

**CHALLENGES FACING AGRICULTURAL EXTENSION IN THE CURRENT  
INSTITUTIONAL CONTEXT: THE CASE OF HAI DISTRICT,  
KILIMANJARO REGION**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN  
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**ABSTRACT**

The aim of the study was to understand contemporary challenges facing extension services at the District level. The study identified level of participation of agriculture stakeholders in the process of extension services delivery, accountability process in the delivery of extension services, resource capacity of the district to deliver services and farmer views on performance of extension service in Hai District. The researcher used qualitative and quantitative methods to study a decentralized public extension organization. Semi-structured interviews supported with document reviews and observations were used for the data collection. District extension system has identified challenges which include low level of participation of stakeholders in the design and implementation of policy, deficit and delays of extension funds, shortage of human resources, low sense of accountability and as a result farmers' opinions have shown unsatisfactory performance of extension. District Government has to focus on the above challenges so as to improve the performance of extension. Increased involvement of private extension providers, diversification of funding sources and timely supply of funds to the district, deployment of Agricultural Officers and Livestock Officers to the village level, and strengthening accountability system will overcome the challenges.

**DECLARATION**

I, Ayub Joshua Semwenda, 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 for degree award in any other institution.

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## **DEDICATION**

This work is dedicated to my lovely wife whose courage, compassion and love was the source of brainwave for this work. This work is also dedicated to my beloved parents Mr. Joshua Gidale Semwenda and Elizabeth Tlaghasi Herra who laid the foundation of my education which made me what I am today.

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**LIST OF ABBREVIATIONS AND ACRONYMS**

ACT	Agricultural Council of Tanzania
ADB	Africa Development Bank
AFO	Agricultural Field Officer
AIDS	Acquired Immunodeficiency Syndrome
AO	Agricultural Officer
ANSAF	Agricultural Non State Actors Forum
ASDP	Agricultural Sector Development Program
ASDS	Agricultural Sector Development Strategy
CAG	Controller and Auditor General
CBOs	Community Based Organizations
CMT	Council Management Team
DADP	District Agricultural Development Plan
DAEO	District Agricultural Extension Officer
DAICO	District Agriculture, Irrigation and Cooperatives Officer
DALDO	District Agriculture and Livestock Development Officer
DED	District Executive Director
DLFO	District Livestock and Fishery Officer
FAO	Food and Agriculture Organization
HIV	Human Immunodeficiency Virus
KI	Key Informants
LFO	Livestock Field Officer
LGA	Local Government Authority
MAFSC	Ministry of Agriculture Food Security and Cooperatives
NFRA	National Food Reserve Agency

NGO	Non Governmental Organization
OPRAS	Open Performance Review and Appraisal System
PADEP	Participatory Agricultural Development and Empowerment Program
PAFO	Principal Agricultural Field Officer
PELUM	Participatory Ecological Land Use management
PLFO	Principal Livestock Field Officer
SARI	Selian Agricultural Research Institute
SPSS	Statistical Package for Social Sciences
TACRI	Tanzania Coffee Research Institute
TASAF	Tanzania Social Action Fund
UN	United Nations
URT	United Republic of Tanzania
VC	Village Council
VEO	Village Executive Officer
VET	Veterinary
WDC	Ward Development Council
WEO	Ward Executive Officer

## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background Information

The quality of agricultural extension services is an important issue in Tanzania where agriculture dominates the economy, accounting for 50% of the gross domestic product (GDP), providing 85% of exports, and employing about 80% of the work force (URT, 2012). Over 70 % of the country's 44.9 million people live in rural areas (FAO, 2010; URT, 2012). In recognition of the centrality of agriculture in most Tanzanians' lives, government policy emphasizes what it calls agriculture-led industrialization-Kilimo Kwanza (URT, 2009).

Kilimo Kwanza (Agriculture First) is a national resolve to accelerate agricultural transformation. It comprises a holistic set of policy instruments and strategic interventions towards addressing the various sectoral challenges and taking advantage of the numerous opportunities to modernize and commercialize agriculture in Tanzania.

According to the Agricultural Council of Tanzania (ACT), Kilimo Kwanza will bring more players, robust involvement of private sector and national coordination of planning resources allocation (MAFC, 2010). This will accelerate the achievement of Agricultural Sector Development Programme (ASDP) of 2006 that resulted from Agriculture Sector Development Strategy (ASDS) to enable farmers have better access to and use of agricultural knowledge, technologies, marketing systems and infrastructure.

The Government has therefore undertaken several reforms in this sector aimed at creating an enabling and conducive environment for improving its productivity and profitability.



The basis of the reforms is provided by the Agricultural Sector Development Strategy (ASDS), which was formulated in 2001. The strategy has built on, and is supported by several policies and programmes designed to enhance agricultural production and productivity. The most recent ones include Agricultural Sector Development Programme of 2003 [[www.kilimo.go.tz/publications/english\\_docs/ASDP](http://www.kilimo.go.tz/publications/english_docs/ASDP)], the Livestock Sector Development Strategy of 2001 [[www.tanzania.go.tz/.../development\\_strategy-\\_Livestock ...](http://www.tanzania.go.tz/.../development_strategy-_Livestock...)], the Cooperative Development Policy of 2002 and the Rural Development Strategy of 2001 [[www.repoa.or.tz/documents/10-4\\_web-1.pdf](http://www.repoa.or.tz/documents/10-4_web-1.pdf)].

In the process of transforming agriculture there is a renewed interest in extension services, as the major effort of alleviating poverty and hunger through enhancing sustainable agricultural development in Tanzania. To meet this target, strategic areas for agriculture extension development were earmarked; some of them are: to have firm link between research and extension services, to promote pluralistic approaches in extension services (including private sector and civil society), and to increase stakeholders' participation in decision-making. Joint planning for extension and implementation of extension services is crucial for good governance at local government contexts (URT, 2006).

Agricultural extension in Tanzania is still mostly financed by the public sector represented by the government through the Ministry of Agriculture Food Security and Cooperatives (MAFSC). The need to create a more efficient and manageable organization guided the restructuring of the government with the decentralization leading to the creation of Local Government Authorities (LGAs). Hence the Ministry allocated field staff and finance to local government authorities in line with the district focus policy. This transfer reduced the level of involvement of the central ministries and the number of technical staff for coordination activities.

The diversity of services within the LGAs combined with lack of coordination created confusion and inefficiencies (URT, 2013). These free governmental services have often been inadequate for their lack of operational funds, low salaries, inadequate facilities, and accountability issues to the farmers (Qamar, 2005). These shortcomings account for the often negative perception of extension services by farmers in developing countries.

### **1.2 Problem Statement and Justification**

The major issues of extension system in Tanzania relate to coordinating the system, ensuring adequate coverage of rural populations, ensuring quality of services, and building capacity of service providers. Qamar (2002) argued that the role of the government is to establish suitable coordination and to develop quality control mechanisms, which safeguard interests of farmers in a pluralistic extension system.

Although statistics show that agriculture has maintained growth of 4% a bit greater than population growth 2.7%, yet many farmers still lack access to extension or the supplied services fall short in quality due to low capacity of local governments to facilitate activities. Recent research tends to focus on methodological characteristics (Gautam, 2000; Semana, 2000), yet, there is limited research on how the various characteristics of extension (organizational, managerial and institutional) interact. It is argued that the institutional characteristics of extension service make a significant contribution to the responsiveness of agricultural extension delivery. By involving a variety of stakeholders in forging contracts and collaborative partnerships, pluralistic arrangements help resolve two fundamental generic problems of linking cause and effect, and accountability or the incentive to deliver quality service.

According to the Agricultural Sector Development Program among the important areas of focus for the development of agriculture in Tanzania include improving agriculture

extension system at the Local Government levels (URT, 2006). Perhaps the gap is in the resources capacity of Local Government to deliver extension, participation of stakeholders in the extension provision and accountability of stakeholders in the extension services provision and other areas. This study therefore intended to assess the status of Hai District in terms of resources capacity, participation of stakeholders and accountability in the delivery of extension services. Eventually, the findings are useful for decision makers and other development partners for further development planning of the country.

### **1.3 Main Objective**

To determine the challenges in the delivery of agricultural extension services in the current institutional context.

#### **1.3.1 Specific objectives**

- i. To determine the level of stakeholders participation in the delivery of extension services in the district.
- ii. To determine the process of accountability in the delivery of extension services
- iii. To assess the resource capacity of the district to deliver extension services
- iv. To determine farmers' opinion on the performance of the extension services

#### **1.3.2 Research questions**

- i. What is the extent of stakeholder's participation in extension services delivery?
- ii. What is the district capacity in terms of resources for delivery of extension?
- iii. What is the accountability process in the delivery of extension services?
- iv. What are the farmers' opinion on the performance of the extension services?

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Institutional Arrangement

Institutional arrangement is the laws and formal provisions that define roles and responsibilities of all the organizations involved in implementing extension programmes. Institutional arrangement interpreted as different formal regimes and coalitions for collective action and inter-agent coordination, ranging from public-private cooperation and contracting schemes, organizational networking to policy arrangements (Geels, 2004; Klein and Teisman, 2000). Organizational characteristics of the extension systems relate to its structure, patterns of communication within the organization and its relationship with other service providers (public or private) and the beneficiaries (farmers). Administrative dimension include Leadership, management, supervision, interaction of stakeholders, conflicts resolution, monitoring, evaluation and initiation ability.

#### 2.2 Accountability

Accountability refers to the obligation for an organization to report programme worth and answer for execution of the programme to stakeholders (Gray and Jenkins, 1986). Several reasons have been provided from literature as to why organizations must have accountability mechanisms (Smith, 2001; Swanson and Samy, 2004; Lai and Cistulli, 2005). Contrary to the centralized extension systems, decentralization has come with changes in norms and values that determine individual behavior. Using the normative and rational choice analysis, ethics in extension service delivery are guided by the principles of good governance and participation. Principle agent models of institutions relate regulatory frameworks that determine whether designed structures ensure that the agent fulfills the

principal's wishes. According to March and Olsen (1984), and Scott (2001), the logic of appropriateness stresses the normative pillar of institutionalism where choice is seen to be grounded in a social context and to be oriented by a moral framework that takes into account one's relations and obligations to others in the situation.

Decentralized extension organizations must have proper systems of accountability for each of the different stakeholders with whom they work (World Bank, 2000; Rivera and Alex, 2004; Swanson and Samy, 2004). It is believed that strong accountability mechanism will support the decision making of extension organization at the local level because it provides stakeholders with a good knowledge of the extension programme. An accountability mechanism provides stakeholders with the information necessary to identify new needs, understand who is benefiting from extension and real impact of the programme. Three key means of how accountability can be ensured in decentralized extension organizations includes political and legal oversight, institutional competition and administrative mechanisms (Swanson and Samy, 2004). In relation to the political and legal oversight, authority with committed leadership and well-defined legislative and regulatory frameworks can ensure a high level of accountability in extension organizations.

The district agricultural extension system has external oversight authority committees in all levels from district, ward and village. In the District Council there are committees with legal authority over a respective sector. The agricultural development committee is responsible to question progress of agriculture in the district. The same responsibility is for ward and village committees respectively.

Second means of ensuring accountability is through administrative mechanism. According to Swanson and Samy (2004), key administrative mechanism for ensuring accountability in extension organizations is the establishment of reliable monitoring and evaluation systems. Monitoring and evaluation is an integral part of extension system in the district. However, it is not strictly followed. Participation of farmers and other stakeholders in the monitoring and evaluation system of the district is neglected contrary to what Dart (2000) has said that participation of farmers and other stakeholders in the evaluation of extension staff and programme is powerful means of enforcing accountability because they may have different perspectives (World Bank, 2000).

The third means of answering accountability is through institutional competition. If extension organizations such as private firms and NGOs shall be given the opportunity to provide extension services unilaterally or through contracts, the accountability and efficiency of extension systems will be improved (Swanson and Samy, 2004). However this assumption has no empirical evidence in Hai District.

### **2.3 Institutional Capacity**

Institutional capacity is what is lacking in most developing countries (United Nations, 2005). It is believed that in most developing countries extension services have serious shortage of trained managerial and technical staff to carry out responsibilities for extension. Staff employed lack competence and motivation due to poorly defined human resource development and management systems (United Nations, 2005). Human resource development and management system was assessed in Hai District. Training programmes, frequency of meetings and discussions, promotions, rewarding, financial and logistical support were examined. Also available staff and their competences were determined.

World Bank (2000) highlights the fact that the lack of managerial ability at the local level is a major limitation to extension decentralization in developing countries in general, specifically in Africa. Leadership ability of district managerial staff to provide support staff for change and to facilitate innovation, proper use of funds and district ability to diversify sources of fund to overcome shortage were examined. Availability of physical resources for agricultural extension provision in the district was considered.

The basis for this analysis is that institutions are capable of producing some predictability and regularity of outcomes that benefit all participants in an institution, and clarifies the probable range of decisions available to societal actors that are not directly involved in the process of any particular organization (Peters, 1999; Scott, 2001).

#### **2.4 Resources Mobilization**

Government budgetary support for agricultural extension in developing countries remains inadequate (Feder *et al.*, 2001). Adequate funding on decentralized extension organization will enhance the performance of extension organizations. A case study of Columbian extension decentralization showed improvement when the fund for extension organization was doubled (World Bank, 2000). A major problem in developing countries is allocation of inadequate resources, including funds and qualified extension staff to deliver extension services (Anderson and Feder, 2004).

According to World Bank (2000), training of extension staff improves the competencies of staff and promotes the attitude change required for decentralization reforms, since it is essentially required to meet the needs of extension staff in the new environment (Sulaiman, 2003; Garforth, 2004). However, several authors (Sulaiman, 2003; Garforth,

2004; Tossou and Zinnah, 2005; United Nations, 2005), suggest that extension staff need other knowledge to do with communication and facilitation, networking, critical thinking, problem solving and human relation in new environment. Moreover, Leeuwis and Van de Ban (2004) claimed that learning could be enhanced in extension organizations by involving staff in decision-making and through delegation.

Apart from the availability of resources in the district the issue of managing the resources was considered. How the limited extension funds were properly used and how the district has taken self-initiatives to mobilize funds from other sources rather than relying on the central government was also determined. Human resource preparation for new challenges that they are likely to meet in the changing environment of work is necessary to achieve the development of rural people hence meeting organizational goals. The crosscutting issues like HIV/AIDS, climate change, food insecurity and globalization are pressing demand for regular updating and training of extension staff (Abbasi and Ahmadpour, 2014). Also well-coordinated mechanisms of extension stakeholder interaction and collaboration in terms of resources were examined in the district.

## **2.5 Coordination**

Qamar (2000) made the point that the key challenge in adopting a pluralistic extension system is the coordination of the various organizations. In Qamar's view, the absence of such coordination can lead to conflicting technical recommendations which can create confusion for farmers.

According to Rivera and Qamar (2003) and Rivera and Alex (2004), coordination mechanisms can promote the formation of strong collaboration among networks among



the stakeholders. Coordination can also provide a collective insight and a better understanding of farmer needs (Rivera and Qamar, 2003; Rivera and Alex, 2004). It can also lead to the development of a common framework, which can guide stakeholders in contributing their quota to rural development (Rivera and Alex, 2004). The way in which extension organization in this new environment can ensure coordination is to create a communication platform that will bring together the various sectors (Rivera and Qamar, 2003). Through this mechanism, they can share their experience and forge linkages. Development organization may have different orientations or interests in the various sectors. Rivera and Qamar (2003) have argued that to ensure effective coordination government extension organizations would have to widen their vision for agricultural extension to capture the interests of other stakeholders. Involvement, understanding and coordination of farmers' organizations and other stakeholders are important in order to succeed.

## **2.6 Participation of Stakeholders**

When power relations are constrained and capacity of actors weakened, services are bound to fail (Burki *et al.*, 1999). Successful services for the poor emerge from institutional relationships in which actors are accountable to one another (World Bank, 2003). Stakeholders that are participating in extension services are essentially farmers and other public, private sectors organizations and group of individuals (Garforth, 1985).

It is advocated that to function successfully decentralized extension organizations must give farmers control over programme activities (World Bank, 2000; Rivera and Alex, 2004). Involvement of farmers in the programme planning processes is essential because it gives them opportunity to accurately express their needs and how they can be addressed.

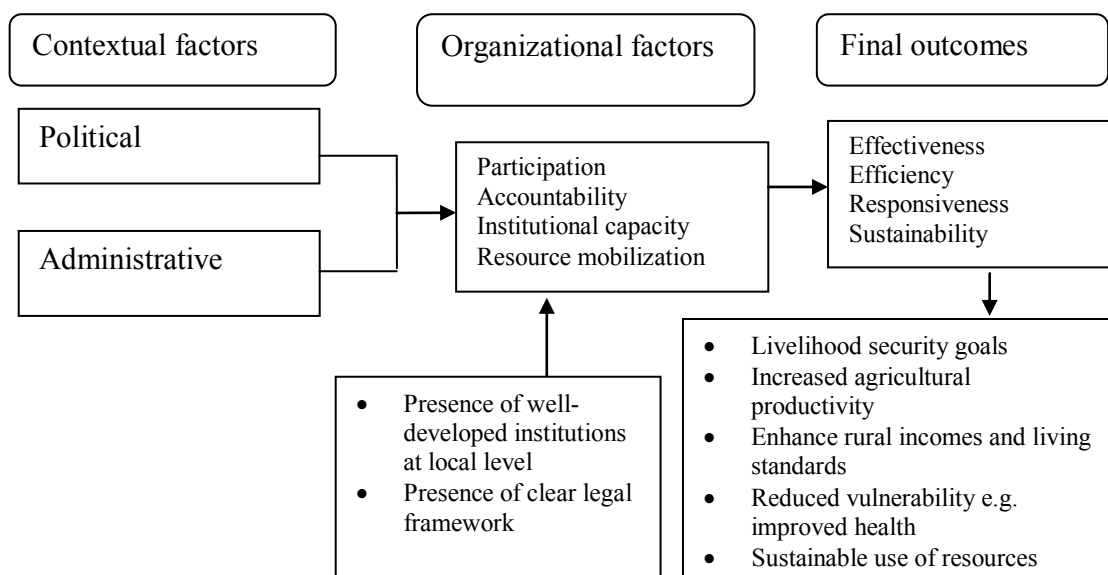
Leeuwis and Van de Ban (2004) described that farmers can participate in different ways arranged from receiving information from other farmers to self-mobilization, where farmers can independently initiate and role of extension is to support. Other important stakeholders besides farmers within the extension system are; research institutions, commercial organizations, public service organizations, and support organizations (Swanson and Samy, 2004; Rutatora and Mattee, 2001).

ASDP is implemented in the district level through DADPs with public and private extension stakeholders. One of the guiding principles for implementation of this programme is greater control by farmers and clients in cooperation with the public sector agencies and, increasingly, with the private sector agricultural service providers (URT, 2006). Involvement of stakeholders in decisions by increasing interactions through workshops, seminars, meetings with district extension system was identified to be the means by which stakeholders could participate. Establishment of communication network between public extension system and stakeholders by means of direct contacts, newsletter, joint group discussions, evaluation and reporting mechanism controlled by district extension system were examined. Farmers involvement in initiating, implementing and evaluating their development projects was another aspect of participation considered.

## **2.7 The Conceptual Framework**

### **2.7.1 Contextual factors**

The political factors that have effect on extension are; (1) the level of decentralization, (2) the presence of well-developed institutions at the local level, and (3) the presence of a clear legal framework (Parker, 1995; Swanson and Samy, 2004; Lai and Cistulli, 2005). These factors are external and beyond the control of a decentralized extension organization at the local level.



**Figure 1: The Conceptual Framework**

It is believed that a key factor necessary for successful extension decentralization in developing countries is the giving to local people a substantial influence over their local political systems and developmental activities (World Bank, 2000; Swanson and Samy, 2004). The World Bank (2000) claimed that if decentralized political institutions are well established and strongly supported by local and central government, decentralization of agricultural extension programs for farmers can proceed with confidence.

It is important to consider the state of local institutions and organizations when decentralizing the government extension service because if these are well organized they can potentially provide the needed institutional capacity for participatory decision making (World Bank, 2000). However, pluralistic extension requires an institutional setting with an established legal framework, the document that provides a clear division of responsibility between different levels of government departments and other participants. The legal framework provides the workable laws that effectively support community

based-management. Smith (1997) argued that a detailed set of roles and tasks, limits to authority, and coordination relationship between management levels, between the local extension organization and the local assemblies, and between the local extension organization and the sector ministry are crucial for the decentralization process.

### **2.7.2 Organizational factors**

Extension services are among the major drivers for agricultural development of any country. Effective and efficient service delivery is the function of many factors. These have significant effect on the way decentralized extension organizations operate (Lai and Cistulli, 2005). According to literature, four key organizational factors which influence success of extension services include stakeholder participation, institutional capacity building, resource mobilization and accountability (Swanson and Samy, 2004; Lai and Cistulli, 2005).

#### **2.7.2.1 Participation**

Participation is about including influence and share control over setting priorities, making policies, allocating resources and ensuring access to public goods and services, and therefore essential elements in decentralized extension system (Rivera and Qamar, 2003).

#### **2.7.2.2 Accountability**

Accountability is another essential element for the success of decentralization (Rivera and Alex, 2004). Thus, a proper system of accountability in decentralized extension is important (World Bank, 2004) in order to ensure that, there is proper resource mobilization. Although decentralization imposes on extension organizations several costs, staff training and building the capacity of the local organization is often forgotten (World

Bank, 2000). Presence of an institutional capacity ensures the success of extension reform in developing countries (World Bank, 2000). Thus, efficient and effective extension service delivery leads to increased agricultural productivity, rural incomes and improved living standards; improved health statuses and sustainable use of resources.

### **2.7.2.3 Resources mobilization**

A major problem in developing countries is allocation of inadequate resources, including funds and qualified extension staff to deliver extension services (Anderson and Feder, 2004). Adequate funding on centralized extension organization will enhance the performance of extension organizations. According to World Bank (2000), training of extension staff improves the competencies of staff and promotes the attitude change required for decentralization reforms, since it is essentially required to meet the needs of extension staff in the new environment (Sulaiman, 2003; Garforth, 2004).

### **2.7.2.4 Institutional capacity**

It is believed that in most developing countries extension services have serious shortage of trained managerial and technical staff to carry out responsibilities for extension; staff employed lack competence and motivation due to poorly defined human resource development and management systems (United Nations, 2005). Competent leadership that provides support to staff and facilitates change to initiate and maintain innovation. Organizational effectiveness is highlighted as important for any developing country extension organization (Pasteur, 2002). In fact, World Bank (2000) highlights the fact that the lack of managerial ability at the local level is a major limitation to extension decentralization in developing countries in general, specifically in Africa.

### **2.7.3 Final Outcomes**

The conceptual model adopted (Fig. 1) has livelihood security focus outcomes and goals for extension systems to contribute more to improving livelihood security of farmers through good participation, accountability, institutional capacity building and resources mobilization. It should be able to develop a need based program and expand their extension focus. It should reduce vulnerabilities of farmers by working with other organizations drawing together resources public and private where they lack capability. It ensures equity through targeting the poor working through the farmer groups in service provision. These bring about effectiveness, efficiency, responsiveness and sustainability conditions to achieve the livelihood goals of farmers which include production increase, enhanced income and living standards, reduced vulnerability and sustainable use of natural resources.

Acceptance of the pluralistic extension in the district would mean increased coverage of services with multivariate of skills and knowledge that is given to the farmers. Training farmers on farm and non-farm activities complement and reinforce each other. It will reduce vulnerability, increase rural people's incomes, increase production hence improve livelihoods. Introduction of expanding role of extension to health, nutrition and mobilizing of farmers into groups, forming organizations and initiating micro enterprises would result into improved rural livelihood. The above mentioned attributes were examined in this study carried in Hai District.

## CHAPTER THREE

### 3.0 RESEARCH METHODOLOGY

#### 3.1 Description of the Study Area

##### 3.1.1 Location

This study was conducted in Hai District. It is one among the seven districts which form Kilimanjaro Region. The total area of the district is about 10 100 hectares, and about 46 506 hectares (46.0%) are suitable for agricultural production. The District is bordered by Moshi Rural District to the east, Arumeru and Siha District to the west, Simanjiro District to the south, Kilimanjaro National Park and Rombo District to the north.

##### 3.1.2 Demographic characteristics

Hai District is comprised of one constituency, 14 wards, 60 villages and 11 urban streets. According to the 2012 National Population Census, the District had a total population of 210 533; females being 108 076 and males being 102 457 and average household size is 4.5.

##### 3.1.3 Agro ecological characteristics

There are two main rainy seasons i.e. the long rain season and the short rain season. The long rainy season begins in March ending in June, while the short rain season starts in November ending in December. On average the district receives 700 mm of rainfall in the lowlands, 1 250 mm in the mid zone and 1 750 mm in the upper zone. In good years rainfall may be as high as 2 000 mm in the upper zone.

##### 3.1.4 Economic activities

Main economic activities include crop and animal husbandry, petty businesses and employment in the government and private sectors. Type of farming is subsistence level,

although there are a few large scale farmers who grow commercial plantation crops e.g. coffee. With food crop producers, many have involved complex and dynamic mixed cropping techniques in response to the social-economic and ecological uncertainties of their environment, rainfall shortage and incidence of diseases.

The main crops produced include coffee, maize, beans, bananas, sunflower and paddy. Cassava, sorghum, sunflower, groundnuts and high value crops such as vanilla, baby corn, peas and mushrooms grow well in the district but there is a great need to promote these crops through farmer's sensitization, training and demonstration plots.

### **3.2 Research Design**

A cross-sectional research design was employed in the process of data collection. The design has been adopted on the basis that it allows collection of data from different groups of respondents at one point in time (Devaus, 2002) as cited by Ruheza *et al.* (2012), and determines the relationship between and among variables (Babbie, 1990).

The mixed approaches, qualitative and quantitative were both used for the study. According to Crotty (2003), the distinction between qualitative and quantitative research occurs at the level of methods. Although each methodology has its potential strengths and weaknesses, a combination of approaches emphasizes their potential strengths that ensure validity and reliability of outputs (Jones, 1997; Golafshani, 2003). Golafshani argues that because qualitative research uses methods like deep interviews and observations dominant in the naturalist (interpretive) paradigm, the researcher is viewed as the instrument of data collection. For example, it was always easier to conduct interviews with various officials and gain access to certain documents when the researcher was introduced by a member of



the district administration. Quantitative method of data collection was also used to answer some of the research questions or phenomena that can be expressed in terms of quantity.

### **3.3 The Study Population and Sampling Procedures**

Population is aggregate of people or things that researchers have in mind from which one can obtain information and draw conclusions (Fraenkel and Wallen, 2000). In this case the study population was all the extension workers and farmers in Hai District. The unit of analysis were extension worker and the farmer. According to Kothari (2004) and Wooldridge (2008) a sample or sub-sample of 30 respondents is the minimum for studies in which statistical data analysis is to be done.

Selection criteria were based on the district agro-ecological zones and distance from the district center. From District to ward level a multistage technique was used. Twelve wards were selected, four villages with extension agents from each ward and two public extension agents were taken from ward level making total of 50 public extension agents. The researcher consulted the District Agricultural Extension Officer and some experienced agents in the district to select 10 private extension service providers (NGOs, CBOs, private companies and public institutions) among 12 that are based in the district or operate projects in the districts. From each of the 10 stakeholders one experienced extension agent was selected.

Fifty farmers were randomly selected from 12 wards where five farmers were selected from each village in the list of selected wards, a total of 50 farmers were only counted exceeded number was left behind. 24 key informants were purposively selected through the District, NGOs, farmer organizations and associations, private companies and

government institution. The key informants selected were the District Executive Director (DED), District Agriculture, Irrigation and Cooperatives Officer (DAICO), District Livestock and Fisheries Officer (DLFO), District Agricultural Extension Officer (DAEO), six Councilors and two Ward Executive Officers (WEO), two Village Executive Officers (VEO) and 10 senior staff were purposively selected from the stakeholder organizations.

### **3.4 Data Collection**

The study included both primary and secondary data.

#### **3.4.1 Primary data collection**

A structured questionnaire (Appendix 1 and 2) was used as instrument to collect primary data from extension agents and smallholder farmers respectively. Another method used for primary data collection was key informant interviews (KI), using an interview checklist (Appendix 3).

A questionnaire and checklist were prepared in such a way as to capture important primary information for the study. The question wording was made as simple as possible and sensitive questions were simplified. Questionnaire was designed in English, but questions were translated in Kiswahili for easy understanding. The researcher interviewed all the respondents to avoid language constraints and misinterpretation. Interview took approximately 25 to 30 minutes, and in order to ensure clarity on some issues some key informants were visited more than once.

#### **3.4.2 Secondary data collection**

Secondary data such as extension staff' records, monthly work reports, production statistics of major crops for previous two years, learning materials, annual work plan,

demonstration plots records, supervision reports, agents and farmers training schedules, were collected from libraries, extension staff offices, District offices and the internet.

Document review was also made. King (2004) pointed out that interviews may not be enough to accurately explain organizational processes. Documents can provide useful additional information to interviews in identifying aspects of the phenomenon under investigation (Foster, 1994; Yin, 2003). In line with this understanding secondary data (Yin, 2003) in the form of documents were collected from the case organization as a means of triangulating the data.

The overall aim of the document review was to identify the different policy instruments that were guiding public management and extension delivery. A detailed document review was carried on the district records, decentralization and legal framework that shape agricultural extension activities in the district, Agricultural Sector Development Strategy and DADPs Guidelines. In addition to this the Local Government Act of 1997 was also used to understand the regulatory mechanisms that were guiding the delivery of services. The District Agricultural Development Plan (DADP) was identified as an interesting case for study because it is within close proximity with the local populations.

### **3.4.3 Reliability of the data**

According to Barribeau *et al.* (2004) and Miller and Salkins (2002), reliability is the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. In order to ensure that there was consistency in measurement, all measurement instruments like the questionnaire were pre tested on 5 farmers, and 5 extension agents respectively, then necessary changes were made before the actual work has started. Changes included question wording and inclusion exclusions of some questions that were not relevant to the study. Furthermore, in order to ensure that answers

were consistent, the questions were organized logically to ensure that there was an association between questions.

#### **3.4.4 Validity of the data**

Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure (Golafshani, 2003; Barribeau *et al.*, 2004). The clearly defined process helped to ensure that there was a match between the conceptual phase and the operational phase. It also ensures that what was meant to be measured was actually measured. Miller and Salkins (2002) argue that in order to ensure validity in a sample survey, the researcher will utilize techniques for scaling, pay careful attention to questionnaire wording and presentation and include questions on personal background and other potentially useful.

Variables content validity is important because it forces the researcher to define the domains to be studied (Barribeau *et al.*, 2004). In order to ensure that there was content validity, the researcher identified major variables that would determine extension agents and farmers' attitudes toward extension service delivery. The use of standardized questions during the survey, especially on attitudes and perceptions helped get answers that were easy to analyze and interpret. However, in order to ensure that the sample was a true representation of the population, respondents interviewed differed in terms of age, sex, marital status and income levels.

### **3.5 Data Analysis**

#### **3.5.1 Qualitative data analysis**

Qualitative data analysis is defined as working with data, organizing them, breaking them into manageable units, synthesizing them, searching for patterns, discovering what is important and what is to be learned and deciding what you will tell others (Bogdan and Biklen, 1998).

Qualitative data were analyzed using content analysis technique (Holsti, 1968). The data were interpreted and organized into different themes based on the conceptual description of ideas which were expressed by respondents during discussions. For the data analysis information was drawn from all the interviews and supporting documents to present a view of the factors that are relevant for the study.

### **3.5.2 Quantitative data analysis**

Collected institutional data, survey data and numerical data from observation were reviewed for accuracy, completeness and consistency and entered into the Statistical Package for Social Science (SPSS) version 16. Data were coded and statistically analyzed, descriptive statistics such as frequencies and percentages were calculated to determine distribution and relation of the study variables. Results were displayed in the form of Tables.

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 General Information of Agricultural Extension Agents

Characteristics of respondents were analyzed in terms of sex, marital status, age, educational level, work experience, designation, professional qualification, and area of specialization. The Agricultural Extension Agents in this study are Agricultural Officers and Field Officers who are in direct contact with farmers on a day to day basis. They translate district extension plans into action at the field level in collaboration with farmers and other stakeholders. They assist farmers in the diagnosis of farm-related problems and advice on solutions to such problems.

**Sex:** The results show that 41.7% are female and 58.3% are male. The proportion of female extension workers was higher than that of Kanyama (1999), who found that 34.0% of total extension workers in Tanzania were female.

**Age:** The majority of extension agents were senior staff, they worked for 11 years to 40 years (68.0%).

**Education:** Majority of agents (85.0%) have attained either diploma or certificate training (Table 1).

**Table 1: Social Demographic Characteristics of Extension Agents**

<b>Characteristics</b>	<b>Number</b>	<b>Percent</b>
<b>Sex</b>		
Female	25	41.7
Male	35	58.3
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Marital status</b>		
Single	13	21.7
Widowed	4	6.7
Married	43	71.7
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Age (years)</b>		
18-35	18	30.0
36-50	23	38.3
51-60	19	32.0
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Education level</b>		
Primary	1	1.7
Secondary	3	5.0
College	49	81.7
University	7	11.7
<b>Total</b>	<b>60</b>	<b>100</b>

The district has many experienced extension agents so is expected to be providing good extension services to the farmers, senior staff (21-30 years of work) were 35.0%, and PAFO (31.7%) and the least number were agricultural technicians (1.7%). Generally the district has a shortage of agricultural technicians (Table 2). Department of Agriculture was split into two departments: Department of Agriculture, Irrigation and Cooperatives and Department of Livestock and Fisheries and they are headed by DAICO and DLFO respectively.

**Table 2: Years of work, professional and educational qualification of Extension****Agents**

<b>Years of work</b>	<b>Frequency</b>	<b>Percentage</b>
1-10 years	19	31.7
11-20 years	13	21.7
21-30 years	21	35.0
31-40 years	7	11.7
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Professional qualification</b>		
PLFO	9	15.0
PAFO	19	31.7
LFO	13	21.7
AFO	16	26.7
AO	2	3.3
Agro technician	1	1.7
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Designation</b>		
DAICO	1	1.7
DAEO	1	1.7
DLFO	8	13.3
WAEO	10	16.7
VAEO	40	66.7
<b>Total</b>	<b>60</b>	<b>100</b>
<b>Training qualification</b>		
BSc	6	10.0
MSc	1	1.7
Diploma	39	65.0
Certificate	12	20.0
Short-course certificate	2	3.3
<b>Total</b>	<b>60</b>	<b>100</b>



The specialization of the agents is rarely considered because of the scarcity of employees, so they carry out all duties required for the farmers. Irrigation and Mechanization technicians are based at the District headquarters (Table 3).

**Table 3: Area of specialization**

	<b>Number</b>	<b>Percent</b>
Extension	6	10.0
Crop production	10	16.7
Irrigation technician	1	1.7
General agriculture	7	11.7
Nutrition	2	3.3
Horticulture	8	13.3
Animal science	6	10.0
Animal production	11	18.3
Animal health	5	8.3
Agromechanics technician	1	1.7
Land use technician	1	1.7
Diary husbandry	1	1.7
Vet science	1	1.7
<b>Total</b>	<b>60</b>	<b>100</b>

#### **4.2 Stakeholders Involvement in Delivery of Extension Services**

A “stakeholder” is any individual, group, or institution that has a vested interest in the agriculture extension at particular level or who potentially will be affected by extension activities and has something to gain or lose if conditions change or stay the same (Ananda and Herath, 2003). Because the knowledge and information needs of farmers are diverse, there are benefits from having a range of stakeholders collaborating in the delivery of extension services in a decentralized extension environment (Rivera and Alex, 2004).

#### **4.2.1 Challenges of extension service providers**

According to Nagel (1997) extension stakeholders include research institution, commercial organizations (input distributors, food processors, retailers) public service organization, support organizations and farmers. With regard to agriculture, these organizations provide advisory services, consultation, loans/credit provision, inputs distribution, training and marketing. Furthermore, Peterson (1997) described institutional factors affecting the operation of extension services as including the presence of organizations, both private and public who support agriculture and thus facilitate the role of the extension organization.

Hai District has various organizations with varying interests in supporting agriculture development ranging from those who are public owned to private extension services providers. Although these extension providers contribute to the district extension service, they are facing challenges in the current institutional context. Using observation and interviews the researcher has identified challenges of extension service providers in the district.

##### **4.2.1.1 District Council, research institutions and training institutions**

Public extension service providers face common challenges because they mostly rely on government for budget and some political delegation (Table 4). Budget allocated to the research and learning institutions is inadequate for investment in research, buying supportive equipment and disseminating knowledge to the farmers. Also there is high staff turnover due lack of support and hence no competencies in institutions. Bureaucracy was said to be the problem especially in the District Council, it causes delays because of long

procedures in involving other extension providers in the district. Also District Council is said to lack effective supervision of its extension workers hence low accountability.

**Table 4: Challenges of District Council, research institutions and training institutions**

<b>Extension provider</b>	<b>Challenges</b>
Hai District Council	Poor logistical support; Lack of transport means and equipment. Poor in-house training Limited financial resources Bureaucracy and long channels of communication. Lack of self-discipline: few can work without supervision.
<b>Research institutions</b>	
Tanzania Coffee Research Institute(TACRI)	Limited funds for research and training. Deterioration of infrastructure and equipment. Limited skills among trainers for entrepreneurship and participatory development training.
Seliani Research Institute(SARI)	A lack of the knowledge and participatory skills required to develop client oriented research programmes amongst research workers Counterproductive policies (e.g. technical papers used for career promotion, no consideration of the ground-level impact). Poor logistical support
<b>Training institutions</b>	
LITA Tengeru	Limited financial resources Shortage of personnel(trainers) High staff turnover, employees leave institution to other better paying private organization.
Kilimanjaro Technical Collage (KATC)	Poor logistical support

#### 4.2.1.2 Farmers associations

Farmer's associations involve in extension provision especially to their members. They face almost common challenges (Table 5). They lack technical expertise that can manage the organizations and search for relevant information for competence and sustainability. The abuse of fund is also a constraint which has led to the collapse of many farmers associations in the district. Unreliable markets for produced products has led to bankruptcy of most associations. Also the shortage of capital that could help them to diversify business for risk reduction is a constraint in most associations.

**Table 5: Challenges of farmers associations**

<b>Farmers' associations</b>	<b>Challenges</b>
1. Dairy Cooperatives	
i. Nronga Women Dairy Cooperative	Technical weaknesses
ii. Jafta Dairy Cooperative	Lack information and technical expertise.
iii. Marukeni Women Dairy Cooperative	Inadequate budgets Abuse of fund
iv. Kalali Women Dairy Cooperative	Instability of market
v. Nguni Women Dairy Cooperative	
2. Masama primary rural cooperative	
3. Muungano wa Vikundi vya Maendeleo Hai (MUVIMAHA).	
4. Saving and credit cooperative societies(SACCOS)	
5. Agricultural marketing and cooperative societies(AMCOS)	

#### 4.2.1.3 NGOs and donor supported programmes

Nongovernmental organizations play a significant role in provision of extension service and like others they are not exceptional to challenges. The NGOs described in this aspect

are both non-profit and profit firms (Table 6) such as commercial banks. Non-profit organizations lack coordination among themselves, lack experienced personnel because they are seasonal, initiated for time bound projects. Because of lack of experienced expertise they do not have well integrated approaches. Some NGOs are just initiated for the interest of raising funds from donors with such ambitions they can never meet the real demand of farmers. Profit making organizations like commercial banks face the difficulty of working with scattered small scale farmers who lack credibility.

**Table 6: Challenges of NGOs and donor supported programmes**

<b>NGOs and donor supported programmes</b>	<b>Challenges</b>
	Lack technical expertise.
1. Heifer international	Lack integrated approach
2. Faida MALI	Limited experience in providing agricultural services
3. World vision	
4. Enviro-Care	
5. RECODA	Limited human resource capacity they rely on staff seconded from the public services.
6. BRAC	Poor coordination amongst themselves and with LGAs and Sectoral Ministries.
7. DORCAS	
8. Techno serve	
9. RECODA	Limited financial resources and funds abused or not passed to the rightful beneficiaries
CRDB Bank	Most small scale famers lack credibility for loan
NMB Bank	Customers are scattered difficult to access

#### **4.2.1.4 Input suppliers and commodity processors**

Input suppliers and commodity processors face challenge from counterfeit products. There are fake seeds, drugs and fertilizers supplied to the farmers in the district situation which has reduced trust from the farmers. Also most of the suppliers and processors lack experts, so they do not adequately deliver appropriate extension service to the farmers (Table 7).

**Table 7: Challenges of input suppliers and commodity processors**

<b>Agrochemical input suppliers and commodity processors</b>	<b>Challenges</b>
Private crop buyers;	
➤ North coffee Company	Weak in-service training.
➤ Mapper's Supply	Instability of crop supply and market
➤ Rodgers and Mann	
Oil processing groups;	
➤ Kwankya	
➤ Isuki	Weak in-service training.
➤ Lukani	Lack of raw crops for processing
Input suppliers;	
➤ Harsho	
➤ Doladae Enterprises	Fake input suppliers distort their trust
➤ Kibo Trading	They lack qualified extension expert to train farmers
➤ Union Service Store	

#### **4.2.2 Coverage of private extension stakeholders in the District**

Extension service providers apart from Hai District Government have spread in the district providing services. Majority of extension agents (78.0%) based in the villages said that there were private extension project in their villages for at least five years. They run various projects ranging from agriculture, livestock and health. Most of these are NGOs and private companies. NGOs seem to focus on accomplishment so that they will give account to their donors and private companies focused on profit. The substantial coverage in the extension system by other stakeholders apart from government should persuade district government to seek a way to utilize their potential by establishing coordination mechanisms. This complies with one of the strategic points of ASDP that improved delivery of services such as agricultural research, extension, training, regulation, information and technical services is critical to increasing agricultural production and

productivity, and that the private sector will increase its role in providing and financing a wide range of demand driven support services to smallholder farmers and livestock keepers (URT, 2002).

#### **4.2.3 Level of participation of stakeholders**

The study adapted and modified the Hart's Ladder of Participation (Hart, 1992): which identified eight levels of participation –ranging from no participation or manipulation (Level 1) to shared decision making (Level 8). This study modified Hart's Ladder of participation from 8 to three levels:

- i. Zero Participation –The sampled institutions not engaged at all.
- ii. Moderate participation –Interviewed entities gave opinion that participation was partial
- iii. Substantial participation-Consulted entities appreciated their full participation in the decisions

The following aspects were considered as the basis of judgment, main areas where participation or interaction of stakeholders can be observed, the district government was assumed to be the central player.

- i. Stakeholders workshops, seminars and regular meetings
- ii. Stakeholders communications networks
- iii. Joint monitoring and evaluation of projects
- iv. Reporting to the members as accountability mechanism
- v. Farmers' role in the development decision
- vi. Women and other gender groups involvement in development decisions

The aspects were explained by researcher to the respondent and stakeholder had to choose the one related to his institution or company. Possible responses were full participation, partial participation and no participation.

**Table 8: Stakeholders' view on their participation level in the extension decisions made by the Hai District Council. (N=10)**

Attribute	Level of participation						Total	
	Zero participation		Partial participation		Full participation		n	%
	n	%	n	%	n	%	n	%
Stakeholders workshops, seminars and regular meetings	3	30.0	6	60.0	1	10.0	10	100
Stakeholders communications networks	2	20.0	7	70.0	1	10.0	10	100
Joint monitoring and evaluation of projects	8	80.0	1	10.0	1	10.0	10	100
Reporting to the members as accountability mechanism	8	80.0	2	20.0	0	0	10	100
Farmers' role in the development decision	2	20.0	8	80.0	0	0	10	100
Women and other gender groups involvement in development decisions	2	20.0	8	80.0	0	0	10	100

Among the interviewed respondents from the stakeholders, 60.0% said that participation or interaction through workshops, seminars and regular meetings is partial (Table 8). Interaction of stakeholders through communications networks such as letters, phone and physical contacts occur rarely, 70.0% of respondents have said participation is partial. In monitoring and evaluation of extension projects private organizations have not been involved, the participation level is zero according to the results. Most respondents (80.0%) said there is no any report they write to the government or other stakeholders, so according



to the results the participation is zero. Majority of the respondents (80.0%) said farmers are partially involved in decisions and 80.0% have said women and other gender groups are partially involved in the decisions, so the level of participation is partial. Among the six statements identifying level of participation there is no one where full participation occurs. This has implication that level of participation and interaction of the stakeholders is not as good as it is supposed to be in a pluralistic extension system.

Research institutions interact with the government in matters concerning research such as promotion of the new technology from research institution. They conduct on-farm trials in the district villages. SARI has been promoting some varieties of beans in the district and TACRI is involved in coffee research. It has been developing improved varieties of coffee and therefore has projects with farmers. Sometimes the district suggests some problems to the research institution for further investigation especially issues that the district cannot handle.

Training institutions like KATC and LITA are involved through outreach programmes and training of farmers and staff. Input suppliers interact with district government especially in recent days because they are used to distribute subsidized inputs to the farmers. Generally many extension stakeholders are involved in the agriculture or other social activities in the district but there is little cooperation, among them this might have reduced development efforts.

Most extension agents (83.3%) have confirmed that stakeholders are involved in the extension activities but they lack cooperation with each other. They help to compliment what government cannot finish, coverage of services has increased, and also they add new

skills to the system. Issues of human resource, financial resource and physical resource can be carried together government and private organizations.

Exempting the private organizations as important stakeholders in extension decisions at the district level apart from missing potential contribution can also increase confusion among service providers and farmers, dilution of efforts, and violation of legal standards in provision of services. Leeuwis and Van den Ban (2004) argued that a successful means of ensuring the participation of stakeholder organization in extension is to foster open dialogue and ensure that frequent interactions occur between the extension organization and the stakeholder organizations.

#### **4.2.4 Farmers as extension stakeholders**

According to Garforth (1985), among the stakeholders participating in extension services are farmers as groups and individuals. Deshler (1997) added that farmers as participants in the evaluation process are provided with the opportunity to demand good performance from the extension organization. Majority (98.3%) of extension agents stated that the role of farmers in the process of installing development projects as the one with last say, extension agents and other facilitators assist technical aspects to accomplish. The findings imply increased farmers' role and considerable participation of the neglected entity of agriculture extension development. Few (2.7%) agents perceived to dictate process (top down approach) because farmers do not have knowledge and skills to choose the right opportunity.

Farmers' interest was considered as the basis of decisions done by extension agents and other facilitators, so they are important stakeholders in the extension system. Although

farmers judge performance of other players in extension, they also have basic role of accepting change. Extension agents have claimed that farmers are not proactive, there should be added mandate by enforcing law that can increase commitment of farmers.

**Table 9: Involvement of women in development projects**

<b>Participants</b>	<b>Frequency</b>	<b>Percent</b>
More women	14	23.3
Equal women & men	40	66.7
Less women	6	10.0
<b>Total</b>	<b>60</b>	<b>100</b>

Women are believed to be more responsive compared to men. The key informants have said in most development projects women were most preferred because of their commitment compared to their counterpart. For example in TASAF projects the number of women has been deliberately increased more than men to ensure commitment and best outcome. Responses to the question about how extension agents consider gender issues when deciding, 23.3% said they choose more women than men, 66.7% said they choose equal women and men, and 10.0% said they choose less women (Table 9). This has implication that women were empowered in the area or respective policy is effectively implemented and this has stronghold with agriculture extension because nearly 70.0% of farmers in Tanzania are women.

#### **4.2.5 Perception of extension agents on pluralist extension system**

About 85.0% of extension agents knew that multiple extension service providers will bring positive change to the agriculture while 15.0% had the opposite view. Disadvantages of

pluralistic extension are that some of the service providers violate ethical regulations for work. They provide substandard services to the farmers. They recruit unqualified cheap personnel who mislead farmers. For example the cheating of livestock keepers is practiced in some villages by people who are called “Vishoka”. They use fake drugs to treat animals and provide wrong recommendations. There are fake animal drugs and other inputs in the shops. A farmer will usually try to use his experience when buying it in the shop. Agricultural chemicals were wrongly applied to fresh vegetables that were immediately supplied to the market, a situation which seriously risks consumers’ health. In fact research and education effort is urgently required to understand the extent and measure to curb the effect.

Financial organizations offer financial advice and credit to the farmers. However, access to credit for small farmer is considered a major constraint in the district, most farmers’ lack collateral, fail to repay loans and are unable to articulate their needs. The availability of funds to carry out timely purchases of cash inputs into agricultural production, as well as to buy capital equipment, has long been regarded as one of the critical constraints inhibiting increase in the productivity in small-farm agriculture (Ellis and Bahigwa, 2003). The administrative difficulty of working with large number of farmers in a geographically dispersed area is also a constraint.

The industrial sector is the least developed in the district though it could provide more hope for farmers’ produce and district income. The opportunity for further processing of raw materials is considered as major issue in the district provided most products are perishable.

Generally to sum up the case organization has to place emphasis on building strong relationships and control mechanisms with stakeholder organizations. It should involve stakeholder organizations in its decision-making processes (planning and evaluation). Torres *et al.* (2004) in a case study of extension through research in Colombia reported that effective collaboration for extension provision depends on mutual trust among stakeholders. This is also consistent with the view of Jackson and Stains by (2000), who emphasized the importance of good and mutually beneficial working relationships with stakeholders. In their view, such working relationships promote commitment for collaborative action in extension provision. Also, Torres *et al.* (2004) have argued that contact, respect, accountability, and shared decision making with stakeholders are useful in forging good working relationships for effective extension work.

### **4.3 Accountability in Service Delivery**

#### **4.3.1. Process of accountability in the delivery of extension services**

Accountability refers to the obligation for an organization to report programme worth and answer for execution of the programme to stakeholders (Gray and Jenkins, 1986). The question of what benefit the extension programme provided and whether the programme was implemented as planned need to be answered as far as accountability is concerned. Simply stated, government programmes must have sufficient public benefits that make them worthy of continuing public financial support. To assure that program outcomes that demonstrate impact are adequately communicated to appropriate groups and individuals, a proactive accountability plan is needed. Public benefit (or "people impacts") is a key factor in programme accomplishments. The people impacts may be indicated as financial gains, taxpayer savings, efficiencies gained, environmental enhancements or protection, individual life enhancements, resources preserved, or societal improvements (Bennett

1996). Increasingly program accountability must focus on assuring that targeted audiences are informed of "people impacts" plus other program successes as desired by a specific audience (Gale 1994; Sherman, 1995).

The private sector is attracted to participate as input suppliers, services providers and producers (Kimaro *et al.*, 2010). Poor collaboration between the District extension system and other extension stakeholders was mentioned to be due to a lack of coordination mechanism from government, and lack of transparency of some of the private organisations and enterprises. In a pluralistic extension system, the government has responsibility to monitor all processes of extension services delivery, the aim is to safeguard farmers and to grab potentials of committed extension service providers within the District territory. A well prepared monitoring and evaluation mechanism or legal framework will maintain a good rapport among the stakeholders and will ensure accountability of each stakeholder. District agricultural extension agents are supposed to write monthly work report to their supervisors as a way of enhancing accountability.

Private firms or NGOs intending to provide extension services in the district state their mission to the district and district government consider the request in the meeting that has mandate. This will assure extension services provision in the district. On the other hand the district government has committee meetings in the general assembly that assure accountability of government staff in the process of extension provision.

#### **4.3.2 Overview of the district structure**

At the LGA level, District Executive Director is the overseer of operational functions in the District e.g. budget formulation and implementation. The heads of sector departments

form the Council Management Team (CMT) which provides technical inputs and is responsible for the implementation of the different sections of the budget. Also at LGA level, the council, which is made up of elected ward councilors and local MPs, has a key role in reviewing and approving the proposed budget. Below this there is the Ward Development Committee (WDC), which is a coordinating body linking the district to the villages, and subsequent areas. Members of WDC include the ward councilor, village chairpersons and the Ward Executive Officer. At village level each village has a Village Council (VC), whose members are the village and sub-village chairpersons and appointed village leaders. Village and sub-village chairpersons are elected by the village assembly, which consists of all adults aged 18 years or over, providing the potential for real village democracy. Hai District through these functional organs demands accountability from all development stakeholders working under the District, such as implementation of policies, supervision and monitoring of development activities e.g. agricultural extension. Extension services are directly influenced by government rural and agricultural development policies under which they operate (Peterson, 1997).

Agriculture Department and Livestock Departments are responsible for administration and provision of extension services to the areas under the district. Departments are accountable to the District Council, which includes District Executive Director (DED), Heads of the Departments, Members of the Parliament (MP) and Councilors. District Council through the respective committees takes leadership roles in the formulation and implementation of the Districts' agricultural and livestock development plans.

DAICO and DLFO are Heads of Departments and managers of both technical and support staff of the departments (although most of the time matters concerning staff are delegated

to the District Extension Officer (DAEO). The Heads of Department manage and present department activities in the District General Assembly. They also have prerogative to initiate, plan, and implement departments programmes that can meet the development goals of farmers and the district within the national policy guidelines.

Private companies supply agrochemical inputs, directly or indirectly, their involvement in agricultural extension is part of a marketing strategy to increase farmers' awareness of products, achieve a competitive edge and increase market share. Examples of these actors include seed companies, fertilizer manufacturers, pesticide and herbicide companies, and credit institutions.

#### **4.3.3 Monitoring and evaluation mechanism in the district extension system**

Based on the reviewed district documents the researcher has found that there are number of ways the district government ensures monitoring and evaluation in the district extension system although not strictly practiced. These are frequent meetings of extension agents in the district, filling of OPRAS forms, extension agents monthly report writing and financial auditing.

At the end of each month extension staff from the field submit their reports of the activities they implemented over the respective month. The report is supposed to be read by their supervisors in the district headquarters. This will comprise their work plans and achievements. There is meeting at the end of each month where district extension agents discuss any matters that have emerged in their work. This provides opportunity for learning, informing new challenges and settling issues relating to work and setting ways forward for next months. District uses its internal auditors to enforce financial



accountability. Internal auditors questions use of money in the government financed extension projects in the district.

However, there is no mechanism for questioning extension services quality as it happen to the financial issues which is strictly managed. NGOs in the field provide services they want and finally leave farmers with whatever effect, there is nobody to ask them about the impact of projects to the famers however they will be liable to justify to their funders who will not be able to confirm effects on the ground.

The OPRAS (Open Performance Review and Appraisal System) form is designed to assess job performance of an employee where it captures the specific work information of the employee within a specific time. The form is used at the beginning, mid and end of the year. These methods of assuring accountability in their combination could bring efficiency and effectiveness in the extension system but still the problem is they are not effectively used. Although the District has a political and legal oversight system (various committees overseeing process at different levels of district) the key point remained to be how it is administered. Extension officers have said end of the month meetings are no longer held even there is no report writing. Generally the accountability process in the extension system of the district is not effective.

#### **4.3.4 Opinion of farmers on accountability**

The researcher assessed some measurable attributes through opinion of farmers and extension agents. Deshler (1997) believed that farmers are the best judges of agricultural extension impacts, that is whether benefits have been produced or not. He believed that as participants in the evaluation process, farmers are provided with the opportunity to assess others while they also have their commitment to demand or accept change. If extension system is accountable it is likely to provide a quality services to the farmers. The findings

show that 66.0% of farmers appreciate the extension service, while 34.0% do not. Those unsatisfied said quality of extension services is not good because extension agents are not fully committed to help farmers. They do not stay in their sites but rather do their business or abscond to somewhere else. They said they do not see any progress from any of the many development projects brought especially by NGOs.

Even NGOs do not reach development goals sometimes because donors cut back funds or fail to provide funds on time just as the central government is doing to local authorities. Document review made by researcher and information from key informants has identified some weaknesses in the control of quality of extension services under the district. There is no mechanism on which follow up will be made to the extension projects established by other providers in the district. There should be common agreement within the members so as to shape system by maintaining work ethics and control quality of services provided by different stakeholders to farmers.

According to officials in the district monitoring and evaluation is done through extension agents in the wards and villages level. But the argument was rejected by farmers that extension officer himself is not enough to protect farmers interest there should be more follow ups. The lack of control in provision of extension was argued to affect farmers. Qamar (2000) made the point that the key challenge in adopting a pluralistic extension system is the coordination of the various organizations. In Qamar's view, the absence of such coordination can lead to conflicting technical recommendations which can create confusion for farmers. Accountability of government exists when it is committed to provide best environment for work to its workers. The researcher checked transport means used by agents to visit farmers, salaries they are paid and training provided.

#### **4.3.5 Extension agent transport facilities**

Majority of extension agents (85.0%) have no reliable means of transport, only 15.0% said they have motorbikes and most of these are working at the district level. This is a serious problem according to the extension agents. While government has overlooked them still there are those assigned to work in more than one village. According to them there are many things government is silent about, like no allowances, no motivations, and this has forced agents to involve themselves in business to get some extra income. Without motivation extension agents can not perform even if he/she is available in the village. The argument was also affirmed by Swanson and Samy (2004) that another way of ensuring accountability is establishing incentives and encouraging professionals by means of transport which can motivate extension workers.

#### **4.3.6 Satisfactions with salary**

Majority (81.7%) said that they involve themselves in other businesses to top up their income and 18.3% said they do not involve themselves in such businesses. Implication is that, they are not satisfied with salary paid. Dissatisfaction of agents with salary paid was also observed by the researcher when he visited their villages and they were absent.

#### **4.3.7 Extension agents need for further education**

According to World Bank (2000), training of extension staff improves their competencies and promotes the attitude change required for decentralization reforms. It is essentially required to meet the needs of extension staff in the new environment. However, two thirds of extension agents (67.0%) said they did not want to attend further studies because they are skilled enough to perform their daily activities. This is contrary to Scott (2001) who said that in an organizational context, particular positions are defined to carry specified rights and responsibilities and to have varying access to varying resources.

However, agents said that there is no motivation for further education since experience is valued more than even degree training. Also beyond Bachelor degree is not recognized for promotion in district level. Some said they are near retirement so do not need further education; only on-the job training is required. Others, 33.0%, preferred to go for further education and most were youth with diploma and certificate level of education. Generally implication is that quality or standard of extension services provided to the farmers depends on education competence of the extension agent.

#### **4.4 District Capacity**

Resources availability is considered as one of the critical issues that can influence the implementation process of extension programmes in developing countries because the reforms require adequate resources-human, financial, and physical to succeed (Smith, 1997; World Bank, 2000). The assessment of district capacity in term of resources (human and finance and physical) is prerequisite for positive change in agriculture. Through document reviews and key informants interview the following results were obtained.

##### **4.4.1 Human resource capacity in the district**

Human resources capacity of organization entails training of staff, professional training and number of staff employed, qualifications, incentive system, leadership ability and governance at local level. Some questions concerning staff capacity were asked to understand the situation in the district. The information obtained is explained below.

Head of Agriculture Department (DAICO) in case organization is a senior officer, holds Diploma of Animal Health, BSc. Veterinary Medicine (VET), and MSc. Animal Science. Currently the department has 90 personnel, 7 technicians, (4 irrigation, and 3

mechanization), 1 accountant and 5 support staff (1 clerk, 2 drivers, 1 security guard), 19 personnel are working in the district, which 9 personnel are livestock officers and 10 are agricultural officers. The original Agricultural Department has been split into two Departments; Department of Agriculture, Irrigation and Cooperatives and Department of Livestock and Fisheries. Currently the total number of extension agents in the district is 90, where 49 are agriculture specialists and 41 are livestock specialists. This year 11 extension agents were requested from the Ministry of Agriculture with the objective of allocating two extension agents per village one, for Agriculture and another for Livestock. DAICO said at the moment they allocate one agent per village regardless of specialization to take care of both crop and livestock issues.

Hai District with 48 680 farm households every extension agent on average works for 541 farm households. The ratio has not met the national target of allocating each village with specialist extension worker i.e. livestock and agricultural specialists.

At the national level the plan was to train 15 082 extension officers so that each village in Tanzania has one extension expert. By February 2013, a total of 7 974 experts had been employed and other 2 000 graduates were to be employed. Generally, an extension agent in the study area has a large number of farming households to attend. This is challenging since results indicated lack of reliable means of transport to extension workers. Only 18.0% field based extension officers have motorcycles and 67.0% of field based extension agents walk or use a bicycle.

Also the observation has revealed there are 14 villages without extension agent while others have livestock and agricultural extension agents. Extension agents said some of

them are serving more than one village in a difficult situation where there is no transport means, and motivation, this affects their performance. The result is supported by United Nations (2005) in most developing countries extension services face serious shortage of trained managerial and technical staff to carry out responsibilities, for the extension, staff lack competence and motivation due to poorly defined human resource development and management systems.

Sometimes private extension providers support the government by training public extension staff on new technologies that they are lacking or provide fund for agents further study or physical assets such as cars or motorbikes. Other extension organizations contribute services in some of the villages but the challenge is that there is no organized coordination and collaboration of these organizations with government as was mentioned in previous sections. So everyone does what they want at any time, there is no joint effort or compensation. Shortage of human resources is still a problem considering that livestock agents located in the village as the overseer of extension services have no agricultural skills, so obviously they are not doing their best unless each village has both specialists. Most farmers rely on the information from extension agents, so with this shortage in Hai District their production is affected.

Concerning capacity of other extension stakeholders in the district they only place one staff and a driver in the project site to oversee or sometimes they travel from the headquarters to the project site. Basically most projects in the district are just attachments, NGOs work from their headquarters. Private companies especially those selling inputs lack competent personnel. Research and training institutions do not have enough resources.

#### **4.4.2 Financial capacity of the district**

The availability and allocation of financial resources determines the performance of extension organizations. The key interest in this study was to determine the source, allocation, and sustainability of financial resource for the public extension system. Hai District is decentralized organization which obtains significant amount of development budget from the central government. Ministry of Agriculture Food Security and Cooperatives (MAFC) provides funds directly to the District from its Basket fund to support Agriculture Sector Development Programme (ASDP). The programme is implemented in the district level through the District Agricultural Development Plan (DADP). The District also gets agriculture development funds from other sources such as Local Government Development Grants system (LGCDG) for capacity building and Recurrent Block Grants for salaries and operation costs, Own Source Revenue (taxes, services etc.) and Donors contribute through NGOs and CBOs providing extension services in the district.

After debating and approval of budget its execution begins on 1<sup>st</sup>, July and end on 30th June of the subsequent year. After thorough review of ministry documents and interview researcher got the following results. There were three problems of Local Government budgets; allocation of insufficient funds, delay of approved funds, and abuse of funds. In the current budget a large portion of agricultural sector budget has been allocated to input subsidy programs and the National Food Reserve Agency (NFRA), leaving limited resources for other programs in the sector including extension services provision.

Despite the fact that the agriculture sector employs more than half of the Tanzanian population (74%) and it contributed 24.8% and 24.7% to the GDP in 2012 and 2013

respectively still the sector was not given priority for it faces many internal and external challenges. Internally, there is evidence on misuse of public funds (ANSAF, 2013). There are reported delays in funding as well as inadequate disbursement (Gabagambi, 2013). By the middle of the financial year 2013/2014, the district had not received 41.8% (Tshs 19 669 390) of money for extension services. This situation of unfulfilled disbursement by central government often happens and has affected extension work according to the district agricultural extension staff.

Results show that all the extension agents asked for their opinion about fund allocated for extension in the district all said that funding is not enough. The same argument has been given by Anderson and Feder (2004) who argued that the major problem in developing countries is allocation of inadequate resources, including funds and qualified extension staff to deliver extension services.

Other extension stakeholders such as NGOs and CBOs have been contributing to the district extension system through services they are providing to the farmers. Through service provision such as training of farmers and staff, building schools, offices and infrastructure they supplement budget that government could incur itself.

An interesting fact about the 2013/2014 agriculture budget is increased government commitment to fund development projects. This is commendable but it remains a challenge whether the government will be able to raise such amount and finance the earmarked development projects. Moreover, the agriculture budget is still a long way from achieving the Maputo Declaration on Agriculture and Food Security of 2003 which prescribes that at least 10% of the entire national budget be allocated towards agriculture (Wiggins and Leturque, 2010). Also it is important to note that it has been extremely



difficult to access the information on budget approvals and spending trends by the general public at the local level.

#### **4.4.3 Physical resources for extension service delivery in the district**

The case organization has the following physical assets in the extension department; 10-office rooms, six desktop computers, three laptop computers, four printers, one shelf, two vehicles, 14 motor bikes, one tractor and one power tiller. The District does not have enough physical assets to support agriculture work. The DALDO has proposed that they would need twice the assets they have now to perform their job successfully. Most extension staff based in the villages have no means of transport district has planned to buy at least each year two motorbikes for extension agents. The number of computers is not enough for extension workers in the district. Two vehicles do not meet real needs and there is need for another one new vehicle for field work said the DALDO. One of the two vehicles belonged to the Participatory Agricultural Development and Empowerment Programme (PADEP). Repair and maintenance of cars and other machines has been frequently carried though some need replacing completely.

Most of private organizations in the district are better off therefore own good vehicles and modern computers also pay well their employees and provide incentives compared to those of public extension. Majority of employees in private organizations are young and work beginners so they lack experience, sometimes they outsource from the local government.

As far as the study is concerned the private extension providers in Hai District have no contribution of physical assets rather they contribute services to the farmers. Generally,

from the study sample physical resources were not mentioned as the leading factor that adversely affects extension delivery in the district, rather financial and human resources were considered to be a major constraint in the extension system of Hai District. Table 10 below illustrates the responses of extension agents about the most constraining resource.

**Table 10: The most serious resource constraint**

<b>Resource</b>	<b>Frequency</b>	<b>Percentage</b>
Financial resources	34	56.6
Human resources	17	28.4
Physical resources	9	15.0
<b>Total</b>	<b>60</b>	<b>100</b>

The results imply that the district can still perform better in extension delivery with existing physical resources except transport for field based extension agents.

#### **4.5 Performance of District Agricultural Extension**

##### **4.5.1 Characteristics of the farmers**

The household size on the survey area was 4.5 persons whereby the smallest household size had one person and the biggest had eight persons. Out of the interviewed farmers in the district, 54.0 % were men and 46.0% women (Table 11). The youngest interviewee was 19 years and the oldest was 70 years old. The mean age of respondents was 44 years, which means that they were generally of middle age farmers among the respondents. According to Van de Ban and Hawkins (1996), younger farmers are more likely to adopt recommended production practices.

There were 66.0% married farmers, 28.0% single and 6.0% widows (Table 11). Marriage serves as a means of generating family labor. Antibioke *et al.* (2012) asserted that crop

production value chain and use of technologies are related to marital status. On the other hand, Van den Ban and Hawkins (1996) contended that married couples tend to share experience of technologies. Results imply that most farmers in the study area are in the position to accept positive change from technology disseminated by extension agent because they as couple can encourage each other.

According to Joseph (2008), formal schooling enhances the farmers' ability to perceive, interpret and respond to new events in the context of risk. The level of education of the interviewed farmers shows that about two third (66.0%) had attained primary school, and 8.0% had not attended any formal school (Table 11). Majority of the farmers in the study area can easily adopt new knowledge and skills disseminated by extension agents and realize a positive change compared to the few without formal education. The result was also supported by Bezuayehu *et al.* (2002), argument that education improves human capital, farm management capacity, the ability to understand and adopt recommended agricultural practices.

**Table 11: Characteristics of farmer respondents**

<b>Characteristics</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>		
Female	23	46.0
Male	27	54.0
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Marital status</b>		
Married	33	66.0
Single	14	28.0
Widow	3	6.0
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Education level</b>		
Primary	33	66.0
Secondary	10	20.0
College	3	6.0
No education	4	4.0
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Age (years)</b>		
19-40	16	32.0
41-60	27	54.0
Above 60	7	14.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### **4.5.2 Productivity trend for the past five years (2007-2012)**

The opinions of farmers were sought by taking their responses against questions that were designed to capture their production information. According to Deshler (1997), farmers are the best judges of agricultural extension impacts, that is whether benefits have been produced or not. Responding to the question of the maize productivity trend for the past five years, 38.0 % farmers noticed an increase in production. Others (46.0%) indicated that productivity has been declining over the years and 16.0% noticed production fluctuation (Table 12). The decrease in productivity implies either poor extension service which can be due to the unavailability or incompetence of extension agent or erratic weather.

**Table 12: Opinions on maize productivity in the district for the past five years**

	Frequency	Percentage
Increasing	19	38.0
Decreasing	23	46.0
Fluctuating	8	16.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### 4.5.3 Causes for decline and variability in maize production

These results indicate that maize productivity decreased because of weather change. Also there are farmers who said that there is inadequate knowledge on farm management aspects which can be a result of poor extension services (Table 13). The implication is that extension service delivery is not good and also there are other factors that contribute to low productivity of maize in the study area (CUTS, 2011). Due to lack of sufficient knowledge on maize farming, farmers do not use recommended seed and fertilizers; also they ignored spacing of plants. As a consequence, sub-optimal yields are obtained per unit area.

**Table 13: Causes of decline and variability in maize production**

Causes for variability	Number	Percentage
Poor weather	28	56.0
Poor farm management	9	18.0
Poor weather and management	13	26.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### 4.5.4 Contribution of extension officers on increase in maize production

The results in Table 14 show the big role of extension workers (66.0%) except for the few, which means agents, have significant contribution to the farmers change, therefore they should be supported by the employers and farmers for improved performance.

**Table 14: Percentage responses on contribution of extension agents on productivity**

	Frequency	Percent
Big role	33	66.0
Small or no role	17	34.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### 4.5.5 Changes observed in farming practices for the past five years

Improved farm management encompass adherence to good agronomic practices including appropriate application of fertilizers, improved farm management skills and use of improved seeds. In the study area there has been increasing use of fertilizers by farmers which implies that there is extension service contribution and availability of government subsidy has influenced use of fertilizers. Farmers have improved farm management skills and adopted improved seed varieties within the last five years (Table 15).

**Table 15: Kind of changes observed**

Change	Frequency	Percentage
Increased fertilizers use	33	66.0
Increased use of improved seeds	9	18.0
Improved farm management	8	16.0

#### 4.5.6 Farmer-extension relations in the surveyed areas

##### 4.5.6.1 Communication between extension personnel and the farmers

Farmers in the survey area contacted the extension agents mostly when they met during field visits (46.0%). Other farmers, 22.0%, got information from the office, while others, 6.0% got extension messages during village meetings, 2.0% went to extension agent's house and 24.0% did not get any message (Table 16). With advancement in science and

technology, mobile communication was also used, although extension agents admitted that most urgent calls received with serious cases. It was also established that most field visits were made to progressive farmers eager to learn and adopt new technologies. Extension officers worked closely with these committed and serious farmers so that their fellows could learn from them.

**Table 16: Meeting points between farmers and extension agents in the past six months**

<b>Meeting point</b>	<b>Frequency</b>	<b>Percentage</b>
Visit in the field	23	46.0
In agent's office	11	22.0
In agent's house	1	2.0
In a meeting	3	6.0
Not at all	12	24.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### 4.5.6.2 Updating extension staff with new technologies

Extension officers receive updates on new technologies mostly through their own search. Results show that many agents (43.0%) get new information from the internet, and 10.0% have no access to any source of information. Use of Internet in most cases is an individual effort while other sources like training are supposed to be given by the government. The implication is that extension agents lack frequent training (Table 17).

**Table 17: Means of updating extension agents with new technologies**

<b>Source</b>	<b>Frequency</b>	<b>Percentage</b>
Training	9	17.0
Internet	21	43.0
Other sources	15	30.0
No access	5	10.0
<b>Total</b>	<b>50</b>	<b>100</b>

#### **4.5.7 Sustainability of extension programmes**

According to Lovell (1992), the term sustainability with regard to development projects means continuation of the benefits for a long time after donors withdraw support to the project. In this study, sustainability means the ability of farmers to maintain micro-project operations, services and benefits. Sustainability of extension programmes relate to the permanent impacts and empowerment of farmers. Sulaiman (2003) argued that in planning of extension programmes, it is crucial to include stakeholders from both the public and private sectors of the community to solicit diverse views, skills and resources for programme implementation, hence sustainability.

Among 50 farmers asked on sustainability of the extension programmes, 74.0% said most of extension programmes are not sustainable, and 26.0% said programmes are sustainable. Reasons given were; most of extension programmes brought by the government and NGOs have not continued after exit of the supporters, second programmes are not designed to solve real problems of farmers but target their own interest, third, programmes focus on services rather than capacity building, fourth, lack of coordination among stakeholders. Participation of the stakeholder organizations in extension programme activity is considered as the contributing factor to extension operational sustainability and development (Pretty, 2003). In order to have sustainable micro-projects, it was expected that local policy barriers would be removed and policy incentives created.

The rationale behind building capacity of the smallholder farmers is to ensure that they are able to maintain all operations and services that were performed by donors and to realize impact then increasing sense of ownership.



## CHAPTER FIVE

### 5.0 CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusions

The level of participation of extension service stakeholders in the decision and implementation of development policies in the district is low. The collaboration between district council and private extension service providers is weak although they are targeting to help the same farmers. Lack of stakeholders' joint decision has led to the dilution of the efforts and has caused confusion of farmers.

The district has shortage of fund for extension services provision. The budget allocated for extension activities is delayed contrary to district agricultural development plans. Also with development supporters there are problems where most extension projects were left uncompleted in the district. The small national budget allocated to the agricultural sector affects the overall performance of the sector. The districts eventually receive inadequate funds to meet the needs of extension services like transport, fuel and maintenance, housing, and even supporting their work plans like establishing farmer field schools, demonstrations and conducting farmer training. Human resource is not adequate; the district has not managed to employ livestock and agricultural officer in each village. The existing number of extension agents is placed in the village with no consideration of their professional specialization where this obviously affects extension performance.

The sense of accountability in the district is low, employees are not loyal to fill OPRAS forms, do not submit work reports timely and no regular meetings are held as stated in their regulations. There is weak follow up of the field workers, some of the extension

agents were not on their work sites when the researcher visited there. The government has not effectively supported extension agents with logistic support such as transport means, stationeries and also capacity building programmes were not sufficiently provided.

Multiple extension service providers in the district need a good coordination and strong legal framework that should be maintained by the district government, but unfortunately there is still chaos in the services provision.

Although most of the farmers in the district rely on the extension services from government extension agents there is no satisfactory performance because of constraints they encountered like no transport means, lack of motivation, unwillingness of farmers and climate change.

## **5.2 Recommendations**

- i. Hai District needs to increase participation of the stakeholders in the process of designing, implementing and evaluation of the policy and programmes within the district
- ii. The District Council should diversify to other sources of funds and deal with causes of fund delay so as to reduce the effect. Also government should employ more extension agents to cover each village with Agricultural Officer and Livestock Officer or improve environment of work so that existing staff can manage to work over more than one village as suggested in 2015 national extension workshop.
- iii. An effective means of ensuring the accountability of the stakeholder organizations in the extension is to foster open dialogue and ensure that frequent interactions occur between the district extension and stakeholder organizations. Establishment of

communication networks with other stakeholders and having a common platform for discussion is what the district requires for enhancing cooperation. District government as a central player can use workshops, seminars, meetings and frequent communications to motivate cooperation and increase accountability. Use of OPRAS form, frequent meetings and reporting should be emphasized for improving accountability in the district.

- iv. Government should focus on improving the work environment of extension agents including provision of transport, training and other motivations so as to increase performance of extension. The farmers should be supported by the government by assuring good market for their produce and provision of inputs.

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## APPENDICES

### Appendix 1: Questionnaire for Extension Agents in Hai District.

#### INTRODUCTION

*Good day.* My name is Joshua Ayub Semwenda and I am a master's student carrying out a survey on extension services. I would like to discuss these issues with you and would be grateful if you spared a few minutes to answer few questions. All information you give me will be kept strictly confidential. Therefore please answer honestly and feel free.

#### A. GENERAL INFORMATION

Name of the respondent.....

Respondent number .....

Ward.....

Village.....

Name of Interviewer..... Date of interview.....

#### B. PERSONAL CHARACTERISTICS

- 1) Sex of the respondent..... a) Male ( ) b) Female ( )
- 2) How old are you? ..... (Years)
- 3) What is your marital status?
  - a. Single
  - b. Married
  - c. Widowed ( )
  - d. Divorced
- 4) What is your highest education level? (Write a choice number) ( )
  - a. No education
  - b. Primary education
  - c. Secondary education
  - d. certificate

#### C: BACKGROUND INFORMATION

1. What is your current position \_\_\_\_\_
2. How long have you worked as an extension worker \_\_\_\_\_ years
3. Are you from a farm family? (circle one): No Yes
4. How many villages do you save ? \_\_\_\_\_

**D: LEVEL OF STAKEHOLDER'S PARTICIPATION IN THE EXTENSION SERVICE PROVISION**

1. Are there other organizations apart from public organizations who are involving in the provision of extension service in the district ? YES/NO ( )
2. If your answer is YES who are they? (Mention names)  
 \_\_\_\_\_  
 \_\_\_\_\_
3. What specific type of extension service are they providing to the farmers  
 \_\_\_\_\_
4. You as extension worker what approach you frequently use to decides whether development program is suitable for particular community  
 a) Participatory      b) Topdown
5. How do you ensure equal participation of female and male in development decision making  
 \_\_\_\_\_
6. Do you think is it important to have private organizations that are providing extension to increase performance? YES/NO ( )
7. How do you collaborate effectively with private organizations providing services in your work place so as to avoid duplications of the work. \_\_\_\_\_
8. What legal framework has made in the district to make sure each stake holder in provision of service do it according to the district focus in a particular time \_\_\_\_\_
9. Do you normally invited in the district decision meeting concerning extension or..... NO/ YES ( )
10. Do private extension organizations invited in district in some decision making meetings concerning extension?..... YES or NO ( )
11. Do other departments in the district collaborate with extension department to provide extension services?..... YES or NO ( )
13. Do farmers involves in making decision of their own development programs YES/NO ( )

**E. FINANCIAL CAPACITY OF THE DISTRICT TO DELIVER EXTENSION SERVICES**

- 1 What do you think about budget allocated to the district by ministry to deliver extension services effectively?
  - a) Is enough b) is not enough c) it is not bad
2. From the list of items below indicate which one is available to support your work.
  - a) bicycle
  - b) motorcycle
  - c) car
  - d) House
  - e) office
  - f) stationary
  - g) teaching aids
  - h) Allowances
  - i) Awards
  - j) Funds for supervision
  - k) Funds for training    j) Meetings
  - l) Funds for establishing demonstration plots
3. Do you think to what extent failure of extension programs was caused by lack of fund
  - a) Mostly    b) slightly    c) not affected by shortage of fund

**F: ACCOUNTABILITY IN PROCESS OF EXTENSION DELIVERY.**

1. How many villages are you saving  
.....
2. How many times you meet farmers in (a) a week..... (b) a month  
.....
3. How many days in a week you are advising farmers in a field  
.....
4. How many times do you evaluate your work progress in (a) week. b) Month..... (    )
5. Do you make follow up to the farmers you have trained  
YES/NO
- 6 Do you plan your work by writing .....  
YES/NO

- 7 Do you prepare work report to submit to the headquarter YES/NO
- 8 If YES, when do you submit
  - a) Every week b) monthly c) yearly
- 9 How many days in a week you are out of work..... ( )
- 10 Do you take some difficult problems to the research institution YES/NO
- 11 Is there any other work you are doing to top up your gains for family need YES/NO
- 12 Do you think work you are doing is within your ability NO/YES
13. Do you get enough support from the district to perform your daily work YES/NO
14. What do you think district governments fail to provide you with some of the basic facilities because of (a) Ignorance (b) corruption(c) Is beyond their capacity?

**G: CAPACITY OF THE DISTRICT TO DELIVER EXTENSION SERVICES  
(EXTENSION WORKER OPINION)**

1. A district has enough number of extension workers ?.....YES/NO.....
2. How many extension officers are available in the district .....
3. How many extension workers are needed to fill whole the district .....
4. Are the extension workers available in the district competent enough to accomplish the work.....YES/NO
5. A district has a capacity to provide logistic support to the extension workers.....YES/NO
6. A district is able to motivate extension workers YES/NO
7. A district receive enough fund that can accomplish all operations work at village to district level.....YES/NO
8. A district has enough other human resources capacity that involves in extension delivery process.....YES/NO

**Thank you for your time!**

## Appendix 2: Questionnaire for Farmers in Hai District.

### INTRODUCTION

*Good day.* My name is Joshua Ayub Semwenda and I am a master's student carrying out a survey on extension services. I would like to discuss these issues with you and would be grateful if you spared a few minutes to answer few questions. All information you give me will be kept strictly confidential. Therefore please answer honestly and feel free.

### A. GENERAL INFORMATION

Name of the respondent.....

Respondent number .....

Ward.....

Village.....

Name of Interviewer..... Date of interview.....

### B. PERSONAL CHARACTERISTICS

- 5) Sex of the respondent..... a) Male ( ) b) Female ( )
- 6) How old are you? ..... (Years)
- 7) What is your marital status?
- a) Single
- b) Married
- c) Widowed ( )
- d) Divorced
- 8) What is your highest education level? (Write a choice number) ( )
- a) No education
- b) Primary education
- c) Secondary education
- d) Certificate

**C: FARMERS OPINION ABOUT EXTENSION SERVICES PERFORMANCE**

1 Do you have extension worker in your village? YES/NO ( )

2 How many times you receive extension advice from extension worker

(1) Once (2) more than once (3) not receive . Put the number of choice against response below

(a) In a week ..... (b) in a month..... (c) in a year.....

Write YES/NO

3 Extension worker is able to help solve farmers' problems ( )

4 Extension worker is always available in the village when help is needed ( )

5 Extension worker is able to help increase farmers' incomes ( )

6 Extension worker is up-to-date with information about technologies and market opportunities ( )

7 Where do you get extension advice

(a) Public extension worker (b) private extension worker (c) all (d) I search my self

8 What can you say about contribution of extension workers to you production

(a)Non (b) small (c) moderate (d) high ( )

9 What are the important technologies/innovation you have adopted as the result of extension services from extension worker

10 what is contribution of private organizations to provide you extension services

a) Very important

less important

c) Important

e) not need

**D: FARMERS LIVELIHOOD IMPROVEMENT**

1 Mention main crops you have grown last year

Crop

yield (Bags/100Kg)

1).....

2).....

3).....

2. Mention type of animals you raised last year that has contributed to your income

3 How much did you earn in last year from animals, by selling milk, meat, eggs etc.Tshs.

4. How many children do you have at school



5. Are you able to access with your own income from the farm the following social needs

(Tick each one you access)

- (a) Education for children (b) health services for your family (C) Good house  
(d) decent clothes (e) Good diet for my family

**Thank you for your time!**

**Appendix 3: Checklist for DED, DAICO/DLDO and Councilors in Hai District**

**A checklist for DED, DAICO/DLDO and COUNCILLORS**

1. What are the main stakeholders providing extension services in the Hai District?
2. Regarding accountability, what measures have been put in place to build the capacity of district and how you maintain accountability in part of extension services?
3. When it comes to quality assurance and technical audits, how do you ensure that services provide through service providers comply to set standards and safeguards farmers welfare?
4. When it comes to monitoring and evaluation, what are they any systems that have been put in place to ensure that the programme is periodically evaluated on its performance?  
Explain your answer.
5. What can you say about district capacity to deliver standard extension services in the aspect of human resource and funds?

**Thank you for your time!**