

**FACTORS INFLUENCING CONTEXTUALIZED TEACHING AND LEARNING
IN MWANZA CITY PRIMARY SCHOOLS USING AGRICULTURAL
EXPERIENCES**

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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 study was conducted in Mwanza City. The study intended to assess whether teaching and learning agriculture in primary schools was contextualized. A total of 145 respondents comprised the sample of the study. They included head teachers, district agricultural education officer, Ward Education officers, teachers and pupils. Cross-sectional research design was employed, whereby data were collected at a single point in time. The study covered two districts namely Nyamagana and Ilemela. Five wards were selected in respective to the district as follows; Pamba, Igoma, Sangabuye, Buswelu and Ilemela. Five primary schools were purposively selected in respective to wards, Bugando, Kanindo, Kayenze, Buswelu and Lukobe. Purposive, Stratified and random sampling techniques were used. The techniques and tools for data collection were questionnaires, interviews, observations and related documents. Both quantitative and qualitative data were collected. Quantitative data were analyzed by using Statistical Package for Social Sciences (SPSS) version 12 computer programme. The findings indicated that teachers and pupils had positive attitudes towards the agriculture subject. The study also found out that teachers were teaching agriculture subject theoretically. Contextualized teaching and learning in primary schools using agriculture experience was constrained by lack of teaching facilities, lack of capital for agriculture projects, inadequate qualified teachers to mention few. It is recommended that MoEVT should train more agriculture teachers as well as use in service training. Parents should involve their children in light agricultural activities. The pupils should learn by doing and attend field trips. The Curriculum developers should reform the syllabus to make agriculture subject compulsory and it should be examined. In order to enhance contextualized teaching and learning in primary schools using agriculture experiences the City Executive Director (CED) should allocate teaching facilities,

provision of funds, employ reasonable numbers of qualified teachers and create conducive environments for diversified agriculture projects.

DECLARATION

I, NZINGULA, SALOME LUCAS, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my original work, done within the period of registration and that it has neither been submitted nor being concurrently submitted for higher degree award in any other institution.

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DEDICATION

This work is dedicated to God our father, and the source of all knowledge, my late father Lucas Nzingula, my mother Ruth Nyanda, my sons; and my daughter for their encouragement and support throughout my studies.

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LIST OF ABBREVIATIONS

4H	Head Heart Hand and Health
CED	City Executive Director
CTL	Contextualized Teaching and Learning
ECM	Every Child Matters
ETT	Elephant Thought Tanzania
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
HLE	Home Learning Environment
MAFC	Ministry of Agriculture, Food Security and Cooperatives
MATIU	Ministry of Agriculture Training Institute Ukiriguru
MoEVT	Ministry of Education and Vocational Training
NGO	Non- Governmental Organization
SPSS	Statistical Package for Social Sciences
UNESCO	United Nations Educational Scientific and Cultural Organization
URT	United Republic of Tanzania
USCF	University Student Christian Fellowship

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Contextualized Teaching and Learning (CTL) is a promising strategy that actively engages pupils and promotes improved learning and skills development. CTL has been defined in different ways, based on the intent of the group championing its use. Baker *et al.* (2009) defined it as the state of teaching and learning that helps teachers relates subject matter content to real world situations. Mazzeo (2008) further defined it as an instructional strategy designed to link the learning of foundational skills and academic or occupational content by focusing teaching and learning directly on concrete applications in a specific context that is of interest to the pupils.

Contextualization is implemented by using many different instructional techniques. Whether instruction is contextualized or integrated, the connection of basic skills instruction to applications and life goals is consistent with constructivism, which places pupil's interests and needs at the centre of education. Many terms have been used to refer to it. These include contextual teaching and learning; contextualized instruction, content-area literacy and integrative curriculum just to mention a few. Whatever the term used, the work tends to converge on several key themes: teaching skills with direct reference to real world events and practices (Perin, 2011).

In CTL, learning is much influenced by the relationship between three distinctive environments which are: the home, the school and the community. In this kind of learning, curriculum development, teaching and learning are based on the immediate context in which the school is located. The great advantage of this approach to primary education is

its flexibility to allow the curriculum to be made relevant to the experiences of the learners, whilst still allowing the possibility for the development of knowledge, attitudes and skills identified on a national basis (Taylor and Mulhall, 1997).

Both Taylor (1997) and Mulhall (2001) had the opinion that, contextualization of learning occurs when the content of the curriculum and the methods of teaching and materials are associated with it. Therefore it should be directly related to the experience and environment of the learner. Owing to the importance of contextualized approach, different countries have adopted it; however, it is still extremely rare to find interventions where contextualization of teaching and learning is the main focus. In view of the fact that agriculture forms the reality for many rural dwellers around the world, the contextualized teaching and learning agriculture subject in primary schools is therefore a great opportunity to be put into practice.

Many developing countries that include agriculture as a component of primary school education have acquired a poor reputation; so innovative approaches which link to conducive learning environments to pupils' should be emphasized. Countries like Sri Lanka, Cuba, India and Ethiopia showed, however, that teachers regularly try to contextualise learning by relating the content of the curriculum to the experience of their pupils (Gasperini, 2000).

According to Seshadri (1997), learning has two major components, which are the theoretical and practical components in which the latter makes pupils to understand the subject matter more than the theoretical learning since learning through practice make the learner also to acquire the theoretical education. As a rule of thumb we see things with our own eyes, and do things with our own hands that are practical education. Theoretical

education is therefore necessary but it must be supplemented by practical education, if it is to be really effective. This is also supported by Phillips and Roberts (2010), who state that ‘when I hear and I forget, I see and I remember, I do and I understand’. That means there is a great connection, tie and real interpretation between theories (to hear) and practice (to do).

In the Tanzanian context education has been regarded as the process of initiating and preparing learners through training in their environments so that they become active players in the society (MoEVT, 2012). The attempt was to deal with education mainly economic production activities including agriculture. This was carried out through the implementation of the policy of socialism and self-reliance which was the focal point in the Arusha Declaration (Nyerere, 1968). The Arusha Declaration underscored the weaknesses of colonial education system inherited during the early post independence years. It called for school to integrate theory with practice through learners’ acquisition of practical life skills (URT, 2008).

Riedmiller (2002) noted that, school gardens were used to influence knowledge, skills and attitudes of pupils studying agriculture in the primary schools. As Taylor (2004) noted that the value of hands-on learning through gardening activities is a vibrant field of both educational theory and practice. Practice makes learners to learn by associating what they learn with what they experience at home (Sifuna, 2008).

Among the major objectives of primary education, is to lay the socio-cultural foundations which ethically and morally characterise the Tanzanian citizen and the nation (Mbelle, 2008). The aim is to prepare every citizen to embark on an unending journey of lifelong learning, education and training. In that way primary school education have been viewed

as fundamental to the strengthening of higher levels of education by laying strong foundations in social, scientific and technological literacy and capacity, and thus providing a means to self-reliance and national development. Agriculture subject is one of the theoretical and practical subjects in the primary education curriculum of Tanzania, but it is taught as an optional subject under vocational subjects in which the subject has not been made as one of the core subjects in primary syllabus where it can be examined as other subjects like English and Mathematics. This resulted into less emphasis and set back by both teachers and pupils. The government claims agriculture to be the back bone of the economy of the nation without laying down its foundation from the grassroots, which starts with young generation that is the pupils in primary schools. Education is a comprehensive social system that cannot be compartmentalized (Kuroda *et al.*, 2008).

The Tanzanian general education curriculum is streamlined to address the need to develop analytical and market-oriented skills, and that its primary schools' syllabuses' have been constructed in the spirit of constructivism by emphasising on learner-centred methods of teaching and learning (Keith, 2011). However, agriculture education has been so far given little attention in primary schools as an important subject that could be used to build human resources to the national economy and alleviate poverty among many Tanzanians.

1.2 Problem Statement and Justification of the Study

Tanzania is implementing development vision 2025, which seeks to have a well – educated, knowledgeable and skilled population to face political, social, economic and technological challenges from grass roots to international levels. In view of the fact that the economy of Tanzania relies heavily on agriculture, it would be relevant if the agricultural subject is taught and practiced in all levels of education, since agriculture

contributes to the national GDP, by providing 85% of exports, and employing about 80% of the work force (URT, 2008).

Experience from developed countries, for example (in the fear of emerging economies of China and India) shows that, the threat of competition in the economy and employment opportunities had called upon review of curricula to suit the global labour market competition through putting more emphasis on practical learning which contextualization emphasises. This was the case as remarked by Powell and Biriotti (2007) that,

‘if our education system does not start fostering more practical ways of learning and working, then we can hope to produce such talented entrepreneurs who will not be able to compete. Since, succeeding in a competitive environment is about insisting on theoretical excellence, instead of a culture of excellence in practical learning that would give us real competitive advantage, we are perpetuating a culture where practical learning is second best, something which has downgraded the practical achievement’.

This practical learning was also acknowledged by Rasheed (2000) in his comment that, learning outcomes should encompass the knowledge, skills and attitudes, which are linked to the national goals of education and positive participation of the individual in his or her society. Advancement in economy is increasingly based on the effective utilization of intangible resources, like knowledge, skills, and innovative potential as the key resource for competitive advantage.

Although, objectively the policies and much of the education documents had been proclaiming learning by practice in primary schools, but there is little information about what exists on this claimed practice to be actually practiced in Tanzanian primary schools.

As pointed out by Hamilton *et al.* (n.d) that the curriculum recently used in Tanzania does not abide to the context based approaches that can help pupils make important connections of what they are being taught in class and the applicability of the same in their society. The activities that involve the learner in the process that has active engagement with and critical reflection about the phenomena being studied (Retallik, 2010).

Food and Agriculture Organisation (FAO and UNESCO, 2003) emphasizes the potential of school gardens to serve as learning laboratories and as part of a long-term strategy to address food insecurity through improving basic education around issues of nutrition and the environment and introducing improved agricultural techniques of sustainable food production.

The study intended to examine factors influencing contextualized teaching and learning in primary schools using agricultural experiences. Also to provide recommendations to the Ministry of Education and Vocational Training, curriculum developers, Ministry of Agriculture Food Security and Cooperatives (MAFC) and other interested stakeholders when planning and executing education matters that are to benefit Mwanza City primary scholars and the nation at large.

1.3 Objective of the Study

1.3.1 General objective

The primary objective of this study was to determine the factors influencing contextualized teaching and learning in primary schools through the use of agricultural experiences.

1.3.2 Specific objectives

- i. To assess attitudes of teachers and pupils towards the teaching and learning agriculture as a means of contextualisation of education in primary schools.

- ii. To determine how teachers use agricultural experiences as a means of contextualising teaching and learning in primary schools.
- iii. To identify factors that enhances or constrains the use of agricultural experiences as a means of contextualising teaching and learning in primary schools.

1.4 Research Questions

The study was guided by the following questions

- (i) What are the attitudes of teachers and pupils towards teaching and learning agriculture as a means of contextualisation in primary schools?
- (ii) How do teachers in primary schools use agricultural experiences as a means of contextualising teaching and learning?
- (iii) What factors enhance or constrain the use of agricultural experiences as a means of contextualising teaching and learning in primary schools?

1.5 Theoretical Framework

The inquiry theory in education was earlier developed by Dewey as cited by UNESCO (1999). The theory states that education must be experimental without being simply improvisation. The theory further states that present experiences guide future experiences more meaningfully and worthwhile when such experiences are practiced by learners. Constructivism is another educational theory of which contends that, new learning is contingent on the features of the learner, the learning context and the teaching (Keith, 2011). Constructivism theory was further developed by Freire as cited Nyirenda (n.d) who named it as critical consciousness. Under the critical consciousness theory the pupils practice at home or in the community what they have learnt in the classrooms.

These theories support the idea that learning by doing helps the learner to build positive attitudes and readiness so that in the future they can to practice the same activities. In this

case early engagement of pupils in agricultural practices in primary schools is sought to build readiness to engage in agricultural enterprises after their graduation.

1.6 Conceptual Framework

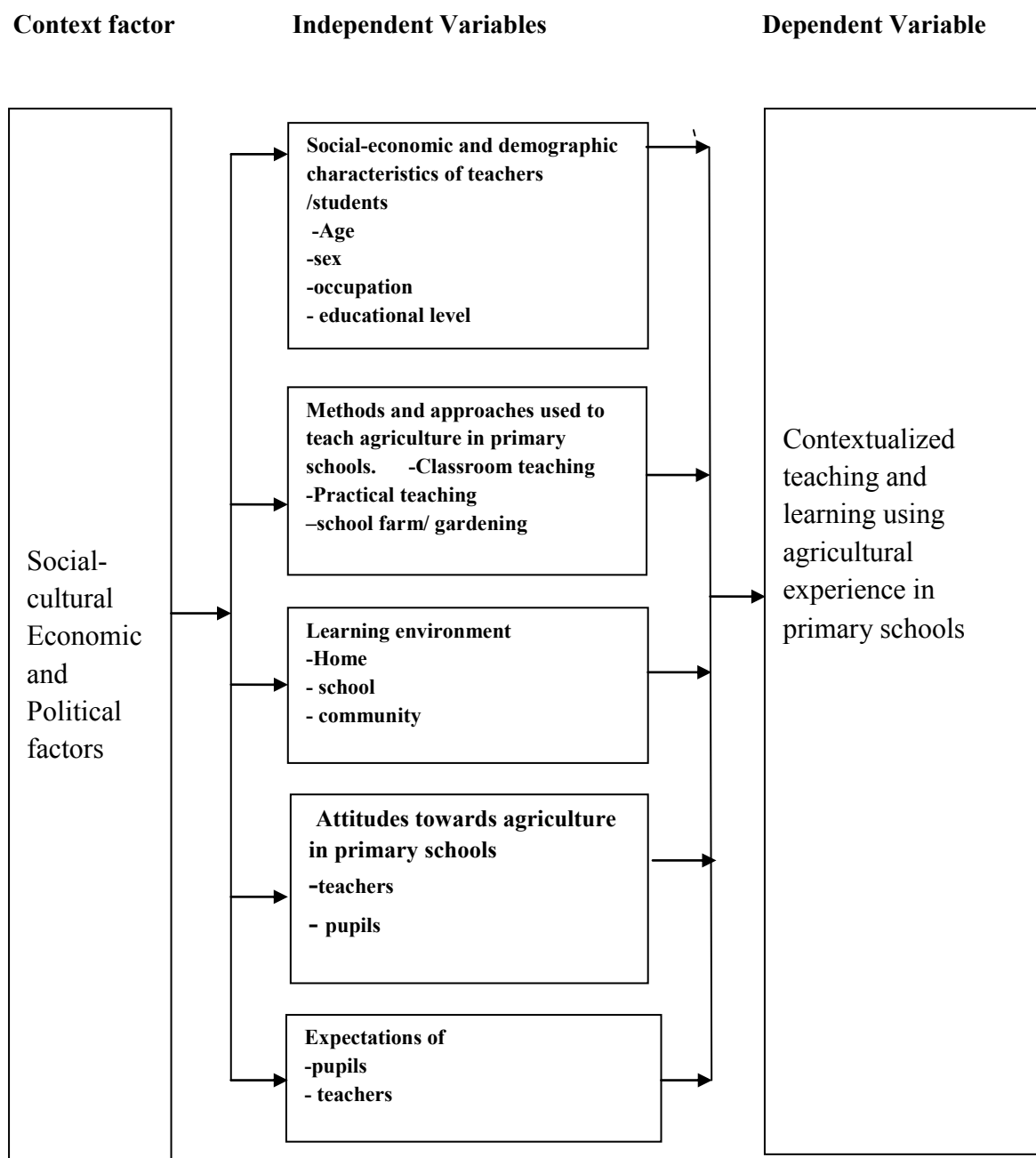


Figure 1: Conceptual framework for the factors influencing contextualization of teaching and learning in primary school using agriculture experience

The conceptual framework was a narrative outline presentation of variables to be studied and the relationship between them. The variables shown in the conceptual framework were the contextual factors which include social- cultural, economic and political factors. The independent variables included the following; Social-economic and demographic characteristics of parents/students, methods and approaches used to teach agriculture in primary schools, learning environments, attitudes towards agriculture in primary schools which eventually influence the contextualized teaching and learning using agricultural experience (Figure 1).

Among the above reviewed theories, the most appropriate one for this study was constructivism. It is an educational theory which comprises ideas about how human learning occurs and the factors that tend to direct learning. The theory links ideas developed in the classroom during the teaching and learning process. It is under such practices that educational purposes are given their dues Keith (2011). When constructivist theory is applied in the learning environment, the educator's role is to facilitate and moderate learning rather than dispense information (Collins, 2008).

1.7 Operational Definition of Concepts

The following are the operational definitions of the important concepts used in this study.

(i) Primary education: is the stage where children acquire basic skills, attitudes, and values for life. It forms the basis for further training and employment.

(ii) Contextual teaching and learning: is a conception of teaching and learning that helps teachers relate subject matter contents to real world situations. This motivates pupils to make connections between knowledge and its applications to their lives as family members, citizens, and workers and engage in the hard work that learning requires.

(iii) Skills: an ability and capacity acquired through deliberate, systematic and sustained effort to carry out complex activities or job functions involving ideas, things (technical skills) and or people (interpersonal skills)

(iv) Knowledge: is the result of an interaction between intelligence (capacity to learn) and situation (opportunity to learn), so is more socially-constructed than intelligence. Knowledge includes theory and concepts and tacit knowledge gained as a result of the experiences of performing certain tasks.

(iv) School Farms/ gardens: A school garden/farm is an innovative teaching tool and strategy that lets educators incorporate hands-on activities in a diversity of interdisciplinary, standards-based lessons. The farm/garden engages pupils by providing a dynamic environment in which to observe, discover, experiment, nurture, and learn. It is a living laboratory where lessons are drawn from real-life experiences rather than textbook examples, allowing students to become active participants in the learning process.

(v) Attitude: is a positive or negative evaluation of people, events, objects, activities, ideas or just anything in the environment.

(vi) Agricultural experience: the application of the agriculture concepts and principles learned in the agricultural education classroom in planned and apply in real-life settings.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Historical Background of Practical Teaching of Agriculture in Primary Schools

The major aim of giving education to all Tanzanian is to provide them with a concrete and reliable basis for a self-reliant life (Chonjo, 1994). Also there are many indications of the advantages opened up by education as a means of more rapid adjustment to new development. The inclusion of agricultural activities in the primary school curriculum for example, is one among such attempts to build intellectual, manual and behavioural prerequisites for learners of agriculture subject to adjust to the real life situation (Mattee, 1987). Furthermore he found out that involving pupils in practical activities on the farm can make them view farming and life more positively than if not introduced to it while at school.

2.2 Teaching and Learning Agriculture and the Learning Environment

Efforts to teach modern agricultural practices in primary schools have a long and controversial history in Africa. However, African countries including Tanzania continued introducing reforms to ruralise primary schooling by infusing agricultural subject in their curricular. Kenya, Nigeria and Cameroon, are among the many countries that have recently made the teaching of modern agriculture and other practical skills to increase contribution of schooling to rural development (Eisemon, 1989). The countries including Tanzania that are unable to arrange alternative form of employment must need to depend on agriculture even though their income potentiality is unsatisfactory and sluggish (Alam *et al.*, 2009).

2.2.1 The Learning environment

Learning environments are envisioned as places where the learner is engaged in self-directed and co-operative learning activities, whereas the physical environment is planned so that it can be routinely re-organised to mediate learning (Lippman, 2010).

The learners influence and are influenced by school, individual characteristics and home environments, while learning transfer is also affected by school, individual and home factors (Okiror *et al.*, 2011). Furthermore, Farooq *et al.* (2011) states that, the home environment had an effect on the academic performance of pupils. Parental education and family socio- economic status level had positive correlations with the pupils' quality of achievement. Educated parents can better communicate with their children regarding the school work, activities and the information being taught at school. They can assist their children in their work better and participate at school. It is clear that a measure of the Home Learning Environment (HLE) add to the understanding of the influences that might affect a child's cognitive development (Melhuish, 2010).

2.2.2 Teaching and learning processes

Pupils may be better suited to learning in a particular way, using distinctive modes for thinking, relating and creating. Modes of input and output vary from one individual to another and it is critical that, teachers use a range of teaching strategies to effectively meet the needs of individual learners (Rodman, 2010). Children may be encouraged to relate the learning process in school with the natural learning process which exists outside the classroom and begin to provide the means by which the process of learning becomes continuous, in school and beyond. At home, many pupils will be involved in daily agricultural practices such as feeding and herding livestock, watering, digging and weeding.

This familiarity with agriculture may provide a basis for contextualizing learning over a range of subjects. It can enable children to develop not only basic knowledge and skills, but also higher-order competencies, such as problem-solving and thinking skills. It can also provide them with broader competencies such as leadership skills, group skills and personal initiatives. This is likely to enhance interest and thus motivation (Taylor, 2004). Education is an agent of change through persuasive orientation. The school and information media are out posts on the frontiers of social change. Basic human behaviour is usually fixed at an early age; therefore it becomes important that teaching for the future should start from the earliest age. Making the teaching and learning process as part of the child's culture helps to dissolve traditional barriers of non-productive attitudes and superstition by Oriafu cited by Egun (2009).

2.2.3 Teachers' views on teaching and learning

Komba and Nkumbi (2008) study revealed that, the teacher cannot teach productively, even if she/he is well qualified and developed, in the absence of adequacy Teaching and Learning facilities. There should be adequate classrooms equipped with facilities like furniture, books and visual aids. These help the teacher to perform her/he duties competently. Many schools in Tanzania lack sufficient books, furniture and teaching aids. Many classes are overcrowded too. For the teacher to realize the best of her/his potential there should be enough teaching and learning materials and facilities at her/his disposal. Participatory methods cannot be implemented nor can discipline be sustained easily without the help of teaching and learning resources. "Pupils doing practical activities" and "teacher giving examples" are the best ways of helping children to learn. Learning by doing helps pupils remember for a long time, as does the provision of examples if there are

many ("examples" exercises and short assignments (Taylor and Mulhall, 1997; Okiror *et al.*, 2011).

2.2.4 Contextualized teaching and learning

According to the Tanzanian government aims for education, teachers are supposed to relate the content of the curriculum to the local environments (contextualising teaching and learning). Teachers thought that the pre service training was helpful and enabled them to practice it by relating the content of the curriculum to locally relevant examples. For example; discussing local crops and livestock in Geography; using objects brought in the classroom by children (fruits, seeds, household objects) to teach about prepositions in English; using round objects example orange from home to teach about circles in Mathematics; asking young children how many cows they had at home in Mathematics; also to ask pupils how they cultivated their home vegetable gardens in agriculture (Mulhall, 1997).

Smith (2010) is in the opinion that, the benefits of contextualized teaching and learning are to be as follows: (a) pupils are more responsive when using their knowledge and skills in real-world situations; (b) pupils are more likely to engage in their own learning if it applies directly to their lives as family members, citizens, and present/future workers; and (c) parents, pupils, and community members can all use and relate to these ideas. Agricultural education as a vehicle for the instruction of transferable skills both academic and the “soft” skills identified as crucial for preparing youth to be future citizens and members of the workforce (Dailey *et al.*, 2001).

2.3 Primary School Curriculum

School systems in Africa are short of skills that link well with rural communities. Arguments to vocationalize curricula remain mixed. Agricultural subject in schools lacks the supervised practical component. The examination system is also blamed, since only

the academic aspects of the curriculum are being examined to date. The more practical and developmental sections have been accorded lower prestige (Okiror *et al.*, 2011). Integrating agriculture across the curriculum could enrich pupils understanding of agricultural concepts and ways of thinking (Knobloch *et al.*, 2007).

Haki Elimu (2011) criticized the Tanzanian curriculum to be not effective at producing competent graduates in various capacities. Education provided in the 1980s and 1990s was useful as it made a graduate capable of being self-reliant at every level of education accomplished. Haki Elimu further reported that these days education was meant to enable a graduate obtain a ‘white collar’ job in offices. This is mainly attributed to the nature of the curriculum which tends to emphasise academic rather than life skills-based education. There is a great emphasis on the academic kind of education so that children can pass exams. Children are taught how to pass exams but not to be independent and self-reliant. They are not prepared for the world of work. If they fail in their exams it means their future is doomed.

Education systems that are more effective in establishing cognitive skills to an advanced level and distributing them broadly through the population will bring stronger social and economic benefits than less effective systems (UNESCO, 2005).

2.4 School Gardens, Teachers’ and Pupils’ Teaching and Learning Materials

2.4.1 School gardens

Garden-based learning is an important way of contextualizing both educational theories into practice (Taylor, 2004). Other studies suggest that garden-based learning can expand pupils’ awareness of the natural world and promote their cognitive, social and personal development (Dillon *et al.*, 2005). Learning outside in the natural environment is thus

believed to make an important contribution to learners' behaviour as well as to their motivation and attainment.

According to Passy *et al.* (2007) school gardens have positive outcomes to pupils. For instance impart greater scientific knowledge and understanding, enhance literacy and numeracy and include the use of a wider vocabulary and greater oral skills. Also pupils form a sense of awareness of the seasons and understanding of food production, increase confidence, resilience and self-esteem, develop physical skills, including fine motor skills, develop a sense of responsibility, positive attitude to healthy food choices, positive behaviour and to improve emotional well-being. School gardens have proved to be a source not only of learning outcomes for pupils, but also for other wider outcomes around both the Every Child Matters (ECM) agenda and the wider duty of community cohesion. Schools had used the gardens to promote the development of active citizens as well as independent learners. They have brought changes not only in the children, but in attitudes to the school within the local community.

Other research studies like that conducted by (Okiror *et al.*, 2011) suggest that, the quality of school gardens was identified as the single most important factor influencing the knowledge, skills and attitudes of pupils studying primary school agriculture. It has been argued that schools can serve as platforms for reaching rural communities with farming innovations through pupils. Furthermore experiential learning has long been the foundation of agricultural extension and education both of which emphasize the importance of learning by doing. Explaining the process of learning by doing is among three competencies that need for both knowledge and ability to apply (Barrick *et al.*, 2011). In the activity learning, pupils are encouraged to reflect on their learning. They perceived activity learning to be more experiential learning and valued interactions with teachers.

Most important of all, the activity learning is interesting and motivating for pupils and subsequently leads to intrinsic motivation Cheung and Emily (2010). Thus the focus of the school garden program is to provide a hands-on learning experience for primary school children through an outdoor learning laboratory. Also it is a source of plant material for home gardens, and nutritional improvement for the primary school children.

2.4.2 Learning materials

Learning materials facilitate the learning process and encompass more than merely textbooks. Teaching and learning materials that have been developed for primary schools, have not yet been reviewed in line with the revised curriculum and are of insufficient quantities too (URT, 2008).

2.4.3 Agriculture Teachers and Pupils

2.4.3.1 Agriculture Teachers

Teachers are the bedrock of the education system. Because of their duty of teaching the children who in turn go on to fill all other professions; therefore they shape to a very large extent, the future of a nation Adedeji and Olaniyan (2011). Effective agriculture teachers recognize achievements of their students; motivate them and have a love of agriculture. Similarly they effectively manage pupils' behaviour; work well with other teachers, administrators, and parents; and effectively manage the agriculture program (Roberts and Dyer, 2004).

2.4.3.2 Pupils

According to Smith (2010) asserts that pupils in Contextual Teaching and Learning classrooms play active roles in their own learning. Its role is to explore, investigate,

validate, and discuss the content. However, the presence of physical facilities encourages smooth running of activities and learning process (Sifuna, 2008).

2.5 Parents/Guardian

Parents and children know what is valuable in their environments. The question is how do they incorporate it in the curriculum? Besides that most parents are not educated. The knowledge acquired at primary school level is very basic and its application is basic too (Raymond, 2013).

2.6 The Importance of Education

Yadava (2010) argued that education imparted by schools should be that helps an individual to live a balanced life, for it is this education which is believed to be contributing to the overall development of an individual. However, the present educational system is producing mechanical individuals who are engaged in learning lessons by heart to pass the exams rather than utilizing education in their daily lives. The education policy statements in many countries including Tanzania emphasises on the importance of relating the content of the curriculum and the processes of teaching and learning to the local environments. However, there tends to be a large gap between what is stated in the policy compared with what is carried out in practice in the classrooms.

2.7 Expectations of Pupils

If our graduates will not be able to utilise the knowledge that they have attained because it actually cannot be utilised; it would be difficult for them to create a prepared community for the future agricultural participation. The courses at this very level need to start preparing the children on the nature of the economies and the activities they are oriented. Nations that are technologically oriented would need to orientate the children on that

venture. Equally, nations that are agricultural oriented would need to prepare its people on how best should they utilise the readily available strength enjoyed. The advantage in Africa including Tanzania has been on the vast size of available land that is suitable for agriculture (Sigalla, 2013).

2.8 The Importance of Contextualized Teaching and Learning in Primary Schools

In general, contextualized teaching and learning in primary schools was found to be very useful strategy/approach in relating the subject matter content to the real-world context Baker *et al.* (2009). The contextualized teaching and learning using agriculture experiences as a medium, provides knowledge and skills to pupils. In the Tanzanian context, the implementation of the policy of socialism and self-reliance which was the focal point of Tanzania education system, agriculture subject was taught in schools to integrate theory with practice (Nyerere, 1986). Schools gardens were used to influence knowledge, skills and attitudes of pupils studying agriculture in primary schools. In view of the fact that the economy of Tanzania relies heavily on agriculture that employs about 80% of the work force it would therefore be relevant if the agriculture subject would be taught and practiced in all levels of education to meet development vision 2025. The Tanzanian curriculum recently does not abide to the context based approach that can help pupils make important connections of what they are being taught in class and the applicability of the same in their society. Thus, this study therefore had been carried out in order to learn from the reality of the classroom about the nature of teaching and learning in Tanzanian primary schools by some sampled schools in the Mwanza City. Particularly, attention has been paid to examine the way in which learning is contextualised through the medium of agriculture.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Area of Study

The study was conducted in Mwanza City Tanzania. Mwanza City Council has two Districts namely Ilemela and Nyamagana in a geographic area of 1337 square kilometres, whereby 900 square kilometres (68%) of the area is surrounded by water and 437 square kilometres (32%) form the mainland. Mwanza City is located on the southern shores of Lake Victoria in Northwest Tanzania. On the North it is bordered by Lake Victoria and Ukerewe District, Misungwi District to the South, Sengerema District to the West, and Magu District to the East. It is situated between latitudes 20 15 south – 20 45 just South of the Equator and between longitudes 320 45' – 33.000 east. The city lies at an altitude of 1,140 metres above the sea level (Figure 2).

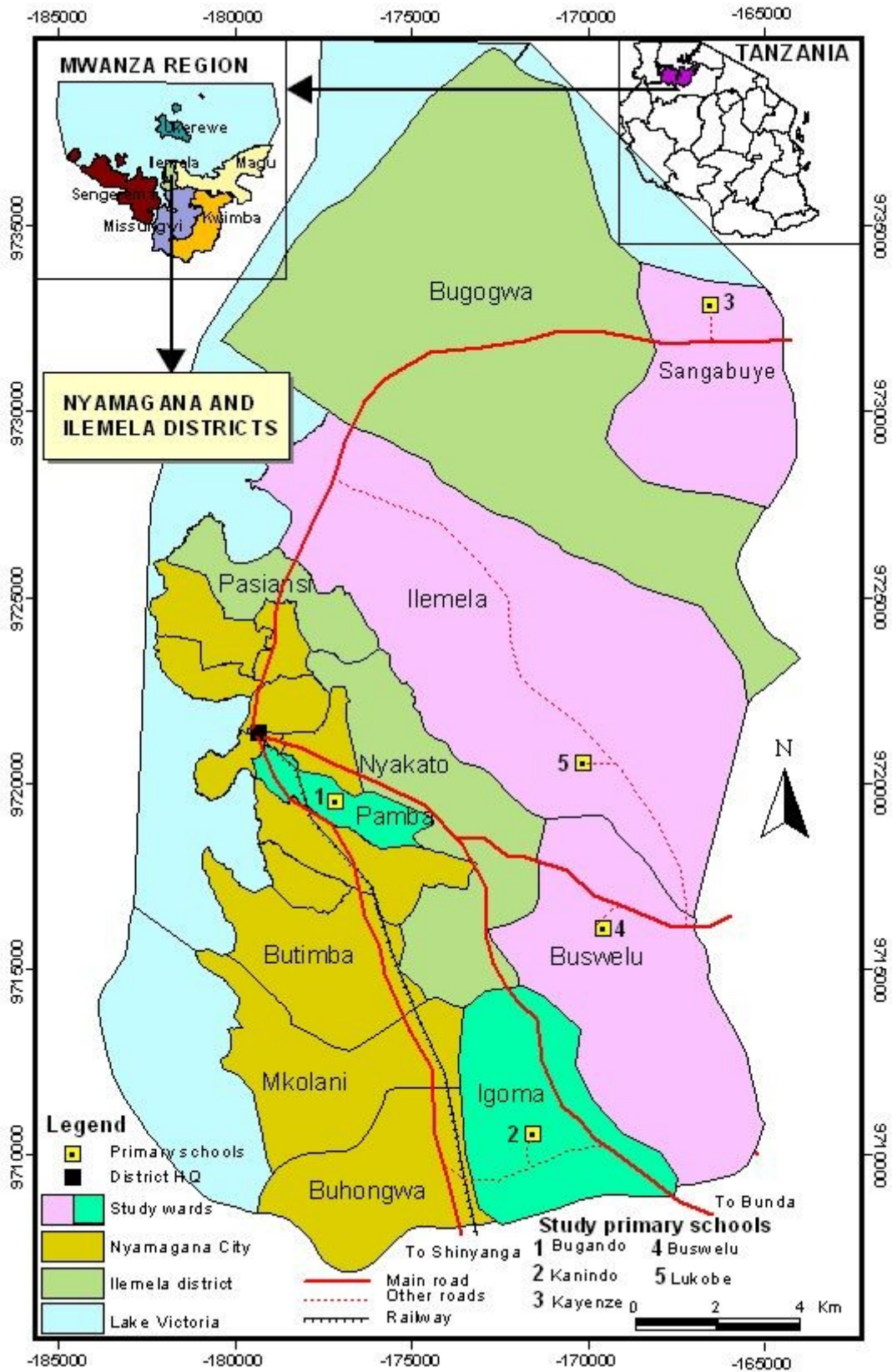


Figure 2: Mwanza City showing Nyamagana and Ilemela Districts

This area has been chosen on the basis of its agricultural potentiality. Most of its residents depend on agriculture. The city also faces a number of educational challenges one of which being the large numbers of primary school leavers. The majority of them do not get the opportunity of joining further learning in secondary schools. This makes them try to migrate to the urban centres in search of jobs. The reasons for this migration might be the lack of skills relevant to the economic activities within their home environments among which are agriculture, livestock keeping, fishing and trade.

3.2 Research Design

The study applied a cross-sectional research design a descriptive one, which involved a survey and observation methods. This allowed the collection of data at a single point at a time. The data which were collected through cross-sectional were used for the purposes of description and also for the determination of the relationships of variables during data analysis (Babbie, 2010). It also served for triangulation purposes of survey and observation methods. The survey method was used because it is among the primary means of conducting descriptive research studies. Observations were used in order to get supporting evidence on the information through surveys.

3.3 Sampling Procedures

3.3.1 Sampling population

The population of this study consisted of all standard 4-6 pupils, all agriculture subject teachers and head teachers in the selected primary schools in Mwanza City. Also it included the district agricultural education officer in the study area.

3.3.2 Sampling design and sampling procedure

Purposive, Stratified and random sampling procedures were used. Purposive sampling method was used to select five primary schools owing land/ garden for agricultural

practices. Stratified method was used to select male and female pupils from each school for ensuring gender balance in the sample. Standard 4-6 pupils formed the sampling frame. From the attendance register of standard 4-6 pupils from each school were randomly selected. Random selection conducted through picking cards written number 1 to 24 in each school making a total of 120 pupils for the sample. Moreover, 25 teachers who teach agriculture related subjects were randomly selected, 5 teachers from each school for interview making a total sample size of 145 respondents. Moreover, head teachers, district education officers and ward education coordinators from the two districts participated as the key informants in the study.

3.3.3 Sample size

The sample size was large enough to provide sufficient information for statistical analysis and thus making scientific implications and conclusions. As pointed out earlier the sample must be of optimum size that is, it should be neither excessively large nor too small (Kothari, 2004). Also Bailey (1998) argued that, regardless of the population size a sample size of 30 is sufficient minimum number of respondents for data collection activities to continue. It was in view of the above arguments that 24 pupils and five teachers were randomly selected from each school making a total of 145 respondents. The criteria for selecting pupils from standard 4 to 6 were based on the fact that they can practice agriculture activities.

3.3.4 Data collection methods

3.3.4.1 Primary data collection

Primary data were collected using the following instruments: questionnaires, observations and checklists.

(i) Questionnaires

Structured questionnaire were developed and used as instruments for data collection from the pupils.

(ii) Observations

Observations were done at the selected schools. These included the physical situations of the schools such as school farm/gardens, agriculture rooms, and agricultural projects present and agricultural activities being carried out.

(iii) Check list/ Interview guide questions

These instruments were used for interviewing district agricultural education officer, heads of schools and agricultural teachers.

3.3.4.2 Secondary data

Secondary data was obtained from official documents such as government documents school records, teachers' school records (number of teachers in each selected study school and what they teach) number of primary school pupils who did not continue with secondary school, and educational reports made available to the researcher by school authorities.

According to FAO (2013) young people in developing countries are the most affected by the common persistent problems including extreme poverty, HIV/AIDS and unemployment, yet are often overlooked in addressing these problems. Policymakers rarely included youth in the decision-making process or even consulted with them on their concerns, but are the ones who play an important role in ensuring food security for future generations.

3.4 Data Analysis

3.4.1 Quantitative Data analysis

Data gathered from pupils were cleaned, edited, coded and entered in computer software using a Statistical Package for Social Sciences version 12.0 (SPSS) at Sokoine University of Agriculture. This generated descriptive statistics such as percentages and averages. Cross tabulations were carried out to determine the degree of association between various variables. Chi-square was employed in order to address the specific objectives and to examine the relationship between the variables.

3.4.2 Qualitative Data Analysis

According to Kawulich (2004) qualitative data are collected from interviews and focussed group discussion through structured questionnaire. These are to be summarised and categorized. Qualitative data for this study were summarised, categorized and coded into SPSS software for descriptive statistical analysis.

3.5 Limitations of the Study

Conducting research is important but faces so many challenges while working in the field. Thus, below are a number of the limitations that the research activity and the researcher encountered. However limitations were worked on and information necessary for the study was obtained. They were as follows;

- i. Some of the schools were very far. For example Kayenze primary school was located at a distance of 60 kilometres from the township.
- ii. There were also difficulties in obtaining a reasonable number of professional trained agriculture teachers at least 5 from each school, instead in some schools like Lukobe the researcher found no professional agriculture teacher. In other schools like Bugando and Kanindo had only one agricultural teacher each.

- iii. The time table and other work activities made it difficult to get the teachers on time of interview and thus required the researcher to make several appointments in order to get them for interviews.
- iv. Another limitation was poor cooperation received from urban children parents as compared to rural children parents/guardians. This might have been due to the many responsibilities and life chores that urban adults have. However, efforts were made to ensure that the researcher gets in contact with them for the intended work to be done.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Socio-Demographic Characteristics of Respondents

Twenty five teachers (25) and 120 pupils making a total of 145 represented the others in the study area. From the five selected schools only 24 pupils were selected, representing each sex was considered. These twenty five teachers were sampled from Bugando, Kanindo, Kayenze, Buswelu and Lukobe primary schools in which each school contributed only five teachers.

4.1.1 Teachers Socio- demographic characteristics

Socio-demographic variables that were studied are: age, sex, levels of education, and professional qualifications and the results are presented on Table 1 below.

Table 1: Distribution of the teachers Socio-demographic characteristics in the Study area (n=25)

Variables	Categories	Frequency	Percent
Age (years)	25-30 years	13	52.0
	31-35years	3	12.0
	36-40 years	5	20.0
	41- and above years	4	16.0
	Total	25	100.0
Sex	Male	17	68.0
	Female	8	32.0
	Total	25	100
Levels of education	Primary level	6	24.0
	‘O’ level secondary	17	68.0
	‘A’ level Secondary	2	8.0
	Total	25	100.0
Professional qualifications	Certificate	19	76.0
	Diploma	2	8.0
	Degree	4	16.0
	Total	25	100.0

4.1.1.1 Age

The age of the majority of the teachers thirteen (52.0%) had their age ranging between 25-30 years while five (20%) ranged from 36-40 years of age. Another four (16%) teachers were 41 years and above and the last three (12.0%) were ranged between 31-35 years of age. From this study, the findings revealed that, the majority of teachers 13 (52%) had the age between 25-30 years of age. This implies that they had more time to stay in service. The results concur with Shamsid-Deen and Smith (2006) who asserts that, teachers with 21 to 30 years of teaching experience had the highest daily occurrence of contextual teaching and learning practices in their classes.

4.1.1.2 Sex

Seventeen (68.0 %) interviewed teachers were male, only eight (32.0%) were females. This reflects that the number of females who take science subjects with agriculture inclusive at various levels of schooling is lower as compared to males (Dlamini *et al.*, 2004). Also this reflects the real situation in Tanzania where the numbers of females drop out along the educational ladder, which has implications for lower numbers of female employees in the formal employment sector (World Bank, 2012). These results also concur with what was reported by Elbogh-Woytek *et al.* (2013) that, women account for most unpaid work and low paying jobs, and when women are employed in paid work, they are overrepresented in the informal sector and among the poor. Again Mbelle and Katabaro (2003) reported that, females are disadvantaged at the level of schooling as well as absorption in the economy after completing school.

4.1.1.3 Education level and professional qualification

The education levels and professional qualifications of teachers reveal that seventeen teachers (68.0%) were having O- levels of education and only two (8.0%) had reached advanced levels of education. Their professional qualifications also differed in the sense that those who had certificates were nineteen (76%), four teachers (16%) attained degree level and two (8%) had diploma levels. This is in line with to what was reported by Komba and Nkumbi (2008) that; the teacher is central in facilitating the processes that lead to meaningful education and pupils' learning outcomes. Also the teaching workforce in Tanzanian primary schools is made up of five categories: Grade IIIC, IIIB, IIIA, Diploma and Degree holders. Grade IIIC form the category of teachers who completed seven years of primary school education and are employed as teachers after undergoing a non-residential short course. Grade IIIB is a category of teachers who completed seven years of primary education and employed as teachers after undergoing 3-4 years in a

teacher education colleges. However, with the adoption of the Education and Training Policy in 1995, grade IIIA became the minimum qualification for primary school teachers.

4.1.2 Pupils socio- economic characteristics

The socio- economic characteristics studied were: pupils' sex, age, and class/standard. The results are presented in Table 2 below.

4.1.2.1 Sex

In this study the number of males and females were considered to be equal represented for gender balance. That means 60 (50%) were male pupils and 60 (50%) were females.

4.1.2.2 Age

The results presented on Table 2 below show that 62 (51.7 %) pupils had their ages between 12-14 years while 42 (35%) had their ages between 9-11 years. The last group, sixteen (13.3%) was that of pupils with ages ranging from 15-17 years. The ages of these pupils with the minimum of nine years and maximum of seventeen years old is good enough for them to do light manual labour including school garden and other activities (UNESCO, 2005).

Table 2: Socio-demographic characteristics of the Pupils (n=120)

Variables	Categories	Frequency	Percent
Sex	Boys	60	50.0
	Girls	60	50.0
	Total	120	100.0
Age (years)	9-11	42	35.0
	12-14	62	51.7
	15-17	16	13.3
	Total	120	100.0
Class of study	Standard 4	22	18.3
	Standard 5	40	33.3
	Standard 6	58	48.3
	Total	120	100.0

4.1.2.3 Class of study (standard)

The majority of the interviewed pupils 58 (48.3%) were standard 6 pupils, 40 (33.3%) were standard 5 and the remaining 22 (18.3%) were standard 4. The larger numbers were standard 6 and 5 than standard 4. Since the majority of them are expected soon to graduate from primary school education thus vested in agriculture skills as they are being taught in these schools. Again many respondents who were interviewed were the grown up pupils who were knowledgeable and able to provide the required information that were useful for this study.

4.1.2.4 Parents/guardians occupations

Pupils involved in the study were asked about occupations of their parents/guardians and the results are reported in table 3 below.

Table 3: Parents/guardians occupations, Level of education and area of residence
(n=120)

Variable	Categories	Frequency	Percentage
Mother's occupation	Farmer	42	35.0
	Employed worker	16	13.3
	Labourer	18	15.0
	Petty business	44	36.7
	Total	120	100.0
Father's occupation	Farmer	42	35.0
	Employed worker	22	18.3
	Labourers	18	15.0
	Petty business	38	31.7
	Total	120	100.0
Parents' economic activities	Cultivation of crops	42	35.0
	Keeping livestock	12	10.0
	Crops and livestock	40	33.3
	Other activity	26	21.7
	Total	120	100.0
Level of education of household head	Primary	74	61.7
	Secondary	22	18.3
	College	18	15.0
	University	6	5.0
	Total	120	100
Area of residence	Rural	82	68.3
	Urban	38	31.7
	Total	120	100.0

4.1.2.5 Mother's occupation

Of the 120 respondents, mothers who were doing petty business were 44 (36.7%), farmers were 42 (35.0%), casual labourers 18 (15.0%) and salaried workers were 16 (13.3%). This data reveals that most women in Mwanza City are hard working in the sense that they participate in farming activities and engage themselves in different business such as buying and selling horticultural products. For example sixteen (13.3%) employed women were working in the following institutions: nine (7.5%) were nurses, four (3.3%) were casual labourers in industries and three (2.5%) were teachers.

4.1.2.6 Father's occupation

The 120 respondents, said that farmers were 42 (35.0%), employed worker 22 (18.3%), labourer 18 (15.0%) and petty business 38 (31.7%).

The findings of the study revealed that most of the parents/guardians are involved in crop farming 42 (35.0%), and practice petty business 38 (31.7%) to generate family incomes. During the oral interviews, pupils whose parents were farmers reported that they had involved in family agricultural activities. In this case parents' activities can affect their children's attitudes directly or indirectly. This data were consistence to Bois *et al.* (2005) who also found out that socialization within the family (i.e. parents and siblings) is a fundamental form of influence as the family constitutes an important initial element of socialization. The majority of children's free time prior to adolescence is spent within the context of the family in this case spending time in agricultural activities.

4.1.2.7 Parents/guardians agricultural activities

Table 3 on the previous page show that 94 (78.3%) parents were farmers, 42 (35.0%) indicated that majority were cultivating crops, 40 (33.3%) were farming and raising

livestock and 12 (10%) were keeping livestock only. The fact that a good number of parents were farmers and livestock keepers implies that the pupils were also introduced to the practice of agriculture directly or indirectly by their parents.

4.1.2.8 Education levels of household heads

Also the results presented on Table 3 previous page shows that, household heads levels of education indicate that 74 (61.7%) of them had primary school education, 22 (18.3%) were having ordinary level secondary school education and 18 (15.0%) were having college levels of education. Only 6 (5.0%) parents had reached degree level of education that is university.

4.1.2.9 Area of residence

Area of residence is among of the socio- economic factors which influence child learning since environment may favour or hinder learning of particular skills by the child (Bois *et al.*, 2005). Results as reported on the Table 3 above show that 82 (68.3%) parents were residing in rural areas and very few 38 (31.7%) parents were residing in the urban area. This implies that most of the children were brought up in the rural areas where their parents practice agriculture as their main activity, and thus the pupils emulate farming knowledge from their parents/family.

4.2 Existing learning environment in the Study Area

Learning environment determines children's success in developing appropriate behaviours related to social economic and practices required by a child to learn and become identified by the society as one of its members (Bois *et al.*, 2005). Regarding this observation school farms /gardens, presence of agriculture equipment rooms, and presence of agricultural projects variables were studied. The results are reported on Table 4 below.

Table 4: Teachers' usage farm/gardens demonstration and availability of agricultural equipment rooms in teaching agriculture subject (n=25)

Variable	Categories	Frequency	Percentage
Possession of farm/garden	Yes	25	100
	No	0	0.00
	Total	25	100
Usage of farm/garden in teaching/learning	Yes	5	20
	No	20	80
	Total	25	100.0
Agricultural equipment rooms (n=5)			
Bugando primary school	Yes	0	00.0
	No	5	100.0
	Total	5	100.0
Kayenze primary school	Yes	0	00.0
	No	5	100.0
	Total	5	100.0
Kanindo primary school	Yes	0	00.0
	No	5	100.0
	Total	5	100.0
Buswelu primary school	Yes	0	0.00
	No	5	100.0
	Total	5	100.0
Lukobe primary school	Yes	0	0.00
	No	5	100.0
	Total	5	100.0

The study results are not in accordance with what was suggested by Passy *et al.* (2007) that, schools use farm/gardens as demonstration methods in teaching to gain knowledge and a sense of liking the subject at school and for the attitude change at school and within

the community. In the study area therefore, pupils were not much introduced to hand on-learning as recommended by Taylor (2004). Also attitude change has been suggested by Nyerere (1968) to be one of the objectives of influencing agriculture subject in primary schools.

4.2.1 Farms/Gardens

As regards to teaching agriculture as a subject in the schools, teachers were asked whether there were farms/ gardens for practical sessions in teaching agriculture. The study findings (Table 4) above from interviews and observations show that, all the teachers 25 (100.0%) from the study area reported that they had farms/gardens at their schools though of varied sizes. However, only 20% of the schools used the school farm/gardens for agriculture demonstration for teaching their pupils. This implies that agriculture for most schools 4 (80.0%) were teaching them theoretically. This has led to poor reputations of contextualized teaching and learning by using agriculture as the subject in Tanzania primary schools as Table 4 above indicates.

4.2.2 Availability of agriculture rooms

Table 4 above, shows that 25 (100.0%) teachers who were respondents in the study area reported that there were no agricultural rooms in their schools. During the interviews with them they reported that, agriculture subject which has been placed in the group of vocational skills has not been given its due respect and attentions for there are no required equipments and other teaching and learning materials. This had led to ineffective teaching and learning of the subject in the studied primary schools.

4.2.3 Availability of agricultural projects

Agriculture projects in schools make pupils learn through practices Hightower *et al.* (2011). Children who benefit from school gardening projects would have better

agricultural skills. In addition to what is acquired from home gardening enables them earn a living and ably contribute to basic community needs Ssekyewa *et al.* (2008). Interview results presented on Fig. 3 below reveal that, only one school (20.0%) out of the five primary schools (80.0%) studied had an agricultural project. Furthermore, even at this school which had a school agricultural project, it was initiated by a non-governmental organisation (NGO) called Elephant Thought Tanzania (ETT) in order to support primary school girls. In this school (ETT) is involved with horticultural farming and tree planting activities. Philip and Robert (2010) reported the same that, the Arusha town school had an active school garden or farm, sponsored by 4H Tanzania (Head, Heart, Hands and Health), who offered technical assistance and curricular support. From the above experiences, it is clear that these schools have agricultural projects.

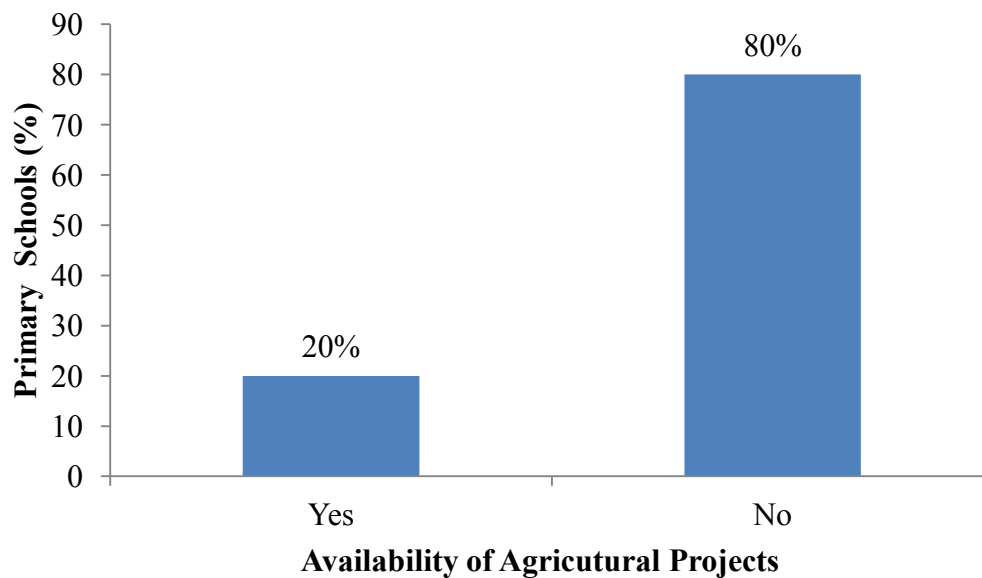


Figure 3: Availability of agricultural projects in studied schools

4.3 Teachers and Pupils Attitudes towards Teaching and Learning Agriculture

Subject

Attitudes towards agriculture were hypothesized to be among the causes of failure for contextualization of teaching and learning the agriculture subject in primary schools in

Tanzania. Attitudes affect and explain ones behaviour in actions and determine one's views and evaluation on particular objects (Rasheed, 2000).

4.3.1 Teachers and pupils response towards teaching and learning agriculture subject

To assess the attitudes of teachers and pupils towards teaching and learning agriculture subject, questions were administered to both teachers and pupils. Results as presented in Table 5 below show that out of 25 the teachers 24 (96%) had positive attitudes towards agriculture whereas one (4.0%) of them had negative attitude towards agriculture. Additionally out of the 120 pupils, 112 (93.3%) had positive responses towards agriculture as they responded that they liked agriculture and only 8 (6.7%) had negative response towards it that is they disliked agriculture. This reveals that both teachers and pupils were in the opinion that agriculture subject should continue to be taught in primary schools.

Table 5: Teachers and pupils attitudes towards teaching and learning agriculture subject (n=145)

Attitudes towards agriculture	Responses	Frequency	Percent
Teachers attitudes (n=25)			
	Agree	24	96.0
	Disagree	1	4.0
	Total	120	100.0
Pupils attitudes (n=120)			
	Agree	112	93.3
	Disagree	8	6.7
	Total	25	100

4.3.1.1 Teachers' views on the importance of teaching agriculture in primary schools

Table 6 below presents and analyses the importance and reasons of continuing teaching the agriculture subject in primary schools as well as the subjects' loss of attractiveness

among educators. The results show that majority 24 that is (96 %) claimed that the subject was important and should continue to be taught in the primary schools. Reasons given for the subject's are importance was that 25 (100%) teachers reported that agriculture enhances employment to individuals. They also said that the subject was more practical oriented 19 (76 %) that it makes pupils become active participants.

Table 6: Teachers attitudes towards teaching agriculture and the reasons for its like or dislike (n=25)

Variable	Attitude	Frequency	Percentage
Agriculture enhances employment to individuals	Agree	25	100.0
	Disagree	0	0.0
	Total	25	100.0
It is more practical oriented	Agree	19	76.0
	Disagree	6	24.0
Agriculture is a bore some subject	Agree	12	48.0
	Disagree	13	52.0
	Total	25	100.0
Agriculture is not motivating	Agree	22	88.0
	Disagree	3	12.0
	Total	25	100.0

4.3.1.2 Reasons given by Teachers on attractiveness of teaching agriculture subject in primary schools

Basing on the results presented in table 6 above teachers did not like to teach the subject. Various reasons were given. These include: lack of motivation to teach agriculture 22

(88%) and the subject being so boring 12 (48%) due to lack of teaching and learning facilities and being an optional subject within the primary school curriculum.

Regarding motivation in teaching and learning, teachers claimed that absence of short courses and re-training, have great influence in motivating teachers to teach well Bennell and Mukyanuzi (2005). The state of lack of motivation among teachers in the study area could also have been due to lack of training geared at equipping teachers to use the new curriculum and poor implementation of the pre-service teaching curriculum. The decision by (MoEVT, 2012) to make the agriculture subject to be optional in the curriculum did not take into account that primary school pupils were at the stage of building interest to like agriculture or dislike it in their life. Primary school education which is the foundation of other levels of education lays strong foundations in social, scientific and technological literacy and capacity and thus provides a means to self-reliance and national development (MoEVT, 2012).

4.3.1.3 Reasons for pupils to like or dislike agriculture subject

Pupils were asked to give reasons for liking or disliking agriculture subject in their schools. Their responses are reported on Table 7 below.

Table 7: Pupils attitudes towards teaching agriculture and the reasons for its like or dislike (n=120)

Variable	Attitude	Frequency	Percentage
Provision of knowledge in animal production	Agree	57	47.5
	Disagree	63	52.5
	Total	120	100.0
Provision of knowledge in crop production	Agree	67	55.8
	Disagree	53	44.2
	Total	120	100.0
Provision of knowledge and skills for life	Agree	91	75.8
	Disagree	29	24.2
	Total	120	100.0
The subject has too much work in the field	Agree	17	14.2
	Disagree	103	85.8
	Total	120	100.0
Teachers use it as punishment	Agree	18	15.0
	Disagree	102	85.0
	Total	120	100.0
There are no good facilities	Agree	69	57.5
	Disagree	51	42.5
	Total	120	100.0
There is no encouragement from the teachers	Agree	104	86.7
	Disagree	16	13.3
	Total	120	100.0
There is no agriculture projects at school	Agree	66	55.0
	Disagree	54	45.0
	Total	120	100.0
The subject be eliminated from the curriculum	Agree	16	13.3
	Disagree	104	86.7
	Total	120	100.0
Teaching agriculture has been successful	Agree	39	32.5
	Disagree	81	67.5
	Total	120	100.0

4.3.1.3.1 Reasons for pupils for likeness of agriculture subject

Results from the analysis (Table7) above indicate that 112 (93.3%) pupils liked agriculture subject because they got important life skills which they thought could be used in their lives. Sixty seven (55.8%) of the respondents asserted that they got knowledge and skills in crop production 57 (47.5%) of the pupils claimed to have got knowledge and skills in animal production. Moreover on responding to questions on whether teaching of the subject in primary schools was successful, very few 39 (32.5%) pupils claimed the subject to be successful while the majority 81 (67.5%) pupils were in the opinion that it has not been successful. However, the majority 104 (86.7%) pupils disagreed on the contention that agriculture had to be removed from the school curriculum. This implies that agriculture was still a liked subject that was still accepted among the pupils to be given equal weight as other subjects being taught in the primary schools. This was because of the associated benefits realized by pupils.

According to Lundius (2011), young people involved in agriculture lack better farming techniques and agribusiness skills. This is due to the fact that most practice farming basing on the experiences gained from their families or friends, while some acquired farming techniques and knowledge from friends. Youth group influences challenges on part of the youths involved in learning agriculture subject who later on become unable to produce better quality products to capture markets outside Tanzania for export.

4.3.1.3.2 Reasons given by primary school pupils for agriculture not been attractive.

The results presented (Table 7) above on the negative attitudes towards agriculture which has led it to be not attractive to many or some pupils in the primary schools within the study area included: lack of encouragement from the teachers 104 (86.7%), lack of good facilities for conducting practical's in agriculture were 69 (57.5%), lack of agricultural

projects in schools 66 (55.0%) for pupils to practice, use of agriculture as punishment to pupils 18 (15.0), while the other reason of disliking agriculture was due to the presence of too much work that had to be done in the school farms 17 (14.2%).

The study further noted negative stimuli associated with teaching environments for agriculture as important factors in influencing contextualization in using agriculture experiences in primary schools. The study by Taylor (2004) revealed that emphasis in school learning should relate to the content of the curriculum and the processes of teaching and learning to the local environments. This is due to the fact that there has been a large gap between what is stated in the education policy and what is carried out in practice in the classrooms.

Both Knobloch *et al.* (2007) and Dailey *et al.* (2001) who believe in the theory of integration states that, the teaching of agricultural topics across the general curriculum underpins integrating agriculture in teaching and likely enhance pupils learning experiences. Moreover Dailey *et al.* (2001) states that, the basic core of agricultural education instruction consists of three intra-curricular components which are: 1) classroom instruction, 2) experiential learning through supervised experiences, and 3) leadership activities. When these three components are actualized through a well-designed integrated program, they provide a context for learning basic contents and life skills to prepare pupils for adulthood regardless of their ideal career areas. Studying agriculture could provide a context in which pupils can explore key Biological and Mathematics concepts and skills.

Table 8: Relationship between liking agriculture subjects and teachers encouragement in learning agriculture (n=120)

Variable	Pupils attitude	Frequency	Percent	χ^2 - Value	p -value
I like agriculture subjects	Agree	112	93.3	1.319	0.251 ^{ns}
	Disagree	8	6.7		
	Total	120	100		
Agriculture subject teachers encourage us to learn agriculture	Agree	16	13.3		
	Disagree	104	86.7		
	Total	120	100		

^{ns} not statistically significant at 0.05

Cross tabulation was performed with selection of the Pearson square test statistic in the analysis to explore relationships between pupils' encouragement by teachers and the liking of agriculture subject. From these results (Table 8) above show that, 16 (13.3%) of the pupils agreed that teachers encouraged them to learn agriculture and they like agriculture subject, whereas 96 (92.3%) reported to have not been encouraged to study agriculture although they like it. On the other hand 8 (7.7%) of the pupils reported that they neither had teacher's encouragement in studying agriculture subject nor liking it. Therefore, at χ^2 value of 1.319 and p - value of 0.251, the teacher's encouragement towards learning agriculture subject and the liking of pupils to the subject were not statistically significant at $p < 0.05$. This implies that liking of the subject by the pupils may not be influenced only by teachers encouragement but may also be by their residing places and home experiences.

4.3.2 Successful teaching agriculture subject influence learning in agriculture activities

Table 9 below shows the relationship between how agriculture subject provides knowledge in crop production and the ways the subject was successfully taught in the study area.

Table 9: Relationship between how successful the teaching of agriculture subject and the provision of knowledge in crop production (n=120)

Variable	Pupils attitude	Frequency	percent	χ^2 -Value	ρ -value
Teaching of agriculture subject is successful	Agree	39	32.5	7.071	0.008
	Disagree	81	67.5		
	Total	120	100		
Agriculture subject provides knowledge in crop production	Agree	67	55.8		
	Disagree	53	44.2		
	Total	120	100		

ρ statistically significant at $\rho=0.05$

Cross tabulation results (Table 9) above indicate that, the total number of pupils who gained knowledge from agriculture subject were 55.8%, while those who did not get it were 44.2%. Those who agreed that teaching agriculture was successful were 39 (32.5%) and 81 (67.5%) pupils reported that teaching agriculture was not successful. This implies that many pupils learn agriculture at school and many do not practice it, which could be due to the problem of lack of contextualized teaching and learning agriculture at their schools. From the chi square test results $\chi^2= 7.071$; $df=1$; $p=0.008$ presented in table 9, it is has been shown that, success in learning agriculture subject was significantly related to provision of knowledge in crop production at $p<0.05$.

4.4 The Use of Agricultural Experiences as a Means of Contextualized Teaching and Learning Agriculture Subject in Primary Schools

The use of agricultural experience as a means of contextualising teaching and learning agriculture subject in primary schools was another aspect that was studied. Variables studied included: methods used in teaching agriculture as a component of vocational skills, hours allocated in agricultural activities within the class and outside it for practical. (Table 10) below shows the field trips and knowledge and skills gained.

4.4.1 Teachers response on pupil's knowledge and skills gained from learning agriculture at primary schools

The twenty five teachers were asked if there were farms/gardens used for practical sessions while teaching agriculture subject at their respective schools. The study found out that all five primary schools had farms for agriculture demonstrations though they differed in sizes. In these 5 primary schools only Kanindo primary school (20%) exercised both theory and practical methods for the pupils to learn agriculture. Teachers reported that, practical in agriculture were made easy through the funds given to the school by the ETT organisation which supports cultivation of horticultural crops and tree planting at Kanindo primary school (Table 10) below.

Table 10: Teachers' response on usage and possession of farm/gardens in their schools (n=25)

Variable	Categories	Frequency	Percentage
Possession of farm/garden	Yes	25	100
	No	0	0.00
	Total	25	100
Usage of farm/garden in teaching/learning	Yes	5	20
	No	20	80

Total **25** **120**

4.4.2 Pupils responses on methods used in the teaching agriculture

Pupils were asked to indicate the common methods used in the schools by their teachers in teaching agriculture subject. Of the 120 pupils 96 (80.0%) reported that they were taught theoretically, while 24 (20.0%) reported to have been taught both by using theory and practical methods (Table 11) below.

Table 11: Methods, hours and periods used in learning teaching agriculture (n=120)

Variables	Categories	Frequency	Percentage
Method commonly used	Theory	96	80.0
	Both theory and demonstration	24	20.0
	Total	120	100.0
Hours engaged in agricultural subject	2 hours	50	41.7
	4 hours	46	38.3
	Not attended	24	20.0
	Total	120	100.0
Number of periods do you attend agriculture subjects	2 periods	120	100.0
Number of periods per week allocated for practical/demonstration	4 periods	48	40.0
	No practical periods	72	60.0
	Total	120	100.0

These results therefore indicate that there were very minimal practical sessions for the pupils to practice what they learnt in the theory sessions. Furthermore the results show lack of enough practical in the studied primary schools though there was available land which could have been used for practical demonstrations in teaching agriculture and livestock components. This could have been in consistence with what Knobloch *et al.*

(2007), states that integrating teaching methods in agriculture subject enhanced learning experiences since practical work increases students' sense of ownership of their learning. This further increases their motivation to learn for achievement of the subject matter in question. Furthermore, Dillon (2008) states that appropriate practical work enhance pupils' experiences, understanding, skills and enjoyment of science.

4.4.3 Time allocated for teaching agriculture subject

Table 11 above presents the results on the number of hours that pupils in the studied primary schools reported to spend in agricultural activities per week. Of the 120 pupils, 50 (41.7%) reported that they spent only 2 hours and 46 (38.3%) reported of having spent one more hour that is 3 hours. The remaining number, 24 (20.0%) reported to have spent 4 hours for both theory and practical in agriculture. However the exact number of hours that was used for practical sessions was not indicated in the time table. This alone raised doubt as to whether the practical component was given an equal weight like the theoretical part in teaching the subject. Thus in the study area agriculture subject was offered two hours only per week for both the practical and theoretical components. This time is less by 2 hours per week for pupils to learn and acquire knowledge and skills in agriculture as allocated in the school subject syllabus (URT, 2008).

4.4.4 Agriculture field trips/ tours for primary school pupils in the study area for year 2012

Field trips or tours are very effective teaching and learning methods of a subject matter outside classrooms and school environments. It motivates the learner to like and be interested in what he or she learns and gives pupils an opportunity to interact with society and gain valuable experiences (Shamsid and Smith, 2006).

In this study it was revealed that, field trip/tours as teaching and learning methods were only conducted in two primary schools namely Kanindo and Buswelu among the five sampled primary schools. Results analysis on the relationship between having attended field trip/tour and the skills and knowledge gained as presented in table 12 show that, out of the 120 pupils, majority 72 (60.0%) reported to have not gone for field trips or study tour. While forty eight (40%) of the pupils reported to have gone for the study field trip. In these field trips only two types of skills were learnt, that is tree nursery establishment (20%) and beverage making (20%). This implies that, many pupils in these schools did not have the opportunity for field trip or study tour experiences which are very important for the transfer of knowledge from classroom environments to out of school situations. They were thus deprived of the knowledge and experiences gained out of classroom situations.

Table 12: Outcomes of field trip and skill and knowledge gaining (n=120)

Type of skills learnt	Field Attendance status of pupils	Frequency	Percent	χ^2 -Value	ρ -value
Tree nursery Establishment	Attended	24	20	120	0.000
Beverage making	Attended	24	20		
No skills learnt	Not attended any field	72	60		
	Total	120	100		

ρ value statistically significantly at $\rho=0.05$

Cross tabulation results (Table 12) above indicated that skills and knowledge gained by pupils were significantly related to the opportunity for attending field trips or study tours. The relationship was very strong and positive ($\chi^2= 120$, $df=2$, $p=0.000$; Pearson, $R= 0.919$,

$p=0.000$). This implies that the more field trips one attends the more skills and knowledge he/she gains. This thus increases one's ability to learn the subject matter.

This makes the relevance of contextualized teaching and learning demanding the need for agriculture to be a vehicle for transferring agricultural techniques to the young generation starting at primary levels. This study results concur with what was reported by Shamsid and Smith (2006) who found out that field trips/tours encourage pupils to like the subject matter. They help them to change their attitudes and thus increase their knowledge and skills by creating a setting in which they may learn as realistically as possible if teachers are to use contextual teaching and learning. Fieldtrips also enhances practices such as learning by doing, problem solving, and cooperative learning are important.

4.4.5 Skills and knowledge received in agriculture subject by pupil's

Acquisition of skills and knowledge is very important for any learning, thus was important to analyse various skills that pupils gained from learning agriculture subject in primary schools. Furthermore, Nyerere (1968) states that, the purpose of teaching agriculture in primary schools and other levels of education in Tanzania is to help the pupils to be self-reliant and/or develop entrepreneurial traits, when the intended outcomes of primary education objectives of introducing agriculture subject are to be achieved. Hence agriculture as an important subject with life skills is observed along such lines for the purpose of skill acquisition from primary to other levels.

Table 13: Skills and knowledge received in learning agriculture by pupils (n=120)

Skills learnt	Response	Frequency	Percent
Knowledge gained from agriculture subject	Yes	120	100.0
	No	0	0.0
	Total	120	100.0

Had skills in cultivation of crops	Yes	44	36.7
	No	76	63.3
	Total	120	100.0
Had skills in keeping livestock	Yes	48	40.0
	No	72	60.0
	Total	120	100.0
Had skills in doing agriculture business	Yes	8	6.7
	No	112	93.3
	Total	120	100.0
Had more skills in agriculture	Yes	20	16.7
	No	100	83.3
	Total	120	100.0

Pupils were therefore asked whether they had received the intended knowledge from teaching agriculture at their schools (Table 13) above. All 120 (100%) pupils reported that they had gained knowledge in agriculture subject although differences arose from the types of skill that individuals gained. Pupils who reported that they had gained skills in keeping livestock were only 48 (40%) and those who claimed to have skills in cultivation of crops were 44 (36.7%). Eight (16.7%) pupils reported to have had gained more general skills in agriculture and only 8 (6.7%) pupils reported that they had skills in doing agricultural business.

The pupils 100 (83.3%) who reported to have not gained enough skills from agriculture pose a threat to the future development of agriculture in the country in the sense that there will be many farmers with limited skills, and limited agricultural technology. Pupils are expected to increase food production through agriculture activities in their lives after graduation. Thus, if the future farmers will not be equipped with skills but are vested with poor knowledge in agriculture, the future population in the country will perpetually be facing shortages of food because of the existence of such unskilled farmers. (Dillon *et al.*, 2003 and Sigalla, 2013).

4.5 Factors influencing the use of Agricultural Experiences as a Means of Contextualized Teaching and Learning in Primary Schools

The use of agricultural experiences as means of contextualizing teaching and learning in primary schools was studied in order to give an imperative understanding and identifying factors that influence on contextualization of teaching and learning.

4.5.1 Teacher's views on factors that constrain the use of agricultural experiences as a means of contextualising teaching and learning in primary schools

Basing on the results presented in Table 14 below, 25 (100%) teachers in the study area were interviewed on several issues regarding teaching and learning agriculture subject. Of the 25 (100%) teachers, 23 (92.0%) mentioned the lack of motivation, 23 (92.0%) teachers reported the lack of funds for agricultural project, 22 (88.0%) reported of inadequacy of qualified teachers, 20 (80.0%) reported lack of facilities and also 19 (76.0%) reported on the changes of curriculum. These are among the factors responsible for ineffective in contextualizing teaching and learning in primary schools by using agriculture experiences.

Table 14: Teacher's views on constrains on teaching and Learning Agricultural subject in Primary Schools (n=25)

Problems facing primary schools	Frequency	Percent
Teacher motivation	23	92.0
Funds for agriculture project	23	92.0
Un qualified teachers	22	88.0
Facilities like water resources, agriculture equipments and inputs	20	80.0
Changes of curriculum	19	76.0

Note: Data set was based on multiple responses

The study results could have been in consistence with what Bennell and Akyeampong (2007) assert that, poor teacher motivation and inadequate incentives have far-reaching adverse impacts on the behaviours and overall performances of primary school teachers and thus creating negative learning outcomes. The constraints were also supported by district agriculture education officer, and ward education officer reports of 2013. For example, the district agriculture education officer reported that the government was not giving attention to the implementation of the primary school curriculum particularly the agriculture subject which is an optional subject under vocational skills. Primary school pupils had to practice agriculture to instil the essence of doing hand work from early ages so that they could practice in their future life times. Furthermore for those who could not go for further studies they could employ themselves in the agriculture sector, the industry where any citizen can play. This will provide options for business and self employment instead of creating mass out- migration from rural to urban areas in search of white collar jobs after living school.

Beside practice learning is most meaningful when topics are relevant to the pupil's lives, needs, and interests or rather when they are actively engaged in creating, understanding, and connecting to knowledge. Pupils will have a higher motivation to learn when they feel they have a real stake in their own learning. Also the district agriculture education officer argued that; agriculture centres had to be established example MATI Ukiriguru to accommodate pupils who do not go to further studies. Having a large number of youth with agriculture skills could transform Tanzanians people socially and economically.

The study findings also are in consistent to what was reported by Kinyaduka (2013) that, primary schools face many challenges. These challenges include lack of facilities, capital, lack of enough qualified teachers and lack of agriculture projects in primary schools are

challenges facing primary schools. This is the same as what Kruijer (2010) asserts that, in many developing countries, the increased enrolment of pupils in recent years has not been met by an increase in qualified teachers. Rather, to meet rapid expansions of student populations, large numbers of un- and under-qualified teachers have been recruited in recent years by governments in Sub-Saharan Africa. The results also were in line with the five ward education officers in the study area who reported that, curriculum followed by primary schools pupils was not for preparing them to do practices. Some vocational studies had a number of subjects whereby teachers failed to teach. They said that the subjects were confusing and not motivating as there were no teaching facilities nor in service training to teachers.

4.5.2 Teachers' views on factors influencing the use of agricultural experiences as a means of contextualising teaching and learning in primary schools

Responding on questions on how contextualizing teaching and learning can be done in primary schools 25 (100%) were interviewed. Results as presented in table 15 below show that out of the 25 teachers, 23(92.0%) suggested that teaching facilities should be made available, 23 (92.0%) suggested that there should be allocation of funds for agricultural projects, 23 (92.0%) recommended that the agriculture subject should be compulsory and be examined at all levels of education. Twenty two (88.0%) suggested that agriculture science subjects should be re introduced from primary schools and other education levels. Also 22 (88.0%) teachers recommended that, teachers should be trained, 19 (76.0%) teachers suggested that both theory and practical should be taught, 16 (64.0%) suggested entertainments' for promoting agriculture should be made to create awareness both for pupils and the community. Moreover, 15 (60%) suggested that, there should be well established agriculture centres for those who will not be selected for further studies. The suggestions were also given by the district agriculture education officer who recommended that all stakeholders in the education system had to work in collaboration to

make sure that pupils at primary school level should be provided with basic skills of life including agriculture skills.

Table 15: Teachers' suggestions on ways to enhance contextualized teaching and learning in primary schools (n=25)

Suggested ways to enhance teaching and learning	Frequency	Percent
Availability of teaching facilities	23	92.0
Allocation of funds	23	92.0
The subject to be compulsory and examined	23	92.0
Re- introduce agriculture science	22	88.0
Doing theory and practical's	19	76.0
Training of agricultural teachers	22	88.0
Entertainments	16	64.0
Agriculture centres	15	60.0

Note: Data set was based on multiple responses

The results concur with five head teachers in the study area who suggested that the subject should be reintroduced in schools. The government should make it compulsory and be examined at all education levels. Similarly teachers should be trained in agriculture subject in their long and short courses such as in-service training. The government should provide facilities and funds, entertainments to create awareness to pupils and to the community. Also they suggested the establishment of clubs and other entertainments to create awareness to people about agriculture.

Moreover the subject is not taught independently as it is for Mathematics and English, due to the fact that, it is under vocational skills subject, whose choice for being taught depends on the interests of a particular teacher, for a particular topic something which make it to be not efficiently taught. This implies that young generations (youths) are not prepared for undertaking agricultural activities in their future lives, and thus masquerade an unforeseen

problem that will erupt in the future agricultural production within the country if the situation will persist and remain uncorrected.

4.5.3 Pupils' views on constrains facing the use of contextualized teaching and learning in primary schools using agriculture experience

Pupils were asked to give their opinions on factors that constrain the teaching and learning agriculture subject in primary schools. Results presented on Table 16 below shows that, of the 120 pupils 118 (98.3%) indicated lack of facilities, like water resources, agriculture equipments and inputs, 106 (88.3%) pupils indicated lack of capital for agriculture projects, while 88 (73.3%) indicated lack of enough qualified teachers and 68 (56.7%) indicated lack of diversified agriculture projects to support teaching and learning in primary schools as major constrains in the application of contextual teaching and learning of the subject. Very few (1.7%) pupils reported that lack of low pupils' interests in agriculture, to be a constraint. As reported on Table 16 below it implies that contextualized teaching and learning in primary schools by using agriculture experiences is constrained by so many factors. Some of them are beyond the schools administration and teachers' capacities. They need the attention of the central government and other education stakeholders.

Table 16: Pupils' views on Constrains facing Contextualized Teaching and Learning Agricultural experience in Primary Schools (n=120)

Problems facing primary schools	Frequency	Percent
Facilities like water resources, agriculture equipments and inputs	118	98.3
Capital for agriculture project	106	88.3
Enough qualified teachers	88	73.3
Diversified agriculture project	68	56.7
Pupils interests in agriculture	2	1.7

Note: Data set was based on multiple responses

These study findings concur with what was reported by Kinyaduka (2013) that, primary schools face many challenges that include lack of facilities, capital, and lack of enough qualified teachers and constrains in agriculture projects. Bennell and Mkyanuzi (2005) in their study on teachers' motivation in Tanzania state that there were problems of lack of qualified teachers in the country in terms of quality and quantity. Moreover Komba and Nkumbi (2008) in their study on teachers' professional development, perception and practices, found out that the number of qualified teachers in most schools in Tanzania was very low.

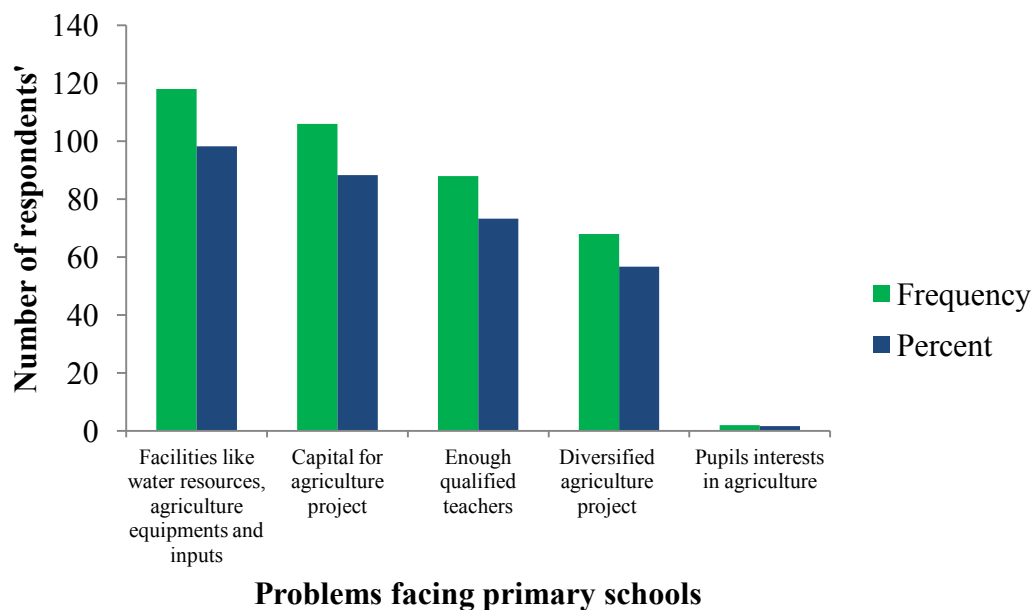


Figure 4: Pupils' Responses on constraints

4.5.4 Pupils' views on factors that influence the use of agricultural experiences as a means of contextualizing teaching and learning in primary schools

In order to understand the use of the concept contextualized teaching and learning in primary schools within study area, multiple response analysis was conducted whose results are presented in Table18 below.

Table 17: Factors that influence the use of agricultural experiences as a means of contextualising teaching and learning in primary schools (n=120)

Suggested ways to enhance learning	Frequency	Percent
Availability of teaching facilities	96	80.0
Incorporation of agriculture as independent subject in the curriculum	96	80.0
Encourage learning by doing	96	80.0
Field/tours engagement	94	78.3
Doing agricultural demonstration	90	75.5
Training of agricultural teachers	88	73.3

Note: Data set was based on multiple responses

Responding to questions on how contextualized teaching and learning can be improved in primary schools, 96(80.0%) pupils suggested that teaching facilities should be available, 96(80.0%) suggested the incorporation of agriculture as independent subject in the curriculum, 96(80.0%) suggested to encourage learning by doing, 94(78.3%) suggested more fields/tours to be done, 90(75.5%) suggested the establishment of agricultural demonstrations (projects), and 88(73.3%) suggested the training of more agricultural teachers. These results reflect the teachers' suggestions.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Basing on the findings of the study, the following conclusions are drawn that:

- i. The study results indicated that both teachers and pupils had positive attitude towards the teaching and learning agriculture in primary schools. They also pointed out that the teaching and learning agriculture in primary schools could not be successful if some measures could not be taken especially to make the subject independently taught, motivation to teachers and pupils be given. They suggested that the subject should not be removed in the primary school curriculum instead there is the need to improve the learning environments. Additionally, the majority of the pupils indicated studying agriculture up to university level as part of good future plans.

- ii. It was found out that teaching agriculture as a component of vocational subject was taught more theoretically. Although they all had school farm/gardens varying in sizes, only one primary school had a farm and was used for demonstration purposes thus pupils were learning by doing. It was also indicated that pupils received little knowledge and skills from the teaching agriculture in primary schools mainly in crop production that is, two hours per week were used in agriculture activities. Field trips /tours were done for learning agriculture skills and knowledge in one of the primary schools.

The study further found that the location of the schools, residing area, occupation of parents/guardian, hours spent in agricultural activities at schools and field trips/

tours had impacts on the contextualizing teaching and learning using agriculture experience in primary schools.

- iii. There are however, lack of facilities, lack of capital, motivation for teachers and pupils, inadequate professional agriculture teachers and instability of the government education policies including policy changes in primary school curriculum were found to constrain teaching and learning of agriculture in such schools.

5.2 Recommendations

- i. MoEVT should train more agriculture teachers and conduct in service training/short courses. Tanzania's agriculture is the driving force of the country's economy and therefore its development is of paramount importance. Since agriculture is important for the livelihood of many Tanzanians as it is in the study area, agriculture subject should complement and widen the scope of learning to pupils under the current curriculum nationwide.
- ii. National curriculum developers therefore through the Institute of Education should reform the syllabus to make agriculture subject to complement with science subjects and to make it compulsory and examined.
- iii. In order to enhance contextualized teaching and learning in primary schools by using agriculture experiences, the City authority should allocate teaching facilities, provide funds as sources of capital for agriculture projects and increase number of qualified teachers. The city authority should as well create conducive environments for teaching and learning the subject both for teachers and pupils.

- iv. Parents should involve their children in light agricultural activities so as to create interests in it. This could instil positive attitudes to pupils at early ages so as to make them become good future farmers in either careers of agriculture. Pupils should be motivated through agriculture shows and field trip too. This reveals that contextualized teaching and learning in primary schools using agriculture experiences should be emphasized to meet the gap.

5.3 Areas for Further Research

It is further recommended that, future studies should research on reasons that cause systematic downgrading practices and vocational learning like agriculture subject in primary schools in Tanzania. This should be done so as to improve teaching and learning of agriculture subject in primary schools leading to prepare the youth for future livelihood.

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APPENDICES

Appendix 1: Interview guide for Agriculture teachers in primary school

A1. Dear teacher

Your school has been selected to provide information on contextualized teaching and learning using agriculture experience in primary schools. You have been selected randomly as one of the respondent. Your opinion will help to draw some policy recommendations which will improve to factors influencing contextualized teaching and learning using agriculture experience in primary schools. This is just a survey and there no right or wrong answers, this is not a test. Hence feel free to answer them. All information you give will be treated with strict and confidential for being used in research purposes.

1. Demographic characteristics

- (i) Name of school.....
- (ii) Sex of teacher..... Place of birth.....
- (iii) Age of the teacher.....
- (iv) Educational level.....
- (v) Professional qualification attained.....
- (vi) Number of years teaching at the school.....
- (vii) In service course attended in teaching agriculture
- (viii) Need for more training in agriculture

2. Existing situation of teaching and learning agriculture in primary school

- (i) Does the school have a farm/ garden and its size?
- (ii) The common agriculture teaching methods
- (iii) Agriculture equipment room
- (iv) Agriculture text books and references books
- (v) Agriculture projects at the schools

((vi) Source of labour in agriculture activities at the schools

S/N	Attitudes of teachers toward agriculture subject	Agree	Disagree
3	Agriculture enhances employment to individuals		
5	It is more practical oriented		
6	Agriculture is a bore some subject		
7	Agriculture is not motivating		

8 Factors influencing contextualized teaching and learning using agricultural experience in primary schools

- (1) Teacher motivation ()
- (ii) funds for agriculture project ()
- (iii) Unqualified teachers ()
- (iv) Lack of teaching facilities ()
- (v) Changes of curriculum ()

9. Suggestions for improving contextualization of teaching and learning using agricultural experience in primary schools

- (i) Availability of teaching facilities ()
- (ii) Allocation of fund ()
- (iii) The subject to be compulsory and examined ()
- (iv) Re- introduce agriculture science ()
- (v) Doing theory and practical's ()
- (vi) Training of agricultural teachers ()
- (vii) Entertainments ()
- (viii)Agriculture centres ()

Thank you for your participation

**Appendix 2: Questionnaire on Contextualized teaching and learning using
agriculture experience in primary schools administered to pupils**

A2. Dear pupil

Your school has been selected to provide information on contextualized teaching and learning using agriculture experience in primary schools. You have been selected randomly as one of the respondent. Your opinion will help to draw some policy recommendations which will improve to factors influencing contextualization on teaching and learning using agriculture experience in primary schools. This is just a survey and there no right or wrong answers, this is not a test. Hence feel free to answer them. All information you give will be treated with strict and confidential for being used in research purposes.

PART 1

Demographic indicators

Fill in the blanks or put a tick to right answer (s)

1. Name of school..... 2. Region.....
3. District..... 4. Sex (i) male () (ii) Female ()
5. Age.....
6. Class:
 - (i) Standard 4 ()
 - (ii) Standard 5 ()
 - (iii) Standard 6 ()
7. What is your area of birth?
 - (i) Rural ()
 - (ii) Urban ()

8. Where are you residing now?

(i) Rural ()

(ii) Urban ()

9. (a) What is the occupation of your mother?

(i) Farmer ()

(iii) Labourer ()

(ii) Employed ()

(iv) Petty business ()

(b) What is the occupation of your father?

(i) Farmer ()

(ii) Employed worker ()

(iii) Labourer ()

(iv) Petty business ()

10. What is the highest educational level of household head?

(i) Non formal education ()

(ii) Primary education ()

(iii) Secondary education ()

(iv) College ()

(v) University ()

10. Do your parent/guardian engage in the agricultural activities? 1. Yes () 2. No ()

11. What kind of agricultural activity does you parent do?

(i) Cultivation of crops ()

(ii) Keeping livestock ()

(iii) Both crops and livestock ()

- (iv) If he/she does not involve in any activity, which activity apart from what mentioned above do you think your parent/guardian is involved in? Give only one.....

PART 2

Teaching of agriculture subject in primary schools

11. Does your school have a farm/ garden for agriculture activities?

- (i) Yes () (ii) No ()

12. If answered yes in question 12 above what is the size of school farm/ garden?

- (i) Less than 0.25ha ()
 (ii) 0.25-0.5 ha ()
 (iii) 0.5-1.0 ha ()
 (iv) More than 1 ha ()

13. Does your school keep livestock?

- (i) Yes () (ii) No ()

14. If your answer for question 13 is yes, mention the livestock kept at your school.....

15. How often do use farm/garden

- (i) one day per week ()
 (ii) Two days per week ()
 (iii) Three days per week ()
 (iv) Not used at all ()

16. Does your school have agriculture project

- (i) Yes () (ii) No ()

17. If your answer is yes in question 16 above, what type of projects are present at the school?

- (i) Crop production projects () (iv) Fish farming projects ()
 (ii) Livestock production projects () (v) Tree planting projects ()
 (iii) Crop and livestock production projects () (vi) Others specify..... ()

PART 3: Use of agricultural experience as a means of contextualized teaching and learning agriculture subject in primary schools

18. Which method is commonly used in teaching agriculture at your school?

- (i) Theory method ()
 (ii) Both theory and demonstration ()

19. How many hours do you attend agricultural activities per week?

- (i) 2 hours ()
 (ii) 3 hours ()
 (iii) 4 hours ()
 (iv) More than 4 hours ()

20. How many periods do you attend agriculture subjects in the class per week?

- (i) 2 periods ()
 (ii) 3 periods ()
 (iii) 4 periods ()
 (iv) More than 4 periods ()

21. How many periods per week are spent for practical/ demonstration in the garden/farm?

- (i) 2 periods ()
 (ii) 3 periods ()
 (iii) 4 periods ()
 (iv) 5 periods ()

22. Have you gone for any field trip/ tour since you came to this school?

(i) Yes () (ii) No ()

23. If answers yes in question 22 above where did you make a trip/ tour.....

24. Do you get knowledge and practical skills from teaching of agriculture at your school?

(i) Yes () (ii) No ()

25. If answered yes in question 24 above, what knowledge and skill do you get from agriculture?

(i) Cultivation of crops ()

(ii) Keeping livestock ()

(iii) Doing agricultural business ()

(iv) Skills in doing agriculture business ()

(v) Little knowledge and skills ()

26. If answered no in question 24 above, why you don't get knowledge and practical skills agriculture?

(i) Lack of facilities like water resources, agriculture equipments and inputs ()

(ii) Lack of capital for agriculture project ()

(iii) Inadequate qualified teachers ()

(iv) No diversified agriculture project ()

(v) Pupils not encouraged by teachers to learn agriculture ()

PART 4**Statements on attitudes towards the use of agriculture subject**

S/N	Attitude questions	Agree	Disagree
27	I like agriculture subject		
28	Provision of knowledge in animal production		
29	Provision of knowledge in crop production		
30	Provision of knowledge and skills for life		
31	There is no encouragement from the teachers		
32	The subject has too much work in the field		
33	Teachers use it as punishment		
34	There are no good facilities		
35	No motivation from the teachers		
36	There is no agriculture projects at school		
37	Teaching agriculture has been successful		
38	The subject be eliminated from the curriculum		

39. What do you plan to do in the future after completing your primary school education?

- (i) Go for further studies ()
- (ii) Stay in the village and employ myself in agriculture ()
- (iii) Go to town and find a job ()
- (iv) Raise capital and start business ()

40. If you want to study agriculture up to which level of education would you go?

- (i) Secondary school ()
- (ii) Certificate in agriculture ()
- (iii) Diploma in agriculture ()
- (iv) University of degree in agriculture ()

PART 5**Factors that enhances or constrain the use of agricultural experiences as a means of contextualized teaching and learning in primary schools**

41. What are the problems facing school agriculture?

- (i) Lack of facilities like water resources, agriculture equipments and inputs ()
- (ii) Lack of capital for agriculture project ()
- (iii) Lack of enough qualified teachers ()
- (iv) Lack of diversified agriculture project ()
- (v) Lack of pupils interests in agriculture ()

42. What are the suggestions for improving the contextualizing of teaching and learning using agriculture experience in primary schools?

- (i) Availability of teaching facilities ()
- (ii) Incorporation of agriculture as independent subject in the curriculum ()
- (iii) Encourage learning by doing ()
- (iv) Field/tours engagement ()
- (v) Doing agricultural demonstration ()
- (vi) Training of agricultural teachers ()

Appendix 3: Check list/ interview guide for head teacher on the teaching and learning agriculture subjects

1. Existing situations of teaching and learning agriculture in primary in primary schools

History of the school

- (i) Does the school have a farm/ garden?
- (ii) What is the size of school farm/garden?
- (iii) What is the use of the school farm/ garden?
- (iv) Does the school have an agriculture room for equipment storage?
- (v) Are there any school projects at the school?
- (vi) What types of projects are there at school?
- (vii) How many agriculture teachers does the school have?
- (viii) What are their qualifications?

2. Extent of teaching and agriculture in primary schools

- (i) How do you involve pupils in agriculture?
- (ii) What is the source of labour in school projects?
- (iii) What is the trend of production level in school projects?
- (iv) What type of livestock and crops are raised at the school?

3. Teaching methods and techniques

- (i) What is the common instruction method for teaching agriculture at the school?
- (ii) What kinds of practical are done by pupils?
- (iii) Does the school arrange field trips/tour for learning agriculture?
- (iv) Do pupils participate in demonstrations of agriculture practices/skill?

4. Use of agriculture as punishment and attitude toward agriculture

- (i) Are there any punishments to pupils related to agriculture subjects?
- (ii) How do pupils perceive agriculture subject compared to other subjects?
- (iii) Do pupils link agriculture subject as well as agricultural activities?

- (iv) How teachers guide pupils to be future farmers.
- (v) What is the expectation of students after leaving the school?
- (vi) Are the knowledge and skills in agriculture provided at the school capable of influencing pupils towards rural life in agriculture?

5. Major concerns and problem

- (i) Do you think contextualizing teaching and learning using agriculture is effective in achieving the objectives outlined in primary school syllabus?
- (ii) Mwanza city is an agricultural community, does it adopt any agricultural skills from the schools
- (iii) Is there any seminar or short course offered to agriculture teachers?
- (iv) What are the main problems facing contextualization of teaching and learning using agriculture experience in primary school?
- (v) How does the government policy changes affect agriculture subject?
- (vi) What are your opinions/ suggestions in order to improve contextualization of teaching and learning using agriculture experience in primary schools?

Appendix 4: Check list/ interview guide for District Education Officer and Ward

Education Coordinators

- (i) The existing situation and common method of teaching agriculture in primary school?
- (ii) Training policy for agriculture teachers by the ministry by the ministry of education and vocational training?
- (iii) Attitudes of students and teachers toward agriculture subjects
- (iv) Attitude/perceptions of ministry of agriculture and vocational training on agriculture subject in primary school
- (vi) Suggestions on improving contextualization teaching and learning using agriculture experience