (crops and livestock) and off-farm activities, and the findings were as shown in Table 7. Data in Table 7 show that the majority (78.9% MHHs and 56.8% FHHs) of the farmer respondents earned average annual income of more than 1 500 000 TShs, which is equivalent to 125 000 Tshs monthly which is less than the minimum wage per month for workers in Tanzania of 150 000 TShs and above. However, data in Table 7 generally show that poverty persists among the community in the study area.

Table 7: Percentage distribution of HHs respondents' (n=120) by average annual income from on-farm and off-farm activities

Average Annual income in Tshs	HHs Respondents			
	MHHs (n=76)		FHHs (n=44)	
	Number	%	Number	%
<500 000	1	1.3	1	2.3
500 000 – 1 000 000	9	11.8	10	22.7
>1 000 000 – 1 500 000	6	7.9	8	18.2
>1 500 000	60	78.9	25	56.8

(d) HHs respondents' awareness of public and private parties involved in extension provision

HHs respondents were asked if they were aware of public and private parties involved in extension services and the type of services provided in their respective villages. All the respondents stated that they were aware and their percentage, distribution on the type of services provided is given in Table 8. Data in Table 8 show that, on average, the distribution of responses from MHHs and FHHs were almost similar (53% and 50%, respectively) on extension services provided by public and private parties. This implies that farmers are aware that public and private parties jointly provide extension services in their villages, and therefore complement each other.

Table 8: Percentage distribution of HHs respondents' (n=120) by the type of extension services provided

Type of extension services	HHs Respondents			
	MHHs (n=76)		FHHs (n=44)	
	Number	%	Number	%
Provide agricultural inputs	68	90	42	96
Provide processing machines	10	13	4	9
Provide practical training	52	68	28	64
Supply technical staff	59	78	30	68
Facilitate community savings	18	24	4	9
Facilitate Cooperative services	3	4	1	2
Information dissemination	74	97	44	100
Average	41	53	22	50

4.2 Farmer HHs Respondents' Opinions on Types of Parties Involved in PPPs for Provision of Extension Services

Considering that public-private-partnership brings public and private sectors together in long term partnership for mutual benefits, farmers HHs respondents' opinions were sought on types of parties involved in PPPs in provision of extension services in their villages, as given in Table 9. Data in Table 9 generally show that 77% and above of the respondents from all the study villages stated that both public and private parties in study villages were involved in provision of extension services. These findings reflect the fact that following the wind of change in mid 1980 in the form of many and far-reaching social, political and economic reforms, the role of the public sector in development process has substantially changed in developing countries. Its role now is mainly that of facilitator for private sector economic development and growth (Ngowi, 2005). This implies that the use of PPPs in provision of extension services is inevitable for attainment of sustainable development in the study villages.

Table 9: Distribution of HHs respondents' (n=120) response on types of parties involved in PPPs for provision of extension services

Type of party	Study villages			
	Kilimahewa (n=30) %	Namanjele (n=30) %	Navikole (n=30) %	Mahurunga (n=30) %
Public	87	90	100	100
Private	68	67	69	53
Average	78	79	85	77

More specifically, data in Table 9 indicate that a large proportion (87% and above) of the respondents recognised more involvement of the public sector in provision of extension services. However, these findings imply that there is a marked increase in provision of

extension services by the private sector in the study villages. This could be driven by limitations in public funds to cover investment needs, but also by efforts to increase the quality and efficiency of public extension services. Directed discussions with the key informants revealed that as the level of private sector participation increases, so the number of participants and requirements of all partners, public and private. For private sector participants, the first requirement for any type of involvement is the potential to drive reasonable profit.

The key informants further stated that, in return to great risk exposure, the private sector will also require the potential for commensurate increases in profit potential. Similarly, before committing its own capital in development of projects, it will require clear legal and regulatory structures, and will want to see the potential for future economic growth, together with reasonable levels of political support and solidarity. It was further noted from key informants that while the public sector supports efficiency and improvements, the private sector motivation for profit introduces conflicts of interest with the government, which is committed to promoting equity and maximising the well being of the citizens. However, the government is generally willing to allow its private partners to make reasonable profit in exchange to promoting services and efficiency, leveraging its own financial resources and expediting project implementation.

It can generally be concluded from this section that PPPs are recognised as a way to improve extension services in the study villages. However, it is important to understand that the public and private sector participants in PPPs activities have distinct goals and requirements that must be met in order for them to be able to participate in an effective partnership. While certain goals are complimentary, others are not, and as the number of players increase, so will the complexity of establishing a fair playing ground for the

various participants. This implies that in order to benefit from the advantages of PPPs all potential participants must enhance their understanding of the different approaches and optimal methods to structure such arrangements.

4.3 Roles Played by PPPs Parties in Provision of Agricultural Extension Services in the Study Area

It was assumed that as the public sector works with the private sector each has benefits to contribute, i.e. the public sector brings legal, political and large scale service provision advantages not available to the private sector working alone. On the other hand, the private sector brings investment in labour, capital and knowhow sought by the public. The partnership activities and processes involve interactions and relationships building between the public, private and intermediary players. The farmer HHs respondents were therefore asked to state the roles played by PPPs parties in their villages, as summarised in Table 10. Data in Table 10 generally show that extension service provision in all the study villages was dominated by the public sector when compared to the private sector. However, the use of PPPs arrangements is better than pure public or private sector provision of extension services. This implies that when they enter into partnership, there are great possibilities for advantageous synergies to arise that most likely contribute significantly into better extension services delivery. The roles played by PPPs parties given in Table 10 are discussed under the following parts.

4.3.1 Planning of agricultural extension services

The role of planning for agricultural extension services in the study area was mainly done by the District Council (DC) public party as pointed by HHs respondents and some key informants. All respondents (100%) in Kilimahewa, Namanjele, Navikole and Mahurunga villages mentioned that public party was dealing with the planning role. The DC and

community members are involved in planning at the stage of identification of opportunities and obstacles to development in the village and development of village agricultural development plan (VADP).

The VADPs are the building blocks for the district agricultural development plans (DADPs). Other parties for example CONCERN worldwide, Aga Khan Foundation, FAO and AMCOS were also mentioned by few key informants to deal with planning for agricultural extension services either at their respective party or in collaboration with Mtwara District Council (MDC). The key informants pointed out that CONCERN worldwide provides a ceiling to be budgeted for and included in DADPs budget. Before incorporating this budget in DADPs it is approved by CONCERN worldwide.

Table 10: Distribution of HHs respondents (n=120) according to the roles played by PPPs parties

Roles	Kilimahewa (n=30)		Namanjele (n=30)		Navikole (n=30)		Mahurunga (n=30)	
	Public (%)	Private (%)	Public (%)	Private (%)	Public (%)	Private (%)	Public (%)	Private (%)
Planning	100	13	100	0	100	0	100	0
Advisory services	100	17	100	30	100	23	100	90
Supply inputs	77	83	93	93	97	97	83	87
Marketing	83	80	97	87	100	90	100	33
Financing	87	80	97	83	100	83	97	93
Regulation	100	3	100	0	100	0	100	0
Enforcement	93	0	97	0	100	20	97	13
Average	91	39	98	42	100	45	97	45

FAO was also mentioned by key informants to deal with planning and budgeting after obtaining the needs of the beneficiaries. Directed discussion with the key informants also revealed that Aga Khan Foundation deals with planning on their own and collaborate with MDC by providing what they expect to implement and the roles of MDC to play in order to accomplish the activities. Some key informants pointed that due to the fact that the

collaboration during planning is usually done at district level might be the reason for beneficiaries facing difficult to know that private parties were also involved in the planning process. This could be the reason for all (100%) of respondents in all the four study villages to mention that public party was concerned with planning of agricultural extension services while private parties was not mentioned by all the respondents in all study villages except very few (13%) in Kilimahewa village.

4.3.2 Advisory services

Data in Table 10 showed that the role of advisory services was pointed by all (100%) of the HHs respondents in Kilimahewa, Navikole, Mahurunga and Namanjele villages that was the role played by public parties. Few respondents (17% to 30%) in Kilimahewa, Namanjele and Navikole villages and majority (90%) in Mahurunga village mentioned that private parties were responsible for the advisory services provision in the study area. Directed discussion with the key informants showed that the public party dealing with information dissemination was MDC and private parties were Aga Khan Foundation and AMCOS. Directed discussion with the key informants further revealed that MDC provided advisory services on improved agriculture and livestock production, processing, marketing and networking. Aga Khan Foundation was mentioned to provide information on paddy and sesame agronomical practices, community servings and marketing. AMCOS provided advisory services on cashewnuts pesticides, post harvesting managements and marketing of cashewnuts. Generally data in Table 10 show that the role of advisory services provision was mainly played by the public party in the study villages.

4.3.3 Supply of inputs

Data in Table 10 revealed that majority (77% to 97%) of HHs respondents in the study villages mentioned that both public and private parties performed the role of supply of

inputs. MDC public party was pointed to be involved in supply of inputs where it provided improved seeds, fertilisers, improved animal breeds, processing machine and power tillers. Private parties included CONCERN worldwide which provided improved seeds, local goats, processing machine and Newcastle vaccine. It was revealed that Aga Khan Foundation provided improved seeds and fertiliser for sesame and paddy crops production being part of the practical training materials. FAO was also mentioned by the HHs respondents that it provided improved seeds, power tiller and improved animal breeds. AMCOS were mentioned to deal with supply of pesticides for cashewnut production in their respective wards. Directed discussion with the key informants revealed that AMCOS private party was responsible for the supply of pesticides for cashewnut production in the District. This might be the reason for the high percentage (83% to 97%) of HH respondents who pointed out that private party dealt with input supply. Generally the study revealed that supply of inputs was the role played by both public and private parties in the study area.

4.3.4 Marketing

The majority (80% to 100%) of HH respondents in Kilimahewa, Namanjele and Navikole villages stated that marketing role was played by both public and private parties as shown in Table 10. Directed discussion with key informants revealed that private party dealing with marketing services was AMCOS working with MDC public party. MDC was mentioned to have cooperative section dealing with coordination and supervision of marketing of harvested crops done by AMCOS in the study area. They also revealed that the reason for few (33%) respondents stating that private parties were providing marketing extension services in Mahurunga village could be the effort of the MDC to facilitate the marketing of paddy by establishment of paddy processing unit in the village. Paddy was pointed to be the major cash crop in Mahurunga village. Generally the study

revealed that marketing services were provided by both public and private parties in the study area.

4.3.5 Financing

The majority (80% to 97%) of HHs respondents from Kilimahewa, Namanjele and Mahurunga villages stated that financing was provided by both public and private parties while all (100%) of HHs respondents at Navikole village were of the opinion that this role was provided by public parties, namely MDC and NARI. MDC dealt with financing of the majority of agricultural extension services in the district such as paying salaries to extension staff, financing training of farmers and extension staff and financing of farmers agricultural show and study tours using the fund from the central government and other donors. NARI was mentioned to finance on-farm trials. Financing role was also found to be played by private parties including CONCERN worldwide, FAO, and Aga Khan Foundation were financing training of farmers and extension staff and agricultural inputs. FAO and CONCERN had financed the purchase of cassava and cashewnuts processing machines while Aga Khan Foundation financed transport for some of the extension staff. The study generally indicates that financing role was played by both public and private parties in the study area.

4.3.6 Formulation of regulations

Data in Table 10 indicated that formulation of regulations was done by public parties as pointed out by all (100%) of the HHs respondents in all the study villages. Directed discussion with key informants revealed that the role of regulations formulation was played by ministries and for the case of agricultural extension services the responsible ministries were mentioned to be the agricultural sector lead ministries (ASLMs). The ASLMs include five ministries: the Ministry of Agriculture, Food and Cooperatives

(MAFC); Ministry of Livestock Development (MLD); Ministry of Industry, Trade and Marketing (MITM); Ministry of Water (MW) and the Prime Minister's office-Regional Administration and Local Government (PMO-RALG). The dissemination of these regulations to the community was found to be done by the MDC.

4.3.7 Enforcement of regulations

Data in Table 10 show that enforcement of regulations were performed by public parties as mentioned by the majority (93%, 97%) of HHs respondents in Kilimahewa village as well as Namanjele and Mahurunga villages respectively. All (100%) of HHs respondents at Navikole village mentioned that public party was dealing with the enforcement of regulations in the study area. Few (20% and 13%) of the HHs respondents at Navikole and Mahurunga villages, respectively, stated that private parties were dealing with enforcement of regulations. Key informant respondents also revealed that MDC dealt with the enforcement of regulation role in the study area. Generally data in Table 10 indicate that enforcement of regulation role was played by public party.

This section can generally be concluded that the role of the government in PPPs is to build an environment in which a plurality of extension service providers can thrive. Special attention should be given to those service providers who have vested interests in the long-term success of the services they are providing. Champion farmers, for example, could provide good services to their peers as this might strengthen their market position, enabling them to control a larger share of production. One could also support processors to provide embedded services to farmers, which in turn gives them the assurance of more reliable supply with raw materials. A loose network of formal association of private service providers is deemed necessary for any interaction with the government.

4.4 Forms of Public-Private-Partnerships

Considering that the overall aim of PPPs is to meet public needs which would have not been realised without joint efforts, it was assumed that there are numerous opportunities with PPPs extension system which is supposed to increase the extension coverage in the study area and lead to greater quality and higher efficiency of rendered services through enhanced competition between providers. HHs respondents' opinions were therefore sought with respect to forms and responsibilities of PPPs provision of extension services in their villages, as shown in Table 11.

Table 11: Distribution of HHs respondents (n=120) opinions on responsibilities of specific private sector participation under specific PPPs form

Type of Private Sector	Specific PPPs Form	Responsibilities				
		Asset owner ship %	Operation and maintenance %	Capital investment %	Commercial Risks %	Typical duration (Years)
CONCERN	Self voluntary organisation	84.2	1.7	93.3	0	1
Aga Khan	Self voluntary organisation	71.7	68.3	71.7	69.2	5
FAO	Self voluntary organisation	2.5	0	10	0	4
AMCOS	None	80.3	80.0	80.0	80.8	-

The findings in Table 11 show that most commonly used practiced form of PPPs was self-voluntary organisation which are designed to serve the interest in partnership with Mtwara Local Government Authority. However, it was noted from key informants that there was no strict PPPs classifications that can be made, because partnership classification depends on types of services, nature and strengths of partners and objectives of PPPs. The private sector involved in PPPs in the study villages, namely: CONCERN worldwide; Aga Khan Foundation; Food and Agricultural Organisation (FAO) and Agricultural Marketing Cooperative societies (AMCOS) are described hereunder.

4.4.1 CONCERN worldwide

It was revealed that CONCERN worldwide first began in Tanzania in 1978 focusing on livelihoods and health ensuring that people have dependable, access to food and safe water. In Tanzania, CONCERN help farmers to get more food through training on new skills to boost their crop production and support them in accessing inputs such as improved seeds and fertiliser. Data in Table 11 show that responsibilities of CONCERN participation was considered by 84.2% and 93.3% of the HHs farmer respondents to be asset ownership and capital investment, respectively. This was evidenced by a contract signed between CONCERN and Mtwara District council for duration of one year. This was the third year of Integrated Livelihood Programme (ILP) which was a partnership programme signed in 2007 in relation to improvement of local goat and cassava production in Mtwara District. This implies that the role of the government in PPPs is to build an environment in which a plurality of service providers can thrive.

4.4.2 Aga khan foundation

It was found that Aga Khan Development Network (AKDN) and its institutional processors had a presence in Tanzania for more than a century. In recognition of AKDN's commitment to the country, agreement of cooperation was signed with the Government of United Republic of Tanzania in 1991. The agreement was subsequently revised with the Government of the United Republic of Tanzania in 2001, which has enabled the AKDN to contribute subsequently to Tanzania's development agenda in economic, social and cultural spheres. Its work has spanned rural development in Mtwara Region with a programme having overall goal of improving the quality of life and social welfare in rural communities through sustainable and socio-economic investment in food security, income generation, health and education. It works to build the capacity of local government staff,

specifically district agricultural officers and extension workers to create sustainable systems for agricultural development in the district.

The findings in Table 11 indicate that the majority (68.3 and above) of the HHs farmer respondents stated that Aga Khan Foundation was responsible for operation and maintenance, commercial risks and asset ownership, respectively. This was evidenced by a memorandum of agreement signed between Mtwara District Council and Aga Khan Foundation for five years to jointly improve agricultural productivity of small scale farmers, in particular those cultivating paddy and sesame. This was found to be an important partnership because the role of the state is to train extensionists and perhaps to issue certificates for recognised advisors with which they are eligible to work within state mandates. At the end Mtwara District Council should have at its disposal a good data of experts in different fields. A deliberate employment of young graduates as extensionists is valuable opportunity. Young professionals have the ability to use broad range of internet resources available. As a backstopping tool for advisors, an internet based agricultural knowledge centre could be established at the district level. For market-oriented advisory services that connect farmers to the market, extension staff with commercial background and business mind-set is needed. This provides excellent opportunity for public-private partnerships.

4.4.3 Food and agricultural organisation

The study revealed that Food and Agricultural Organisation (FAO) was established on 16th October 1945 in Canada. FAO's mandate is to raise level of nutrition, improve agricultural productivity, and better the lives of rural populations and contribute to the growth of world economy. FAO's regular programme budget is funded by its members through contribution set at FAO annual conference. This budget covers core technical

work, cooperation and partnerships including technical cooperation programme, knowledge exchange, policy and advocacy, direction and administration, governance and security.

The findings in Table 11 show that only a small proportion (10% and 2.5%) of the HHs farmer respondents stated that FAO responsibilities focused on capital investment and asset ownership, respectively. This was evidenced by letter of agreement from FAO to Mtwara District council for training FFS members on diseases/pest surveillance and establishment of cassava multiplication plot in support of OSRO/RAF/912/ EC Project for five months duration of this specific activity. Discussion with the key informants revealed that the duration for FAO partnership with Mtwara District Council is four years where the duration in the letter of agreement depends on the nature of the activity. This implies that government funds, but not necessarily government service provision are still very much required to finance agricultural extension and especially to reach the poor segments of the farming community. This could be done via mandates which the Ministry of agriculture issue for private accredited private service providers and which are paid according to clearly defined, success-oriented indicators. Donors may also decide to buy in this concept of public-private partnerships and issue mandate at terms that are comparable to those of the government. Some key informants even preferred to have only one contracting agency per district which would issue mandates either funded by government or donors. For example, procurement, funding and quality assurance should best be decided on the district level with a strong farmer involvement in committees that have a say in both-extension services provided by private as well as public actors.

4.4.4 Agricultural marketing cooperative societies

The study found that Agricultural Marketing Cooperative Societies (AMCOS) were expected to be involved in production and collection of farm produce from farmers at primary level and sell by auction in the warehouses under the supervision of Masasi Mtwara Cooperative Union (MAMCU). Also to provide other services like supply of agricultural inputs and facilitation of operations of individual members, greater access to credit to fill the credit gap not met by the banks, and strives to raise the standard of living of its members. The operations of AMCOS were guided by the cooperative Act No. 20 of 2003 and Cooperative rules and regulations of 2004. This worked instead of having a contract agreement like other private parties. The findings given in Table 11 indicate that the majority (80% and above) of HH farmer respondents stated that AMCOS was responsible for asset ownership, operation and maintenance, capital investment and commercial risks. This suggests that a formal association of private service providers is necessary for any interaction with the public sector.

It can be generally concluded from this section that effectiveness and efficiency of extension increase where government shift from being the sole provider towards developing more pluralistic extension system. However, to reach especially poor segments of the farming community, government service provision are still required. Agricultural advisory services need to be fee-based and demand driven in order to be sustainable. In addition, extension can only be effective if provided jointly with support services, like quality input supply and credit. Connecting farmers to markets needs market-oriented advisory services, with extension staff having commercial background and business mind-set which provides excellent opportunity for public-private partnerships. This development is only possible with strong policy support from government and the enabling environment.

4.5 Summary of the Findings

The overall objective of the study was to assess Public-Private-Partnerships (PPPs) in provision of agricultural extension services in Mtwara District. The study found that both public and private parties were involved in the provision of extension services in the study area. Roles played by PPPs parties in provision of agricultural extension services were found to be planning of agricultural extension services; advisory services; supply of inputs; marketing; financing; formulation of regulations and enforcement of regulations. In addition, it was revealed that most commonly used practiced form of PPPs in provision of agricultural extension services in the study villages was self-voluntary organisations. Private parties categorised under this form were CONCERN worldwide, Aga Khan Foundation and Food and Agricultural Organisation (FAO). On the other hand Agricultural Marketing Cooperatives Societies (AMCOS) operations were guided by Cooperative Act No.20 of 2003 and Cooperative rules and Regulations of 2004 and therefore were not categorised under any specific PPPs form.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the study findings, a number of lessons regarding Public-Private-Partnerships (PPPs) in provision of agricultural extension services in Mtwara District were drawn. These lessons are important because of their policy implications for improvement of PPPs participation in provision of agricultural extension services in the study area and beyond. The conclusions and recommendations are presented as follows.

5.1 Conclusions

1. Both public and private sectors were involved in PPPs and were recognised as a way to improve agricultural extension services in the study villages. However, the public and private sector participants in PPPs activities have distinct goals and requirements that wanted to be addressed.
2. The role of government in PPPs is to build an environment in which plurality of extension providers can thrive.
3. The effectiveness and efficiency of extension increased where government shifted from being the sole provider towards developing more pluralistic extension systems.

5.2 Recommendations

1. In order to benefit from advantages of PPPs, there is a need for all potential participants to enhance their understanding of different approaches and optimal methods to structure such arrangements.

2. A loose network of formal association of private service providers is deemed necessary for any interaction with the government.
3. Connecting farmers in markets, need market oriented advisory services with extension staff having commercial background and business mind-sets which provide, excellent opportunity for PPPs. This development is only possible with strong policy support from government and the enabling environment.
4. Suggestions for further research
 - (a). To undertake a case study on interaction among public-private sectors in provision of agricultural extension services in the study area in order to elicit more reliable information that could contribute to evidence-based policy for effectiveness of PPPs in provision of extension services.
 - (b). To undertake case studies on forms of PPPs partnerships in provision of extension services in other parts of the country in order to enable generalisation of the observations. The major purpose of these studies would be to develop and enhance understanding of forms of PPPs partnerships in provision of agricultural extension services experiences, potentials and opportunities.

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APPENDICES

Appendix 1: Operational definitions of key variables used

Variables	Operational definition
• Age	Number of years from birth
• Sex	Biological differences between male and female
• Marital status	Refer to the current state of the marriage of the respondents
• Education status	Highest level of formal schooling attained.
• Public private partnerships (PPPs)	Is any collaborative effort between the public and private sectors in which each sector contributes to the planning, resources, and activities needed to accomplish a mutual objective.
• PPPs participation	The involvement of both public and private sector in the implementation of the project
• Project design	Initial stage of formulating some activities to be implemented
• Occupation	Any work/profession of a respondent
• Monitoring	The process of follow-up in a certain activity
• Evaluation	Opinion of the value or quality of something done
• Leadership style	The characteristic of the leadership.
• Household size	The number of people who live together
• Types of PPPs	Stakeholders involved in PPPs to attain an objective.
• Roles of PPPs	Roles of each stake holder in the collaboration
• Forms of PPPs	Types of agreement of stakeholders on how to collaborate in achieving objectives

Appendix 2: Farmers' Household Heads (HHs) Questionnaire

Confidential

Questionnaire: Personal interview

Respondents: Farmers

Study topic: Public Private Partnership in provision of Agricultural Extension services:
A case of Mtwara District.

Region District Ward Village

Respondent's number.....Date.....

1.0 Household head characteristic

1.1.1 Personal characteristic

1.1.2 Sex of household head. (Tick the appropriate answer)

1 = Male () 2 = Female ()

1.1.3 What is your age? (Tick the appropriate answer)

1 = 18 – 30 years () 2 = 31 – 50 years ()
3 = 51 – 60 years () 4 = 61-70 years ()

1.1.4 What is your education level? (Tick the appropriate answer)

1 = Adult Education () 2 = Primary Education ()
3 = Secondary Education () 4 = Others specify.....

1.1.5 What is your marital status? (Tick the appropriate answer)

1 = Single () 2 = Married () 3 = Divorced ()
4 = Widowed () 5 = Separated ()

1.1.6 What is your household size? (Tick the appropriate answer)

1 = 1 – 3 () 2 = 4 – 6 () 3 = 7 and above ()

1.2 Situational characteristics

1.2.1 What is your occupation? (Tick the appropriate answer)

1 = Farmer () 2 = Business specify..... ()
3 = Employed () 4 = Others specify.....

1.2.2 If your occupation is farming give major types of food and cash crop grown, acreage and average yields in 2010/2011.

S/n	Type of crop	Area cultivated in acres	Average yields in kgs/ha	Income in Tshs/kg	Purpose
1					
2					
3					
4					
5					

1.2.3 Do you keep livestock? YES/NO. If YES, what is the type and numbers of livestock are you keeping and sales in Tshs per animal?

S/n.	Type of livestock	Number of livestock	Sales in Tshs per animal
1			
2			
3			
4			

1.2.4 Are you engaged in any off-farm activities? YES/ NO. If YES what type of off-farm activity are you engaged with and what is your average annual income for each off-farm activity.

S/n	Type of off-farm activities	Average annual income in Tshs
1	Charcoal and firewood selling	
2	Labourer	
3	Small scale business	
4	Cashew nut processing	
5	Others (specify)	

1.2.5 Are you aware of public and private parties involved in extension services in your village? YES/NO.

1.2.6 If YES in Qn 1.2.5 above what specific extension services do they provide?

2.0 Types of parties involved in public-private partnerships for provision of extension services.

2.1 If YES in Qn 1.2.5 mention the parties you have worked with in the last one year and specify whether they belong to public or private sector, as organized in following table.

Type of party	Sector	
	Public	Private
District council		
Naliendele Research institute		
CONCERN Worldwide		
Aga khan Foundation		
ONE-UN		
Farmers organization		
Others (specify)		

3.0 Roles of Public-Private Partnerships in provision of extension services.

3.1 Parties identified in Qn 2.1 above play different roles in the provision of extension services. Identify parties involved against a specified role they play using the following table.

Type of role	Parties involved
• Planning	
• Advisory services	
• Supply of inputs	
• Markets	
• Financing	
• Regulation	
• Enforcement	
• Others (specify)	

4.0 Forms of Public-Private Partnership in provision of extension services.

4.1 There are different forms of public- private partnership in provision of extension services. In the following Table give responsibilities of specific private sector participation under specific form, of public and private sector partnership in your village.

Type of private sector	Forms of PPPs (1-10 options)	Asset ownership	Operation and maintenance	Capital investment	Commercial Risks	Typical Duration
CONCERN Worldwide						
Aga khan Foundation						
ONE-UN						
Farmers organization						
Others (specify)						

1. Contracting out: This is the placing of a contract by public agency on an external private company.
2. Concession/Franchising: A private partnership takes over the responsibility for operating a service and collecting charges and possibly new instruments in fixed assets.
3. Affermage: Public authority controls construction and owns the fixed assets but contacts out operations, maintenance and collection of service charges.
4. Leasing: Making use of equipments (assets) without purchasing but paying a lease.
5. Privatization: Public service is entirely sold to private partner.
6. Management contract: Private organization takes over responsibility for managing service to specified standards by using staff, equipment etc of public authority.
7. Build, own and operate (BOO): Partnership between private and public sectors whereby the private firm may build, own and operate the assets/service.
8. Build, own and transfer (BOT): Same as BOO but the asset/service will be transferred to public sector after period of time.
9. Management buyout: The management of well run internal functions negotiates the purchase of that function and becomes a private venture.
10. Self- voluntary organizations designed to serve the interest in partnership with public authorities.

THANK YOU FOR YOUR COOPERATION

1.3 How do you work with the different PPPs parties?

1.4 Which PPPs parties you think are more effective in providing extension services to farmers?

1.5 Mention the areas in which you think they are more effective.

1.6 How do you evaluate the coordination of the PPPs parties in your in the District?

1.7 Give reasons for your answer in question 1.6.

2.0 Roles of Public-Private Partnerships in provision of agricultural extension services

2.1 Parties identified in Qn 1.2 above play different roles in the provision of extension services. Identify parties involved against a specified role they play using the following table.

Type of role	Parties involved
• Planning	
• Advisory services	
• Supply of inputs	
• Marketing	
• Financing	
• Regulation	
• Enforcement	
• Others (specify)	

2.2. Is there any problem related with the roles of PPPs parties in your working areas?
 YES/NO.

2.3. If YES in question 2.2 what are those problems?

2.4. What is your suggestion on how best to ensure that the PPPs Parties play their roles effective?

2.5. What is your effort in improving the performance of PPPs in playing their roles?

3.0 Forms of Public-Private Partnership in provision of agricultural extension services

3.1 There are different forms of public- private partnership in provision of extension services. In the following Table give responsibilities of specific private sector participation under specific form, of public and private sector partnership in the District.

Type of private sector	Forms of PPPs (1-10 options)	Asset owner ship	Operation and maintenance	Capital investment	Commercial Risks	Typical Duration
CONCERN Worldwide						
Agakhan Foundation						
ONE-UN						
Farmers organization						
Others (specify)						

1. Contracting out: This is the placing of a contract by public agency on an external private company.
2. Concession/Franchising: A private partnership takes over the responsibility for operating a service and collecting charges and possibly new instruments in fixed assets.
3. Affermage: Public authority controls construction and owns the fixed assets but contacts out operations, maintenance and collection of service charges.

4. Leasing: Making use of equipments (assets) without purchasing but paying a lease.
5. Privatization: Public service is entirely sold to private partner.
6. Management contract: Private organization takes over responsibility for managing service to specified standards by using staff, equipment etc of public authority.
7. Build, own and operate (BOO): Partnership between private and public sectors whereby the private firm may build, own and operate the assets/service.
8. Build, own and transfer (BOT): Same as BOO but the asset/service will be transferred to public sector after period of time.
9. Management buyout: The management of well run internal functions negotiates the purchase of that function and becomes a private venture.
10. Self- voluntary organizations designed to serve the interest in partnership with public authorities.

3.2 What is your suggestion on how best the PPPs forms could be to enhance performance of provision of agricultural extension services?

THANK YOU FOR YOUR COOPERATION

SRS