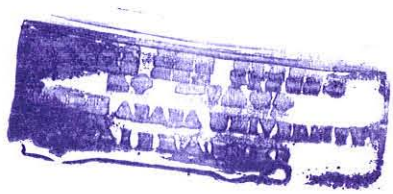
ADDIS ABABA UNIVERSITY

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THE CONTRIBUTION OF MOTHER-TONGUE EDUCATION TO PROMOTE INDIGENOUS KNOWLEDGE: THE CASE OF BALE ZONE IN OROMIA REGION



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JULY, 2012

ADDIS ABABA

THE CONTRIBUTION OF MOTHER-TONGUE EDUCATION TO PROMOTE INDIGENOUS KNOWLEDGE: THE CASE OF BALE ZONE IN OROMIA REGION

ALEMAYEHU JOTE TULLU



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ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

This is to certify that the thesis prepared by **Alemayehu Jote**, entitled: ***The Contribution of Mother-Tongue Education to Promote Indigenous Knowledge of Agriculture: The Case of Bale Zone in Oromia Region*** and submitted in fulfillment of the requirements for the Degree of Doctor of Philosophy in TEFL (Teaching English as a Foreign Language) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.



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ABSTRACT

Since few decades, a conceptual shift has been observed regarding the development discourse from increased capital with the goal of modernizing a society to a broader, context-specific approach that considers cultural values and local technology. For these people's indigenous potentials to have significant intervention on the rural development strategies, they must be promoted some way. It is in this cultural and knowledge promotion scheme that the use of people's indigenous language in education, which is an appropriate setting not only for acquisition of external, scientific knowledge but also for inducing students into local way of life, calls due attention. The core argument in this study framework is that the role of mother tongue based bilingual education should not be limited to pedagogical service. It should contribute to cultural dimension of development by harnessing society's indigenous potentials in local development scenario.

The major concern of this study was to explore the contribution of mother tongue education in promoting indigenous knowledge systems. The objectives of the study were to examine notable indigenous knowledge of agriculture dominantly used in the study area and the extent to which the use of Oromo language in education is contributing to the promotion of these practices with the implication of contributing to the rural development. Further investigation was also sought to examine parents' participation in decision making about what students learn at school. To achieve these objectives, interdisciplinary qualitative exploratory approach was employed. The data were collected through qualitatively designed interviews and focus group discussions from primary school teachers and students, regional curriculum designers, rural development experts, education officers, and local farmers. Field observations and students' textbooks review were also carried out. The textual data were analyzed thematically using generic procedures of qualitative content analysis supported by Open Code 3.4 version software.

This study has come up with positive as well as negative findings. From the positive side, the study indicated that the use of Oromo Language in education is found to have been playing a significant role in enhancing students' learning and sustaining cultural and linguistic, promotion of Oromo society. It has also enhanced parents' participation in general non-academic issues of schools like school construction, students' discipline and income generation. On the other hand, there is insignificant concern the mother tongue education has drawn on the importance of people's local technological practices of agriculture which majority of local people dominantly use in sustaining their livelihood. These valuable local resources have also been sidelined in the rural development policy formulation and implementation strategies. The society's lack of involvement in decision-making on what their children should learn at school is another negative finding. The research has recommended possible measures to be taken from both education and rural development prospects, particularly at the level of the Regional Education and Agriculture and Rural Development Bureaus.

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I am also grateful to authorities from Oromia Education Bureau, Oromia Agriculture and Rural Development Bureau, Bale Zone Administrative Council, Bale Zone Education Office, Bale Zone Agriculture and Rural Development Office and from corresponding offices of Manna and Agarfa Weredas for their warm welcome and priceless cooperation and document provision during data collection.

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Dedication

To the memory of my father, Ato Jote Tullu, whose effort sewed seeds in me but passed away in the middle of my study leave without being lucky to see the fruits of the seeds. This is a reward and dedication to him. Tracks of tears for you, dad, are all over this thesis and will never dry.

SYMBOLS, ABBREVIATIONS AND ACRONYMS

(…)	inaudible
(___)	long pause
(---)	stop/sharp cut
Re.	respondent
ADEA	Association for the Development of Education in Africa
AIKS	African Indigenous Knowledge Systems
ARD	Agriculture and Rural Development
ARDS	Agriculture and Rural Development Strategies
BBO	Biiroo Barnootaa Oromiyaa
BMQBO	Biiroo Misooma Qonnaa Baadiyyaa Oromiyaa
BPR	Business Processing Reengineering
BZCTO	Bale Zone Cultural and Tourism Office
BZFDO	Bale Zone Finance and Development Office
CAQDAS	Computer-Aided Qualitative Data Analysis Software
CBD	Convention for Biodiversity
CHAT	Cultural-Historical Activity Theory
EFA	Education for All
ERGESE	Evaluative Research on the General Education System of Ethiopia
ESLCE	Ethiopian School Leaving Certificate Examination
ETG	Ethiopian Transitional Government
ETP	Education and Training Policy
FAO	Food and Agriculture Organization
FDRE	Federal Democratic Republic of Ethiopia
FGD	Focus Group Discussion
FTC	Farmers Training Center
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
HDI	Human Development Index
IAP	Indigenous Agricultural Practice
ICT	Information Communication Technology
IDRC	International Development Research Centre



IK	Indigenous Knowledge
IKA	Indigenous Knowledge of Agriculture
IKS	Indigenous Knowledge System
KII	Key Informant Interview
L1	First Language or Mother Tongue
L2	Second Language
MDG	Millennium Development Goal
MOE	Ministry of Education
MOI	Medium of Instruction
MOST	Management of Social Transformations
MT	Mother-Tongue
MTE	Mother-Tongue Education
NEPAD	New Partnership for African Development
Nuffic	The Netherlands Organization for International Cooperation in Higher Education
OAU	Organization for African Unity
OBADFD	Oromiya Bureau of Agricultural Development Forestry Department
OBPED	Oromia Bureau of Planning and Economic Development
OEB	Oromia Education Bureau
ONRS	Oromia National Regional State
QCA	Qualitative Content Analysis
QDA	Qualitative Data Analysis
RDE	Rural Development Expert
RDS	Rural Development Strategy
SoI	Subject of Instruction
TAP	Traditional Agricultural Practices
TEFL	Teaching English as a Foreign Language
TK	Traditional Knowledge
TVET	Technical and Vocational Education and Training
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNO	United Nations Organization
WKS	Western Knowledge System

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CHAPTER ONE: INTRODUCTION

1.1 Introduction to the Chapter

This chapter introduces the readers to 'what' and 'why' of the study. In the first section, it gives brief background of the study focusing on the current perception of local development that is grounded on community's indigenous knowledge practices, and the role mother tongue education plays to promote these practices. Among indigenous knowledge practices, the study is particularly concerned with indigenous practices of agriculture. This section is followed by problem statement and research objectives where the gap and aims of the study are indicated. The chapter proceeds with significance, scope and limitation of the study. Organization of the thesis and operational definitions of key terms are also parts of the chapter. The chapter, in its final section, presents the theoretical lenses employed to guide this thesis. In this section, an attempt is made to indicate how one model and two theories are used as guiding orientations for this study.

1.2 Background of the Study

Before few decades, the concept of development was perceived as increased capital (high productivity) with the goal of modernizing a society through Westernization. This view was rarely concerned with internal social, political, cultural, and linguistic considerations of the society, assuming that all the other problems facing a society would be solved in direct consequence of achieving the goal of modernization and capital accumulation (Pieterse, 2010; Elliott, 2006; World Bank, 2004; UNESCO, 2000). From 1970s onwards, however, this concept of development has begun to be questioned for several reasons. Some of the reasons are:

a. failure of nations to achieve sustainable economic development and prosperity depending on this development theory,

b. failure of both developed and developing nations with some level of economic growth to achieve social harmony and national stability with the help of the existing economic models, and
c. the emergence of further analysis of development which is conditioned by and dependent upon other non-economic factors.

As the result, various international institutions in the area of development and culture began to look for a broader framework within which the question of how to secure the most effective and sustained development could be answered. In relation to this, it was reflected on World Conference on Cultural Policies held by UNESCO in Mexico in 1982. It was agreed on the conference that development goes beyond economic approach (UNESCO, 2000). Eventually, especially with the emergence of community-oriented development theories during the late 1980s and early 1990s which aimed at community participation, self-reliance, and social sustainability, the concept of development began to be conceived as a holistic improvement in socio-cultural, political and economic systems of a particular society to meet its basic needs (Rheede, 2009; Elliott, 2006; Atchoarena & Gasperini, 2003). This was believed to be achieved by creating a technological basis that includes both traditional and modern approaches to problem solving that essentialized paying more attention to people's culture-specific local potentials and using them as benchmarks to empower communities economically, politically, and socially.

Among the cultural context-specific potentials, indigenous language, indigenous knowledge and traditional institutions have been given due consideration because indigenous people possess accumulated knowledge of their environments based on centuries of living close to nature (Sardan, 2005; Twarog & Kappoor, 2004; World Bank, 2004; Boven & Morohashi, 2002; UNESCO, 2000; Tirfe, 1999). Consequently, a number of international organizations such as World Bank, UNESCO, Convention on Biodiversity (CBD), International Council for Science, FAO, International Labour Organization and the like have begun prioritizing the values of indigenous knowledge in the discourse of local development (Twarog & Kappoor, 2004; World Bank, 2004). For instance, on the United Nations Conference on Environment and Development held in 1992, a clear reference was made to traditional knowledge in the

Rio Declaration and Agenda 21 (Nakashima, 2004). The Global Knowledge Conference held in Toronto in 1997 also highlighted the critical role of indigenous knowledge in the development process (World Bank, 2004).

It was agreed that the economic strategies of the past decades failed to improve the life condition of most of the world's people. According to Twarog & Kappoor (2004), 80% of world population depends on traditional medicine for primary health needs; one-third of world people survive because of use of food provided through indigenous knowledge; and over 90% of food in Sub-Saharan Africa is produced using customary practices. This shows that traditional knowledge practices are still remedying the immediate problems of mainstream people, especially for rural inhabitants of developing societies. In Africa, researchers on the area acknowledge the role of indigenous knowledge in the development process, and claim that ignorance and destruction of people's traditional knowledge, innovations and practices has contributed to the African poverty more than any other factors (Burford et al., 2003; Tirfe, 1999). It could emanate from this ground that several African countries (e.g. South Africa, Uganda, Tanzania, Kenya, Burundi, and Guinea) have began to incorporate indigenous knowledge systems into their national and regional development strategies (Rheede, 2009; Owuor, 2007; World Bank, 2004).

A number of studies in Ethiopia also confirm the role people's indigenous knowledge practices and traditional institutions are playing in solving various societal problems (See Chapter 3). With particular to agriculture, research findings indicate that Ethiopia possesses rich indigenous knowledge and resources for agricultural sustainability that the modern provision of technology could not substitute. As majority of the rural population rely dominantly upon traditional farming to sustain their livelihood, their indigenous knowledge systems need to be acknowledged, preserved and utilized so as to make intervention on the issues of rural development strategies (Getahun, 2006; Tesfahun, 2004; Boven & Morohashi, 2002; Workineh, 2001; Tirfe, 1999). The attainment of the process of cultural knowledge preservation must gain attention in education system which is a process that is primarily concerned with inducing individuals into culture (Kembo, 2002).

It is in this view that the use of people's indigenous language in education needs due attention. Language in general and indigenous language in particular, in any educational system, is a central tool and a repository of the world-view of its speakers through which all people's accumulated knowledge and valuable socio-cultural experiences are best expressed and communicated (Gxilishe, 2009). Mother tongue medium school is an appropriate setting which helps new generations not just for pedagogical purpose and to acquire external, scientific knowledge. It is also needed as a crucial means of preserving and promoting society's indigenous languages, cultural values, traditions as well as indigenous knowledge practices which are fundamental components of local livelihood. In line with, African countries made a reform of basic education after the World Conference on EFA held in Jomtien (1990). One of the central aspects was promoting their national languages as media of instruction with the need to improve the integration of African cultures and indigenous knowledge systems into formal school curricula that aimed at preparing pupils to become productive citizens in their own communities (Alidou & Brock-Utne, 2006). Skutnab-Kangas (2009) also argues that use of mother tongue is not limited to serving as a teaching language. Contents and teaching methods of the mother tongue education need to be context-oriented and facilitate transmissions of the traditions, knowledge, history and identities of the group.

The issue of inducing the children into the cultural values of the most communities through education in Ethiopia in general and in Oromia in particular was not easy in the past education systems. The monolingual model of education introduced in Ethiopia since long with an aim of homogenizing the languages and cultures of the nation undermined most of Ethiopian ethnic groups' indigenous learning structures, cultural practices and indigenous technology of the society. This resulted in people's lack of sense of self-confidence in expressing and appreciating their native values and cultures until the 1991 political change converted the situation. The currently functioning Constitution of Federal Democratic Republic of Ethiopia and the Ethiopian Education and Training Policy encourage the utilization and promotion of communities' indigenous languages and cultural practices.

The ultimate goal of the current Ethiopian Education and Training Policy is to produce citizens that sense the local and national problems and work towards solving these problems

so as to bring about sustained individual as well as societal development (MOE, 2002). In line with this, the policy has given due emphasis to primary education not only because primary education is the right of every citizen, but also because it is the chief instrument for social and economic growth. As stated in the policy, students at this level are expected to become capable of solving environment and other problems and form strong base for rural and industrial development. The policy also states that 'primary school graduates will be better farmers, blacksmiths, potters, pastoralists etc, and there will be dependable rural work force in the effort to change community,' (MOE, 2002:20).

Based on this premise, the primary education in the country is being conducted in the mother tongue of learners or in the language chosen by community. Accordingly, primary education (grades 1-8) in Oromia Regional State is being conducted in Oromo Language, the language indigenous to the people of the community. This mother tongue medium education functioning in the region is believed to play a pivotal role in providing students with opportunities to learn their language and use the opportunities to validate, preserve, utilize, and transmit their parents' indigenous knowledge and other valuable practices, which are fundamental components of local livelihood. By way of learning the locally experimented people's traditional values and integrating them with scientifically proved knowledge, students at this level need to impact their environment in all aspects of rural people's life situation.

As an experienced teacher in the area of language education on one hand and a member of the community under investigation on the other, I am motivated to investigate the societal contribution of the use of mother tongue in education system in general, but with specific focus on Oromo Language as medium of primary education in the region. The institutionalization of this language as a medium of primary education as well as an official language in the Oromia Regional State after being excluded from school medium and official public use for long has inspired me to look into the role this language is playing to promote people's cultural values with special focus to indigenous knowledge of agriculture. I am also convinced that this study will shed some light on the wide debate about socio-cultural and developmental impact of using regional languages in the primary education in Ethiopia.

1.3 Statement of the Problem

Despite the mutual relationship between the use of mother tongue in education and community's indigenous knowledge, external evidences indicate that there is a gap between what students face at school and their community's real life (Banda, 2008; Scott et al., 2007; Wolff, 2006; World Bank, 2004). According to World Bank (2004), much of formal education in African communities is largely decontextualized and involves learning things in ways that show little relation with the social, cultural, and economic habits of the host communities. Scott et al. (2007) add that children's local knowledge is not used in the school since school teachers and curriculum developers are not aware of these practices. Banda (2008), in his study in the area of indigenous knowledge systems and education in Zambian context, stresses the seriousness of the gap: 'Even those who go up to grade 7 join the community unprepared for life outside school. They cannot do any work that requires practical skills like farming, gardening, bee-keeping or tailoring. They forget all these skills once they start school. We wonder what these children learn in these schools,' (p. 84).

Given this role of language in education to promote indigenous knowledge of pupils' community, on one hand, and the perceived gap between what children learn in the school and their parents' local knowledge, on the other, the extent to which the use of Oromo Language in education is contributing to promoting indigenous practices of the society needs to be examined. From the researcher's close observation, there seems to be a gap that the mother tongue education at primary level in the region might not adequately address the promotion of people's cultural values, specifically indigenous knowledge of agricultural practices which are basis for the sustainability of rural life. Having passed through primary education in their linguistic and cultural settings, young generation in the region are observed to have aspiration for urban life on government employment instead of becoming rural producers by integrating locally acquired traditions and resources with adaptable technologies. This problem may attribute to the low emphasis the school, which uses community's language in the community's cultural setting, gives to local people's indigenous technologies. While the pedagogical effectiveness of using children's familiar language for their schooling have been widely investigated (e.g. Heugh et al., 2007; Teshome, 2007;

Dereje, 2010), there is no study on the role this education system is playing in promoting community's cultural practices, especially indigenous knowledge practices.

1.4 Objectives of the Study

The aim of this study is to explore the contribution of mother tongue primary education in promoting people's indigenous knowledge of agriculture, with special focus to Oromo Language. The objectives of the study are particularly to address the following specific research questions.

1. What are the notable practices of agricultural indigenous knowledge in Bale zone, and how have these practices been preserved and transmitted over generation?
2. What is the perception of participants about the use of Oromo Language in primary education in relation to preserving and promoting people's cultural values?
3. How much does the mother tongue primary education consider the inclusion of people's practices of indigenous knowledge of agriculture?
4. To what extent has the use of Oromo Language as a MOI enhanced parents' participation in decision making about what students learn at school?

1.5 Significance of the Study

This study is believed to be the first attempt to link mother tongue based bilingual education and development agenda. Most prior researches are partial treatments of the role of mother tongue education as they mainly focus on the pedagogical effectiveness and learning achievement without considering the direct link between education in people's indigenous language and locally sustainable development. Hence, this study is believed to have significance for social issues, theory, and policy. From social point of view, it could provide the rural society at large with opportunity to develop awareness about the value of their traditional knowledge practices in sustaining their livelihood. It may also contribute to the

foundation of strong harmony between school environment and local community. Primary school students who are using their mother tongue in their learning, and expected to learn history, cultural values, and indigenous practices and innovations of their ancestors would also benefit from this study.

With regard to its contribution to curriculum policy, promoting indigenous language and, in turn, promoting indigenous knowledge practices in school system is essential in the local development endeavour. Therefore, mother tongue medium curriculum planning experts are believed to use the result of this study as an input for designing a culturally-oriented and contextually mediated curriculum that realize the social value of mother tongue education. From agriculture and rural development angle, development planners may obtain some insights from the result of this study to analyse the extent of the modern technology inputs and services currently accessed by majority of local people and rethink the possibility of designing local development strategies from within.

From the point of view of contributing to theory, the result of this research may shed a light on the relationship between mother tongue primary education and the promotion of people's traditional knowledge and other valuable cultural practices to sustain rural livelihood and preserve society's indigenous values. On top of this, it may provide insights into the mutual interrelationships among language, education and development which necessitate the harmony among the specialists of each discipline in the development scenario. Moreover, the study could lay good basis for further researches in the area.

1.6 Scope of the Study

Currently more than twenty ethnic languages have become direct school media and are also taught as subjects, with varied learning levels. This study is confined itself to explore the contribution of the use of Oromo Language in primary education in promoting cultural values with special emphasis to indigenous knowledge practices of agricultural domain. It is not mainly intended to examine the pedagogical or other implications of the mother tongue

education system. Nor does it treat the contribution of mother tongue education to promote practices of people's traditional knowledge in the domains other than agriculture. Regarding the research location, Oromia Regional State, Bale Zone is targeted without claiming the generalizability of the study result to the whole region.

1.7 Limitation of the Study

As its name implies, Applied Linguistics and Development is a field that ties two broad areas of research. Applied linguists like Sealey & Carter (2004), Davies (2007), Wei & Cook (2009) and others claim that Applied Linguistics itself is multi-disciplinary field of research that deals with diverse disciplines, which requires applied linguists' polymathic ability to carry out such an amalgamation of research interest. Situated in the context of this field, the present study is an interdisciplinary qualitative investigation of aiming at exploring the contribution of mother tongue education in promoting indigenous knowledge of agriculture with the implication to harness these local technological practices for sustained local livelihood. A study on such interdisciplinary field needs ample knowledge and experience of a multidisciplinary approach in areas such as education, sociolinguistics, development, and socio-economic condition of the people in which the investigation is situated in order to understand and analyze occurrence of issues at each stage of the study. To this end, though the researcher has taken few courses related to language and society, language policy and development, multilingualism and education, literacy and development to bridge the knowledge gap, having TEFL background alone may limit the precision of the description, analysis and interpretation of the issues.

On the other hand, authorities in the area of qualitative research recommend using limited data source in order to maximize the depth of the investigation and to enhance authenticity. Thus, the number of participants for this study had to be limited which necessitated focusing only on few selected primary schools and local administrations as well as few experts and officials. The findings of the study, therefore, have to be perceived in view of the subjects involved in the study but not be claimed to generalize to further population in the region.

Besides the interdisciplinary nature of the very field and the study design, lack of domestic research work on the link between mother tongue education and traditional values has played its role. Most of the literature emphasizes effect of mother tongue education on academic achievement. The fact that guidelines on implementation of Oromo Language education have not been properly documented at regional level has worsened the shortage of information on the mother tongue education situation. These all could affect the precision of the study in one way or another.

1.8 Organization of the Study

This study is organized in seven chapters consisting of sub-chapters. Each chapter begins with brief introduction and, in some cases, ends in brief summary. The remaining sections of the first chapter treat definitions of key terms and the theoretical lenses of the study. Chapter Two consists of two sub-chapters. The first sub-chapter deals with an anthropological and topographical account of the study area while the second sub-chapter is concerned with historical and current situation of language in education in Ethiopia. This sub-chapter also discusses history and current condition of development of Oromo Language in Ethiopian education and governance.

The third chapter covers reviews of relevant literature on basic assumptions and practices of mother tongue education and indigenous knowledge systems. Historical accounts and contemporary needs for mother tongue education are briefly discussed. An effort is also made to look at writings and specific research studies on indigenous knowledge system and its role in sustainable development from other parts of the world, Africa and Ethiopia. The chapter also conceptualizes the linkage between mother tongue education and indigenous knowledge systems with the implication of contributing to the rural development. Chapter Four presents research design and methodology. It comprises sections dealing with research approach, selection of research site, research participants, and data collection and analysis procedures. The pilot study, establishing trustworthiness of the study and considerations of the research ethics are also presented in this chapter. In Chapter Five, the data presentation and analysis are given in detail. The sixth chapter devotes to discussions of the findings

pertinent to basic research questions followed by the last chapter, Chapter Seven, which gives summary and conclusions of the study result. This last chapter also points out intended recommendations for rural development and education domains, and suggests areas for further investigation.

1.9 Operational Definitions of Key Terms

i. **indigenous:** something typical belonging to specific people, place or location that does not necessarily refer to historical or ancient phenomenon.

ii. **indigenous knowledge**: is framed in this paper as the set of local traditional practices, experiences, values, beliefs that have been acquired over time through the accumulation of experiences, informal experiments and intimate understanding of the environment in a given culture and are still active in members of a community who are its practitioners.

iii. **indigenous knowledge of agriculture**: indigenous knowledge practices that are mainly carried out in agricultural sector.

iv. **medium of instruction:** the language used as a medium in teaching and learning curricular contents. For example, Oromo Language is a medium of instruction to teach other subjects in primary education and is also taught as a subject of instruction from grade one on in Oromia Region.

v. **mother tongue**: This term refers to early acquired language and/or actively and continuously used by speakers. The comprehensive definition given by UNESCO (1953) is adopted for this study. "…a language which a person acquires in early years and which normally becomes his/her natural instrument of thought and communication," (p. 46).

vi. **mother tongue education:** an education system in which the learners' mother-tongue is taught as a subject, and is used as a medium of instruction for non-language subjects. In this study, this term mainly refers to primary level education (grade 1 to 8).

vii. **promoting:** a process of acknowledging, preserving, and transmitting traditions and experiences so that the others could also make use of them and further encourage the preservation and transmission of the practices.

viii. **rural area:** This term is characterized by a space where human settlement occupies only a small share of the landscape; most people work on farms; land is available at a relatively low cost; and the settlement is associated with long distance from cities and poor infrastructures (Atchoarena & Gasperini, 2003). This concept is used in this paper.

ix. **sustainable development:** Based on the definition of Brundtland Report, '... development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs,' (Atkinson et al., 2007:2), this term is conceptualized in this study as a development that involves local potentials and satisfies the basic needs of the existing citizens and whose results are sustained for forecoming generations.

1.10 Theoretical Lenses for the Study

1.10.1 Overview

Various researchers base their works on particular frameworks and theories. The main purpose of doing this is to use the theories and frameworks as guiding light in their work. In addition to providing guidance, theoretical frameworks also act as controllers of particular research works being conducted.

The purpose and magnitude of using theory varies between quantitative and qualitative research designs. In quantitative research, researchers often test theories as scientific prediction or explanations for answers to their questions (Creswell, 2009). Theory in this sense is 'a set of interrelated constructs (variables), definitions, propositions that present a systematic view of phenomena by specifying relations among the variables, with the purpose of explaining natural phenomena,' (Kerlinger, 1979 quoted in Creswell, 2009:51). In quantitative research, theory is used deductively and is placed towards the beginning of the study with the objective to test it rather than to develop it. It becomes a framework for the entire study, an organizing model for the research questions or hypothesis and for the data collection procedure.

In qualitative research, there is flexibility in using theory. A qualitative researcher may generate theory as a final outcome of a study or uses as a lens that shapes what is looked at in the inquiry. With regard to this, Creswell (2009:61-64) proposes four ways of using theory in qualitative research. First, theory can be used prior to data collection and analysis, like in quantitative research, as a broad explanation or prediction which may be complete with variables, constructs and hypothesis. Here the researcher begins with a theoretical model. Secondly, a researcher uses a theoretical lens or perspective which provides a researcher with an overall orienting lens, in which case the theory occurs in opening passages of the study. This theoretical lens guides a researcher as to what issues are important to examine and the people that need to be studied. Thirdly, a theory or a generalized model or some other broad explanation is inductively built from the data and becomes the end point for the research. Grounded theory is good example in this case where an inquirer hopes to discover a theory that is grounded in information from participants (Dornyei, 2007; Henning, 2004). In the fourth place, some qualitative researches do not employ any explicit theory or theoretical orientation. Rather the researcher attempts to build the essence of experience from respondents and constructs a rich, detailed description of a central phenomenon.

1.10.2 Theoretical Lenses Used in This Study

Taking flexibility of using theories in qualitative inquiry discussed above into account and pertinent to the nature of the study, the second approach to using theory, i.e. utilization of theoretical lenses which provide a researcher with an overall orientation about the study has been employed in this thesis. As theoretical lenses, I used one model and two theories which I believe could frame my study. These lenses would complement one another in offering guidance and some control to this work so that I remain focused on the objectives of the research.

The theoretical lenses are Language-development-education triangular model (Model of Development Communication with Regard to Language(s) and Education), Cultural-Historical Activity Theory, and Dialectical Modernization Theory.

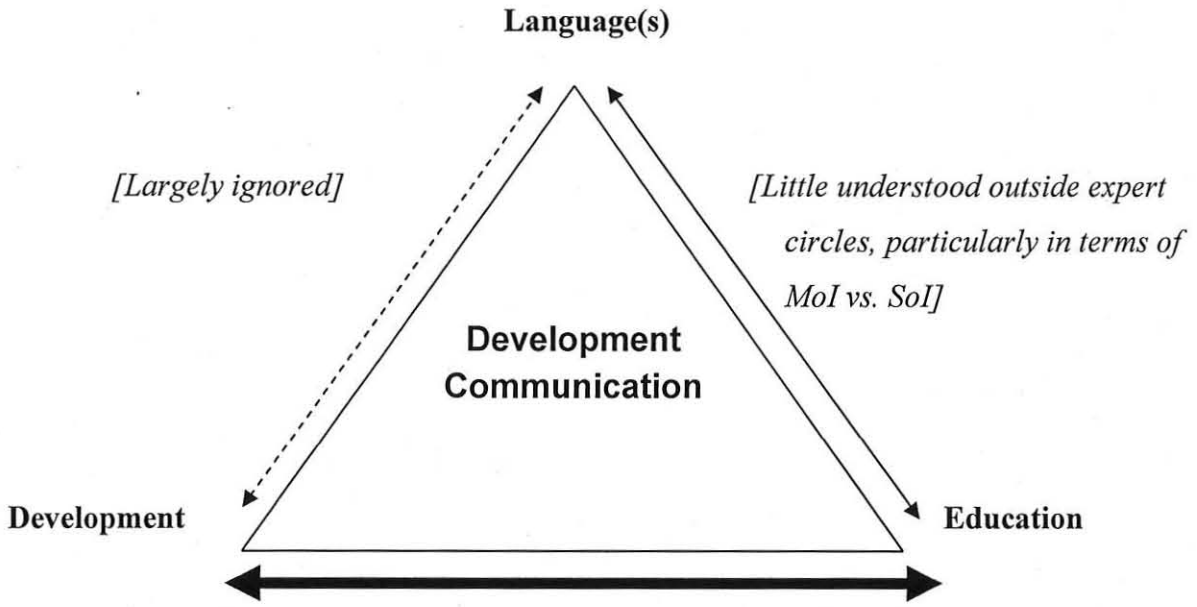
1.10.2.1 Language-Development-Education Model (Model of Development Communication with Regard to Language(s) and Education)

Language-Development-Education Model (Model of Development Communication with Regard to Language(s) and Education) was developed by Wolff (2006). This model was used in A Stock-taking Research on MT and Bilingual Education in Sub-Saharan Africa with the main topic 'The Language Factor in Education and Development Discourse' (Wolff, 2006:27). The study aimed at identifying the fundamental reasons why and how various deficits in language and development planning and implementation in Africa conspire to impede advances and serious progress of development in general, and of education in particular, the "language factor". It particularly aimed at examining the impact of the language issue on sustained development and poverty alleviation, with special reference to language-in-education policies (p. 28).

The main thesis of this model is that political stability, peace, poverty reduction and economic development rest, to a large extent, on indigenous solutions to social problems in terms of local action based on local resources. It argues that language-in-education policies (the question of language choice for both medium of instruction (MOI) and subject of instruction (SOI)) in multilingual settings are at the core of African sustainable development (Wolff, 2006:28). Wolff also argues that quite often, school leavers have gained little or no practical or vocational skill to make them better farmers, gardeners or craftsmen when they return from school (Wolff, 2006:27). As this model claims, the "language factor" is practically totally absent from mainstream development discourse. This is true with regard to discourse on, for instance, such central issues as poverty alleviation and sustained development for Africa. Development discourse tends to be monopolized by experts from economics and related social science disciplines, who have little or no understanding of the role that the "language factor" has for successful sustained development. Wolff further claims that even in major strategic documents, such as key documents relating to NEPAD, the African Renaissance, and EFA, which focus on the future fate of the continent, the crucial role of the indigenous African languages as part of additive bilingual or trilingual systems, receive marginal treatment, or are not addressed at all.

In short, Wolff's (2006) proposition is that the connection between development and language use is largely ignored; the connection between language and education is little understood outside expert circles; and the connection between development and education is widely accepted on a priori grounds, but with little understanding of the exact nature of the relationship. He visualizes this "language-development-education" relation as indicated in Figure 1 below, and recommends a much closer cooperation between linguists, educationalists, and economists in the future.

Figure 1. Wolff's (2006:28) language-education-development model



As applied to my study, this theory holds that MTE is one of the scenarios where language factor is prevailing in the sustainable development especially in the context of rural society and this education system needs to contribute to the cultural dimension of development. The relationship among language, education and development seems to receive little attention from either of specialist scholars. While a lot has been said about the complementarities between language and education and between education and development, interrelationship among the three for the promotion of each of them has been forgotten. Especially the important role language plays in development in multicultural and multilingual developing

countries, like Ethiopia, has been left aside. The present study attempts to explore how much the MTE, with reference to Oromo Language in Oromia region, encourages the promotion of the people's traditional knowledge to sustain local livelihood. Wolff's (2006) model of tri-lateral relationship among language, education, and development may serve as a theoretical lens to guide this study.

1.10.2.2 Cultural-Historical Activity Theory

Cultural Historical Activity Theory (CHAT for short) was developed by Leontèv on the basis of Vygotsky's theories of cognitive psychology (Postholm, 2008). This theory was used to study students' cultural knowledge and the manner of its acquisition in order to form a more informed basis for critical discussions about a current curriculum development in Mozambique. The central thesis of CHAT is that the structure and development of human cognition is determined by historically developing and culturally mediated collective practical activities. It is grounded in two theses suggested by Vygotsky (1981). The first assumption is that the sources of personal development are situated in the social environment. Vygotsky (1981) stated that higher psychological processes develop in children through enculturation into the practices of society; through acquisition of society's technology, along with its signs and tools; and through education in all its forms. Vygotsky conceptualized personal development as the transformation of socially shared activities into internalized processes.

The second assumption is that human actions, on both social and individual planes, are mediated by tools (artifacts), both psychic and physical. Mediating artifacts are products of a socio-cultural evolution to which individuals have access by being actively engaged in the practices of their communities. According to this theory, each person assimilates culturally elaborated ways of coping with the demands of the environment by being active in relation to other human beings and to the physical environment.

With particular to education, the theory claims that the sources of learning is the integration of local knowledge practices that learners gain through informal participation in domestic

and agricultural activities, and communicative contacts they make with parents, peers, local sages, etc into formal education in the medium of mother tongue. As applied to my study, this theory would give orientation to this thesis from the point of view of pedagogical effectiveness of the integration of local (cultural) knowledge of agricultural practices that learners locally gain via the interaction they make with their community into formal education in the medium of mother tongue.

1.10.2.3 Dialectical Modernization Theory

The source of Dialectical Modernization Theory is anthropology and political science. This theory was used in exploring the interface between African Indigenous Knowledge Systems (AIKS) and formal education in Zambia (Banda, 2008). This theory retains, from the classical modernization theory, the division of social phenomena into two categories: traditional and modern. The key point is that this theory underlines that tradition need not hinder development. It holds that traditional institutions and practices may promote development by ensuring a smooth transition from old practices to new ones. Modern institutions, on the other hand, may sometimes hold back development when implanted in a traditional setting. This theory stresses that:

> *Modern institutions can at times obstruct development and perhaps not even function properly, precisely because they are not compatible with the traditions of the societies concerned. Furthermore, the approach emphasizes that traditional societies are not necessarily stagnant but can in fact be very dynamic, heterogeneous and capable of surviving under a modernization process* (Martinussen, 1997:41).

This leads to the central idea of the traditional and modern as social phenomena in a dialectical relationship where both types of phenomena change in the process, and where the result, of necessity, is a hybrid. This theory dismisses the notion that development is something universal, defined solely by its end goals. It instead proposes an open conception of development, the contents of which has to be decided in accordance with each individual society's particular circumstance and the inclination of its citizens (Banda, 2008).

However, Dialectical Modernization Theory does not entirely disregard the adaptation of modern scientific knowledge, but encourages the amalgamation of the two forms of knowledge. Both the Western knowledge and local resources and knowledge should be considered as important factors and neither of the two should be ignored. Okombo (2000, quoted in Alidou et al., 2006:48) strengthens this assumption: 'The key issue in Africa's development efforts is how to benefit from both internal and external resources in a healthy, synergetic pooling of all valuable resources. Wisdom, it looks, lies in finding the golden mean – a non-antagonistic combination of indigenous and non-indigenous resources.'

In line with the present study, this theory implies that indigenous knowledge practices of agriculture, which are people's traditional potentials, are crucial for the survival of rural people, especially in Ethiopian context in general and in the context of the region under investigation in particular, and they should, therefore, be promoted. Boven and Morohashi (2002:7) argue as, 'Indigenous knowledge is a powerful resource of rural peoples and therefore a key element in the fight against poverty and social exclusion for many rural communities worldwide.' The theory guides this study as the central theme of the study is to see the promotion of community's traditional knowledge through mother tongue education with the implication of enhancing people's sustained local livelihood.

CHAPTER TWO: CONTEXT OF THE STUDY AREA AND GENERAL BACKGROUND TO LANGUAGES IN ETHIOPIAN EDUCATION SYSTEMS

This chapter presents two areas that provide the readers with general insights. While the first sub-chapter gives readers the overall picture of the study area, Oromia Regional State and socio-cultural features of Oromo people, the second sub-chapter discusses the general background to languages and education in Ethiopia and the region.

2.1 Context of the Study Area: Oromo People and Oromia Regional State

2.1.1 Introduction

It is not possible to present a complete historical and cultural description of Oromo people and its region within the scope of this study. Besides, for historical reasons, the history of Ethiopia does not exhaust much of the history, culture and role of Ethiopian ethnic groups in general and of Oromo people in particular. It is observed by many scholars (Alemaychu et al., 2004; Mekuria, 1996; Aseffa, 1993; Mohammed, 1990 and others) that only the history of the then rulers and their followers used to be recorded. The rest of the Ethiopian peoples' history was sidelined for years. Despite such difficulties, this sub-chapter gives brief highlight that can help readers create some level of understanding about the context of the area and people under consideration. In its two sections, the sub-chapter focuses on the historical and cultural background of Oromo people and Oromo Language, and topography and socio-economic condition of the region.

2.1.2 Historical Background and Socio-Cultural Organization of Oromo People and Oromo Language

2.1.2.1 Historical Background and Socio-Cultural Organization of Oromo People

Formerly, the Oromo were identified by derogatory term (Galla) whose origin is not clear that relegates the Oromo to an inferior social position in the country while the people called and still call themselves 'Oromo' (Bender, Mulugeta & Stinson, 1976). Indicators for this are the customary words referred to as 'Ilmaan Oromoo' (Oromo people), 'Biyya Oromoo' (Oromo country), and 'Afaan Oromoo' (Oromo Language) to show the homogeneity of their socio-linguistic make up. As to the origin and the derivation of the name 'Oromo', there is no empirically proved evidence. However, according to Mindaye's (2005) observation, two traditional hypotheses are claimed. One hypothesis says that the name was derived from the name of the founding father of the group. The other hypothesis is related to the separation of this group of people from other Cushitic people with whom they used to live and still share some linguistic features. According to this tradition, the name was derived from the word 'Oroma'e', which, in Oromo Language, means 'became alien', and eventually became the name of the group that formed their own social entity.

The other contentious issue is the cradle land of Oromo people. Some writers dare to claim that Oromo people are not the original settlers of Ethiopia, but were 'migrated' from somewhere else. They try to validate their hypothesis using various historical assertions. Gragg (1976:166), for example, argues: 'Oromo people appeared first on Ethiopian scene in Bale area early in the 16th century.' It was also stated that 'In the 14th and 16th century, the Oromo migrated from Asia and Madagascar via Mombasa and spread north and eastwards,' (Alaqa Taye, 1955, cited in Gada, 1988:4). Others, however, contend that the history of the arrival of the Oromo in Ethiopia in 16th century from somewhere else is a fabrication and denial of the historical facts. Haberland (1963, cited in Mindaye, 2005) in a comprehensive investigation about the origin of Oromo people, for example, rejects the views of the earlier assertions and came up with the conclusion that the Oromo home land is the cool high lands

in Bale. Although this assertion may not be fully accepted at least because of the particularity referred to cool high land of Bale, it has been widely accepted. Bates (1979, quoted in Dereje, 2010:60) supports this idea: "The Oromo were a very ancient race, the indigenous stock, perhaps, on which most of the other peoples in this part of Eastern Africa had been grafted."

Being one of the Cushitic families, the Oromo make up a significant portion of the population occupying the Horn of Africa. According to Gada (1988), the Oromo are one of the most numerous peoples in Africa which enjoy a homogenous culture and share a common language, history, and descent. Bender et al. (1976) and Baxter et al. (1996) also claim that Oromo people are the largest single language group in Ethiopia accounting larger percent of the country's population. According to The Population and Housing Census of 2007, out of the total number of the nation (73,918,505), 25,488,344 are Oromo people that accounts 34.5 % of the total population, followed by Amara ethnic group with population of 19,867,817 (26.9 %) (FDRE, 2008).

During the sixteenth century, the Oromo constituted two powerful confederacies named Borana and Barentu, where 'Oromo' was believed to be the father of both. Though Borana and Barentu separated during the Oromo great movement of the last quarter of the sixteenth century, these two main tribes recognized their cradle land, Madda Walabu, present Bale zone, as their nation's spiritual center. For them, the area is considered as a place of pilgrimage. This seems to be why the home origin of the Oromo people is claimed to trace back to the cool highlands of present Bale zone (Mekuria, 1996; Asafa, 1993; Mohammed, 1990). According to Gada (1988), the Oromo confederacies ceased to exist as free and dependent when the people lost their legal, political and economic rights by the Emperor Minellik's territorial expansion by 1900s.

Oromo people are known for their own traditional cultural, religious, and political institutions in the past many years which has shaped their history and expressed their world view. One of such institutions is the "Gada System" that existed for years and to-date. Gada is the process of adoption, continual migration, conquest, and interaction with other peoples (Mohammed,

1994). It is a period of years during which a ruling group stays in power. The concept of Gada is derived from "gaddisa", which literarily means shelter or shade, a place where taking refuge and adoption take place. In the Gada system, election and transfer of power takes place at the time known as "Jarra", which is the time when the last Gada event ends and starts anew after 8 years in power. Thus, Jarra is the end of one Gada era or period and the beginning of another. This is occasioned by a time of feast and extensive ritual activities during which the hopes for the next 8 years are expressed. Gada is, therefore, characterized as a unique instrument that maintains the unity, security and integrity of the Oromo population (Gada, 1988).

Scholars contend that during the sixteenth century, when different peoples were competing for land, water and power in the Horn of Africa, the Oromo were governed under one Gada ruling system. Using this institution, Oromo were protecting their sovereignty defending themselves from both the Christian and Muslim empire-builders though were not successful to the end. Holcomb (1991, quoted in Dereje, 2010:52) further notes: "The Gada organized the Oromo people compassing democratic republic even when the few European pilgrims arrived from England on the shores of North America and only later built a democracy." The assembly of the Gada confederacy was held in the *Caffe* (the meadow) under the life-giving shade of the most sacred tree called the 'Oda'. Mohammed (1994) further holds that the shade of the Oda was not only regarded as the meeting-ground for the elders of the confederacy, but was also believed as sacred place for peace and religious duties. It is because of such political and spiritual symbolism that Oromo political organizations and government offices use Oda as an emblem of their political, cultural and artistic manifestations to signify their identity, Oromummaa (Oromoness). For example, the current Oromia National Regional State logo bears Oda in its centre-most and tri-colour (red, white and black) flag (ONRS, 2008/9).

Still today, leaders and elders of the Gada (also known as "Abba Gadas") serve in settling disputes and taking quick action in difficult situations, especially among the Oromo Borana, southern Oromia, and in northern Kenya. In consequence, the Gada system can still be considered as a living institution in Oromia and surrounding southern peoples of Ethiopia

along with modern governance and living styles. While presently there are two major religions (Islam and Christianity), "Waqa" was and is still believed by many Oromo as the creator of all things and the source of all life (Bartels, 1989, cited in Dereje, 2010). As a result, whether they (Oromo) became Christians or Muslims, traditional modes of experiencing the divine have continued in spite of modernity and changes in the social, religious and other ritual institutions.

2.1.2.2 Oromo Language

Oromo Language is known by a number of terms. While its speakers use 'Afan Oromo' since long (Bender, 1976), different people call it Oromiffa or Oromic. The equivalent word 'Oromo Language' is used in this study. This language is one of the languages of the Lowland East Cushitic families of the Afro-Asiatic Phylum mainly spoken in East and North East Africa as first or second language (Tilahun, 2006; Bender, 1976). According to Gada (1988), Oromo Language is the third most widely spoken language in Africa after Arabic and Hausa though others claim that it is the fourth widely spoken language, next to Arabic, Swahili and Hausa. Gragg (1976) adds that more than two-thirds of speakers of the Cushitic languages are the Oromo. It is also claimed to be spoken in other countries like Somalia, Sudan, Tanzania, and Kenya (Dereje, 2010).

In Ethiopia, Oromo Language is the most widely spoken language. Its speakers cover over a large area extending from Wallo in the North to Northern Kenya in the South, and from Wallagga in the West to Harar in the East, intersecting Addis Ababa from the two axes (Gragg, 1976:166). As Cohen (2007) claims, more than a third of the entire population of Ethiopia speak Oromo Language as a mother tongue. In addition to its own speakers, some writers confirm that the Harari, Sidama, Berta, Gumuz, Anuak and several other ethnic Oromo neighbors use Oromo Language as means of communication and trade. Regarding the exact number of speakers of the language, various writers offer different figures. Some sources raise the number of Oromo Language speakers to 30 million in the region and elsewhere. According to the Population and Housing Census of 1994, Oromo Language is

spoken as a mother-tongue by 16,777,976 people (31.6%) while 1,535,434 (2.9%) speak it as a second language in the nation (FDRE, 1999).

2.1.3. Topography, Population and Socio-Economic Condition of Oromia Regional State

Oromia National Regional State was established as a Regional Government in 1992 (1985 E.C.) as per the National Regional self-government proclamation No. 7/1992 and Article 47, No. 1 of the Federal Constitution of the land (1995) (ONRS, 2008/9). Extending from the Kenya border in the south to the south-east across central Ethiopia and to the Sudan border in the west, Oromia is located at 30 24' 20'N to 100 23' 26'N and from 340 7' 37'E to 420 58' 51'E. It rises from about 500m altitude to 4377m altitude of Mt. Tullu Dimtu above the sea level. The region is contiguous with all Regional States except Tigray, with land boundaries 5700kms (600kms international and 5100kms local), and with area of 363,136 square kilometers. Oromia Regional State is the largest region that takes 34.3% of total land area of Ethiopia (OBPED, 2000; ONRS, 2008/9).

Average temperature in the region ranges from 14 to 25 degree Celsius, while its annual rainfall varies between 200mm and 2600mm, indicating that Oromia's ecological zones range from Afro-alpine to arid areas. Topographically, the region is divided into three major areas. These are the eastern highlands and associated lowlands, the great East African Rift Valley areas, and the western highlands and associated lowlands (ONRS, 2008/9; OBADFD, 1998). Currently, the Regional State is divided into 18 administrative zones, which are further subdivided into 301 woredas (districts) and 6587 kebeles, out of which 5930 are local kebeles (BMQO, 2002; ONRS, 2008/9,). According to the Population and Housing Cesus of 2007, the total population of the region is 27,158,471, which accounts for 36.7% of the total population of the country (73,918,505), followed by Amhara Regional State with population of 17,214,046 (23.3 %) (FDRE, 2008).

The economy of Oromia Region is based mainly on subsistence agriculture associated with traditional crop farming and animal husbandry. About 4,460,628 family heads (abba warras), which accounts for 87.8% of the population in the region, earns their living from agriculture (BMQO, 2002; ONRS, 2008/9). Most of the region has fertile soil and diversified climate with suitable topography enabling the farmers to grow different varieties of crops. Major agricultural products include wheat, barley, 'teff', maize, sorghum and cash crops like cotton, coffee and tea. Different types of vegetable and fruit, and livestock husbandry are also important both for home consumption and marketing (OBADFD, 1998). The region is also endowed with mineral resources such as gold, platinum, tantalum, dolomite, coal, geothermal, gypsum, and copper, along with energy resources like hydropower, natural coal, geothermal, and solar energies. The industry section in the region that includes food processing, beverage, textiles, metal processing and alike are also strongly related to agricultural production. Other than this, multi-faceted investment in the area of floriculture, agriculture and related activities, agro-industry, real estate, construction, education, and transport are being carried out in Oromia. As ONRS (2008/9) has stated, the total registered capital for investment activities between 2003/4 to 2007/8 was more than 143 billion Birr.

Regarding the tourism sector, the region is the home of various wildlife animals, where incredible variety of mammals and bird species inhabit, most of which are endemic to the country being reserved in parks and wildlife reserves. The notable national parks and wildlife reserves in the region are Bale Mountains National Park, Awash National Park, Abiata-Shala National Park, Senqelle Wildlife Reserve, Yabello Wildlife Reserve, and Dhidhesa Wildlife Reserve. Oromia also boasts of natural wonders such as lakes (The Rift Valley Lakes, Lake Ziway, Lake Langano, Lake Abiata, Lake Shala and other crater lakes), waterfalls, hot springs, caves (e.g. Suf Umer Cave), and natural forests (e.g. Herena Forest, Chillimo Natural Forest, Dodola-Adaba Forest). Further, the region possesses historical, religious and cultural sites (Dirre Sheik Husien, Meda Walabu, Melka Kunture and a number of monasteries and mosques), museums, palaces (e.g. King Abba Jifar Palace, Dej. Kumsa Moroda Palace), cultural ceremonies of Gada System and festivities like Hora Irrecha (ONRS, 2008/9; OBADFD, 1998).

2.2 General Background to Languages in Ethiopian Education Systems

2.2.1 Introduction

To have clear insights into the situation of languages and education in Ethiopia, as well as the place and societal function of the Ethiopian languages in the modern society, it is necessary to consider the development and role of these languages in the history and cultural tradition of the Ethiopian people. Giving comprehensive survey about the history of languages and education situations of the whole country before the last quarter of 19th century could be difficult because the social structure of the time was regional-based governance where each of the governances was supposed to follow its own indigenous way of approaching literacy. Moreover, the history of Ethiopia, as a number of contemporary writers claim, inclines to the history of limited social classes. The history of language and education situations is not exceptional. However, based on available documents, brief insights into the Ethiopian education and language situations of the pre and post emergence of modern education will be put forward in this chapter.

It is widely stated that the language and education situation in Ethiopia has been highly molded by the socio-political and cultural ideology of the time (Bowen, 1976). In general, the Ethiopian language and education history can fall into traditional (formal) education, which ranges from Axumite era to the end of nineteenth century, and modern education that begins at the early twentieth century. In line with this, the sub-chapter will dedicate to three core issues. The first two sections present brief overview of language situation and traditional education in Ethiopia to the early twentieth century, and language-in-education policies and practices in modern education in Ethiopia (from 1908 to the present). The last section presents the history and current condition of the development of Oromo language in Ethiopian education and governance.

2.2.2 Language and Traditional Education in Ethiopia (to 1908)

Education in Ethiopia has a long history. The contribution of Ethiopian Orthodox Church, Quranic school of Muslim religion and Missionaries to the development of Ethiopian education, with limitations of their own and various levels of contribution, is acknowledged by a number of writers (Dereje, 2010; Moges, 2010; Bender, 1976; Bowen & Horn, 1976; Pankhurst, 1969 and others). The influence of these institutions to the Ethiopian education system and language situation will be discussed below separately.

2.2.2.1 The Ethiopian Orthodox Tewahdo Church

In the Ethiopian context, language and education is closely interrelated with the history and the tradition of its people. The history of education in the country can be dated back as far as the introduction of Christianity in the 4th century. Beginning from the time of Axumite Kingdom, the period when the Ethiopian Orthodox Tewahdo Church was formally established apparently by Frumentius, a shipwrecked Christian from Syria (Bowen, 1976:305), it is widely claimed that the Ethiopian Orthodox Tewahdo Church has played an important role for the development of the Ethiopian Education system. Traditionally, it was the responsibility of the church to provide elementary education and to teach children to read and write. According to Trudeau (1964), no one knows exactly when church began formal teaching in its schools and monasteries.

The education system of the church was designed in such a way that religious and, to some extent, social subjects were selected and studied to fit the needs of the church, rather than for the general public. Its learning methods were based on hard discipline like listening, recitation, and memorization (Birgit, 1988). According to some scholars, there were three levels of Church school: *Zema Bet* (school of music, melody); *Qine Bet* (school of poetry); and *Metshaf Bet* (school of reading). Pankhursrt (1969:5) states four levels with predetermined time of completion. According to him, the levels are Zema (chanting), Suasew (Ge'ez dictionary and grammar), Qene (poetry), and the Old Testament and New Testament,

which take 7, 9, 4, and 10 years respectively. Bowen & Horn (1976) further list eight portions of Church education which include Nibab, Zema, Qine, Ge'ez language, Old and New Testament, scholarly writing, computation of Church calendar, History, Arts and Crafts. Besides, disciplines like civil and canonical law and astronomy were also taught.

A comprehensive division of the church education system is given by Haile Gabriel (1976) as Nibab Bet, Kiddase Bet and Higher Schools that comprise Zema Bet, Kine Bet, and Metsaf Bet with further divisions (p. 339). As Meyer & Richter (2003) claim, individual churches, cathedrals and monasteries even provided intermediate schools with departments devoted to theology, history, poetry, music, medicine and surgery, thus forming one of the oldest continuous systems of education in the world. Witnessing the contribution of the Orthodox Church to the education, Pankhurst (1969:5) wrote: 'Many a humble church teacher, nonetheless, had more real knowledge than the most learned professors in our European schools.'

The language of instruction of the church literacy was Ge'ez which, according to traditional accounts, was believed to be brought to Ethiopia by Semitic people from south-western Arabia and was spoken around Axume from fourth to ninth century (Birgit, 1988:85). According to Meyer & Richter (2003), Ethiopian religious, philosophical, historical, moral and other literature was written in classical Ge'ez until the nineteenth century. Trudeau (1964) on the other hand contends that the exact time when Ge'ez language began serving as church school language is not known, but claims that it was active until 14th century after which Amharic became spoken language and began to be taught in addition to Ge'ez and later replaced Ge'ez. Even after it was replaced by Amharic as an instructional medium, Ge'ez has been playing significant role in the church education and services. From the point of view of mother tongue education scenario, Ethiopian Orthodox Church has limitation of scope as Amharic is not the mother tongue of the entire Ethiopian population.

2.2.2.2 Quranic School of Muslim

Quranic school of Muslim education also developed in the muslin inhabited areas of western and eastern areas of the country, far later than the introduction of Orthodox Church, to train a clerical class, to teach and disseminate Islamic religion and to practice and disseminate literacy (Bowen , 1976). Learning by heart and memorization became methods of learning, and the students had to master one subject before moving to the next. Arabic language was emphasized as language of education in Quranic schools. The language was used mainly for two purposes: for religious literacy exclusively in Quranic schools and for commercial purpose (Birgit, 1988; Bowen & Horn, 1976; Pankhurst, 1969).

Traditional Quranic schools had two levels of education to achieve their goals. Accordingly, *Tehaji* is a level where Arabic letters and reading of the Quran takes place. This is similar to the 'Metshaf- bet' (reading school) in the Church school. The next higher level, known as the *Badiya* ('ILM'), is the stage of Islamic canon law (*Fiqh*), which consists of Arabic grammar (*Nahew*) and the commentaries (*Tefsir*) that are taught and studied. Similar to the Church school studies, the higher level of Quranic studies takes longer as well as greater part of one's life (Haile Gabriel, 1976).

2.2.2.3 Missionaries Schools

The impact of missionaries on the traditional Ethiopian Education in general and in language situation in particular was less significant possibly because of the strength of the Orthodox Christianity and to a lesser extent of Islam as well as other historical, cultural, and political conditions (Haile Gabriel, 1976; Pankhurst, 1969). As a result, missionaries were far less successful in Ethiopia than in many other parts of Africa. The nation's first contact with the missionaries began when Portuguese force came to help an Ethiopian Christian King, Emperor Libna Dingel, in the sixteenth century during the war against a Muslim leader known as Ahmed Gragn from the eastern part of the country (Bowen, 1976; Bowen & Horn, 1976; Pankhurst 1969). As price of assisting the king's victory over his rivals, Portuguese missionary attempted to establish the Roman Catholic faith in the country. However, the

faith, Catholicism, did not get popular acceptance and was abandoned by the next Emperor, Susenyos and later King Faciladas. Since then, any missionary attempt in the areas of religion or education was put under serious inspection by the country, especially by the Church, for the next two centuries until beginning of 19th century (Haile Gabriel, 1976).

In the early nineteenth century, government contact with Europe, which was banned for the past two centuries, restarted and perpetuated situations for several European missionaries, notably, Protestant and Roman Catholic missionaries. As the result, especially in 1830's, they were engaged both in religious teaching and secular education and began to run several schools in different parts of the country including Shoa, Awura, Maqdala and Maassawa. The principal language of education of the missionaries was Amharic (Bowen & Horn, 1976; Haile Gebriel, 1976; Pankhurst, 1969).

In the mid 19th century, Emperor Tewodros II, who came to power after the "Zemene Mesafint" (era of princes) and ruled 'Ethiopia' from 1855 to 1868, attempted to change the socio-political situation of the country into unified nation by dissolving the regional lords and through encouraging the one-nation on-language policy. Though not written and documented, Amharic became the sole language of royal chronicles and court, replacing ge'ez. On the other hand, the Emperor accepted the importance of foreign education and foreign technicians for military independence and national civilization. This twofold scenario continued during the two next consecutive empires (that of Yohannes IV and Menelik II). During emperor Menelik II's reign (1889-1913), the preliminary phase of modern education appeared, and the scope of role of Amharic in education and governance was highly expanded (Dereje, 2010; Cohen, 2000; McNab, 1989; Bowen & Horn, 1976).

Traditional education had greater influence over the social, spiritual and psychological life of the population. Though the primary goal of the institutions was religious expansion, their contribution to the development of Ethiopian education system was and still is undeniable. According to Haile Gabriel (1976), in the late 1960s, there were 271 church schools and 289 missionary schools with enrolment of 23780 and 47351 students respectively, most of which were working according to modern curriculum of the time. Their effect on the promotion of

education in the nationality languages and of people's indigenous cultural practices, however, has been very limited.

2.2.3 Language-in-Education Policies and Practices in Modern Education in Ethiopia (from early 1900s to the present)

Traditional education systems before early 20th could not provide the whole people with the inclusive and modernized educational system. The major reasons were lack of standard system, below level of enrolment, especially of women, longer study time, de-emphasis on innovation and critical thinking, reliance on memorization, and little attention to secular culture and vernacular languages (Dereje, 2010). It could not satisfy the country's demand of modern education, technology, diplomacy, and maintain the country's sovereignty. As the result, it was compulsory to seek for an educational system that had significant meaning for the nation. Accordingly, the Ethiopian modern education was introduced during the early twentieth century as a part of modernization and nation building.

The Ethiopian modern education and language situation is observed to have passed through various periods. Trudeau (1964:7) puts the Ethiopian modern education and language policies into three levels. These are the time from 1906 to 1936 when French was serving as L2, from 1936 to 1941 when Italian replaced French, and from 1941 on when English replaced Italian. According to Moges' (2010:27) critical observation, mainly referring Baker's (1996) labels of multi-lingual education, Ethiopian modern education and language policies passed five roughly distinct periods. These include *permissive* period (early twentieth century), *colonial policy of segregation* period (1936-1941), *dismissive* or *repudiation* period (1941-1974), *assimilationist transitional* period (1974-1991), and *pluralist* or *maintenance* bilingual education period (1991 to date).

In the sections that follow, brief discussion of language and Ethiopian modern education beginning from the first decade of 20th century to the present is presented following the three social systems, Feudal Ethiopia, Socialist Ethiopia, and Federal Ethiopia.

2.2.3.1 Language-in-Education Policies and Practices in Feudal Ethiopia (1900s-1974)

Emperor Menelik II (1889 – 1913) strongly attempted to unify the nation through conquering the other parts of the country which had not been under one central government. With the ambition of modernizing the country through education, the emperor initiated establishment of the first government-operated modern school, the Ecole Emperor Menelik II, to be officially opened in the palace compound in October 1908. Writing and reading Amharic was a prerequisite for the admission to this school (Bowen, 1976). Teachers were employed from the then French colony, Egypt, which perpetuated the condition for French language to be the MOI while English, Arabic, Italian, Ge'ez, and Amharic, were taught as subjects (Tekeste, 2006; Seyoum, 1997; McNab, 1987; Bowen, 1976). As to why Amharic should serve as a gate-keeper to the new school, McNab (1987:15) hinted: 'It was an incentive to the Church schools to teach Amharic.' Another school was also established in Harer in the same year. After 1913, educational activity lagged behind because of the Emperor's death and world-wide attention to the First World War. According to Bowen & Horn (1976), it was the missionaries that became more active during this period mainly because of the widespread of the education they provide as government education was not relieved off shortage of materials and trained staff. The other reason was that officials were overtaken by the death of the Emperor and there was no control over the missionaries' activities.

The nomination of Teferi Mekonnen as a regent and heir to throne in 1916 was a turning point in the Ethiopian education and civilization which was accelerated during his coronation as Ethiopian Emperor in 1930 (Bowen, 1976). While the one-language one-nation policy was strengthened during his imperial period, the Majesty also encouraged the provision of education in European languages with the ambition that Ethiopia would acquire Western knowledge and be modernized through foreign languages. This opened opportunity for missionaries to introduce their religious and secular education in various parts of the country. As the result, a number of schools were established. When Fascist Italy occupied Ethiopia (1936), it changed the official language of the country to Italian, and government educational system to multilingual education. Accordingly, about seven indigenous languages (Tigrigna, Arabic, Amharic, Afan Oromo, Harari, Caficho, and Somali) were used as medium of

education. The aim of Italy to employ vernaculars in education was to undermine the nationalist spirit of Ethiopian people by way of rejecting any national language for Ethiopia and empower Italian regional rulers in the implementation of indigenous languages for their subjects in Africa (McNab, 1989; Bowen, 1976).

After the Ethiopian liberation (1941), educational reconstruction began nearly from a scratch. Unlike the pre-war period, where foreign languages were dominant teaching languages, post-war educational objectives have been reoriented in a way to produce civil servants to operate the government bureaucracy in the sense that knowledge of a foreign language alone was not sufficient for the country's development. However, as there was lack of curriculum reference to start with, the curriculum, the educational structure, the textbooks as well as advisors of Ministry of Education were taken from British and its East African colonies (mainly Kenya and Sudan) (Tekeste, 1990). British support in driving Italians from Ethiopia created an opportunity in this regard. The government publicized a shift from the previous French medium of instruction to English while Amharic was taught as a subject in all government schools.

Gradually, however, the growing number of primary schools and pupils caused provision of teachers very expensive in the absence of well trained Ethiopian teaching staff, and came up with producing educationally handicapped students. Moreover, the intention of inculcating the sense of nationalism into the young generation developed. These situations contributed to and enforced switching medium of primary education into Amharic while English was limited to secondary schools along with serving as second official language. This was ensured by the second and revised constitution of 1955 in its Proclamation of 149. Negarit Gazeta Number 15, article 125 states: "The official language of the Ethiopian Empire is Amharic." Except that Arabic and Ge'ez were permitted in Church and Quranic schools, other vernacular languages were absolutely sanctioned from any institutional functions including education (Dereje, 2010; Seyoum, 1997; McNab, 1989).

The Ethiopian language policy of this period was influenced by two factors. One is French oriented language policy and policy of centralization. During this time, in attempt to

modernize the feudal authority, the Empire took various measures like constitution, formation and training professional military, and establishing schools and university. Seyoum (1997) asserts that these measures were all accompanied by the policy of assimilation into Amharic culture and imposition of Amharic language intentionally excluding languages of major ethnic groups, typically Oromo Language, for fear they would be dangerous for the nation-building purpose.

Hence, thè language policy of this period can be characterized by dismissive in nature in the sense that all the vernacular languages were dismissed from formal education with the aim of establishing Amharic-based mono-lingualism and cultural assimilation (Moges, 2010).

2.2.3.2 Language-in-Education Policy and Practice in Socialist Ethiopia (1974-1991)

Guided by Marxist-Leninist ideology, which is central to socialist principle, Derg adopted an education policy that suppressed or marginalized traditional institutions and traditional cultural values that were regarded as anti-revolutionary. The language policy as well as the language in-education policy in the Derg reign resembled the policies in the preceding states in many ways except in that it gave lip-service status to the nationality languages. In the 1976 Program of the Revolutionary Government, the state declared the realization of equality of all nationalities to develop and promote their languages whereas practically only Amharic was entitled with the status of Ethiopian official language and a sole medium of education in primary level, in such a large multilingual country with more than 70 indigenous languages (Gordan, 2005 cited in Teshome, 2007; McNab, 1989).

Derg made a language reform by way of formulating and implementing Adult Literacy Program, which included 15 languages in three phases. During the first phase (1979), Oromo, Tigrigna, Walayta, Amharic and Somali were introduced into the literacy program. In this year, the 'National Ahmaric Language Academy' was replaced by the 'Academy of Ethiopian Languages', though its contribution to the promotion of non-Amharic languages has been questioned by many observers. In the second phase (1981), Hadiya, Tigre, Kunama, Gedeo and kambata were included. In the third round (1982), Afar, Sidamo, Silt'i, Saho and

Kefa-Mocha were introduced in the program. Although this gave way to the possibility of running education in local languages, it was with dozens of problems. Some of these problems were that the selected languages were all written in Ethiopic script; its application was only in non-formal education; there was linguistic gap between teachers and learners; the program was highly centralized and a like. As the result, the nationality languages policy remained lip-service (Seyoum, 1997; McNab, 1989).

Ministry of Education carried out a study known as the Evaluative Research on the General Education System of Ethiopia (ERGESE) in 1983. One of the findings of ERGESE was the limitations posed by the language of instruction in primary education. Accordingly, Amharic for children of non-Amharic background was found as barrier to learning (Woube, 2002, cited in Dereje, 2010). Seyoum (1997) contends that some Ethiopian ethnic groups resisted against the exclusive use of Amharic for schools, for university competition, and for job opportunities. The main aim of education policy in general and language in education policy in particular in this period was, therefore, creating unified nationhood using Amharic as a national language and MOI in primary level. Like its predecessors, the policy continued to be based on the ideology of 'assimilation' which was considered as the sole basis to build centralized nation disregarding the complexity of the Ethiopian socio-cultural reality.

In summary, the language-in-education system throughout the past history of Ethiopian education is similar in the sense that they neglect vernacular languages and ethnic traditions sticking to the languages and values of the then elites. As Bowen & Horn (1976) claim, the Ethiopian government has never had interest in vernacular education, but has instead fostered Amharic as a primary importance for national unity. From the early days on, Geez/Amharic and Arabic served as media of their respective forms of traditional education (Church and Quran). After the introduction of modern education, French (until Italian occupation), Italian (during the brief Italian occupation), English (after independence) and Amharic (since the early 1960s) became the dominant medium of school instruction in primary levels while the primary importance of Amharic for national unity was sustained. English continued to be the medium of secondary level education and beyond.

2.2.3.3 Language in Education Policy and Practice in Ethiopia after 1991

With the fall of Derg, Ethiopian Transitional Government (ETG) has replaced the socialist ideology with ethnolinguistic-based federal system in 1991. This political change brought about new educational history in Ethiopia that ensured the rights of nations and nationalities on the Constitution of Federal Democratic Republic of Ethiopia (FDRE, 1995) to fully utilize and promote their languages and culture. To quote Article 39.2 from the constitution, "Every nation, nationality and people in Ethiopia has the right to speak, to write and to develop its own language; to express, to develop, and to promote its culture, and to preserve its history." The constitution further ensures that all Ethiopian languages would have equal state recognition while it entitles Amharic with the status of the working language of federal government.

Based on this premise, Education and Training Policy (ETP) was formulated (MOE, 1994) in which the use and status of local/regional languages, including Amharic, in education has been addressed in detail in Article 3.5: 1-8. Article 3.5.1, reads as: "Cognizant of pedagogical advantage of the child in learning in mother tongue and the rights of nationalities to promote the uses of their languages, primary education will be given in nationality languages," (MOE, 1994). However, the initiative to use which local language for education is decided mainly at the regional level. Amharic is taught as a language of countrywide communication while English serves as a medium of secondary and higher education, and is taught as a subject beginning from grade one.

Currently, as many as 22/23 languages are being used as medium of primary education in the nation in different phases (Dereje, 2010; Moges, 2010; Heugh et al., 2007; Getachew and Derib, 2006). Like other Ethiopian languages, Amharic, became the medium of primary education in Amhara Regional State and in alternative schools in some major towns of non-Amhara regions, while it is taught as a second (L2) or as a subject from Grade 3 (from grade 5 in Oromia case) onwards outside of the Amhara Regional State. However, there are exceptions where it still serves as a medium in some non-native Amharic speaking areas due mainly to short of preparations in the respective ethnic languages or some other (Dereje,

2010). After the nation adopted a multilingual curriculum model, a number of research evaluations have been carried out regarding the relevance of mother tongue based curriculum in the primary schools. Students who had their mother tongue instruction throughout primary school achieved much better than students who were taught in English (Dereje, 2010; Heugh et al., 2007; Teshome, 2007; NOE, 2004).

Findings in comprehensive study on the implementation of multilingual education in Ethiopia, with emphasis to Oromia Regional State show some level of achievement of the policy in various aspects. Nevertheless, scholars' critical observation show that the pace and the consistency of language policy implementation have been affected by the technical drawbacks related to human power training, curriculum development, teaching materials, language standardization, and political commitment (Dereje, 2010). It has also been pointed out that policy's lack of clearly spelt-out implementation strategies to be materialized at the grass root levels has constrained the situation. Both the Ethiopian Constitution and Ethiopian Education and Training Policy did not clearly articulate details and practical measures to be taken centrally or at regional and local levels as far as the implementation strategy of the country's language policy is concerned. Added to this, the fact that only 22/23 languages among over 70 vernaculars are being used in primary education in two decades time could call for due attention.

2.2.4 History and Current Condition of Development of Oromo Language in Ethiopian Education and Governance

2.2.4.1 History of the Development of Oromo Language Literacy

An attempt to write Oromo Language goes back to the eighteenth century. During this period, Muslim Oromo scholars began to produce religious literary works using both Arabic and Geez/Sabean scripts. This helped Oromo Language as the language of correspondence among the Oromo kings of the time in the area of education, law, culture, business and government administration. Nevertheless, Oromo literary works, dominantly Holy Bible

translations and Oromo dictionaries and grammar, appeared in the late first half of nineteenth century (1830s and 1840s) as the result of the accidental arrival of Oromo ex-slaves in Europe and subsequent drive of missionaries into Ethiopia (Pankhurst, 1976).

The two European scholars, Karl Tutschek, a German principal scholar and Johann Ludwig Krapf, a missionary linguist, were ever mentioned for their great contribution to the development of Oromo language literacy. Tutschek produced Oromo dictionary and written grammar, while Krapf devoted his time to translating the Holy Scriptures to Oromo Language (Pankhurst, 1976:97). Among the secular works, *Vocabulary of the Galla Language* (Krapf, 1842), *Dictionary of the Galla* (Tutschek, 1844), Oromo-Swedish Dictionary (n. d), and Oromo Reader (Jalqaba Barsiisaa) (1894) are the major ones. As Pankhurst (1976) asserts, the publication of dictionaries and grammar of the two European scholars are landmarks in the history of Oromo language studies in that they introduced Oromo Language to the European scholarship. In general, the period between 1840 and 1845 was critical phase where Oromo Language was recorded in a number of dictionaries, grammars, vocabularies, and translations.

In the late nineteenth century, other works, especially religious works, were contributed mainly by an Oromo evangelist, Onesimos Nasib, and his Oromo female counterpart, Aster Ganno despite their efforts' inclination somewhat to the speakers of Mecha dialect particularly Wallaga. Onesimos' religious literary works include:, Galata Waaqayyoo, Goota Maccaa (1886), translation of the New Testament (Kakuu Haaraa) (1893), translation of Old Testament (1897), and translation of the Holy Bible which he named as "Macaafa Qulqulluu" (an equivalent meaning to the Holy Bible) into Oromo Language for the first time and which was printed in 1899 (Pankhurst, 1976). Aster Ganno also published from her memory collection of hundreds of Oromo songs, fables and stories.

In 1950s, the need to preserve and develop Oromo Language was also felt by individuals such as Sheik Bakri Sapalo. As Gada (1988) and others report, Sheik Bakri Sapalo was teaching in Oromo language in eastern Oromia and devised the first indigenous script for Oromo Language in 1956 in spite of its several shortcomings. He taught this alphabet to his

students and others, and as a result, people had begun to exchange letters in it. But the then authorities banned the use of this alphabet and subjected Sheik Bakri to ten years of house arrest. Due to this, Sheik Bakri Sapalo's alphabet was not widely used.

Despite the fact that Oromo Language is (one of) the most widely spoken languages in the nation, it could not acquire adequate status in the country for years, and its function was limited to oral communications because of linguistic homogenization of the nation. Since the late nineteenth century, Ethiopian empires attempted to change the socio-political situation of the country in the sense of national unification by dissolving the regional lords. To this end, they began encouraging the one-nation one-language policy initiating Amharic to be the sole language of governance and education at the expense of many indigenous languages in the nation (Cohen, 2000; McNab, 1989). This situation not only continued but was expanded both in terms of geography and purpose in the next consecutive empires. As the result, the development of literary works in vernacular languages, other than Amharic, in general and Oromo Language in particular was very limited.

With the Italian occupation of Ethiopia (1935), education in some vernacular languages was introduced in Ethiopia for the first time. The Fascist Italy divided the country in to six major administrative regions mainly on ethnolinguistic basis with the goal of undermining the nationalist spirit of Ethiopian people. To achieve this goal, it introduced about seven vernacular languages, including Oromo Language, as language of education. Nevertheless, attempts to expand Oromo writing through evangelical and educational means were short-lived after Emperor Haile Sellassie returned from an exile in 1941 (McNab, 1989; Bowen & Horn, 1976). Linguistic homogenization became one of the major policy instruments adopted by the Emperor. This policy instrument was important as Oromo Language and other languages in the country were considered obstacles and even potentially dangerous for the Emperor's ambition of nation-building mission. To this end, a series of decrees that outlawed the possession of literary materials other than Amharic were put in place. Gada (1988:75) pointed out that 'It was strictly forbidden to write or possess a book written in Oromo Language. The books written during Italian occupation or prior to it were collected and burnt.'

The advent of the 1974's revolution seemed to change language policy towards the recognition of the linguistic, cultural and social rights of all nationalities. The state declared the realization of equality of all nationalities to develop and promote their languages. Article 5 of the 1974 National Democratic Revolution Programme of Socialist Ethiopia states: 'within the environs of nationality, each nationality has the right to determine its political, economic and social life, and use its own language,' (Abdulaziz, 2003:107). As the result, Adult Literacy Program was launched in fifteen vernacular languages, including Oromo Language in the late 1970s. Oromo textbooks for adult education were published from 1975 to 1979. This time, *Bariisaa,* weekly newspaper, also became operational in the mid of 1970s. However, as the application of the literacy programme was limited to non-formal education using Ethiopic script only, and was highly controlled by central government, promoting the nationality language literacy in general and Oromo Language in particular remained lip-service (McNab, 1989).

2.2.4.2 The Current Situation of Oromo Language in Ethiopian Education and Governance

After 1991, the right to use nationality languages as regional official language and a MOI at primary schools has been legitimized in the charter of the Transitional Government of Ethiopia. Accordingly, Oromo Language has become the regional official language since early 1990s. The language has been a MOI at primary school (grades 1-8) and teachers' training colleges in Oromia Regional State and in Oromo dominant towns in the other regions. It is also being taught as a subject in the secondary level in the region and is being studied in universities at bachelor of degree and masters degree levels. Since 1998, it has also been included as one of the subjects in the Ethiopian School Leaving Certificate Examination (ESLCE). This use of Oromo Language as a regional official language and language of academy creates a favorable condition for its development. As a result, materials like school textbooks, training modules, dictionaries, grammar books, fictions, newspapers, magazines, and various genres of oral literature are being published in it. These written materials are believed to contribute much to the development of Oromo Language literacy. Cohen (2007),

however, argues that despite the fact that the language is used as mother tongue of a huge population, its written form is in its beginning and further standardization remains far ahead.

Latin script (Qubee) became an official writing script for Oromo Language in 1991. Although some people do not agree to the linguistic reasons for the use of Latin script in Oromo Language writing attributing the reason for the script choice to a political decision, several justifications has been put forth. According to Dereje (2010:128), though Ethiopic script was suggested as an alternative script, the decision for Latin script to be writing script for Oromo Language was made based on three main criteria: linguistic suitability, pedagogic ease, and practicability. Bender et al. (1976:112) also identify limitations of Ethiopic script to adapt for Oromo Language writing system. Some of these limitations of the Ethiopic script include the presence of several unneeded 'fidel' (alphabet), the irregularity of many of syllabic characters, lack of marking gemination for the consonants to indicate strong & weak syllables, and inadequacy of the orthography to represent some sounds of Oromo Language.

In summary, in the name of monolingual policy for sustained national unity, several Ethiopian languages were sidelined for long that resulted in the exclusion of many people from the development mainstream. Oromo Language was not exceptional to travel difficult terrains until finally got official recognition by the constitutions of both federal and regional governments in the early 1990s. Having passed through several thresholds, Oromo Language has now achieved some level of development in education horizon as well as in other social domains. My argument is that how much the use of Oromo Language as a MOI in primary education has devoted itself to promoting Oromo cultural values and people's local indigenous technologies is far from research touch. Most of the studies in relation to the education in the medium of students' mother tongue have devoted to its relevance in achieving academic performance. In line with the important roles MTE should play in terms of cultural revitalization and sustaining rural livelihood, Tekeste (1996:11) suggests that 'For education to be relevant, it ought to be built on a profound appreciation of the cultural heritages of the people and communities to which it is directed.' With regard to this, I argue that the mother tongue primary education currently functioning in the region has long way to travel.



CHAPTER THREE: REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

3.1 Introduction

The main concern of the study is to explore the contribution of the use of mother tongue in education in promoting people's indigenous knowledge practices with the implication of the importance of harnessing these knowledge systems in sustained development. This chapter comprises three major sub-chapters. The first sub-chapter examines relevant literature and various findings related to basic assumptions of MTE. It consists of four main sections. In the first section, conceptual background and historical overview of MTE is discussed. The second section of the sub-chapter presents the historical reasons and contemporary justifications for the need of the introduction of MTE. The third section of the sub-chapter examines brief exploration of the language-in-education situations in Africa. The sub-chapter ends in criticisms against MTE along with their counter criticisms.

The second sub-chapter deals with indigenous knowledge systems and their contribution in rural sustained development. International organizations concerned with sustainable development and contemporary development theorists are acknowledging and striving to advocate the relevance of local people's IK to sustain community's livelihood, especially in developing countries. This sub-chapter will attempt to clear ground with areas relation to this issue. It begins with historical and conceptual background and domains of IKSs followed by IKSs and theories of development. It also briefly discusses IKSs and effect of globalization, IK of agriculture and sustainable development, and IK of agriculture in Ethiopia. In its third sub-chapter, the chapter presents the linkage between mother tongue education and indigenous knowledge systems as framed for this study.

3.2 Mother Tongue Education

3.2.1 Brief Conceptual and Historical Overview of Mother Tongue Education

Concept of the term 'mother tongue' is not very clear even by scholars in the area possibly because its concept is subject to changes in the course of time (Pattanayak, 2003). This term is usually used with different alternative words, vernacular language, indigenous language, first language or native language which convey similar concept. Similarly, the phrase 'mother tongue education' has received alternative terms such as mother tongue-based education, mother tongue-based multilingual education, and mother tongue medium education. There seems ongoing debate about the best terms to describe education which is based in the language most familiar to the learner. As most scholars use the term 'mother tongue education', this term is preferred to be used in this study. As to its definition, various linguists define it in various ways. Pinnock (2009:7), for example, defines it: 'learner-centered, active basic education which starts in the mother tongue and gradually introduces one or more other languages in a structured manner, linked to children's existing understanding in their first language or mother tongue.' It is an education which is based on, and begins teaching in, the language used by the child at home since birth (See Chapter 1 for operational definitions of the two terms).

The ideology of teaching children in their mother tongue has long history. It has passed through a series of ups and downs conditioned by the existing socio-political situation of the world in general and that of each nation in particular. While the use of mother tongue in education is advocated for a number of reasons (educational, cultural, political and developmental) throughout the world, its practicality is usually constrained. Despite the great linguistic diversity in the world, mono-lingual education system, with dominance of the language and culture of elites, was largely promoted. In Europe, this situation was true during the time of Greek and Roman empires when only Greek and Latin languages and cultures were valued over other vernacular languages (Garcia, 1998). Later in 19th century, when there was movement throughout the world by various ethno-linguistic groups to teach

their children in their own languages, bilingualism and bilingual education came to existence in USA and other parts of the world. In the late19th and early 20th centuries, the development of universal education and view of nationalism was propagated and the MTE was undermined. As the result, monolingual education all over the world was again widespread until the mid-20th century (ibid.).

In the early 2nd half of 20th century, with the declaration of independence of many African countries and spread of dynamic movement of migrants and refugees, there was a growing influence of minorities and their fierce fight for their linguistic, cultural, and political rights. Hence, ethnic identity became a major concern of many groups across the nations; concepts of the civic right grew; and importance of indigenous languages and cultural practices increased which enforced the educational and political authorities of the host countries to revise their positions and replaced these issues. As the result, monolingual education was publicly condemned for exclusion of minority languages and people's cultural heritages, whereas introducing MT as MOI in the initial level became vital (Ouane, 2003). The Bullock report (1975) of United Kingdom was one of the turning points with this regard. It states as:

> *No child should be expected to cast off the language and culture of the home as he crosses the school threshold. The curriculum should reflect many elements of that part of his life which a child lives outside school. Certainly the school should adopt a positive attitude to its pupils' bilingualism and wherever possible should help maintain and deepen their knowledge of their mother-tongues (*Ouane, 2003*:61).*

This emerging ideology forced multilingual nations, including developed counties, to acknowledge their linguistic and cultural diversities and to take measures for their promotion through various declarations and acts (Garcia, 1998; Fasold, 1984). Among nations which took such measures, Canada and Great Britain declared a Language Act which recognized the implementation of mother-tongue as a medium of instruction in 1967. Likewise, Spain and USA issued a Constitution which encouraged minority languages to be included in education in 1978 and 1968 respectively. Other nations like India (1947), Paraguay (1973), Germany, France and Australia declared Language Acts that publicized the inclusion of their respective minority languages as medium of education during this century (Council of Europe, 2003; Gfeller, 1999; Garcia, 1998).

In spite of this fundamental consideration of indigenous language and culture, African nations have been resisting to formulate explicit language-in-education policies and/or to take serious measures for their implementation. According to Rheede (2009), there was strong desire and movement by African academics and writers to use the mother-tongues as educational and empowerment instruments and to develop language policy for social, political and education systems in the African continent during 1960s. However, this scenario was ignored by new African elites, who accepted the colonial languages as the best language option for political unity, international communication, and a medium to introduce Western knowledge and value systems (See section 3.2.3 for detail).

3.2.2 Historical Accounts and Contemporary Needs for Mother Tongue Education

The value of mother-tongue education has been known for many years. For instance, in the early 1950s, a UNESCO committee of experts, considering questions about language and education, found many advantages to mother tongue education:

> *It is axiomatic that the best medium for teaching a child is his mother tongue. Psychologically, it is the system of meaningful signs that in his mind works automatically for expression and understanding. Sociologically, it is a means of identification among the members of the community to which he belongs. Educationally, he learns more quickly through it than through an unfamiliar linguistic medium* (UNESCO, 1953:11).

The motives of the provision of mother tongue education are attributable to both historical accounts and contemporary educational and socio-cultural demands. In this sub-section, brief review will be made about historical accounts and contemporary demands in the horizons of educational, socio-cultural and political motives for the provision of MTE.

3.2.2.1 Historical Accounts for Introduction of Mother-Tongue Education

There were a number of historical motivations for the introduction of MTE. During the colonial era, MTE was introduced in developing countries by their colonizers, which have

both negative and positive implications for the today's language in education practices. Mainly the introduction was meant to serve the purpose of marginalization of languages with regard to power (e. g. in India), racism and unequal development (e.g. in South Africa) in the colonized nations. Yet the process helped develop teaching materials and methods for mother tongue instruction that is applied at present (Benson, 2004).

Another historical precedent was missionary use of local languages throughout the world with the focus to communicate religious messages to the indigenous people. The introduction of education in the medium of few local languages in Ethiopia during the feudal social systems is good example. This mission has, however, contributed to the development of orthographies, grammars and basic literacy materials and skills in many of the world's languages. Other initiatives have come as reactions to colonial systems, which resulted in the growth of African languages like Swahili in Tanzania. Further, MTE was imposed abruptly as political ideologies in few African nations like Guinea and Malawi. Mother-tongue schooling was also introduced as means of promoting comradeship and equality among groups in the former socialist countries like China, Vietnam, Soviet Union and Ethiopia (ibid.). Other than these historical motives of the provision of MTE, the contemporary educational development objectives and socio-cultural demands receive more attention, as to be discussed in the fore-coming section.

3.2.2.2 Contemporary Needs for Mother Tongue Education

Mother tongue based multilingual education is gaining tremendous attention for its multi-fold benefits. There are plenty of experiential evidences and academic resources of the importance of teaching children their own language and other subjects in their maternal language prior to the introduction of a second or a foreign language (Moges, 2010; Kioko et al., 2008; Hutchison, 2006; Benson, 2004; Ouane, 2003). One argument is that MTE facilitates parents' involvement in children's schooling. As Benson (2004:14) argues, increased parent participation in school affairs is a major manifestation and widely-cited factor of an effective bilingual program as parents and teachers can freely communicate using L1. The value of this education scheme is seen from various angles by various

scholars. Kioko et al. (2008:2) have, for example, grouped the benefits of MTE into four perspectives: pedagogical, linguistic, institutional and policy, and sociopolitical aspects. In this study, contemporary motivations for the introduction of MTE are examined in terms of four themes: access to and quality of education, linguistic and cultural revitalization, sustainable community development, and political stability.

i. Education Access and Quality

Alidou et al. (2006:27) in their research on *Mother Tongue and Bilingual Education in Sub-Saharan Africa* assert that African governments, together with organizations and devoted individuals, have made remarkable efforts and have invested considerable resources into the national educational systems. The aim was to meet the goals of the 1990 Jomtien *World Conference for Education* that were scheduled to be reached by the year 2000. However, this schedule was extended to the year 2015 under the notion of *Millennium Goals for Education.* One of the major factors responsible for the failure to meet the goal on the deadline, as Wolff (2006) argues, is the ignorance of language issues.

Pinnock (2009:25) also points out that approximately 221 million primary-aged children worldwide are estimated not to have access to schooling in their mother tongue. As children learn based on linking new knowledge to what is already familiar to them, having educated in an unfamiliar language breaks these links. Pinnock (2009:8-9) further contends that the most linguistically fractionalized countries contain 54 million out-of-school children or 72% of out-of-school children worldwide. These countries account for 58% of primary-school aged children. Over half of the world's out-of-school children are estimated to live in regions where their own languages are not used at school. These numbers mean that language of instruction needs to be a strong priority for strategies focused on reaching the remaining targets of MDGs and EFA. Moreover, not having access to primary schooling in a familiar language is leading to the exclusion of large numbers of children from education, particularly in developing countries.

From the point of view of education quality, using MT as a medium of instruction has been well researched and frequently advocated to have pedagogical, psychological and cognitive benefits. MTE is believed to solve the instructional communication problem, from which African education in general suffers as both pupils and teachers are hardly competent in the language they use in class. It creates suitable classroom situation where students actively and meaningfully participate in the education process. It also helps prepare culturally contextualized and relevant teaching materials which, in turn, maximize the relevance of the content and effectiveness of the methodology. The main argument is that when students learn in their home language, they would not face challenge of learning medium; rather it shortens their pace of comprehending the content of the subject and reinforces their creativity. As Ouane (2003:81) argues, when children use their MT, it 'enables efforts to be chiefly devoted to the learning of content while using a foreign language causes effort to be expended first on learning the medium of instruction and only then on learning the content which takes much more time and energy.'

Research findings in studies like Ife Experimental Project in Nigeria in 1970s, the Experimental School Project in Mali in 1985, The Threshold Project in South Africa in 1990 and similar studies in Peru, Ecuador, Eritrea, Northwest Cameroon, Zambia, and Kenya indicate that children learnt in their home language medium outperform in most subject areas compared to children learnt in foreign language medium (Kioko et al., 2008; Ogutu, 2002). Benson (2004) also describes details of the rationale for using MT in primary education system comparing with the adverse effect of submersion schooling system. According to her, learning of new concepts is not postponed until children become competent in their second language since content area instruction is provided in their familiar language. Moreover, when students express themselves, teachers can diagnose what has been learned, what remains to be taught and which students need further assistance.

In the contrary, in submersion schooling, cognitive learning and language learning are confounded, making it difficult for teachers to determine whether students have difficulty understanding the concept itself, the language of instruction, or the language of the test. Pinnock (2009:28) further gives assertions for the negative effects resulted from educating

children in the language they are not familiar with. These include large numbers of drop out children at early grades, poor performance in assessments, and repeat years; miss of national targets for education; and occurrence of higher illiteracy and innumeracy rates. With particular reference to psychological benefit of MTE, the language learners and teachers feel comfortable with is a prerequisite for actual learning as it creates positive atmosphere and enhances their motivation and self-esteem. Comparing MT (bilingual) education with submersion monolingual education, Benson (2004:4) states as:

> *The affective domain, involving confidence, self-esteem and identity, is strengthened by use of the L1, increasing motivation and initiative as well as creativity. L1 classrooms allow children to be themselves and develop their personalities as well as their intellects, unlike submersion classrooms where they are forced to sit silently or repeat mechanically, leading to frustration and ultimately repetition, failure and dropout.*

In general, problems connected to education quality and access can be addressed successfully by providing MTE at initial level with gradual introduction to other languages. This approach is being progressively adopted in a range of settings, with significant success. However, international consensus about the value of mother tongue based bilingual or multilingual education is not strong enough to deliver the shifts needed to overcome failures of school language.

ii. Linguistic and Cultural Revitalization

Mother tongue education is not only educationally accepted discipline but also an important phenomenon for linguistic and cultural renaissance of particular society. As is discussed in section 3.2.5 below, out of more than 6000 world languages, about 300 languages are already extinct while more than 1500 have less than 1000 speakers in the world. Moreover, only about 280 and 50-70 languages in the world and in Africa respectively have more than one million speakers (Webb & Kembo-Sure, 2000; Lodhi, 1993). More embarrassingly, 90% of world languages are not at safe condition (Shaeffer, 2008).

This situation is an evidence that majority of the world's languages along with their cultures are at the eve of disappearance while few dominant languages are attracting attention and are invading the world. Whereas MTE is widely advocated in the government policies and by various non-government international and national organizations, most languages, especially minority ones, are suffering from negligence and marginalization in the education process. The sole remedy for the survival of such languages is, therefore, promoting education in the medium of mother tongue. Benson's (2004:14) findings on bilingual schooling value the contribution of MTE in valorization of the home language. According to her, using MT in primary schooling has resulted in 'awakened pride the community feels for its language and culture. Seeing the mother tongue in print in the official context of schooling elevates its status and usefulness.' In order to facilitate the survival of indigenous languages, Fredericton (2005:7) recommends the need to 'support indigenous language survival by teaching the indigenous languages and non-language courses in the indigenous languages, (...) and promote literacy, arts, and publishing in the indigenous languages.'

Wolff (2006) also asserts that the crucial means to revitalize indigenous minority languages is using the language in education. 'The best if not only the way for un-empowered languages to become empowered is through expanded usage in new domains. This applies, first of all, to their full integration into systems of formal and informal education,' (p. 33). Wolff further recommends the extended usage of African languages in prestigious domains, including not only higher levels of education, but in all national economic, political and cultural business which is basis for language revalorization and development. According to Wolff, this view, however, has not yet been effectively publicized and propagated to politicians, decision-makers and administrators in charge.

Other than remedying the linguistic violation, MTE is a powerful instrument to revitalize people's cultural values and heritages. Culture is what has shaped societies' and individuals' ways of life. Certainly rooted in ancestral values, it is also a source of innovation and creativity, and the foundation stone of endogenous systems of forms of expression and ways of preserving and transmitting knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of a society (Banda, 2008). Culture is,

therefore, a means of achieving a more satisfactory intellectual, moral and spiritual existence, while having often unrecognized potential in terms of economic development and efforts to combat poverty (UNESCO, 2005). However, some scholars claim that all traditional cultures must not necessarily be viewed as "good" in themselves, but need to be adapted to the requirements of socio-cultural and economic development of certain society (Wolff, 2006; Tirfe, 1999).

The relationship between language and culture is well recognized and established by anthropologists and linguists alike. Both language and its culture have grown up together over a long period of history, and are in harmony. While culture is a sum total of human creativity and activity that a person is expected to possess to get through the task of daily living, language is a highly visible marker and central component of these people's creativity and identity that conveys, transmits, and preserves cultural heritage and values of its speakers. Indeed, scholars further extend this position that as language grows around culture, its vocabulary, idioms and metaphors are the ones that best explain that culture at cognitive and emotive level. The claim is that human culture, history, wisdom and all ideals are wrapped up in their language. As UNESCO (2005) argues, language, in particular the choice of language of instruction is essential instrument for the creation, processing and transmission of knowledge which determines the capacity of people to live in and modify their environment.

There is, therefore, quite clearly a direct relationship to draw between a particular kind of linguistic behavior and its culture. This behavior in turn enables individuals to learn their social roles through the process of communication. This leads to the belief that a better choice for learning is the use of mother tongue, the language which represents the familiar home culture, traditional values, and experiences of the child. Thus, MTE creates a situation where necessary educational facilities, curriculum and teaching-learning methodology become more relevant to the linguistic and cultural needs of the child. As fundamental theory of education is adjusting children to culture and to the life of their society (Prah, 2002), using the children's first language in the school system is indispensable for community's cultural

renaissance. It reinforces optimal promotion and transmission of the child's social and cultural values.

From the foregoing discussion, it could be noted that language and culture are inseparable human fabric that determine people's identity and integrity. One of the most important means of maintaining indigenous forms of life is to maintain the language, for society's traditional values and knowledge are encoded in each language. Thus, intergenerational transmission of cultural traditions and knowledge (from elders to younger people) is most effective when children are able to learn through the medium of their mother tongue. Kioko (2008:8) and Kuper (2003:96) strongly argue that when children learn in a foreign language, they lose their identity and are unable to express and transmit their ancestral traditions which ultimately impacts on the way they see the relevance of school to their life. The importance of education for the life of the children is determined by the use of children's language in the school.

iii. Sustainable Development

Languages are not only tools of communication, but also, and mainly, systems of perception and thought and mirrors of cultural identity. From development perspectives, languages in general and mother tongue in particular play a crucial role in development of a society. Gxilishe (2009) and Romaine (2009) stress the role indigenous language plays in the development asserting that indigenous language is of the most important element for participatory, holistic and sustainable community development. More than any other channel, indigenous language determines how much knowledge is acquired and the technology adapted in any process of development. It also gives the people freedom of expression so that they can participate in the process of planning, mobilizing, and evaluating various development projects based on the environmental situation of their community (Batibo, 2007; Oketch, 2002).

People basically need communication, both in oral and written forms, for social, economic and political purposes. This communication is also needed between locally produced

knowledge relevant for production and knowledge from other contexts. However, Kuper (2003) argues that this communication should be valued in formal education by the school which is only possible if people are not excluded by the non-use of their language or rejection of their experience and knowledge. UNESCO (2006, quoted in Owuor, 2007:1) similarly argues as, 'It is especially an attempt to promote education for sustainable development of African societies where cultures and ways of life are balanced with global and national pressures and demands.' Ouane (2003) sees the developmental benefit of MTE from the point of view of reducing the wastage created when large number of children repeats classes and drop from school resulting from having to learn a non-mother tongue with difficulty at an early age.

Several scholars underline the developmental benefits of the use of people's indigenous language in education witnessing the possibility of integrating technology within one's own cultural and social values on the bases of national indigenous languages. Batibo (2007), for example, confirms this idea, taking as evidence the fast developing countries in Asia like China, Korea, Malaysia, Thailand, and Taiwan, which base their development strategies on their indigenous languages and resources as this is the only way to involve the whole population in the development effort. Hence, community's own languages are central to its development and ought to occupy an important place in the development discourse.

As Wolff (2006) comments, in Africa, the mutual relationship between development and language use in education and other sectors is not properly understood by experts of divergent backgrounds like linguists, educationalists, and economists. Wolff (2006) contends that one of the serious problems continuing to be detrimental to the performance of the education system across Africa since independence is the fact that the "language-factor" is totally absent from the mainstream development discourse which is meant to alleviate poverty and lead to sustainable development. Instead, development discourse tends to be monopolized by experts from the field of economics and related social science disciplines who lack full understanding of the role of the language factor for both communications and social development. Wolff's (2006) main advocacy is the harmony among language,

education and development, and a closer cooperation between linguists, educationalists, and economists to work towards the association in the future (See Chapter 1, section 1.10.2.1).

iv Political Stability

For a nation to be politically sustained, and to have secure democracy, sustaining protection of rights and freedom of language equality and development through mainstreaming vernacular languages in education is essential, especially in the multilingual societies. Mother tongue education realizes the true democracy because it initiates literacy in one's own language and gives equal chances to all citizens to take part in national affairs. As many scholars assert, when mother tongue education is implemented, basic human needs are being met. Further, mother tongue education softens ethnic conflicts as it gives opportunities to respect one another's languages. Other than this, mother-tongue education plays a role of improving the relations between the political authorities and the linguistically diverse people (Biseth, 2009; Pinnoch, 2009; Benson, 2004).

There is an argument that MTE is threat to national unity with an assertion that a nation needs one common language to form strong nation. However, many scholars (for example, Pinnoch, 2009; Ogutu, 2006; Kuper, 2003 and others) argue that the practical evidences for national fragmentation are non-linguistic conflicts. As evidences show, excluding linguistic communities from education because they do not understand the language used to teach contributes to political instability and conflict. Scholars extend their argument about the importance of including citizens within state structures through the use of their mother tongues in order to avoid fragmentation and marginalization (Batibo, 2007) (See also section 3.2.4).

3.2.3 Language-in-Education Policies in Africa

Before discussing language in education situation in Africa, it is worthy to have brief insights into the general account of language situation in the world and in Africa. It is believed that

there are more than 6000 living languages in the world, more than one third of which are spoken in Africa. Regarding the number of speakers as L1, Mandarin Chinese, English, and Spanish are ranked first, second and third. If L2 speakers are considered, English takes the first rank with speakers of more than 800 million people. In Africa, in number of L1and L2 speakers, Arabic, Hausa, and Yoruba are first, second, and third, yet others report Swahili as second (Romaine, 2009; Shaeffer, 2008; Okombo, 2001 and Webb & Kembo-Sure, 2000).

Among the world's languages, about 300 languages are already extinct; more than 1500 have less than 1000 speakers; and about 280 languages are spoken by more than 1 million speakers. In Africa, about 50-70 languages are spoken by more than 1 million people and only 146 vernaculars are used in different situations, 82 of which are classified by linguists as "highest priority languages", i.e. they are used as "local languages" by various authorities and aid organizations in their projects (Webb & Kembo-Sure, 2000; Lodhi, 1993). It has also been reported that 97% of world people speak only 4% of the world's languages which shows that few well-developed and widely spread languages are dominating the world, while very large number of languages is spoken by very few people (Shaeffer, 2008). Moreover, about 90% of the world languages are not at the safe condition i.e. they are either not taught to the children of the linguistic group or unlikely to exist more than a century for lack of speakers and official support. These situations indicate that linguistic diversity is at risk leading to loss of several languages (Romaine, 2009; Shaeffer, 2008)

As indicated above, Africa is the most linguistically diversified zone. However, the nations have been resisting to formulate explicit language policies that are relevant to the multilingual and multicultural realities of their nations and/or to take serious measures for their implementation. The late 1950s and early 1960s socio-political situations forced many African leaders to be influenced by the ideas of modernization and nation-building. Thus when most African countries gained their independence, they were confronted with many challenges in forming their nationhood (Abdulaziz, 2003). Apart from dismantling the colonial legacies inherited, the states had to satisfy three important national needs that Fishman (1971, cited in Dereje, 2010:115) referred to as unification, authenticity and modernity.

As the result, only slightly more than a dozen of African nations do have a policy of using African languages in education, in the majority of the cases, however, only up to standard 2 or 3 of the primary school (Kuper, 2003:94). Most of them very much incline to use languages of their ex-colonial masters for official purpose and medium of education. Even in those countries where there were presumably dominant national languages (e.g. in Tanzania, Botswana and Zimbabwe), the rest languages were not given sufficient chance to operate (Dereje, 2010 and Wolff, 2006).

Bangbose's (1990, cited in Wolff, 2002) observation relates African language in education policies with African leaders' political unwillingness or at least reluctance both to formulate explicit language policy and to realize its effective implementation. At the policy formulation level, Bangbose has identified five features of language policies of African countries, which are intentionally ill-formulated so as to make their implementation handicap. These include avoidance, vagueness, fluctuation of general national policy and personnel, declaration without implementation, and arbitrariness. The scholar further adds that these have created a situation in which African linguistic resources remained under-utilized while most of its citizens were denied of true democracy and equality either because they lacked sufficient proficiency in the ex-colonial languages or because they are not mother tongue speakers of the dominant national languages.

Based on the extent to which the language choice for education and official purposes gives more emphasis to indigenous languages and foreign languages, Batibo (2007:16) categorized African language policies into four features (endoglossic, largely endoglossic, largely exoglossic, and exoglossic) ranging from exclusive use of indigenous languages and to exclusive use of foreign language as official and national media with no meaningful role of indigenous languages. This report shows that more than 80% of African nations have stuck to using foreign languages for education and official purposes. Even most of those nations which use their indigenous languages in education limit the use to lower primary levels only mainly three- year MTE model. Abdulaziz (2003:108-109) similarly puts African nations into three groups using similar parameters used by Batibo. These are nations which consciously promote one language (exoglossic or endoglossic), nations that have an

exoglossic language, but with developing endoglossic tendencies, and nations with an exoglossic language policy, but using indigenous languages in some areas like in first years of primary education, limited vernacular press, and courts.

From the descriptions given so far, it is apparent that language policy formulation, and practices in Africa have been and are still being heavily influenced by the interplay of factors. According to Wolff (2006), the influential factors include the historical, attitudinal and ideological preoccupation, sociolinguistic facts and level of languages development, political determination, the desire to acquire a modern technological culture, and failure of higher institutions to play crucial role to develop MTE. Failing to solve the problem of language in education policies has maintained the low status and prestige to the African languages and the eventual marginalization of majority of citizens from active engagement in the development arena.

However, African governments have not altogether left aside the issue of African languages. They have undertaken consecutive conferences and formulated series of working action plans to promote African indigenous languages in the mainstream of education and development agenda. The major steps taken are the 1976 conference for the establishment of Cultural Charter by African Heads of States under leadership of OAU in Mauritius; Addis Ababa's meeting in 1986 to adopt a Language Plan of Action for Africa; a Pan-African Seminar in Accra, Ghana a decade later; and the 1997 Intergovernmental Conference on African Language Policies in Harare. The major objective of these conferences was to accelerate the reformation and promotion of African languages, cultures and local resources and technology. They were also aimed at establishing a basis for the national language policies across African nations with the motto that African languages need to play significant role in African education and development (Dereje, 2010; OAU, 1978).

Yet, having exerted all these efforts, complete solutions for language problems in Africa still seems to remain one of the unresolved agenda of the continent. Comprehensive language policy in favor of African indigenous languages still remains a long journey. It was from such state of affairs that many African scholars (e.g. Batibo, 2007; Wolff, 2006 and others)

express their critical observation that the status, roles and places of both European and African languages have remained unchanged since the colonial rule.

3.2.4 Criticisms and Challenges of Mother Tongue Education

Mother tongue-based bilingual schooling is seldom disputed on the basis of its pedagogical reasoning. Most of the criticisms and challenges against mother tongue education usually relate to people's attitudes and perception about linguistic inequality, political assertions of national unity, external relation and job opportunity, and practical feasibility related to cost or economical usefulness of its implementation. Most people's perception is that some languages are more adequate, respectful, and effective than others. As Ouane's (2003) argument indicates, one of the major means of linguistic segregation is '...devaluing some languages in comparison with others and casting doubt on the ability of those languages to cope with the modern world,' (p. 66).

This perception is reflected in every country, developing and developed. In Europe, languages are segregated by giving them values like 'melodious', 'harsh', 'not able to communicate scientific ideas', 'a logical language', 'not proper language because it is not written', 'useful because of its high status' and a like (Council of Europe, 2003:12). In African nations, the perception of language inequality has arisen from the linguistic invasion of western nations during the colonial periods. As a number of African writers claim, the attitude of African people at various societal strata is against the effectiveness of African indigenous languages. People have developed stereotype of valuing the ex-colonial languages over their own indigenous ones thinking that western languages are inherently superior to African indigenous languages both culturally and linguistically; are prestigious and sign of intellectual ability; and are more powerful. This stereotype is deep-rooted to the extent that education in African indigenous languages is threat to quality, effectiveness and standardization of national education system (Prah, 2002; Wolff, 2002; Okombo, 2001; Webb & Kembo-Sure, 2000).

As the result of these believes, most parents in Africa are very much reluctant to teach their children in their mother tongue; rather, they want them to learn in the western languages right from initial level. Ogutu (2002:165), for example, states that 'The negative attitudes and beliefs about the African languages are, unfortunately, widely held by the teachers, the parents and also the children themselves who see the fact that they can only understand what they are taught in mother tongue as handicap.' In many African countries, therefore, teaching children in their mother tongue has been considered as waste of time. It is thought as hindrance of learning other useful languages and content subjects because using mother tongue in education is short-lived and has no future, long-termed benefit; cannot be language of tuition for other subjects in terms of terminologies; does not provide children (after completing education) with job opportunities.

The other most prevailing criticism against the education in the medium of children's mother tongue is associated with political assertion of national unity. The one-nation one-language myth which is likely to emerge from the colonial concept that a nation state requires a single unifying language advocates that the use of several local languages in education or generally in the communication systems of those countries is considered to be against national unity. This is a serious justification which most developed and developing nations, especially linguistically diversified ones, use. According to this assertion, formulating multilingual language policy and realizing the use of mother tongue as a MOI causes national fragmentation and societal divisiveness. This deep-rooted belief seems to be the result of the European first half of 20th century slogan 'Oneness' or 'Nationalistic Monomania', as Wolff termed (Robinson, 2006; Wolff, 2002). The assumption is that national unity can be promoted by the mutual understanding that shares a single language.

Related to this, Kuper (2003) argues that the reason for choosing one or few national languages or a foreign language as official language to sustain national unity emanates from two justifications. One is the fear that various forms of national opposition would be accelerated, and the exchange and circulation of knowledge and information would be violated. The other justification is the persistent belief that mono-lingualism is one of the characteristics of a nation. In the same vein, in linguistically diversified nations, language

choice for national and/or official role and how many languages can be chosen for medium of instruction have also been reasons for opponents to stand against mother tongue education (Robinson, 2006). With these political assertions and justifications, African leaders are apparently observed being unwilling or at least reluctant both to formulate explicit language policy and to realize its effective implementation (See the foregoing section for detail).

The other point of criticism is that foreign/European languages are often seen as necessary for further education, work opportunity and external relation. One of the points of debate here is that the use of several vernacular languages in education never offers job opportunity since most jobs in business and industry require knowledge of European languages. The other is that African dominant elites perceive the system as threat to the long-lived diplomatic and economic relations they have had with their perspective colonizers. It is also believed to hamper introduction of modernization and languages of wider communication, be it African or European by isolating countries from competitiveness in international affairs in the age of globalization (Robinson, 2006; Kuper, 2003; Ouane, 2003). This belief goes to the extent of claiming that local languages are not able to be developed or modernized sufficiently in higher education and in the general communication system and hence cannot express modern concepts and facilitates external relations.

Finally, the expense it requires when undergoing education in several languages has become source of criticism. The use of several minority languages in education is very costly because of the development costs of materials for learning and teaching, the preparation of teachers, the heavy linguistic development work and the often very small number of pupils in those languages (Benson, 2004; Kuper, 2003 and Ouane, 2003).

In response to criticisms on MTE, many justifications are put forth in favour of its effectiveness. One counter-argument is that the cost-benefit ratio and other debates of mother tongue education should take account of the economic and socio-political consequences of drop-outs, repetitions, and failures of the vast majority of children as the result of exclusion from an early education in the mother tongue (Ouane, 2003). Various researchers have also refuted the national unity-based criticism against promotion of local languages claiming that

research findings and practical situations show the opposite. One argument claims that one's identity should be sustained before claiming for national unity. 'People who discourage the use of MT in multilingual Africa on the grounds that a country needs one common language for national unity do forget that as a person, one must be oneself first before one can join a group,' Ogutu (2006:45).

Some scholars put forth the reality of some African nations like Rwanda, Somalia and Burundi, as one of the strongest answers to the "national unity" argument. 'Those three African countries which overwhelmingly have one national language are the ones which face most problems in preserving their national unity,' (Kuper, 2003:96). As Ouane (2003) argues, what exacerbates opposition throughout the world in reality is not the plurality of languages but non-linguistic conflicts of interest in conflicting messages. Therefore, as has already been discussed earlier, basic contemporary motivations related to pedagogical, psychological, socio-economic and political factors are necessitating the issue of MTE more than the plausibility of the justifications provided in the criticisms.

3.3 Indigenous Knowledge Systems

3.3.1 Historical and Conceptual Background of Indigenous Knowledge Systems

The concept 'traditional knowledge' is not a new phenomenon. It is as old as the history of man's search for ways and means of dealing with his environmental circumstances to satisfy his basic needs of food, shelter and clothing. However, more scientific and detailed studies of traditional knowledge systems began in the fields of ethno-science and anthropology in the 1960s and 1970s, when researchers began to give more attention to rural people's knowledge and its relationship to agriculture and ecology. Therefore, information, in various degrees, on traditional practices has always been available; what have significantly changed in recent decades are the attitudes towards these practices (Sardan, 2005).

The term 'indigenous knowledge' (IK for short) was coined by Brokensha et al. (1980) in an effort to overcome the biases associated with the term "traditional" that had been used before. Their goal was to find a term that represented the dynamic contributions of any community to problem solving, based on their own perceptions and conceptions, and on the ways that they identified and classified phenomena important to them. Various terms are used interchangeably with IK by various scholars so as to differentiate the knowledge that belongs to and developed by people in a given community from the conventional or 'scientific' knowledge systems generated through universities, government research centres and private industries (Sardan, 2005; Rahman, 2000).

The literature on IK provides different definitions of the concept depending on a particular case and a specific aspect that a writer wants to stress. Grenier (1998:1) defines IK as follows: '... the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area.' Boven & Morohashi (2002:12) also define the term saying, '…the local knowledge that is unique to a given culture or society. It is the basis for local-level decision-making in agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities.' Owuor (2007) gives definition of IK in detail associating it with the very term 'indigenous people'. According to Owuor, the word 'indigenous people' refers to specific groups of people defined by ancestral territories, collective cultural configuration, and historical locations. The term indigenous, therefore, denotes that the knowledge is typical and belongs to peoples from specific places with common cultural and social ties, which does not necessarily indicates backwardness or just past but rather implies what may also be useful in the present. Thus, IK, in Owuor's (2007:23) view 'is a process of learning and sharing social life, histories, identities, economic, and political practices unique to each cultural group.'

This reflects the uniqueness of ways that specific societies make meaning of the world and how such forms of knowledge address local problems and solutions that are context-specific. With this regard, Tirfe (1999:15) describes IK that 'It is a body of experience which could be culturally and regionally specific, adaptable to new and useful innovations, cumulative and

supportive to sustaining survival.' Indigenous knowledge is also characterized by dynamic (constantly changing) nature though it is often perceived by external observers as being somewhat static whose dynamism concerns skills of both natural and social environments such as local politics, institutions, and management (Sardan, 2005:158). Indigenous knowledge is basically transmitted, shared and communicated orally, through imitation and demonstration, or by specific example, and through culture. An indigenous form of communication and organization are vital to the preservation, development and the spread of IK as it is stored in people's memories and is expressed in activities, stories, cultural values, ritual community laws, local languages, traditional agricultural activities and materials.

The other aspect of IK worth discussed is its domains. IKS is accepted to consist of an integrated body of knowledge though researches originally emphasized indigenous technical knowledge of the environment and agriculture. It is considered to be cultural knowledge in its broadest sense, encompassing the whole range of human experiences (social, political, economic and spiritual) (Atteh, 1992). According to Sardan (2005:155), IK covers three broad areas, namely agriculture, animal husbandry and environment; human and veterinary health; and management and economy. However, most research findings in the area of Development and Social Anthropology (for example, Akullo & Kanzikwera, 2007; Boven & Morohashi, 2002; Grenier, 1998; World Bank, 2004 and others) have identified such areas of IK as natural resource protection, agriculture, food security, human health, handcrafts, animal care, learning systems, climate, and religious practices.

3.3.2 Indigenous Knowledge Systems and Theories of Development

In this section, an attempt is made to review the place of IK in the different theories of development. On top of this, it is worthy giving brief insights into the various theories of development along with their successes and limitations in relation to rural development strategies and how IKS is recognized in this development scenario. The concept of development varies based on the conceptual models of various theories in relation to economic, political, and social trends. Whereas the causal explanation of some theories lies on internal characteristics of society such as cultural values and political institutions to

explain development, others place more importance on external economic forces and relations to explain differences in achievement of development. It may be worth to indicate how difficult to conceptualize development taking Pieterse's (2010) observation. 'If it is considered carefully, development is a series of improvisations and borrowings zigzagging over time, a hybrid project intellectually and politically, and not nearly consistent edifice that both its adherents and opponents tend to consider,' (p. 77). As the result, different sets of development theories appeared at different time. The prominent development theories I will focus on include Modernization Theory, Dependency Theory, Social Systems Theory, and Micro-Theories of Development.

Emerging in the mid-twentieth century Modernization Theory was the leading paradigm in development theories (Pieterse, 2010). It was concerned with explanation of development in advancement of capital, technology, and modern social values within a society. This theory evolved from two ideas about social change: the conception of traditional vs. modern societies and positivism. From the perspective of the former conception, this theory advocated that substituting the internal traditional culture with the Western style would become the most important elements in the process of creating prosperity. From positivist evolution perspective, it advocated that all societies would pass from traditional to modern society through the same set of steps that Western societies passed. This view determined development to be a linear process which every country must go through (Elliott, 2006; Willis, 2005; Ness, 1970). This theory failed to make distinction between countries, regions, and structural conditions, and ignored specific historical experiences and phases of prosperity in a society. It assumed that only one culture and one path were ways of development. This theory was criticized mainly because of its disregards for cultural values, indigenous languages, and traditional practices and institutions of traditional societies, as well as its dependence on Western capital (Davids, 1998; Ness, 1970).

In response to the shortcomings of Modernization Theory, social development theories such as dependency theory appeared in 1960s. Dependency theory states that underdeveloped countries could not follow the same path of development as the industrialized countries (Elliott, 2006). One main objective of development process in this theory was to develop

countries' position in the international system referred to as either *peripheral* (underdeveloped) or the *core* (developed). Development for peripheral countries implied a gaining of national independence and self-centered economic growth that did not *depend* on the core countries. Another objective was developing internal characteristics of their societies that referred to the role of local elites or the governments (Davids, 1998). Therefore, for dependency theory, development for peripheral countries implied a change in the role of the local elites (government) consistent with self-centered economic growth. It advocates the national culture as political resource. Dependency theories, however, did not formulate a clear model on how to achieve the desired internal, self-centered economic progress and how to change the role of the elites within the society (Pieterse, 2010).

World Systems Theory, which measures the differences of development achievement in the world system, emerged as a variance of the dependency school of thought. This theory first studies the basic features of the world global system, followed by the analysis of the individual countries. Individual developmental prospects depend more on the nature of the global system than on their internal structures, and the incorporation of a developing economy into a world system is important for its internal development. In this theory, it is not the society that is the developing unit, but the 'world system' (Pieterse, 2010). It accepts that there is one single underlying set of processes in the world system that applies to all economies.

As an alternative to the Modernization model, World Systems Theory asserts that international trade specialization and the transfer of resources from less developed countries to "core' countries inhibits national development in the less developed countries by increasing their dependence on the developed, core countries and by promoting their "peripheralization". An individual country can change its position in the global hierarchy both upwards and downwards, but the framework for such shifts is set by the structures and prevailing conditions of the world system. World System Theory has been criticized for its exclusion of culture and the role of the state in its development explanations.

In short, theories of development before 1970s could be characterized by increased capital, process of change towards material well-being measured by the standards of the industrial societies of Western Europe and North America, while all the other problems facing the nation were believed to be solved as the direct consequence of this goal. They do not consider other components of social factors like self-reliance, developing and using local knowledge and strategies to identify their needs and impact their environment, political freedom, and initiative-taking in activities concerning their lives.

In response to these inadequacies of former development theories from social perspectives, Micro-Theories (community-oriented development theories or grassroots approach to development) came into existence during 1980s and early 1990s. With the emergence of these theories of development, the focus and concept of development has shifted from capital accumulation usually measured by GDP to multi-faceted community empowerment and self-reliance via mass participation in the whole development process, which is favoured by present-day development practitioners (Rheede, 2009; Willis, 2005). According to these theories, any development process and policy formulation should take people's cognitive and cultural constructs like indigenous language, faith, values, perceptions, needs, skills, economic activities, indigenous knowledge systems, and past experiences as a starting point. Willis (2005:27) argues that this grassroots approach to development strongly suggest the 'importance of considering local context and indigenous knowledge' in the process of local sustained development. In the view of this theory, development is people's ability to identify their needs (physiological needs, belongingness, safety, self-esteem, and self-actualization) and develop and use local strategies and knowledge to achieve these needs.

Related to development explanation, it is worth considering development at community level. Community development could be seen in different phases of development theories pertaining to the schools of thought explained above. The modernization school of thought presupposed that Western economic practices are the only way which should guide any community on a developmental path, regardless of the societies' indigenous language, culture, and knowledge. Dependency theory of development emerged with idea that development was not necessarily synonymous with Westernisation, and developing countries

were, therefore, encouraged to strive towards self-sustainment and independence. This theory acknowledged the intrinsic value of people's cultural practices and languages for sustainable and independent community development though it was criticized for its failure to provide sensible and sustainable development initiatives and models (Davids, 1998).

The micro-theories' approach to community development lay the foundation for a more context-specific approach to development and policy formulation, which takes cognizance of the unique circumstances of a community like people's cultural constructs, indigenous languages, and traditional knowledge and innovations, and using them as starting points to develop the community economically, culturally, educationally, and socially. It is in this argument that the IK of agricultural practices is essentialized in the scenario of development for grassroots people in developing countries like Ethiopia. This entails its preservation and promotion to maximize its utilization notwithstanding the application of modern agricultural technology where it is practically applicable.

3.3.3. Indigenous Knowledge Systems and Globalization

In could be desirable to examine the impact of globalization on indigenous knowledge systems and other people's cultural values. Resulted mainly from the extraordinary development of transportation and communication technologies from mid-1970s onwards (UNESCO, 2000), globalization is interpreted in many ways by various scholars and researchers. It seems that economic theorists have developed mixed impressions about the contribution of globalization to the well-being of majority of world people. To begin with, Mazrui (2001, cited in Banda, 2008:81) interprets globalization in three ways: an economic interdependency and information availability and movement across vast distances, and reduction of the world into a global village. For other, globalization can manifest itself in forms that include spread of information and communication technologies (ICT) that have broken the social distances , and growth of common culture and birth of organizations that focus on solving social and environmental problems. It is also conceived as rapid process of economic globalization which is the driving force toward the cultural and political globalization (Mulinge & Munyae, 2001).

Nevertheless, a number of writers observe globalization as threats to most societies in several ways. Mazrui (2001, cited in Banda, 2008) views the threat of globalization from economic and cultural points of view. The main players in the economic globalization are the transnational and multinational corporations seeking to extend the destination for their markets for raw materials. The cultural globalization, on the other hand, contributes to the erosion of indigenous cultures and indigenous languages. Mulinge & Munyae (2001), on their part, analyze globalization in association with colonization, and judge it as threat to society's sustainable development. They argue that the genesis of the process of globalization can be traced back to the incorporation of African economies into the world capitalist system through colonization. In this argument, globalization is intrinsically not new phenomenon, but is, by and large, a new phase of colonization. According to these scholars, there is mismatch between African sustainable development and goal of globalization, which means that globalization is not expected to generate sustainable development for developing nations.

It is widely suggested that the world community faces the enormous challenge of sustainable development. Gallagher (2007:13) supplements this notion asserting that 'the current form of globalization is at odd with sustainable development.' Although the last decades of the twentieth century were accompanied by extraordinary level of international trade and investment, poverty and inequality remain key characteristics of the global economy in the twenty-first century. As Gallagher (2007) points out, in the World Bank's poverty measurement, about half of the world's population (almost 3 billion people) is poor, and about half of the poor (about 1.4 billion people) live in extreme poverty in this globalization era. Thus it can be arguable that the building of this global village is on an uneven ground. It is the more powerful countries in the north that seem to be gaining more than those from the south in this globalization. With regard to this, Werkineh (2001:278) writes: 'As a matter of fact, globalization does not seem to involve the majority of the people in the world. We are witnessing the increasing gap between developed and developing countries.' He adds that it is not inclusive and participatory, and then cannot be enriched by the participation of all the people in the world. Odora (2002, quoted in Banda, 2008:81) adds Globalization 'has put fishes and sharks in the same pond.'

From the view point of IKSs, several academics express their fear that just as colonialism adversely diluted the rich cultures of the colonized people, globalization may, in subtle ways, do the same to indigenous culture and knowledge. UNESCO (2000:43) strengthens the adverse effect of globalization on the promotion of national indigenous cultures: 'The rapid globalization of the world economy over the past twenty years has effectively weakened the power of national governments to set limits and establish policies which can protect local and indigenous cultures from invasive effect of the global free market and the seductions of an individualist ideology.'

As Banda (2008) claims, the real threat is the commercialization of the indigenous knowledge systems. He says that globalization has commoditized and privatized knowledge, resulting in the knowledge economy. Knowledge that was in the public domain, owned by communities and passed down from generation to generation, has been privatized by applying intellectual property rights that grant rights on individual, effectively robbing whole communities. Therefore, indigenous knowledge faces both threats i.e. being eroded in the sphere of globalization and being commercialized when they are found economically valuable. Workineh (2001) strongly argues that globalization undermines the existence of indigenous production and consumption patterns and systems in the developing nations in general and in Ethiopia in particular. It marginalized peasants' environmentally sound practices.

3.3.4 Indigenous Knowledge and Sustainable Development

The advancement of science and technology has largely excluded third world's input until before few decades, whereas the knowledge resources from these parts of the world are useful in solving human problems. Traditional African knowledge practices are generally lost in the inventory of the global knowledge stock. The views of many earlier development theorists were that traditional knowledge and institutions became obstacles to development (Willis, 2005). Theories of development were theories of economic growth and capital accumulation which was measured in GDP, rarely concerning with internal social and cultural capacities (Peet & Hartwich, 2009).

However, answers to fundamental questions in development faced by various countries are different, due to differences in social arrangements. Willis (2005) argues that during 1970s, these top down approaches were increasingly recognized as being limited in their success at reducing extent of poverty in large areas of world. Hence, contemporary analysis of sustainable development gives greater recognition to human capital. Whether from an individual or societal perspective, in some of the more recent contributions to development theories, considerably more attention is being paid to cultural aspects, and their diversity, and to the ways in which culture-specific conditions affect local development strategies. Prevailing socio-political and cultural conditions within a society is becoming crucial when applying any economic model (UNESCO, 2000). Kuper (2003:90) points out the centripetal nature of culture for societal development in brief but strong statement. 'Development divorced from its cultural context is growth without a soul.'

Nowadays, indigenous knowledge, among culture-specific conditions, is seen as pivotal in discussions on sustainable resource use and balanced local development. Its contribution has recently been assumed as a major decision-making strategy to solutions of local problems, especially with regard to food security, human and animal health care, education, political stability, and natural resource management in developing nations (Boven & Morohashi, 2002). They believe that the indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. This local knowledge represents a shift away from the preoccupation with the centralized, technically oriented solutions of past decades, which failed to improve the prospects of most of the world's peasants and small farmers. According to Brokensha et al. (1980), to ignore people's knowledge is almost to ensure failure in community development.

The extent to which traditional environmental knowledge is still valuable to indigenous peoples' survival varies greatly depending on their circumstances. For many indigenous peoples today, especially for those living in marginal remote environments in developing countries, this knowledge is still very much alive and crucial to their survival. For people in such circumstances, to undermine these skills is to deprive the people of a crucial resource. It is claimed that the neglect of African indigenous knowledge, traditional experiences and

utilization of local institutions as instruments to attack poverty are one of the crucial factors that contributed to the African poverty (Tirfe, 1999). Boven & Morohashi (2002:7) strengthen this notion when they say:

> *Using indigenous knowledge in development enterprises enables indigenous peoples and local communities to actively participate in the decision-making process. Indigenous knowledge is a powerful resource of rural peoples and therefore a key element in the fight against poverty and social exclusion for many rural communities worldwide.*

Traditional form of knowledge has recently attracted the admiration of various international and national institutions (Owuor, 2007; Twarog & Kappoor, 2004; World Bank, 2004; Atchoarena et al., 2003 and Brokensha et al., 1980). Owuor (2007) for example says, 'Since the 1970s a growing number of scholars and United Nations organizations turned their attention to exploring how indigenous knowledge and institutions could contribute to more culturally appropriate and sustainable development,' (p. 21). The United Nations Environmental Programme (UNEP) designed a scheme which focuses on Africa with the goal to strengthen the capacities of communities by way of harnessing and promoting indigenous knowledge by integrating tradition and science through information and communication technology to mitigate environmental degradation. World Bank also launched the Indigenous Knowledge Systems for Development Program in 1998 with the following major premises (World Bank, 2004:45):

a. *Understanding the local context allows for better adaptation of global knowledge,*
b. *Using local knowledge increases ownership and eventually produces results on the ground with sustainability,*
c. *Learning from and building on the knowledge systems embedded in local communities helps to empower these communities and foster a sense of equity in their interactions with government and external development partners,*
d. *Building on IK could only be achieved in partnership with the communities themselves.*

The institution has published a Plan of Action that aims at improving the quality of development program and empowering communities through raising awareness of the importance of indigenous knowledge, enhancing local capacity to document and exchange indigenous knowledge, and applying indigenous knowledge in development program.

In 1990, at a World Conference on Education for All held in Jomtien, Thailand, 1500 delegates from 155 nations recognized that traditional knowledge and indigenous cultural heritages have a value and validity in their right and a capacity to both define and promote development (Yadav, 1992). The Netherlands Organization for International Cooperation in Higher Education's (Nuffic), Indigenous Knowledge Unit and UNESCO's Management of Social Transformations Programme (MOST) published a document in contribution to global efforts to document local or indigenous knowledge. In this publication, Nuffic selected 22 'Best Practices' in the field of indigenous knowledge from Africa, Asia and America. They call indigenous knowledge systems 'Best Practices' because they consider them to be successful initiatives or model projects which make or have made an outstanding, sustainable and innovative contribution to improving the livelihoods of local communities (Boven & Morohashi, 2002).

Akullo & Kanzikwera (2007:10) in their study summarized the practical reasons of the use of indigenous knowledge practices, particularly for local people as follows:

- *They are cheap and in most cases cost free in monetary terms.*
- *They create social harmony and cohesion.*
- *They are easy to grasp the concepts and practices because knowledge can be passed on orally using the local language.*
- *They are available on demand and problems domestically.*
- *They do not have side effects to human health and others.*
- *Their application never demands specialists like veterinary doctors or extension workers.*

Several African countries have begun (and some completed) preparations to incorporate IK into their national and regional development strategies. For instance, South Africa has already formulated The Indigenous Knowledge Systems Policy in 2004 which seeks to recognize, affirm, develop, promote and protect indigenous knowledge systems for the country's development process (Rheede, 2009). Uganda also incorporated indigenous knowledge into its national poverty reduction as a component of science and technology (World Bank, 2004). Other countries like Tanzania, Kenya, Burundi, and Guinea have also

taken various measures to launch indigenous knowledge system in their development process.

The main argument in the above discussion is that indigenous knowledge practices are playing an important role in the scenario of sustainable development especially in the developing countries. The implication is that promotion and utilization of these local resources for people's sustained livelihood is an area of desirable research investment.

3.3.5 Indigenous Knowledge of Agriculture and its Potential Values in Rural Development

Though indigenous knowledge systems have different dimensions, the most important area where this form of knowledge prevails is agricultural activity. Components of indigenous knowledge of agriculture vary based on the social and environmental circumstances of particular setting as well as the life style of its practitioners. Common indigenous agricultural practices (IAPs) include pest management practices, indigenous land use systems (forest gardening and shifting cultivation), soil fertility management practices, weed management practices, indigenous ways of crop harvesting and storage, seedling preparation and planting, seed preparation and sowing. Banda (2008:169) identified the following aspects of indigenous knowledge of agriculture in African context:

weeding	*transplanting*	*harvesting*	*making ridges*
watering plants	*marketing crops*	*crop rotation*	*fixing axes/hoes*
space seedlings	*budding plants*	*fertilizing crops*	*making local drinks*

As has already been discussed in various sections, IK is being considered as an important national resource that can facilitate the development process in cost-effective, participatory, and sustainable ways, especially in agriculture and natural resource management. For centuries, farmers have planned agricultural production and conserved natural resources by adopting IK. The development of IKSs, including management of natural environment, has been a matter of survival to the people who generated these systems (Akullo & Kanzikwera,

2007; Twarog & Kappoor, 2004; Warren, 1991). According to Twarog & Kappoor (2004:355), about two third of the world's people could not survive without the food produced through indigenous knowledge of plants, animals, and farming systems, and over 90% of food in Sub-Saharan Africa is produced using customary farming practices.

Warren (1991) reviewed a number of successes of farmers in developing nations using various traditional agricultural practices. These successes include maize seed selection of Zambian farmers; utilization of traditional rain-fed irrigation for production of rice, wheat and sorghum in Chad; rice production on floodplains of rivers in Mali; and the reconstruction of raised beds for cultivation of crops after being ignored for many generations in Peru and Bolivia. Warren (1991:15) strongly argues that 'there is incontrovertible evidence that, drawn upon their own resources, African farmers have always been and continue to be great agricultural innovators and experimenters.'

Researchers in the area suggest that indigenous knowledge is a greater potential for sustainable agricultural development because it is:

- *a short-cut to the compilation of the inventory of resources in a particular area using local informants;*
- *an environmental early warning system where indigenous observers can relay information to scientists;*
- *the eyes and ears of science whereby indigenous observers do much of the spadework in on-site scientific experiments* (Dixon, 2003:35).

Akullo & Kanzikwera (2007:11) in their study carried out in Kenya show how farmers appreciate IKA. 'Many farmers felt that IK use must be promoted in all farming practices.' They further indicate the reasons for use of IKA that imported technologies are unreliable due to lack of originality; some modern technologies are not known or readily available or are too expensive for the majority of farmers; and farmers lack awareness. Other than this, agricultural indigenous practices are relevant in supplementing scientific investigation about how to solve local people's problems. Elliott's (2006:172) argument with this regard is: 'Scientists have an important role to play in conducting research about a problem, for example how potatoes grow. But for solving the problem, such as how to grow potatoes, it is

thought that farmers in fact have a lot to teach scientists.' According to this scholar, to understand and learn from indigenous technologies and to build research and extension activities to combine this with conventional science are of paramount importance.

Tisdell (2007) critically argues comparing the traditional and modern industrialized agro-systems for the sustainability of people's livelihood and characterizes the former by several features that help maintain yields. These include:

> ... *use of local varieties of crops of wild plants and animals well adapted to local conditions; maintenance of closed cycles of materials and little waste because of effective recycling practices; pest control through natural biological interdependencies; high structural diversity in space (intercropping) and in time (crop rotations) and a high degree of adaptation to local microenvironments* (p. 366).

On the other hand, the scholar claims that modern industrialized agro-systems usually lack most of the attributes associated with traditional agro-systems. Doubts have arisen about whether intensive agriculture based on high inputs of capital and high use of resources external to farms, and relying on 'modern' science, is really sustainable. Tisdell (2007:367) further identifies a number of potential obstacles to sustaining yields from modern agriculture. Tisdell's implication is that scarcity of many external inputs, like some types of fertilizer or chemical, may occur in the future as global stocks are finite. Soil fertility and farm productivity could also be reduced resulting in increased acidity of soil due to long-term use of chemical fertilizers. Moreover, there may be likelihood that pests and weeds develop resistance to chemicals as the result of long term use. Tisdell's another obstacle is the creation of pollution of shared water bodies, causing salting or water logging of soils over extensive areas seriously disrupting hydrological cycles.

3.3.6 Indigenous Knowledge of Agriculture in Ethiopia and in Oromia

In Ethiopia, various researchers have reported that people have ample indigenous knowledge practices of different social domains like agriculture, family planning, conflict resolution, handcrafts, and cultural social governance, which constitute an invisible resource for social

stability and sustained rural development (Getahun, 2006; Negash et al., 2005; Wolde Selassie, 2005; Tesfahun, 2004; Dixon, 2003; Boven & Morohashi, 2002; Birgit, 1988). Particularly indigenous agricultural practices are well examined to have invaluable contribution to the rural people's sustained livelihood and. It is widely claimed that the nation is a major world centre of genetic diversity of many important domesticated crop plant species and associated indigenous farming practices. Indigenous farming represents the centuries of accumulated experience and skills of peasants who often sustained yields under difficult farming conditions using locally available resources.

According to Tesfahun's (2004) critical observation, rural development and strategies have assumed that farmers mismanage their natural environment, especially the use of soil and water. To adopt new water and soil conservation measures and practices, farmers have been advised and educated accompanying with legal incentives. Some other projects conducted in rural areas integrating traditional knowledge and practices into every stage of their planning and implementation. While the former project remained only short-term conservation that is not sustainable, the latter became successful in sustaining the conservation of natural resources for long time. Another incidence of the effective practice of IK was the building of check dams, lengthy step-like terraces called *daldal* by Irob community of Tigray region to conserve soil and water which is registered in the UNESCO/MOST's 22 best practices of IK. This practice was originally initiated by two Irob men so as to create more cropping land and transferred to wide area of the community (Boven & Morohashi, 2002).

Getahun (2006) also states that in Ethiopia, the absence of effective linkage between IK and conventional ones has been identified as one of the major problems that hinder the effectiveness of the development of agriculture. Local farmers in the study area are aware of the existence of soil erosion problem in their lands using indicators like the appearance of gully, decrease in soil productivity, depth of top soil, water holding capacity of soils, and in yield of plots from year to year. Some of the major indigenous techniques of controlling soil erosion that Getahun (2006) identified in the study area include traditional ditches (which farmers locally call feses), traditional waterways (boi), stone terraces (yedengay erken), traditional cut off drain (tekebkeb), vegetative barriers (Geta) and contour ploughing.

Similarly, farmers in the study area possess knowledge of identifying and maintaining soil fertility locally, traditional pest controlling techniques, and seeds selection mechanisms.

Another study was made by Wolde Selassie (2005) in Gumuz community, Benshangul Gumuz Regional State. This study reveals that Gumuz people possess knowledge of shifting cultivators and strategies of natural resource management. These indigenous practices include norms, ethics, values and taboos that are institutionalized as customary laws and conventions and are enforced by respected elders. It is also mentioned that gathering forest food, hunting, fishing, traditional gold mining, and handcrafts are also active practices by Gumuz people. Wolde Selassie claims that these practices are, however, not considered by policy planners as valuable contributions for natural resource management.

Negash et al. (2005:10-12) have identified about eleven indigenous practices of soil and water conservation in North Shoa, Amhara Regional State. In their study, they analyzed the practices in terms of what purpose they serve, how they are practiced, where they are mostly adopted, what limitations they have, and what improvement they require. Besides soil and water conservation practices, farmers in this area use traditional pest controlling practices like hand picking, using bait, bending of stalks, and hazing with smoke. The practices comprise the following (local naming is used in most cases):

Gorf mekelbesha	yedingay kiter	erken meshar
Dinber shileta	afer metebekia	degele (water way)
boi mekelbesha	local vegetative barriers	stone band + vegitable
Yedengay erken	boi (traditional ditch)	

In the same vein, studies indicate that in Oromia, where about 87.8% of the population lives on agricultural production mainly using traditional farming, failing to consider people's local capacities is ensuring the failure of sustaining balanced natural resources and local development (Dixon, 2003; OBADFD, 1998). As a report by Oromia Bureau of Agricultural Development, Forestry Department shows, one of the causes of hindrances to control water and soil conservation in the region is observed to be the ignorance of the farmers' indigenous

potential to control soil conservation activities in planning, design and implementation processes (OBADFD, 1998:100). The report seriously claims that the past soil and water conservation programmes in the region have largely neglected the traditional soil conservation techniques used by the farmers while there are a number of effective traditional soil conservation techniques that are used by farmers in different parts of the region.

The findings in the study by Abera (2009) indicate that farmers in Burkitu area, Bale zone, grow deliberately different types of woody perennials together with agricultural crops and /or livestock components on the same land as part of traditional agro-forestry practices. These traditional agro-forestry activities in the area have been observed to be effective land management and crop cultivation. Dixon's (2003) study about the farmers' indigenous knowledge of wetland hydrological management in Illu Abba Bora similarly came up with the finding that farmers in the study area have knowledge of seasonal water table, trends, seasonal changes in rainfall, and the spatial varieties of wetland tables. Some of these practices, however, may be area specific and may not be directly applicable universally, but may require improvement in order to increase their efficiency.

The main argument is that IK practices are playing an important role in the scenario of sustainable development especially in the developing countries like Ethiopia. It indicates that Ethiopian farmers possess rich indigenous knowledge and resources for agricultural sustainability that the modern provision of technology could not substitute. The sample studies mentioned above depict the practical use of IK practices in agriculture in the region and in the country at large. As majority of the rural population rely dominantly upon traditional farming to sustain their livelihood, their indigenous knowledge systems need to be acknowledged and carefully integrated with, but not replaced by, modern technology that is compatible with the existing local situation. Tekeste (2006) points out that the only way out for countries like Ethiopia is to anchor modernization on the traditional values and beliefs. Workineh (2001:300) also stresses the effectiveness and efficiency of indigenous knowledge practices in amalgamation with suitable modern technologies. Thus, the scheme of promoting and using these local resources is inevitably becoming essential for people to survive in the natural and the cultural environment and is an area of desirable research investment.

3.3.7 Limitations and Challenges to Use IK Practices of Agriculture in Sustainable Development

In the above discussions, the significance of IKS in general and that of indigenous agricultural practices in sustainable development in particular has been discussed. However, various sources put forth different factors that limit the utilization of IK practices. These factors could be categorized into limitations that attribute to the IK practices themselves and constraints people attach to them. In this section, the limitations and hindrances to the use of these practices will be presented.

Studies in the area of sustainable development argue that IK practices have their own limitations in addressing every aspects related to sustainable socio-economic development and poverty alleviation. Some of these limitations reported in various literatures include the fact that it is time consuming, exhausting and not effective in large scale production. Other problems related to the IK application arise from its fragmentary nature that needs to be formalized. The lack of consistent measures to standardize and document indigenous technologies together with incapability of IK bearers to discover more IK tools and practices are also considered as drawbacks associated to the utilization of IK practices.

The other limitation of IK practices is the ambiguous distinction between them and conventional knowledge practices. In some cases, the difference between indigenous knowledge and modern techniques is not clear. This may be because in most cases, scientific agricultural research improves on already existing local skills and resources though modern knowledge refers to ideas, values, and beliefs which are imparted in the minds of the indigenous people by scientifically trained extension workers of agriculture. Some practices of soil conservation and fertility improvement (i.e., mulching, fallowing, and crop rotation) are considered to fall under both knowledge systems (Akullo & Kanzikwera, 2007; Rahman, 2000).

Besides pitfalls of IK practices which hold back their utilization, various challenges are attributable to unsustainable use of IK practices of agriculture. Minimal sharing of the practices and limited co-operation amongst farmers, and increased interest in new technologies have become challenges to use IK. Other than this, as these practices are transmitted orally, exposure especially of the young generation to modern education and market-oriented economy system has biased people's attitudes towards using IK and contributed to vulnerability of IK practices to rapid change or loss. The fact that students are taught modern techniques dominantly in schools to acquire values and lifestyle different from those of their ancestors and the inclination of farmers to produce commercial-oriented crops which led to more application of modern technologies rather than for subsistence has reduced the continued use of IK practices (Rahman, 2000; Grenier, 1998).

Moreover, negligence of effectiveness of IK by outsiders and insider-academics depicting the practices as primitive, static, backward knowledge have contributed to the decline of IK which results in consideration of using these practices as ignorance, illiteracy or poverty (Rahman, 2000; Grenier, 1998; Kolawole, n.d.). The way outsider-experts or scientists view their consumers and the perception of the inner education producers and scientists view the effectiveness of local knowledge challenges situating local knowledge within development strategies. As these scholars argue, outsider experts wrongly perceive farmers' local knowledge as traditional, conservative, lazy, and unprogressive, which subsequently prevent those actors to think other way round. These centre-periphery biases of outsider's knowledge preferred exotic rather than indigenous, mechanical rather than human, chemical rather than organic, and marketed rather than consumed.

The scholars also extend that African scientists are also not observed doing research to enhance effectiveness of local knowledge. Until very recently when they began to see the relevance of local knowledge in the fields of medicine and agriculture, views of scientists, expert researchers, and policy makers had been against local knowledge with regard to its scientific validity and methodology not seeing anything good emanating from within, unlike their counterparts from elsewhere like Asia. One would think that there is need for some measure of reflexivity among development experts at the moment.

Related to this is the issue of power relations between educationally empowered people and local custodians. If university people and those who are academically empowered give intellectual support to the local custodians and native philosophers in the quest of advancing the latter as knowledge frontiers, by way of indigenizing the education system, outsiders and development practitioners are not likely to hesitate to acknowledge and promote what belongs to the people (Kolawole, n.d.).

3.4 Mother Tongue Education and Indigenous Knowledge Systems: Conceptual Framework

In the foregoing sections, mother tongue education and indigenous knowledge systems were separately examined. This section devotes to presenting the conceptual framework for this study from the perspective of applied linguistics and development concern. The conceptual framework of the study is based on the assumption that there is a linkage between mother tongue education (MTE) and indigenous knowledge systems (IKS). This linkage can form the basis for the mainstreaming of IKS into the mother tongue education with an implication of contributing to the culturally based rural development.

Contribution of MT to social domains other than education has obtained less attention of the concern of local research agenda. Effective cultivation, expansion and transmission of local people's traditional values and IKS through the education in which the MOI is the language indigenous to the society have equally been sidelined. As the result, there is a gap in the local literature between discussions of people's cultural values and education in general and IKS and MTE in particular.

However, the link between MTE and IKS and the contribution of the former to revitalization and preservation of society's internal values and resources is gaining universal concern since few past decades. It is argued that MTE needs to reinforce the promotion of people's traditions, values, history and identities, of which IK practices are parts. One effort was the World Conference on Education for All held in Jomtien, Thailand in 1990. After the

conference, many African countries renewed their interest in promoting their national languages as media of instruction as one of the central aspects of their reform of basic education and few countries have developed the use of mother tongues within a bi/multilingual educational framework. The primary beneficial aspects discussed on the conference were the need for the improvement of interactions in the classroom and the integration of local cultures and IKSs into formal school curricula. This scheme aimed at creating a curriculum whose main parts are cultural and agricultural activities and whose main goal is to prepare pupils to become productive citizens in their own communities being taught in a language they are comfortable with (Alidou & Brock-Utne, 2006).

Another effort was the International Forum on Multilingualism held in Mali in 2009 where Skutnab-Kangas (2009) recommended the inevitable link between MTE and society's indigenous values. She contends that 'just using the mother tongue as the main teaching language is not enough,' (p. 7). She keeps on saying that the cultural content of the education and the teaching methods need to be context-sensitive and applicable in the situation of the indigenous people and respect and facilitate the transmissions of the traditions, knowledge, values, history and identities of the group.

Therefore, the necessity for MTE to promote IK and other valuable traditional practices has arisen from the belief that endogenous approach to education process which is practically based and conceptualized to the local and national needs of the society is essentialized for society's sustained livelihood. As Owuor (2007:27) argues, 'if African states are to play a central role in directing the goals of education for sustainable development, then there is need to integrate the African perspectives of knowledge as a reciprocal body of knowledge to western education in order to ensure relevance and practicality in addressing local problems affecting societies.'

The main theme of this quotation is that solutions to local people's problems in developing societies like Ethiopia and the region under consideration are based on the realities that should be approached at different levels and by employing different methods and forms of knowledge. In order for local governments and development institutions to find solutions to

socioeconomic problems facing the society, there is a need to explore the contribution of the culturally based knowledge resources as alternatives to local sustainable development and perpetuate to promote this contribution through indigenized MTE system. This requires understanding the capability of IK in the development process of communities, and ways in which indigenous people strategize their own survival within specific settings.

Ouane (2003:81) also contends that 'Use of mother tongues at school makes it possible for the family and the community (...) to play a part in the child's education by seeing to it that traditional values are taken into account at school.' Owuor (2007:34) also strongly contends 'Revitalizing the value of indigenous knowledge through curriculum reforms is vital if communities are to engage in sustainable economic development that is oriented to their local needs.' The realization of this scenario is further commented to be through education in the medium of MT. 'The incorporation of cultural heritage and values as the grounding for education, perpetuated through indigenous languages as and transmission of indigenous knowledge,' (Ibid.).

The purpose of doing this is to establish an appropriate balance between society's cultures, knowledge, values, and economic demands with localized and global development strategies. It is stated that communicating different types of knowledge with the society is only possible if people are not marginalized by lack of education or excluded by the non-use of their language or rejection of their experience and knowledge (Kuper, 2003:90-91). In Africa, there seems to be a continent-wide movement for revalorization of indigenous knowledge now known as the African Renaissance which holds that 'cultural freedom and African emancipation cannot be cultivated, expanded or developed where the languages in which people are most creative and innovative are not languages of instruction' (Benson, 2004:5).

On the basis of this premise, a number of African nations have adjusted their mother tongue education towards helping their new generation develop community's indigenous way of life. For instance, in countries like Burkina Faso, Mali, Namibia and Niger, one of main goals of the bilingual schools is to help young people develop a deeper understanding of their environment and cultures, as the majority of them are expected to remain in their community

and contribute effectively to its socio-cultural and economic development. These bilingual programs integrate indigenous knowledge into modern curricula (Brock-Utne & Alidou, 2006:111). Kenya has continued to reconstruct the country's formal curricula in order to incorporate the multiple indigenous ways of knowing into the formal school system to help students develop a sense of self worth grounded in their own authentic cultural systems of knowledge construction (Owuor, 2007).

Despite the assertions that there is mutual relationship between mother tongue education and community's indigenous knowledge practices, evidences indicate that there is a gap between what students face at school and their community's real life. A study conducted in England entitled, 'Listening to Children Environmental Perspectives and the School Curriculum' shows that there is a gap between children's own local knowledge and the knowledge provided by the school. According to this study, children's local knowledge is mostly unknown by school teachers and curriculum developers, and hence is not used. The study depicted that children had a strong desire to be involved in local improvements, and felt that school could support their involvement while local schools often neglected children's experiences in curriculum thinking and organization (Scott et al., 2007). This aligns with World Bank's (2004) observation that much of formal and organized education in African communities is largely decontextualized involving realities seldom related with the social, cultural, and economic habits of the host communities.

Banda (2008:185) also witnesses the challenges primary school students face when they join back the community for life. 'They cannot do any work that requires practical skills like farming, gardening, bee-keeping or tailoring. They forget all these skills once they start school. We wonder what these children learn in these schools.' Banda's (2008) observation goes to the extent that the harmony between what students learn at school and what they experience in everyday life at home was not only broken but also lost as their school curriculum does not suit their environment which results in confusion as to what to do with when they complete their schooling which leads to parents' loss of trust in the whole education system.

These contentions could enable to argue that there is a direct link between the pupils' mother tongue, which pupils and teachers use in most of their everyday communication and schooling and indigenous knowledge systems of their community. This argument maximizes the supplementary role a MTE plays in sustaining the culturally based rural development by mainstreaming IK and other cultural valuable practices into it. Such indigenized curriculum would make primary school education not a mere prerequisite for secondary school education but could be an end in itself, producing local entrepreneurs. This assertion of incorporating IK practices of agriculture into MT primary education system have perpetuated the discussions on the extent to which the use of Oromo Language in education have contributed to the inclusion of these practices and other society's valuable traditions.

CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter presents the research design and methodology. The research perspective of the present study is constructivist paradigm in which inter-disciplinary qualitative exploratory research approach has been employed. After clarifying the research paradigm and approach in the first section, the chapter discusses research site along with justifications for selecting the area and the selection procedures of participants involved in the study. The chapter also presents instruments and techniques of data collecting and the data analysis approach and procedures in the subsequent sections. Prior to discussing procedures and techniques employed in sampling, data collecting and analysis, theoretical assumptions that underpin these techniques are briefly discussed. In the section that follows, the aim of conducting pilot study, procedures used in the piloting, and the lessons obtained from pilot test are presented. In the final section of the chapter, mechanisms used to establish trustworthiness of the study as well as official and ethical procedures carried out during the data collection are presented.

4.2 Research Paradigm and Approach

This study is situated in constructivist research paradigm. Epistemologically, constructivism claims that truth and meaning do not exist in some external world, unlike a view of objectivist epistemology, but are created by the subject's interactions with the world (Gray, 2004; Creswell, 2009). Constructivism was rooted in Piaget's theory of active role of the individual in learning, which states that knowledge construction takes place when new knowledge is actively assimilated and accommodated into existing knowledge. One of the fundamental assumptions of constructivist paradigm is that 'Individuals are not considered to be passive vehicles in social, political, and historical affairs, but have certain inner capacity which can allow for the individual judgments, perceptions and decision-making authority,' (Henning, 2004:20).

In the education horizon, its central principles are that learners can only make sense of new situations in terms of their existing understanding; learning involves an active process in which learners construct meaning by linking new ideas with their existing knowledge; a learner has a tool kit of concepts and skills with which he or she must construct knowledge to solve problems presented by the environment. This assumption of constructivism draws attention to the prior beliefs, knowledge, and skills that individuals bring with them. This constructivist view is compatible with the present research emphasis as the major concern of the study is to explore the role MT medium education plays to acknowledge and promote indigenous knowledge practices of students and of their parents.

In approach, this study is inter-disciplinary qualitative inquiry. It is inter-disciplinary in the sense that the study attempts to examine the relationship between two areas, mother tongue education and indigenous knowledge systems. The study is also qualitative inquiry for it has employed qualitative data collection and analysis procedures. To have good understanding about qualitative research, it is worthy making clear the basic differences between quantitative and qualitative research. Quantitative research imposes restrictions on the scope of the investigation because of its requirements for rigidly adhering to certain procedures such as sampling and analytical techniques. It is interested in details that can be measured to produce results, which could be generalized making statistical analysis. The assumption of quantitative research is that without resort to measurement, knowledge usually lacks precision (Henning, 2004).

Qualitative research, on the other hand, tends to be skeptical about the use of 'scientific' methods like statistical analysis for the study of human beings, arguing that data about individual's perception, feelings, attitudes and judgment are too complex to be quantified. Qualitative research, therefore, is concerned with exploring what goes on in social settings, with the goal to understand the social phenomenon. Creswell (2009) identified a number of characteristics of qualitative research. Some of them include natural setting for data collection, researcher as key instrument, multiple sources of data, participants' meaning, emergent design, use of theoretical lens, interpretive, and inductive data analysis. Mack et al. (2005:3) put major differences between quantitative and qualitative approaches to a study

based on such features as general framework, analytical objectives, question formats, data format, and degree of flexibility in study design.

The present study suits qualitative approach as it is an exploration of the extent to which the use of Oromo Language in education is contributing to promoting people's indigenous practices. This approach is believed to offer the researcher a natural setting where data are gathered through semi-structured interviews and focus group discussions as well as field observation to describe the experiences and perceptions of participants and analyze them inductively based on meanings of participants.

4.3 Research Site

The study was conducted in Oromia Regional State, Bale zone. The rationale for selecting Bale zone as a research site has arisen from two reasons. One reason is that having served as a teacher for more than one and half a decade in several weredas in secondary schools, teachers training institute, teachers training college and university, I have been well acquainted with the cultural practices of the society. This could give me both administrative convenience and good insights into the actual research concern. The other reason is the assumption that Bale zone is characterized by a great diversity of thermal zones as the result of its wide range of altitudinal extent, namely warm temperature zone, moderately warm temperature zone, moderately cool temperature zone, cool thermal zone, and cold temperature areas (BZFDO, 2010). This varied agro-climatic condition is believed to give good picture of representative practices of indigenous agricultural knowledge of target community. In the zone, agriculture is the chief economic activity on which majority of the population depends on for their livelihood. Traditional way of farming is dominantly practiced by the local people though these days mechanized farming is being introduced to some temperate weredas (BZCTO, 2010).

On the basis of this agro-climatic location, two weredas, namely Mena from Warm Temperate zone and Agarfa from Moderately Cool Temperature zone were selected. These

areas accommodate heterogeneous agricultural practices for both subsistence and commercial purposes. Besides, the people's access to agricultural modern technology and utilization of various traditional agricultural activities in these areas considerably vary which the researcher thought might help to explore diverse indigenous knowledge practices and various perceptions about the issue under consideration. The selection of the weredas was accomplished in consultation with the zone Agriculture and Rural Development Office as well as Zone Education Office. From Menna wereda, 1 primary school and 1 local administration were targeted while from Agarfa wereda, 2 primary schools and 2 local administrations were taken. The selection of the kebeles and schools was also made in consultation with the sampled wereda offices of education, and agriculture and rural development. To this end, from Menna Wereda, Erba local village and Erba Primary School were taken while from Agarfa Wereda, Makona Caffe local village, Haro Goda local village, Oche Dino Primary School, and Reteba Primary School were taken.

4.4 Techniques used for Selection of Research Participants

One of the basic differences between qualitative research approach and its quantitative counterpart is their use of divergent techniques for informant selection. Quantitative research employs probability sampling to meet the aim of achieving the goal of how representative the sample is or the experience is distributed in the population. On the contrary, as its major goal is to find individuals who can provide rich and varied insight into the phenomenon under investigation, qualitative inquiry uses non-probabilistic (purposive) sampling techniques to achieve this goal. In line with this notion, Creswell (2009) argues:

> *The idea behind qualitative research is to purposefully select participants or sites or documents or visual materials that will best help the researcher understand the problem and the research question. This does not necessarily suggest random sampling or selection of a large number of participants and sites, as typically found in quantitative research (p.* 178).

Just as there are several types of probability sampling used in quantitative research such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling, so are there several types of non-probability sampling employed in qualitative

research. Each type of sample seeks only to represent itself or instances of itself in a similar population, rather than attempting to represent the whole population. The main specific sampling techniques in qualitative research include quota sampling, convenience sampling, opportunistic sampling, dimensional sampling, snowball sampling, criterion sampling, homogeneous sampling, and typical sampling (Dornyei, 2007:113-116 and Cohen et al., 2005:102-104). In these techniques, participants are selected with purpose not on random basis as rich and varied data are obtained from those who are more concerned with, affected by and conscious about research issue than others.

The subjects in this study comprised various groups of people so that various sampling techniques were used. One group was local farmers. These individuals are believed to possess rich knowledge of indigenous practices of agriculture because of their close attachment to such traditional technology on one hand, and on the other, they are among the social groups who directly or indirectly benefit from the current education system in the medium of Oromo Language. The selection of this group of participants was mainly made using snowball sampling and opportunistic sampling. In snowball sampling technique, a researcher identifies a small number of informants who identify others who qualify for inclusion and these in turn identify others until enough data are obtained especially where access is difficult because of sensitive topic, undeveloped communication networks etc (Dornyei, 2007:116 and Cohen et al., 2005:105). In similar vein, opportunistic sampling is reaching decision on the spot (without planning) to take participants who are 'too good to miss'. While working in the field, a researcher sometimes came across respondents who have direct bearing on the research concern and reached decision to include them in the subjects (Dornyei, 2007:116). These techniques were found effective as farmers are not readily available because of the nature of their scattered work place and lifestyle. The selection of these informants was also carried out in consultation with the kebele managers and local development agents.

The other group was primary school students who are directly engaged in the MTE system and share society's cultural knowledge and practices. Grade 7 and 8 were focused on because of the age level of the pupils to properly reflect their views. The specific sampling technique

used to select participants from students was homogeneous sampling together with some kind of quota sampling in the sense that proportional size of respondents would be taken considering the number of sections, and gender issue. However, this gender and sections proportionality was out of the intended consideration in sample taking. Selecting student participants was accomplished with facilitation of school managers. The other participants involved as a data source were primary school teachers, especially of Oromo Language and science subjects as well as school directors, curriculum experts of corresponding subjects in Oromia Education Bureau, curriculum department workers in wereda education offices, and agriculture and rural development experts working at regional, wereda and local villages. These latter participants, i.e, teachers, curriculum experts, education officers and ARD experts were taken through available sampling since their number was manageable.

Deciding the number of participants prior to involving in the data collection stage is also an area where qualitative approach to a study differs from quantitative approach. As Cohen et al. (2005) claim, one of the unsettled questions in qualitative research is just how large the samples for the research should be. There is no hard and fast rule for determining the sample size as it depends on the purpose of the study and the nature of the population under study. In any case, total of 79 participants were involved as informants for this study (See Table 1).

4.5 Data Collection Methods

To obtain reliable and rich data from various sources, various techniques were used in this study. One of the characteristics of qualitative research is the use of multiple data sources like observation, interview, and documents (Creswell, 2009). Accordingly, various forms of interview, focus group discussions (FGD), and field observation were used as data gathering tools. Review of students' textbooks and other documents was also conducted.

4.5.1 Interviews

Interview is a social device that serves various purposes, among which is serving as research data gathering tool. The research interview is a bilateral conversation initiated by the interviewer for particular purpose of obtaining relevant information for research objectives (Cohen et al., 2005). It involves data gathering through direct verbal interaction between researcher and informants, usually serving three purposes. It could be used: as the principal means of gathering information having direct bearing on the research objectives by providing access to measure what a person knows, likes or dislikes, and thinks; to test hypotheses or to suggest new ones, or to help identify variables and relationships; and to validate other methods, or to go deeper into the motivations of respondents and their reasons for responding as they do (Ibid.). In this study, interview was preferred in line with the first and third premises mentioned above. It was designed to gather data in depth from participants about their emotions, attitudes and believes on the issues related to the research objectives. It was also felt that this data gathering technique helps the researcher to validate other data gathering techniques.

An interview can be structured, semi-structured or unstructured based on the degree of structure in it. In the structured interview, the researcher closely follows a pre-prepared, elaborate interview schedule, which contains a list of questions to be covered closely with every interviewee. Unstructured interview, on the other extreme, allows maximum flexibility to follow the interviewee in unpredictable directions, with only minimum interference from the research agenda. In between these two extremes lies semi-structured interview, in which a set of pre-prepared guiding questions and prompts are used, but the format is open-ended and the interviewee is encouraged to elaborate on the issues raised (Dornyei, 2007). Cohen et al. (2005) put these interview variations as, formal, less formal, and informal which roughly correspond with the above three interview components.

The main advantage of using semi-structured interview is that it offers participants opportunities to freely elaborate their perceptions and feelings. It also allows the interviewer to supplement the designed interview guides with various probes so that rich and deep

information about the issue under investigation would be obtained. Another advantage of such interview is that it allows for greater depth than is the case with other methods of data collection.though it is often criticized for being vulnerable to subjectivity and bias on the part of the interviewer. Interviews could be conducted individually or in groups based on the purpose of the study, nature of the subjects, and the intension of the researcher to elicit appropriate data.

In this inquiry, semi-structured (less formal) interviews were used both in groups and individually. Individual interviews were conducted with students and key informants from regional curriculum experts, education officers at wereda level, elder farmers and rural development experts working at wereda and region. As it was felt that students were found to be more expressive when they were interviewed with their friends than interviewed individually, group interviews were also held with these subjects. The interviews (both individual and group) were conducted with total of 43 respondents (See Table 1).

4.5.2 Focus Group Discussion (FGD)

Focus Group Discussion (FGD), or Focus Group Interview, as some scholars (for example, Dornyei, 2007; Gray, 2004 and others) call it, is sometimes treated as sub-type of interviewing. However, as the format and the interviewer's role are different, others keep them separate. FGD involves a small group of people whereby the interviewer records their responses. Members of the group need to have homogeneity of background in the required area; otherwise, the discussion will lose focus. This format does not strictly follow a backwards and forwards pattern between interviewer and group, but mainly relies on the interaction within the group who discuss a topic supplied by the interviewer. The interviewer is usually referred to as the moderator which reflects that the researcher's role differs from his/her role in one-to-one interview. It is from the interaction of the group that the data emerge (Dornyei, 2007 and Cohen et al., 2005).

One of the advantages of FGD is that it is effective to obtain large amount of information over shorter period of time compared to other techniques (O'Reeilly, 2005). Another advantage of FGD is that it enables participants to generate conflicting ideas, making them change their mind and creatively think about an issue at hand. Such discussion is more naturalistic, to the extent that the participants may forget the presence of the researcher, compared to individual interview. It is also often quicker than individual interviews and hence is time saving and involves minimal disruption (Cohen et al., 2005). Hence, FGD was used with the identified subjects of various categories, teachers, agriculture and rural development experts working at local village level, and local farmers in this research. In general, FGDs were conducted with the total of 36 participants in the study (See Table 1).

4.5.3 Observations

Observation as data gathering instrument is classified into participatory observation (with degree of participation ranging from fully participative to only marginally participative) and standardized observation (Henning, 2004). Others (for example, Cohen et al., 2005), however, put observation into three, structured, unstructured and semi-structured, based on the degree of standardizing the observation checklist. While the advantage of structured (standardized) observation is that it organizes the researcher's work by bringing small details to the fore, its weakness is that it may not yield rich and interpretive data that a qualitative researcher wishes to capture. On the other hand, an unstructured observation is far less clear on what it is looking for and will therefore have to go into a situation and observe what is taking place before deciding on its significance for the research. A semi-structured observation lies between the two in the sense that it has an agenda of issues but will gather data to illuminate these issues in a far less pre-determined or systematic manner.

Generally, a structured observation already has its hypotheses decided and will use the observational data to confirm or refute these hypotheses whereas a semi-structured and, more particularly, an unstructured observation, is hypothesis generating rather than hypothesis-testing. In any case, observation as a data gathering instrument in qualitative research helps a researcher obtain first-hand experience, record information as it occurs, notice unusual

aspects during observation, and explore topics that may be uncomfortable for participants to discuss (Creswell, 2009 and Henning, 2004).

In this study, two types of observations were planned to be conducted, field observation and classroom observation. Field observation was used for collecting data for two main reasons. One is to obtain information on people's traditional values that may not be captured through other techniques like interview and group discussions. The other reason was that on-site, first hand information about indigenous knowledge of agricultural practices and traditions people undertake in a natural setting is best gained through field observation. The observation was conducted via transect walk and guided field walk, i.e. through a walking tour with key informants through areas of interest to observe and identify the ongoing useful agricultural traditional practices. The field observations were made in the areas selected for other data gathering techniques so that the observations and conducting interviews and discussions, especially with farmers, were held side by side in most cases. This gave me an opportunity to obtain authentic data on the practical functioning of the traditional practices of agriculture. Besides utilization of semi-structure observation checklist, intensive notes were taken during the observation and interviews were sometimes held with some informants when the need arose to obtain further insights into the issue.

The other type of observation planned was classroom observation. This was intended to see how much people's cultural practices and indigenous practices of agriculture are incorporated in the mother tongue primary education with particular emphasis to selected subjects. The classroom observation was also planned to examine how much learners are provided with opportunities to bring practices of indigenous knowledge of agriculture as well as useful traditions of their community at large, and to see if teachers make use of them in their lesson deliveries. This was also tested in the pilot study. However, the classroom observations made in the pilot study did not clearly show me what I intended to see. Some researchers (for example, Banda, 2008), who conducted a study on the areas of indigenous knowledge and education found classroom observation difficult to come up with true picture of what really goes on in class with the research agenda at hand. It was also commented by examiners on my up-grading session that observation is not that suitable to identify the

incorporation of IKPs in the MTE. Therefore, I omitted this data collection technique and relied on the other tools for the collection of main data.

Table 1: Sources of Data for the main Study

Participants	**Tools**	**Agarfa**	**Menna**	**OEB/OARDB**	**Others**	**Total**
primary school students	Indiv. Interview	8	4			12
	Group Interview	10	6			16
	Total	**18**	**10**			**28**
teachers	FGD	**9**	**5**			**14**
local farmers	KII	3	2			5
	FGD	10	4			14
	Total	**13**	**6**			**19**
rural development experts	KII	1	1	1	2-Sinana W.	5
	FGD	3	4			7
	Total	**4**	**5**	**1**	**2**	**12**
curriculum experts	KII			**3**		**3**
education officers	KII	1	1			2
kebele manager		1				1
Grand Total		**46**	**27**	**4**	**2**	**79**

4.5.4 Review of Student Textbooks and other Documents

As the major purpose of the study is to see the extent to which the use of Oromo Language in education is contributing to the promotion of Oromo cultural practices with especial focus to indigenous knowledge of agricultural practices, it was found appropriate to thoroughly review student textbooks emphasizing the subjects that have relation with the issue. To this end, student textbooks of Sciences and Oromo Language were believed to serve the intended purpose. Grade levels of textbooks used for the analysis were from grade 4 through grade 8. The reason for including the lower level texts for review, which the other instruments did not consider was to see the students' exposure to the practices beginning from the lower grade levels. Hence fourteen student textbooks were reviewed (See Table 2).

In reviewing the texts, an attempt was made to read the texts from chapter to chapter taking notes as to what IK practices of agriculture and other valuable cultural practices appeared in different parts of the text (chapter notes, reading passage, class activities, and home-take projects). The emphasis was made to examine whether the aim of the inclusion is to orient students towards acknowledging and developing the practices or to exclusively guide them to the understanding that these practices are backward and do not need to be promoted. It was also to examine whether the whole purpose is to provide children only with opportunity to develop their linguistic proficiency (especially in the case of Oromo Language texts) and to orient students towards exclusive preference of modern technology (in the case of Science texts), or to offer children an opportunity to appreciate, preserve and transmit their parents' IK practices and resources. Besides student textbooks, other academic documents like curriculum syllabi, regional curriculum guidelines, and national Growth and Transformation Plan (GTP) as well as regional Agriculture and Rural Development plan were also reviewed.

Table 2: Student Textbooks Reviewed for the main Data

No.	Subject	Grade level	No.	Subject	Grade level
1	Environmental Science	4	4	Biology	7, 8
2	Oromo Language	4, 5, 6, 7, 8	5	Physics	7, 8
3	Basic Science	5, 6	6	Chemistry	7, 8

4.6 Procedures of Data Management and Analysis

The data obtained from various sources through different techniques were systematically recorded and documented in the soft and print copies. This systematic documentation of the database ensures easy accessibility of data on need and also is believed to contribute to the reliability or credibility of the research procedures. It is also believed to greatly help the researcher undergo the analysis procedures more smoothly. Analysing data is literally taking apart words, sentences and paragraphs, which is an important act in the research project in order to make sense of, interpret, and theorize the data. Data analysis in qualitative research is an ongoing and iterative or non-linear process. It is reasoning and argumentation that is not based simply on statistical relations between variables. It does not take frequencies and quantities with which something occurs as evidence to explain the inquiry, but elicit meaning from the data in a systematic, comprehensive and rigorous manner (Dornyei, 2007 and Henning, 2004). There are various techniques of data analysis frequently advocated in qualitative research. The main ones include global analysis, conversational analysis, narrative analysis, discourse analysis, grounded theory, and qualitative content analysis (Dornyei, 2007; Gray, 2004; and Henning, 2004).

Qualitative content analysis, which employed a generalized sequence of coding for themes, looking for patterns, and making interpretations, was used as a main method of data analysis in this research. In qualitative content analysis, categories are not predetermined but are inductively derived from the data. It is a latent level analysis as it concerns a second-level,

interpretive analysis of the underlying deeper meaning of the data through which the researcher arrives at a set of valid findings applying the method of coding & categorizing.

Some writers (for example, Silverman, 2001) seem to fuse the concept of qualitative content analysis and quantitative content analysis as traditional content analysis that aims at establishing a set of categories and counting the number of instances. This shows unapparent understanding about the differences between the two techniques. There are, however, significant differences between the two at the level of categories derivation, sampling, analysis, and results. Therefore, comparing the two approaches of content analysis will enhance understanding of the method (See Table 3 below).

Table 3: Differences between Qualitative Content Analysis and Quantitative Content Analysis (*Sources: Dornyei, 2007 and Henning, 2004).*

Qualitative Content Analysis	**Research stage**	**Quantitative Content Analysis**
Categories are derived inductively from the data analyzed involving a process designed to condense raw data into categories or themes based on valid inference and interpretation using inductive reasoning	categories derivation	Tests hypotheses or addresses questions generated from theories or previous empirical research. Categories are deductively predetermined prior to data collection based on available theories.
It is latent level analysis, as it is concerned with a second level, interpretive analysis of the underlying, deeper meaning of the data.	analysis level	It is manifest level analysis as it is an objective account of the surface meaning of the data that involves the counting of instances of words, phrases etc that fall into specific categories.
Samples usually consist of purposively selected subjects which can inform the research questions being investigated.	sampling	Subjects are selected using probability, so as to ensure the validity of statistical inference.
Produces descriptions, along with expressions from subjects reflecting how they view the social world. Pays attention to unique themes that illustrate the range of the meanings of the phenomenon.	products	Produces numbers that can be manipulated with various statistical methods.

In this study, qualitative, interpretive content analysis was employed. As the data were gathered qualitatively mainly in recording the interviews and FGDs, the first task in the analysis was transcribing the recorded data. When transcribing recorded data, Schilling (2006) asks whether all the questions and probes of the interviewer or only the main questions from the interview guide be transcribed; whether all the responses be transcribed literally or only in a summary; and if observations like sounds, pauses, and other audible behaviors be transcribed during the interviews and FGDs. Answers to these questions seem to be based on one's research questions. Dornyei (2007) suggests that full transcripts of the recordings are required to conduct a qualitative investigation. Schilling (2006), on the other hand, comments that while a complete transcript may be the most useful, additional value which additional behaviours provide need to be considered compared to the additional time required when transcribing them.

In analyzing the data, considering the two comments, I transcribed all questions and probes, as well as observations like interruptions, pauses, and other audible behaviors occurred during the interactions. However, unless their absence was believed to adversely affect the data and the findings, unnecessary repetitions and interviewer's extended illustrations were not transcribed. In the transcription procedure, various transcription conventions, symbols, and acronyms were both adapted from different sources and were also invented by the researcher (See 'Symbols and Acronyms' section).

The transcripts were translated from the Oromo Language, in which the data collection was held, to English language. As Oromo Language is my mother tongue, I did not need to use translator. In some cases, for example, where an idiom or proverb was used, rather than only giving the English version of the transcript, I found it imperative to give the original expressions in Oromo Language before translating them to English. This was to capture some emotions and specificity involved when giving out that particular piece of information and for fear some meanings or emphases would be lost in the course of translation. All the original audio-recordings, transcripts of Oromo Language version and hand written notes taken during the interviews, focus group discussions and observations are readily available on request whereas English version of the transcripts is appended (See Appendix 4).

The generalized sequence of qualitative content analysis procedures, which include coding for themes, looking for patterns, and making interpretations, was carried out. In order to develop familiarity, I thoroughly read the transcripts repeatedly (pre-coding) and coded the familiarized data into segments or units of meaning (initial coding). Then, I categorized the related codes based on their similarity, labeling each category in the way that they could easily show the themes that would be constructed from the data, and that were used in the discussion of the study (second level coding). For the coding and categorizing process, I used Open Code 3.4 version soft ware. In general, thematic approach was used in data analysis procedure. That is, the broadly labeled categories (themes) of the data were patterned and main themes and sub-themes were generated from the collected data based on responses which were extensively given by participants and frequently addressed across various instruments. The themes and sub-themes used are presented in Chapter 5.

4.7 The Pilot Study

4.7.1 Objectives and Procedures of the Pilot Test

The importance for piloting a qualitative study is to get opportunity to observe in advance the data collection and analysis procedures and get important lessons to be considered so that necessary procedural refinement would be made when conducting the full scale investigation. It is also believed to help the researcher develop conceptual clarification pertaining to central concern of the research (Yin, 1994).

In similar vein, the main objective of conducting pilot test in this study was to get myself acquainted with data gathering and analysis procedures and learn a lesson for the main study. To meet this objective, data were gathered from Agarfa Wereda, one of the two weredas mentioned earlier. From this wereda, the pilot study targeted 1 local administration and 1 primary school. From the school and the local village, 12 primary school students, 4 teachers, 1 vice director, 12 farmers, 1 kebele manager and 3 rural development agents working in the local village were taken. Moreover, 1 rural development expert working at wereda office and

1 regional curriculum expert were involved. In sum, total of 35 subjects were involved in the pilot study. To collect data from these subjects, individual as well as group interviews, FGDs, KIIs and field observations were employed (See Table 4). Seven textbooks were also selected and reviewed for the piloting purpose (See Table 5). The data were analyzed using the generic sequence of qualitative content analysis procedures supported by Open Code 3.4 version soft ware.

Table 4: Sources of Data for the Pilot Study: Interviews and FGDs

Type of data	**Source of data**	**No. of Respondents**			**Remark**
		M	**F**	**T**	
interviews	primary school students	7	5	12	
	farmers	2	-	2	
	wereda rural development expert	1	-	1	
	curriculum expert	-	1	1	
	Total	**10**	**6**	**16**	
FGDs	primary school teachers & vice director	3	2	5	
	elder farmers	3	2	5	
	young educated farmers	5	-	5	
	RDAs + Kebele manager	2	2	4	
	Total	**13**	**6**	**19**	
	Grand Total (Interviews + FGDs)	**23**	**12**	**35**	

Table 5: Student Textbooks Reviewed for the Pilot Study

No.	Subject	Grade level	Remark
1	Environmental Science	4	
2	Oromo Language	4, 6, 7	
3	Basic Science	6	
4	Biology	7	
5	Chemistry	7	

4.7.2 Lessons Obtained from the Pilot Study

As it has been already pointed out earlier, the necessity for conducting the pilot study was to examine the effectiveness of the research instruments for data gathering and to familiarize myself with the procedures and processes of data collection and analysis. In meeting these purposes, an important result was obtained from the pilot study. One of the significant lessons obtained from the pilot study was the realization of the inconvenience of classroom observation to obtain information on incorporation of indigenous knowledge practices into class lessons. The other lesson was the importance of refining some interview and focus group discussion guidelines. Certain items were found to be lengthy, redundant or many in number that could create boredom or affect comprehending the theme of the question. As the result, some minor amendments were made to guidelines of interviews and focus group discussions.

It was also learnt from the pilot study procedures that important care had to be taken in subject selection process. The experience I obtained from the pilot study in this regard helped me to critically observe closely when subjects were selected with the help of other individuals like officials at various levels, directors and other informants. These individuals seemed to choose participants with the intention of building the profile of their job and environment positively. The other advantage was that I learnt to bear patience when



It was again ethically appropriate to contact Wereda Administration Office before meeting other offices for various reasons. Hence after getting official permission from the Wereda Administration Office, I reported to the other wereda offices, Agriculture and Rural Development Office and Education Office. Three of the offices wel-comed me even more warmly and gave me a letter to offices of local administrations, rural development units, and primary schools selected for the study. Copies of all the official letters are readily available on request. It was after these procedures had taken place that I was able to contact the officials of local administrations, rural development units and primary schools to reach final decision as to who my research subjects would be. As it is discussed in section 4.4 above, most of the participants were selected in collaboration with these managerial bodies.

The other important ethical principle was informed consent that considers the voluntary participation of the respondents in the research activities. Mack et al. (2005:9) defines informed consent as, 'a mechanism for ensuring that people understand what it means to participate in a particular research study so they can decide in a conscious, deliberate way whether they want to participate.' This consent began in this study with disclosing the purpose and the aim of the research by me so that the respondents would have full authority over their participation on the research. This was followed by informing them to respond freely in the way they like and as much as they can without missing the aim of the research.

Regarding maintaining the confidentiality of data and protection of the respondents' privacy, various techniques were used during and after the interviews, FGDs and field observations. One means used was stating before every session that I would not reveal any thing I learnt from the participants to other participants or member of the community or to some other bodies. The other is that instead of using the exact name of the participants, I used codes to preserve participants' anonymity in the data reporting. List of the codes vis-à-vis the identities of the participants is kept safely somewhere else to be referred to by the researcher only when needed. As Cohen et al. (2005) suggest, deletion of respondents' identifiers like the names, addresses or other means of identification from the data released is one of the techniques to allow public access to data and information without confidentiality being betrayed.

4.10 Chapter Summary

This chapter has attempted to present the overall research design and methodology. Brief insights into research paradigm that underpins this study and a research approach to the study have been pointed out. It has been discussed that the study was situated in constructivist research perspective in which interdisciplinary qualitative research approach was employed. The chapter also presented the site of the study, categories of the research subjects and methods of data collection and analysis, together with the procedures and justifications for the selection of the site, the subjects and methods.

To this end, Bale zone in Oromia region was the site of the study from which two weredas were selected. From these destinations, the data were collected from participants selected on purposive basis that include teachers, students, local farmers, education officers. The data were also obtained from regional curriculum experts and rural development experts working at different levels through KII and FGD. Further, review of academic textbooks and government documents was conducted. The data were analyzed using generic procedures of qualitative content analysis. Furthermore, the chapter has revealed that research procedures were tested in the pilot stage prior to embarking on the full scale study to check if the designed techniques could effectively serve the intended purpose. Finally, importance and the procedures held to maintain trustworthiness of the study and ethical considerations has been explained.

CHAPTER 5: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

5.1 Introduction

This chapter is devoted to the presentation of data which were collected through interviews, focus group discussions, and field observations. The data were collected from primary school students, teachers and school directors, education officers working at wereda, regional curriculum designers, rural development extension workers, rural development experts working at wereda and regional levels, and local farmers. Analysis of students' textbooks and other related academic documents as well as rural development plan documents have also been conducted.

In reporting the findings, thematic approach has been used in order to be focused in the presentation and analysis based on the extensive reflections of participants' views, assumptions and attitudes, and reflections frequently addressed across various instruments. Main and sub-themes have been generated from the responses given by the participants and presented. While this chapter presents the data without critically looking into the findings in line with other sources, the critical discussion is made in the next chapter. Some responses may consist of overlapping ideas and have been presented under different themes from different perspectives. The main themes and sub-themes fall into the following areas.

i. Dominant Aspects of Knowledge of Agriculture Local Farmers Use

- Particular Aspects of Indigenous Agricultural Practices
- Reasons for the Sustainable Utilization of Indigenous knowledge of Agriculture

ii. Perceived Relation between Rural Development Strategies and Use of Indigenous Knowledge of Agriculture

iii. Ways of Conservation and Transmission of IK Practices of Agriculture

- How IK Practices of Agriculture has been Conserved and Transmitted over Generation
- Perceived ways of Preserving and Transmitting IK Practices of Agriculture

iv. Perceived Contributions of the use of Oromo Language in primary education.

- Preservation and Transmission of Community's Cultural Values
- Pedagogical Contribution
- Sustaining Social Identity and Right
- Perceived Relationship between MTE and Rural Development Strategies

v. Inclusion of People's Cultural Values and Indigenous Practices of Agriculture into MTE

- Cultural Materials and Practices
- Indigenous Practices of Agriculture

vi. Community's Participation in Decision-Making on Students' Education

- Community's Participation in General School Routines
- Parents' Intervention on Academic Contents

5.2 Dominant Aspects of Knowledge of Agriculture Local Farmers Use

Data for this theme were obtained from local farmers, primary school students and teachers, and rural development experts both working at wereda and local village levels. The data were collected through individual interviews, KIIs, FGDs, group interviews, and field observations. This theme elicits the participants' general insights into the agricultural activities local farmers dominantly use to sustain their livelihood. These insights lead to the understanding of whether practices of indigenous knowledge or those of modern technology of agriculture are predominantly used by farmers in the study area. The view of majority of the participants shows that traditional practices are dominantly used by most of farmers to date. Considerable account of the findings, however, show that mixed type of practices are used by most farmers. This section presents both views and other related matters.

Responses given by participants with regard to this question vary. The variation might sometimes arise from factors like personal ambition and influence of the current development and political discourses. The variation reflected between the responses given by kebele manager and one of the rural development agents of the same kebele may be one instance for this conception. While the former commented that larger percent of the people rely on

indigenous practices, the latter contrarily commented that larger people use modern technology. The words of the two respondents are stated as follows respectively:

> *In our kebele, though modern technology is used, large percent use indigenous one. They use hand mowing, hand weeding, and hand digging. Yet the large percentage of people uses indigenous practices (*ARVDAs16, *FGD).*

> *Large percent of people, 80 percent, use modern technology. The opinion given by the first respondent may be based on the area coverage. Large people use technology. They use combine harvester; they use modern compost, and nobody is using animal dung nowadays (*ARVDAs16, *FGD).*

The kebele manager might have witnessed from what is practically taking place in the society while the development agent might see it from the perspective of the notion that scientific technology of agriculture is crucial for rural development so that people need to aspire for it. Rural development agents are given big responsibility for realization of this scenario. Therefore they may see the issue from this view point. Responding to the question verifying that farmers are still widely using more traditional agricultural practices than modern technology might be like assuring that the technology-based rural development scenario is not properly achieving its goal.

Similar notion was reflected by agriculture and rural development (ARD) expert of another wereda at the beginning when the same question was posed. She said, 'No one is using traditional method now. It is difficult to say that they are using traditional method,' (MRDE31, KII). But she assured the dominant use of the traditional practices when I posed related questions later. In response to the question I raised to check why more people use IAPs, the expert witnessed, 'The main problem is lack of awareness. There is also lack of access for all farmers. Even if the farming vehicles are needed, there is no access. Farmers cannot obtain what they want.' This may indicate that some ARD experts ambitiously state that farmers use agricultural practices of modern technologies dominantly while the fact on the ground is different. This could be witnessed by a farmer from the same wereda when he says, 'Only 5% or 10% of our people use modern technology,' (MEVFs29, FGD). Moreover, the chair person of the same local village guessed the ratio of those who use traditional methods and modern technology to be 80:20.

The dispute among discussants as to how much the people depend on either of the two aspects was also reflected in another FGD. One of the discussants suggested as, 'In my opinion, most people use modern technology especially in mowing, ploughing and using fertilizer. I think about 75% of the people use modern technology,' (ARVFs19, FGD). This opinion was not supported by other participants. Most of the discussants in the same FGD contended that more people rather use traditional methods. One participant, for example, summarized what others suggested like this:

> *As they said, in our area we use more indigenous practices. Especially regarding soil protection in the mountainous areas we plough across the slop. With regard to seed selection, we change/rotate type of crops year to year. Not only this. Our parents also save seeds using indigenous way, and estimate the amount they need for sowing. They also traditionally know time for sowing seeds. Other than this oxen-pulled ploughing is still used in our area using indigenous farming tools* (ARVFs19, FGD).

In Agarfa Wereda, where modern technology is supposed to be used dominantly, participants claim that more people are still using traditional knowledge to undergo their farming. One participant suggested that 70 to 75% of people use traditional practices. The participant extended his suggestion by mentioning practices like rearing cattle, feeding, milking, fattening, beekeeping and farming are all practiced traditionally. Farmers observed on weeding in the same wereda also pointed out that farmers in the visited area use traditional methods more dominantly than modern ones. They claimed to benefit more from traditional practices than from modern technology.

Vice director of one primary school, who has served in the area for a long time, contends that one could only be considered as users of modern technology when he/she uses anti-weed chemical, sows seeds in lines, uses selected seeds, uses mixed crops, and ploughs in the way the technology guides using scientific materials and vehicles. According to this participant, very few farmers use these modern methods. The participant, therefore, put forth that '60% and above of people depend on indigenous practices,' (ARSTs15, FGD). Mentioning various reasons, another participant commented that '...more than 80% of people use traditional methods,' (AODSTs8, FGD). With particular to ploughing, an ARD expert raised the ratio of people who use traditional one to over 90%.

Another wereda where people are supposed to widely use modern agricultural technology is Sinana Wereda. Though this wereda had not been planned for data collection site, I thought it important to obtain additional insights into agricultural aspects people mainly use in this wereda and hence interviewed two senior experts of ARD in this wereda. As the data obtained from discussion held with these experts show, nearly one-fifth (20%) of the farmers in the wereda (about 4000 out of 19284) were registered as model farmers who use modern technology. Even these farmers complement the modern methods with traditional practices, however. These experts added that there are particular villages which seldom use modern technology. 'There are periphery kebeles like Waltai, Shawede, Weib, and Basmana that never use much technology. They use more of traditional original practices,' (SRDEs36, KII). The view of an ARD senior expert at regional level was not different from the above claims. He said that though a lot of works are being carried out to change the situation, traditional practices of agriculture are still dominantly used by local farmers in the region.

Other respondents' assertion indicates that more people in the study area use both technologies integratively. As one rural development expert explained, farmers are categorized into three groups. These are those who dominantly use their own indigenous knowledge, those who use their knowledge but take some aspects of modern technology from experts and use it with what they know, and those who use dominantly the modern technology they obtained from different sources. According to this expert, farmers who use both technologies integratively constitute the larger portion of the total population. A rural development agent from the same wereda confirmed this idea. 'When we see the ratio of people using modern technology and indigenous practices, we can say it is at the stage of integration of the two,' (ARVDAs16, FGD). The reason put forward is that if the large number of people uses oxen to plough land, they use technological inputs like fertilizer and anti-weed chemical.

Similarly, most of the students' responses indicated that while only financially capable farmers use modern agricultural technology for various agricultural activities, others use traditional techniques. An elder farmer's response also confirms the ideas given by other respondents.

*It depends on the land condition. For example, those who live on the other side of this river (pointing to the area) as vehicle cannot reach, cultural practices are used. They plough using oxen, they use hand-mowing and sort out yields from straw manually. The area where vehicle can reach is ploughed using tractor and mowed by combine harvester. I myself use it (*ARVF17, *KII).*

Explaining the difficulty of suggesting the ratio of those who use modern and traditional methods without formal research, one ARD expert said that more farmers use integrative/mixed approach estimating the ratio of those who use mixed techniques and indigenous ones to be approximately about 60% to 40% (SRDEs36, KII).

Therefore, in regard with the aspects of knowledge of agriculture that farmers use to sustain their livelihood, it could be inferred that local people widely use indigenous agricultural practices particularly on some aspects of agriculture, alongside with modern technology in various degrees. In the following sub-sections, particular aspects of indigenous agricultural practices and reasons for their persistent use will be presented.

5.2.1 Particular Aspects of Indigenous Agricultural Practices

To elicit data pertinent to this theme, similar question was posed to all the respondents: 'What indigenous (traditional) agricultural activities are actively practiced in this area?' Almost all the participants responded that a number of aspects of indigenous agricultural activities are still used by local farmers in the visited area in different degree of utilization notwithstanding the parallel utilization of corresponding technology of agriculture. Accordingly, the data indicated the following major indigenous practices of agriculture.

i. Traditional Soil Conservation Practices: Soil conservation in this study comprises keeping soil fertility and controlling soil erosion using various mechanisms. Majorities of the respondents ensured that most of the practices related to conservation of soil are done through traditional ways. To keep soil fertility, it is common to see farmers of the study areas using animal dung and decomposed leftovers of plants on their farm lands along with the application of scientific fertilizer. A number of participants assured that scientific fertilizer

and animal dung and decomposed plant remains are widely used in the visited areas. The data show that even more people use and benefit from the latter techniques for various reasons. Farmer participants on FGD explained that they widely use animal dung as fertilizer after piling it up in the cattle's house and scattering over the farm lands as it maintains soil fertility for 2 to 3 years without getting expired. This conception is supported by one model farmer as, 'We use two things to increase our product. One is applying animal dung on the farm lands. The other is using fertilizer. Those who are using animal dung are obtaining more products if they use small plot,' (ARVF18, KII).

Farmers' assertion about active functioning of these aspects of indigenous practices of agriculture is also supported by rural development experts and primary school teachers and students. As these participants witnessed, more people prefer using traditional fertilizers to applying scientific ones for various reasons. The assertions of some of the participants are worth mentioned: 'Although fertilizer is used, more people do not use it,' (MRDE31, KII). 'Regarding fertilizing soil, only those who afford use fertilizer. Others never use it,' (AODSTs8, KII).

The above claims were, however, opposed by one student respondent. She argued that unlike before the expansion of fertilizer where they used to use animal dung, now all farmers in her area use fertilizer as the result of the expansion of modern technology regardless of their financial capacity taking it in credit in case of shortage of money and paying it at the end of the harvest. Nevertheless, this idea was not much supported by other participants. The assertion was even refuted by the model farmer in the same kebele when he says, 'Some people are suspicious to take fertilizer in credit in case the harvest fails to be productive. They don't trust the technology,' (ARVF18, KII).

Crop rotation and fallowing are other indigenous methods which the findings uncovered that farmers still use to maintain their farm land fertility. The data show that farmers identify the types of crop to be sown on a piece of land in different years (crop rotation). It was also indicated that a piece of land which is used for animal shelter or left unploughed for certain years will be used for farm some other time (fallowing).

Regarding controlling soil erosion, respondents witnessed that indigenous mechanisms are practically functioning. Farmers, ARD experts, teachers and students suggest that technology seems to be less useful in this aspect of agriculture. One of the farmers I interviewed on field observation said, 'For preventing soil erosion, no modern technology is used,' (field observation). An elder farmer on KII agreed with this idea when he said: 'Regarding controlling soil erosion, we prepare ditches above the farm land which lead flood away from farm land and prevent it not to enter the farm plot. We do this from our own knowledge not by the help of modern technology,' (ARVF17, KII). As a rural development agent suggested, in order to prevent erosion, farmers either plough across the slop of the land or build terraces or plant trees on the top edge of their plot.

For soil conservation, therefore, people use both modern fertilizer and traditional ways. From the perspective of participants' responses, it could be said that the use of indigenous practices of conserving soil both in controlling erosion and keeping soil fertility is prevailing in the study area. Farmers use decomposed materials and animal excrements along with scientific fertilizers to maintain the fertility of their farm lands. They also plant trees on the edges of their plots, plough across the slop of the farm land, prepare traditional ditches, and build terraces using stones and soil in order to control soil erosion.

ii. Ploughing: Ploughing/preparing farm land is one of the core agricultural activities which take place prior to sowing seeds. This process is usually undertaken either traditionally (using animal labour like oxen and horses with the help of traditional farming tools) or in the modern way using ploughing vehicle (tractor). In some cases, hand-digging is practiced where the two systems are impossible because of land unsuitability or inaccessibility or for some other reasons.

Though the extent of utilization varies from place to place, the data from development experts, farmers, teachers, and students show that oxen-pulled traditional ploughing is more prevailing than the use of modern ploughing technology. One ARD expert, for example, claimed the absence of ploughing vehicle in the wereda altogether. 'They (farmers) use oxen unless the land is inaccessible to oxen. Utilization of tractor has never been started yet,'

(MRDE31, KII). Explaining reasons for its persistent use, another ARD expert said, 'Hence as far as ploughing is concerned, over 90% of people use traditional one,' (ARVDAs16, FGD). One student participant supplemented this assertion pessimistically predicting the inaccessibility of such technology in the near future. 'Some people use ox-pulling. There are also some who use hand-digging. They could not get chance to use tractor. It is too far to use tractor,' (MESSs26, group interview).

Farmers interviewed individually have commented that they have got access to some modern technology provisions like combine harvesters to some extent while they are still unable to access other provisions like tractor explaining that their farm lands are geographically heterogeneous (mountainous, flat, gorge etc). Others also stressed the inaccessibility of tractor in their area. 'There is no tractor at the moment in our area,' (AODSSs7, group interview). 'Tractors are still not available,' (AHGVF2, KII). 'There is no technology of farming in our areas as such. All are traditional,' (MEVFs29, FGD). Attributing the cause to lack of infrastructure, participants strongly claim that it is impossible to use vehicles for farming and that almost all farming activities are being carried out in traditional methods. 'Therefore, regarding farming, they (farmers) use traditional methods from the beginning to the end,' (MRDAs30, FGD).

With regard to preparing farm lands for sowing seeds, participants' responses clearly show that traditional ploughing using oxen and, in some cases, hand-digging using traditional farming tools is widely practiced in the study areas.

iii. Weed Controlling Practices: Weed controlling is another agricultural practice where indigenous knowledge is actively applied in the study areas. Participants widely claimed the usefulness and accessibility of herbicide chemical at the beginning when I raised the issue, without critically seeing the magnitude of its usage. Later when I posed the question: 'Is the chemical applied to all types of crops?' their responses clearly indicated that the chemical is used only for limited types of crops. They suggested that hand-picking is still useful widely used agricultural activity especially for crops like maize, 'teff', beans, pepper and other crops while anti-weed chemical is used for limited crop lands. A group of farmers weeding lentils

plot were observed to whom the first question was thrown: 'Why do you prefer hand-weeding?' One of the farmers responded, 'The reason why we prefer hand weeding is that anti-weeds chemical kills these kinds of crops (flowering crops),' (field observation). Data obtained from other farmers indicated that absolute dependence on the modern technology regarding weed controlling is not effective. One of them witnesses as, 'Instead of fully relying on the chemical, it is more productive if we are able to use hand-picking to avoid weeds,' (MEVF28, KII).

The other participants' observation also shows detail traditional activities farmers accomplish in order to avoid weeds. As the data show, farmers first clear the seeds from weed prior to sowing. When crops newly sprout, farmers pick up the newly germinated unwanted seedlings with hands, like in the case of 'teff', maize and beans lands. With regard to wheat and barley, however, anti-weed chemical is used. The claim here is that farmers are not using chemical exclusively. Regarding the benefit of using local practices compared to modern technology in avoiding weeds, one ARD expert explains in detail as follows:

> *When we compare and contrast the two (indigenous practices and modern technology), both have benefit as well as harm. In the case of anti-weed chemical, it is taken as a last, seventh option. It is not recommended. There are other 6 options before it as I learnt. It has side effects. The reason why we say that cultural activities are better is that when we use hand-weeding and hand-digging, it lets air to enter the soil. These two practices are recently added taking from cultural activities, especially for cereal crops (*SRDEs36, KII).

As the findings show, traditional practices like hand-picking, hand-digging, crop rotation, early sowing, and clearing the seeds from unwanted seeds prior to sowing are dominantly applied in the study area. Among many species of crops cultivated in the area, scientific weed-controlling technology is applied to only selected types of crop lands, namely plots of wheat and barley. For other types of crops including maize, beans, peas, chickpeas lentils, pepper, 'teff', and a like, traditional practices of weed-controlling mechanisms are still widely used.

iv. Traditional Climatic Prediction for Farming: The participants have pointed out that farmers especially elders possess indigenous knowledge of time predicting when rain falls as

well as seasons in which there may be lack of rainfall or excess of it. Farmers are also able to predict climatic conditions that result in some crop diseases and weeds overflow using various indications. One well experienced ARD expert gave detailed explanation on how local farmers predict seasonal climate, where they have acquired the knowledge and how they make various arrangements of their farming in accordance with the predicted weather condition. According to this expert, local farmers have traditional knowledge of how early or late the rain falls in particular year as well as how heavy it would be by observing wind direction, wind speed, and situation of moon which they obtained from their parents. The expert contends further as:

> *Based on this prediction, they prepare their plots. They also prepare seeds on the basis of the amount of the expected rain. If the rain is expected to be heavy, they select the type of seeds that overcome the rain. Other conditions are arranged according to the predicted weather condition. Ditch preparation to control soil erosion is also prepared prior to sowing. If they guess that there would be shortage of rain, they sow crops that need short season rain and that would be harvested earlier (*ARDE9, *KII).*

This assertion matches with other participants' observations who expressed how farmers are culturally knowledgeable about weather condition. One of them explained as, 'Though nowadays few farmers listen to media (TV) for meteorological information, most farmers know the climatic conditions from cultural knowledge. They know how heavy the rain would be traditionally by wind direction. There are farmers who predict rain by looking clouds,' (SRDEs36, KII).

In terms of controlling weeds, farmers know the traditional system of sowing early so that the crop escapes from weeds overflow. They also know and take precautions that when excessive cold and untimely clouds occurs, crop pandemic disease called 'waagii' (plant pandemic disease caused by excessive cold before seeds get ripe) might break out. Many people use these practices learning from one another and adjust their farm land preparation and selection of seeds types compatible with the predicted weather condition.

It was also reflected in the findings that farmers' season guessing ability is very important, even for rural development experts to get genuine information about seasonal variation rather

than they get it from meteorological broadcasts. As some experts contend, the local prediction is believed to be more effective than meteorological broadcasting. While meteorology's broadcasting usually indicates wide coverage at regional or zonal level, the farmers' indigenous prediction targets their specific local area only based on what happens in their surroundings.

v. Ethno-veterinary: Most of the responses of participants ensure the widespread scientific health care centers for animal medication. However, there are evidences in the data that local farmers are still using traditional techniques to care animal health. Participants' responses showed that local farmers know cultural herbal medicine that they have already learnt from their parents and use it. When I posed a question, 'Do you use cultural medicine to keep the care of your domestic animals' health?' to an elder farmer on KII, he responded as, 'The most dangerous disease that attacks both people and animals nowadays is rabies. As there are some people who can cure it, we are using it,' (ARVF17, KII).

I extended my question to confirm if the cultural treatment is effective to cure these diseases, and he answered, 'Yes, it is effective.' In relation to farmers' indigenous knowledge of animal medication, a rural development expert explains that farmers know medicines for vaccination as well as for cure. They also know that skin-burning, cutting and a sort of herb to be buried in the skin of the affected animal body are effective. He has further commented as, 'They also have skill of how to completely cure/repair a broken bone without any scientific education. They collect medical spices from various herbs, roots and other parts of trees and use to cure various diseases. They surprisingly succeed,' (ARDE9, KII). This implies that though scientific health care is widely serving the purpose in the visited area, local way of preventing and curing animal diseases is practiced using locally available materials usually products of plants.

Besides the active functioning of traditional practices of soil conservation, ploughing, weeds controlling, climatic prediction knowledge, ethno-veterinary, the data obtained from different participants indicated that other aspects of traditional agricultural practices like traditional

animal husbandry, traditional mowing and collecting yield and other related activities are actively practiced in the study area.

5.2.2 Reasons for the Sustainable Utilization of Indigenous Knowledge of Agriculture

Related to exploring the components of indigenous knowledge of agriculture (IKA) actively functioning in the study area, I raised further question to the participants as to why these traditional agricultural activities have still been sustained in the era of technological advancement. A number of reasons revealed in the findings have been put in list below in order to provide the readers with an opportunity to take a glance at the list and have later a general picture of what is presented in details.

- shortage of provision of modern inputs
- cost
- shortage of training
- effectiveness limitation of modern inputs
- topography
- climatic variations
- lack of awareness
- farmers' commitment
- soil condition
- lack of infrastructure
- life style of farmers

The above list can be subsumed under three groups: limitations of scientific technology, lack of awareness, and cost. Firstly, partial implementation of modern agricultural technology was mentioned by several respondents as a cause of the sustainability of traditional agricultural practices. This could be seen in three different ways. These are shortage of provision or inaccessibility, implementation problem because of land location and effectiveness limitation of the modern provision. Regarding the first case, it has been commented that modern agricultural technology is not accessible to most of the farmers. One ARD expert, for example, pointed as, 'There is also lack of access for all farmers. Even if the farming vehicles are needed, there is no access. Farmers cannot obtain what they want,' (MRDE31, KII). One of the teachers on the FGD added, 'If one plans to use tractor to plough, both access and cost is problem. Therefore, farmers use oxen,' (MESTs27, KII). Shortage of the inputs and lack of infrastructure are pointed out as main causes of inaccessibility.

Besides access, topographic features of farm lands, soil condition and climatic variations constrain the use of modern technology. One of the respondent explained that '...for large number of people who live on hilly mountain, modern technology is not convenient to use. They use hand mowing, hand weeding, and hand digging,' (ARVDAs16, FGD). Other participants witnessed that as both topographical setting and the type of soil are not suitable, it is not possible to use vehicle at all. As expressed by one farmer, the land situation was so critical that tractor can plough only few lands since it is full of mountains and gorges. The type of soil is also mentioned to be challenging as some type of soil is so sticky and strong that it can break vehicles by holding much water in it.

With regard to farmers' life style and topographical problem, it is more serious in some weredas than others to make modern technology easily accessible to farmers. This is what was reflected by rural development workers serving in different local villages. One of the workers, for example, said:

> *If we see the inner problem, the people in this area are pastoralists. As they move from place to place, it takes time to convince people to accept and use technology. We tried but we did not succeed as needed. The second problem is the area is hot; there is no enough farm land. It is difficult to bring technology. These are reasons why technology has not been utilized (*MRDAs30, FGD).

Related to limitation of technology, the other problem is the fact that scientific technology has never been invented yet for some particular services or the available technology is not effective as such. For most crop types, for example, as already discussed above, anti-weed chemical is used only for few crops like wheat and barley. No herbicide chemical has been invented yet to control weeds for many other crops, or the available chemical rather adversely affects them. Related to this, participants claim that some traditional inputs are in some cases more effective than the modern ones in terms of durability and productivity of crops like in the case of animal dung and hand-weeding. This seems to be why an ARD worker commented that 'Technology for the sake of being technology could not be effective unless it is grounded on the local knowledge,' (ARVDAs16, FGD). One ARD expert further explained why farmers insist on oxen-pulled ploughing and sometimes hand digging. He illustrated that when using oxen, it is convenient to plough at any time including rainy

seasons and several times, say 5-7 times, until the soil gets ready to sow seeds. This is impossible if tractor is to be used because of high cost and even access. It has also no any adverse effect on environmental pollution.

The other reason widely indicated in the data for the continuity of traditional agricultural activities is the cost of technological provisions and inputs. Traditional practices are inevitably persisting in agricultural production because of the unaffordability of the cost of scientific inputs to majority of local farmers. Some participants put forth the following: 'Indigenous practices cannot disappear as people benefit much from them under low cost and they are easily accessible,' (ARVFs19, FGD). 'It is what practically exists. It is not affordable to use technology,' (ARVFs20, FGD). 'The cost limits them to the traditional practices,' (AODSTs8, FGD).

Finally, lack of awareness is what most participants claimed to be constraint of the implementation of modern technology. Farmers do not analyze the fertilizer cost and the result of their final harvest because of their limited orientation on scientific inputs. This in turn relates to either their reluctance to take training or insufficient training they receive or lack of commitment to put into practice. One teacher put this as, 'Their awareness is limited. They don't even want to take training. Nor is their training sufficient. Therefore, more than 80% of people use traditional methods,' *(*AODSTs8, FGD*).* This awareness limitation seems to influence some farmers not to place confidence in technology, as one model farmer explained pointing out that some people believe that crop grown by help of fertilizer is contaminated and shortens the people's life span while others are suspicious to take fertilizer in credit in case the harvest fails to be productive.

Whatever the case may be, it seems obvious to accept the existing local situation and external sources on the role local people's indigenous knowledge practices are playing to ensure the local people's survival. It equally seems obvious that it is important to promote these local resources and transmit over generation so that sustainable rural development is maintained.

5.3 Perceived Relation between Rural Development Strategies and Use of Indigenous Knowledge of Agriculture

The subjects for this theme were mainly rural development experts working at different levels, ranging from local administration to regional bureau of ARD. The data were collected using KII and FGD. This point was raised with the intention of exploring the perceptions and views of development experts and other authorities in the area as to how much local people's indigenous practices of agriculture are important for and hence are considered in rural development strategies. The experts' perception was also cross-checked with policy provisions in the national and regional GTP strategies.

The findings in this study indicated that IK practices are inevitably used by rural people and assist them to sustain their life though their productivity is less compared to the case where modern technology is applied. Most participants mediate the benefit and limitation of both indigenous and conventional technologies of agriculture in development strategies while some participants undermine the benefit of the former practices. One of participants put forth his perception as, 'When they focus on the use of traditional ones, farmers miss something. (…) The benefit they get is that they use original seeds which do not easily become out of use. These seeds are more resistant to changing conditions without changing its features,' (SRDEs36, KII).

Another expert also expressed the benefit of hand-weeding with application of technological inputs to get good harvest. When reacting to my question if the two dimensions of practices complement each other, there was debate between participants with different views until one expert was able to convince the other putting forth an evidence from what he has been taught recently, and common understanding was reached later. In their discussion, the advantages and disadvantages of both forms of technology were reflected. Two traditional practices, weeding and hand-digging, were emphasized to be recently taken from cultural activities and developed as good strategies pointing out that anti-weed chemical is not recommended as primary option. 'There are other 6 options before it as I learnt. It has side effects. The reason

why we say that cultural activities are better is that when we use hand-weeding and hand-digging, it lets air to enter the soil,' (SRDEs36, KII).

Similar expert from another wereda commented that modern technology is not encouraged as a sole option to be applied in rural agriculture because of various factors. The expert explained the relation between rural development strategies and benefit of people's indigenous knowledge raising a number of justifications:

> *If we totally ignore indigenous resources and embark on technology utilization, we are left without resource and will be in vacuum. This is known to the experts and it is also in the strategies. We cannot encourage them (farmers) to use modern technology absolutely because of factors like skill, access and cost. Moreover, we cannot be confident to do so as there is no locally proved technology at hand. Hence we encourage them to use comparatively more effective local practices and available technology in combination (*ARDE9, *KII).*

As an ARD senior expert at regional level pointed out, people's long-lived cultural skills like using animal dung and pesticide herbs are not disregarded even in the scientific innovation, but are encouraged to be used by farmers and transferred to the others. This could be indication that people's local knowledge in any case has paramount importance in achieving sustainability of local development. Modern technology alone does not seem to be seen practically as farmers' sole option to lead their life at the moment.

To identify if these agricultural local potentials have gained policy recognition at national and regional levels, Growth and Transformation Plane (GTP) of the country and rural development guidelines of the region have been reviewed. In the GTP, agriculture and rural development issue is treated in Chapter 5, section 5.1 under such headings as focus directions, objectives, major goals, and implementation strategies (የገኢልማ፣2003). As to the focus direction of the plan, changing the long-lived people's traditional practices of agriculture to world marketing-led production methods and life style is designed as a major direction. This is put into practice through transferring the model farmers' experiences to the mainstream farmers, expanding irrigation using natural resources like water, and encouraging farmers to harvest commercially high production/crops.

Regarding the major objective of the plan, it is to avoid poverty by ensuring rapid and sustainable agricultural development and to play vital role to achieve Millennium Development Goals. The plan has also implementation strategies which include empowering farmers to be active users of scientific technology and improving the provision of already widespread technological inputs and services like chemical fertilizers. Besides, improving the degree of use of natural fertilizer is mentioned as a strategy, however.

In similar vein, ARD plan of Oromia Region has been designed with major objectives and implementation strategies. The major objectives are ensuring food security, enhancing commercial based production, and realizing farmers' farm land ownership. The implementation strategies include empowering ARD workers' skills, expanding farmers training centers (FTC) in rural villages, improving provision of technological inputs and services, expanding research centers and discovering new agricultural innovations and others (BMQBO, 2002). In both objectives and implementation strategies, no mention was made concerning the potential contribution of local knowledge of the people. This may imply that rural development policy designers seem to have neglected the indigenous capacities of local people in the policy formulation while experts have the recognition that these practices are playing an important role in sustaining society's livelihood.

5.4 Ways of Conservation and Transmission of IK Practices of Agriculture

The data obtained for this theme have been collected from farmers, ARD experts, curriculum experts and students using KII, FGD, group and individual interviews. More weight was given to farmers in different settings as source of data for this group of people have direct bearing on the issue more than others. The view of respondents led the researcher to see this issue from two perspectives which necessitated treating the theme under two sub-themes. One is how these practices have been preserved, utilized and transmitted over generation, and the other is about perceived ways/means of documenting and transferring the practices. The data also initiated the inclusion of other useful traditions of the society. This will be dealt with in two sections.

5.4.1 How IK Practices of Agriculture have been Preserved and Transmitted over Generation

Most of research subjects have similar views with this regard. As the findings show, indigenous knowledge practices and traditional agricultural practices in particular have been preserved and transmitted orally and through observation of practical activities. One of farmers explained as, 'Generation learns from each other by observing what is practically happening; for example, I learn from what my father does and I also work with him and learn from him,' (ARVFs19, FGD). After expressing that they were acquiring their parents' practices by observing what and how their parents were doing things, a key informant recalled one of Oromo proverbs through which such social values pass over generation: 'Waan lafti namaaf kennitu haati namaaf hin kennitu,' (ARVFs20, FGD). It literally means 'land provides human beings with an offer, which is more than what a mother does for her child.'

Another respondent pointed out one further means of culture transmission from parents to children which reminded the phenomenon of near past in the country and the region in particular. According to this participant, one way is formal education while the other is through practical observation that children undergo when their parents are engaged in various local agricultural activities like ploughing, digging and so on. He argued that since the commencement of the mother tongue education, the promotion and transmission of people's cultural values have been somehow initiated. The farmer, however, suggested that the fact that the practices are taught at school may not be enough as the generation may ignore them unless necessary care and follow up is made. 'This mother tongue education is providing people with good thing. If it is learnt in school but without due follow up, children may ignore it; therefore, it should be taken care of,' (MEVFs29, KII).

These findings show that community's cultural values have been passed over from generation to generation through practical demonstration and people's ritual values mostly from parents to children. Though it is resent history, primary education in the medium of

learners' mother tongue has also contributed to the preservation and transmission of people's indigenous practices.

5.4.2 Perceived ways of Preserving and Transmitting IK Practices of Agriculture

Participants have been asked if they could suggest on the importance and ways of preserving and transferring useful indigenous knowledge practices and traditional practices of agriculture to the areas of similar context as well as to the young generation. Most of them agreed to the idea of transferring these practices to others for the reasons discussed in section 5.2.2 of this chapter. The transmission is in twofold directions, horizontal and vertical. The former is concerned with transferring the practices to other people in other settings while the latter is transmitting them over generation. With relation to the horizontal transmission of people's useful traditional practices, participants suggested sharing experience among farmers of different experiences as one possible way. According to one rural development expert, people's traditional agricultural innovations and practices should be carefully investigated, documented and transferred to other contexts.

> *Those people who have such creativity or knowledge should be searched and their experience should be recorded and prepared in writing. Plus, how their knowledge meets the scientific innovation has to be checked and their difference has to be analyzed. Taking this as a document, it is possible to transfer to the users of other areas (*ARDE9, *KII).*

Other rural development agents have similar idea in this respect. They suggested that arranging experience sharing program by taking farmers from an area where the practices are not familiar to the area where the practices are well utilized is useful. These participants proposed similar arrangements for rural development agents. They further suggested that strengthening the awareness of the farmers about the usefulness of these traditional practices could also contribute to the preservation and transmission of the practices. This latter idea was also suggested by other rural development experts as, 'Inviting other farmers to visit and copy model farmers practically on the farm land and making them use of their experience is effective method of disseminating the useful practices,' (SRDEs36, KII).

Regarding passing people's indigenous practices over generation, practical observation and education in the medium of students' mother-tongue have been widely claimed. As student respondents argued, such practices are promoted by asking elder people, doing them practically and making use of them. One of the assertions given by one student among the other is 'We need to closely observe when people prepare cultural foods. We should also take experience when they make cultural clothes and use it instead of demoralizing them,' (AODSS3). Other participants gave higher role to MT medium education for transmitting valuable traditional practices from generation to generation. One curriculum expert at OEB emphasized this issue commenting that Oromo cultural practices in general could best be transmitted and transferred through education in the medium of community's MT:

> *I believe that it (MTE) has great contribution in the promotion of Oromo culture because if children learn in their first language, they can easily understand the cultural heritages and practices of their parents. They can also develop awareness about their environment and about their identity (*OBCDO33, *KII).*

The expert extended her comment that due emphasis should be given to education at any cost for the benefit of development of language and culture.

Comparing the situation of promoting cultural values of the society in the past when it was threat to consider oneself as an Oromo and the situation at present, one farmer participant critically observed how the MTE is an important means of cultural promotion.

> *Today, when children are learning in their language, when people are using their language for communication, the culture that should not be sidelined should be taken care of not to be ignored. If this generation follows the culture of people and promotes it and transfers it to the other generation, this education system is a great thing (*MEVFs29, FGD*).*

The data obtained from students has also indicated that school setting is an effective environment which offers good opportunities to young generation to promote their cultural practices. 'One way to promote oral and practical cultural activities is through education. If we need to develop the culture, we should reflect cultural representations in schools. If this never happens, we cannot exchange experiences,' (AODSS5).

An explanation by a curriculum expert strengthened the role MTE plays in promoting and transmitting the society's traditional values particularly from generation to generation. According to the expert, preparing syllabi and textbooks based on the reality of the society and environmental situation whose responsibility of its practicality is given to the regional curriculum designers is one important way. Some participants, however, put a reminder that before learning and developing cultural practices of a society, the useful cultural practices and harmful ones need to be identified.

Thus as the findings depict, sharing experience among farmers of different experiences and strengthening the awareness of the farmers about the usefulness of these traditional practices could contribute to the preservation and transmission of the practices. It was also suggested that people's traditional agricultural and practices should be carefully investigated and documented in order to transfer them to other contexts. Moreover, the use of Oromo Language in the primary education provides good opportunity for the preservation and transmission of Oromo cultural practices in general.

5.5 Perceived Social and Pedagogical Contributions of the use of Oromo Language in Primary Education

The data for this theme were collected through KII, FGD, group and individual interviews from farmers, primary school teachers and directors, students, curriculum experts and education officers. Review of primary school students' textbooks was also carried out. The main point of this theme was how the participants perceive the extent to which learning in mother tongue helps one learn and promote society's cultural practices and indigenous values, with special emphasis to Oromo Language. However, the participants' responses have influenced the researcher to look into the issue from various dimensions as well other than cultural promotion. I felt that discussing these aspects, too, is fair, not being out of track given the broad concern of the study being contribution of MTE.

The findings indicated that all the participants have been highly impressed by the use of Oromo Language in education system in general sense. Their suggestions as to what benefits the use of Oromo Language is providing the society with could be classified into three sub-themes: as a means of preservation and transmission of community's culture, pedagogical benefit, and its benefit of ensuring social identity and right. I will attempt to treat them separately in these sections.

5.5.1 Preservation and Transmission of Community's Cultural Values

One of the most frequently suggested contributions of MTE is the role it is playing in conservation and transmission of Oromo cultural practices and values. Most respondents commented the benefit of learning in Oromo Language in revitalizing Oromo cultural practices in relation to the historical phenomenon in the past education systems where the language was not used as medium of instruction. In terms of transmitting these traditional practices and values to the next generation, the participants commented that learning in the first language plays crucial role. The assertions of majority of the participants conformed to this proposition. Yet few participants have put forth their fear about the commitment of young generation to accept and promote their parents' cultural assets and the necessity of further follow up.

Some elder farmer discussants expressed the existing situation of the role of using Oromo Language as MOI in comparison with previous situation. They stressed the difference between the two education systems in alphabets, medium and contents which could perpetuate for cultural and linguistic segregation as well as for their promotion. One participant, for example, expresses like this: 'In the former, there was imposition, but no any imposition now. Now the right of the children is acknowledged and they have opportunity to conserve their culture. There is no any obstacle to promote their culture,' (ARVF17, KII). The implication is that after the language became language of education and of different media and used in different social domains, it has began helping people know, remember and revitalize their cultural values.

Similar arguments were held by another discussant with regard to the role current mother-tongue education is playing in restoring Oromo culture comparing with former education system as follows:

> *During the former system, when we told our children what our parents had told us, they did not sense it and accept it. But now, as they learn it in the school, they ask us about cultural practices. Then I tell them more from our past activities. As education is coming to culture, students seem to close to indigenous activities. Therefore, our culture is being revitalized more at present than during the former education. For example, in relation to cultural clothing, cultural song and others, traditions are reappearing and we are also telling our children about our culture (*ARVFs20, *FGD).*

The contention of these elders and more others depict the fact that learning in non-mother tongue in the previous education system adversely affected students' feeing to sense, admire and accept their parents' cultural heritage. But now, students seem to discuss freely what they learn at school with their parents. The teachers have similar idea that when children learn in their own language, they tend to admire and promote their family's culture. When confirmation question 'Do you mean that learning in the mother-tongue and promoting culture have direct relationship?' was posed, one teacher responded: 'Absolutely yes. He learns in his own language. What he wants to do on culture, he can do it easily. So I say they are highly related,' (ARSTs15, FGD). The findings further indicate the likely cultural effect of learning in non-mother tongue raising an argument that learning in other language cannot facilitate developing one's own culture because the learners follow the culture and language of the society whose language is used as a medium of their learning.

Similarly, student respondents claimed that learning in their language helped them not only to acquire their parents' culture but also to promote their language itself. Their claims are justified by the fact that learning in the language which they are familiar with and is spoken by their parents has laid ground for them to learn and develop their language and cultural values. One of the student participants said, 'Learning in my language helped me to know more about my parents' culture. Suppose if I were taught in Amharic language, I would not be aware of what my community's culture looks like,' (ARSS10, Interview).

According to one education officer, both the students and the society benefit from the use of Oromo Language in education in revitalization of their culture. As they learn in their language, students understand their culture in easy way. They are learning in their language and developing their cultural values like cultural marriage, cultural farming and traditions related to death and sorrow. It also gives opportunity to and encourages parents so as to remember the cultural practices they have forgotten as their children discuss with their parents what they have learnt at school about their cultural practices. If one wants to develop one's culture through one's language, as the source of the language and the culture is the same, one can develop it easily. For some participants, the benefit of learning in Oromo Language and producing books in it is more than merely promoting the existing societal cultural practices. As one farmer expressed, it is 'like digging the land and looking for what has been hidden in the soil for long. It has uncovered the culture that was obscured,' (MEVFs29, FGD).

Explaining their fear that the young generation might not give due attention to people's cultural practices, participants acknowledge the great opportunity MTE gives especially to children to promote their parents cultural values provided that the generation gives due emphasis to follow the culture of people and promotes it and transfers it to the other generation. 'This mother tongue education is providing people with good thing. If it is learnt in school but without due follow up, children may ignore it,' (MEVFs29, FGD).

It seems to arise from this fear that one farmer on the same FGD compared the strength of culture in the past social system with the current situation reflecting that it is looser in the latter, but optimistically hoping that it could be remedied through MTE.

> *When I observe it critically, Oromo culture was more prevailing that time than now. As the respected, aged elders existed that time, in my opinion, the culture was stronger than is now. However, it can be felt as a tree with expanding branches and seeds this time when children are learning in their language. If there are responsive citizens who claim for promotion of culture and the generation acknowledges it, it is good* (MEVFs29, FGD).

Regarding the contribution of the mother-tongue education to promote community's cultural practices and heritages, the findings indicate that the participants appreciate the role that the use of Oromo Language is playing.

5.5.2 Pedagogical Contribution

The other frequently suggested benefit of mother-tongue education is its pedagogical role. Findings indicate affirmative assertion regarding the effectiveness of using Oromo Language in primary education in enhancing the class interaction and maximizing the students' content understanding. Few but not insignificant responses were, however, observed commenting on the effects of the use of Oromo Language in extended primary education, especially in second cycle. Both views are presented in this sub-section.

As most of the participants pointed out, students are not encountered with double challenges, challenge of subject matter and challenge of language of learning, when they learn in their home language. A teacher respondent commented on this proposition as, 'When students learn in their own language, they learn the content of the lesson without being challenged by the medium. If they learn using other language, they are challenged by two things, the content and the language,' (ARSTs15, FGD). A vice director of one school related the issue with his own learning experience during the Derg regime. 'Before we tried to comprehend what the teacher taught us, we were seeking for the meaning of the words. But now, you don't seek for meaning. Instead, you directly make every effort to comprehend the content,' (AODSTs8, KII). The vice director further contended that once the students comprehend the content of the lesson at lower grades, they are able to easily relate what they have learnt at lower classes with consecutive lessons when they join secondary school.

The issue of linguistic shift at the end of primary level has been elaborated by education officers. They argued that having developed good ground of understanding at lower level using their language, students pass to the next level with dependable academic ground except that the language changes which, according to the experts, is not challenging. As children

have been taught English language beginning from grade 1 and if the students are committed and a committed teacher has been teaching them, the change of language is not problematic. When I posed a question 'what if they learn in a language other than their mother tongue?' One expert responded to my question in question and explained it further. 'Do the students learn the language or the content? They should learn both. If they use their language, they can easily understand and develop their knowledge,' (MEOCE21, KII). Another officer explained in reaction to similar question that when the language is not students' mother tongue, they need to learn the language which takes them two or three years before learning the content. If the language is their mother-tongue, they directly go for understanding the content and develop their creativity.

This argument aligns with what a curriculum expert at OEB said, 'Students learn more when they use their MT in the class. They don't feel stressed. When they learn in other's language, they are challenged by the language and the content. This is problem,' (OBCDO33, KII). Taking his own case comparing his level of understanding when he was learning in his non-mother tongue in the past and when he is now using Oromo Language to read books, a curriculum expert at regional level claimed that learning in their own language enables students to capture what they are learning based on what they already know and help them enhance their cognitive development. 'In the case of mine, I myself have been able to properly understand concepts of Chemistry subject since I began reading books written in Oromo Language,' (OBCDs34, KII).

Student respondents' suggestions coincide with the assertion of teachers and curriculum experts. In most cases, their responses show positive feelings they have on the use of their own language. All of the participants reacted positively, 'Yes we are happy' 'Yes I am happy' and so on to my brainwashing question, 'Are you happy for learning in your mother tongue?' Most of the students extended their explanations on their happiness, which revolve around cultural promotion and educational facilitation. They asserted that learning in their language reduces their psychological stress and comprehension difficulties that hamper their learning condition. It provides them with conducive situation to ask questions and express their feelings freely which has reinforced their education. Statements of three students from

different schools on individual interview and group interview, for example, show the psychological and pedagogical ease learning in their mother tongue has created for them.

> *Say if we learn in other's language, we learn things by force. But when we learn it in our language, we learn things without any fear and we can express what we learn freely (*ARSS11, *Interview).*
>
> *As we can speak freely and we can easily understand what we learn in other subjects using our language, we are very happy to learn in our language (*MESSs26, group interview*).*
>
> *Learning in the first language at the initial level is useful. Those who learnt in Amharic language were not as expressive as we are today. In my opinion, education has been strengthened since Oromo Language was introduced as medium of instruction (*ARSS13, *Interview).*

Besides reinforcing the students' comprehension capacity, learning in students' home language has also been claimed to create conducive situation for parents to follow learning situation of their children and discuss with their children what they have learnt at school (See section 5.7 for detail).

Participants' Fears and Reservations on MTE

Some participants (students and teachers) expressed their fear about academic gap that might be created because of the late exit of the medium of education. The participants were very much careful to address the effect of the use of students' mother tongue in extended primary level. All the participants who commented on this issue began giving their ideas primarily mediating the role mother tongue is playing in contributing to students' immediate understanding of the contents without being challenged by medium. When I was conducting the interviews and FGDs with students and teachers, it was very usual to hear confirmatory sentences like, 'They are not challenged by another language.' 'Learning in their language is advantageous for the students.' 'It is useful as students understand immediately what the teacher teaches.' 'I am happy to learn in Oromo Language.' 'It is good to learn in Oromo Language.' and so on. The suggestions of some of the participants were followed by the connector 'However' after which they began commenting the other face of the issue.



Participants reflected that students and teachers can easily communicate and understand each other; students can freely ask questions and understand more; they compete and argue over contents; they even read books in the absence of teacher and come with questions for further discussions. However, it has been pointed out that students may be challenged when they join secondary school as the language they have used in the lower level is different from the language they use in the higher level. Their challenge is not the difficulty of the contents of the subjects but the meaning of the words. Therefore, participants' reservation is that it can affect students' success of higher education.

One of the students on individual interviews has the feeling that learning in Oromo Language is useful at the lower level but they face challenge to cope with English medium classes at higher level. 'If we think critically, we are in danger because we face English when we complete primary school. We face problem there. I mean that Oromo Language helps us a lot at this level but it does not help us at higher level,' (AODSS5). After confirming its usefulness, another student, similarly expressed his feeling about the negative effect the late transition of MOI may cause. 'It gives me opportunity to understand the contents of the lesson the moment I leave my family. On the other hand, I feel that the fact that the linguistic shift which occurs when I join secondary education has negative impact,' (AODSS6).

Teachers also indicated both what the students benefit from MTE and the impact of the system stressing the short time gap between their completion of primary school and the time at which they take national examination in English medium. The participants also compare the students' competence with the students of the other regions where primary schooling in the medium of mother tongue ends earlier. The fear of the teachers seems to arise from the feeling that the English language they are taught as a subject right from grade 1 onwards may not be sufficient to equip the students with the needed linguistic competence.

> *I see this (MTE) from two perspectives. On one hand, competent students can comprehend contents in their language and take it into English without any difficulty. On the other hand, students learn from grade 1 to 8 in Oromo Language; they learn grade 9 in English; then they take national examination at grade 10 in English. In other regions, children learn from grade 5 onwards in English and when these students meet at university, their competence may vary. This, I think, will have big effect (*AODSTs8, FGD*).*

Another teacher also confirmed the usefulness of the system in enabling the students to understand immediately what the teacher teaches and pass to examining the issue in depth as well as to easily learn about their environment. The teacher continued explaining his fear as, 'However, when students pass to upper grades, they face problem as they take the national examination in few years time,' (MESTs27, FGD).

No data were against the effectiveness of MTE in facilitating the class interaction between teachers and the students and among students themselves as well as in enhancing the understanding level of learners at the lower level. However, the reservation observed in the findings is the effect of the late exit model being implemented in the region on the academic endeavour of students at secondary and tertiary levels. As the result, the respondents commented on this particular issue suggested the inception of English language as a MOI from the beginning of the second cycle of primary school (grade 5). I have quoted hereby the opinions of two teacher discussants.

> *However, when students pass to upper grades, they face problem as they take the national examination in few years time. They face difficulty in acquiring federal language, too. This is also a problem. So it is good at lower level but it is better to use English at upper primary level (MESTs27).*
>
> *Learning in their language is advantageous for the students. They learn in the school what they already know and practice in their area. However, if they learn in English starting from grade 5, they are more benefited because they will not face a problem when they enter grade 9 & 10 (MESTs27).*

The issue of taking the commencement of English language as a MOI to the second cycle of primary school was not commented on by any of the students and expert cycle.

5.5.3 Sustaining Social Identity and Right

Other than cultural and pedagogical benefits which mother tongue education provides people with, the data indicated the role the education plays in maintaining and sustaining the individual and group right of a linguistic community. Some of the participants pointed out that learning in the medium of mother tongue enhances a symbolic role that a language plays in certain society. As one of teachers put forward, leaning in one's mother tongue contributes

to the promotion of social identity of a community. 'In the first place, learning in Oromo language is a sign of identity. It is a means of expression of their identity and their right,' (ARSTs15, FGD). Student respondents further suggested that learning in their own language helps them know their identity.

A farmer who was educated in the Derg regime and also in the current education system explained in detail how learning in non-mother tongue is not easy to claim oneself belong to one's own identity as compared to the encouragement one gains to claim so when learning in his/her mother tongue. He further contended that learning in Oromo Language encourages children to know more about history and ritual values of the society. 'You learn history of Oromo. You learn all about Oromo rivers, Oromo lands and so on. You feel the sense of your being Oromo. I really felt proud when I saw Oromo history in grade 4,' (MEVFs29, FGD).

The findings further manifested that using Oromo Language in education is not only facilitating social identity but also is ensuring linguistic human right. A student on interview claimed that 'The benefit of learning in one's language is that it is human right,' (ARSS11, Interview). An OEB curriculum expert similarly claimed. 'From the human rights' perspective, it is the right of the children to learn in their own language,' (OBCDs34, KII). Another expert explained the issue in a bit detail contrasting the benefit people are obtaining from the education in the medium of Oromo Language comparing with what was happening during the former education system when MOI was not Oromo Language.

> *If a child learns in his/her own language, he/she can easily understand his/her environment, is aware of his/her identity, and learns more comfortably. (...) In the previous systems, Oromo Language was oppressed. The people were also forced to learn in the other language. Learning in Amharic language was too difficult. On the other hand, it was compulsory to learn the language to be employed. Otherwise, it was compulsory to use interpreter to convey any message. Learning in one's own language is like declaring human right (*OBCDO33*, KII).*

In general, the attitude and perception of parents, teachers, students and curriculum experts toward the use of Oromo Language as school medium could be seen as positive. They found it imperative in terms of the pedagogical ease the language medium has created in the classroom interaction. The participants also saw it from the point of view of revitalizing the

cultural values and indigenous practices as well as the language itself. The participants were also happy and anxious to assert that learning in Oromo Language is an important facilitation of their identity claiming that Oromo identity is highly attached to the language. Their attitudes and self-esteem during the interviews and group discussions was revealing this reality.

5.5.4 Perceived Relationship between MTE and Rural Development Strategies

The data for this theme were collected from rural development experts working at various levels, education officers, teachers, and curriculum experts of OEB using interviews and FGDs. Various documents were also reviewed. The aim was to see the perceptions of participants about the mutual relation between the two core domains and the nature of their relation. The opinion of the respondents seems to support the mutual relation between the two sectors in general. However, the way they perceive their relation varies.

The perception of some participants about the relationship between the two sectors is more of communicative aspect. One wereda ARD expert saw the issue from wider connection between language and rural development services. She contended that unless one speaks the language and knows the culture of the society he/she cannot serve the society. 'If he/she knows the language and the culture of the society, he/she can understand the need of the people. Otherwise, even if he/she is knowledgeable, he/she cannot transmit his/her skills to the community. It is only if one knows the language of the society that he/she can plan accordingly,' (MRDE31, KII). Development agents further commented that learning in their MT help children know the language and content of the work of the area so that they can be easily engaged in the local development activities. 'When students learn in their language, there is language of work in that area. If they learn in their language, when they are engaged in job, they work without any help because they learnt the contents of the work in detail in their language. This way, they have harmony,' (MRDAs30, FGD).

Another development agent added that if children learn in their language from lower grades about crops and plants, they can practically use at home. Adults' practice-based training in their language was also commented to be the result of the MTE system which, as the ARD workers witnessed, is the indication of strong harmony between the two. Similar explanation was given by another participant as:

> *In my opinion, there is very important relation. When students learn in their mother tongue, they can easily and quickly capture what they are told. They learn what is around them like environmental protection. Therefore, as they learn in their environment using their own language, it is useful for development unless the implementation is ill-organized (*ARDE9, *KII).*

Relating the issue to the fate of students in case they drop their schooling at primary level, curriculum experts pointed out how MTE curriculum considers the sustainable rural livelihood. One of the experts revealed that the curriculum is designed in such a way that grade 8 complete or dropout students are supposed to lead their life getting some awareness on the modern technology and putting it into practice. The expert relates this with the rural development as, 'The current education directs towards how students use technology in relation with the traditional practices and get good production,' (OBCDs34, KII). Another expert added,

> *When it (curriculum) is improved, it takes different policies into consideration. It also considers developmental issues. When the children learn, they learn modern technology and the traditional practices of agriculture. If students drop their schooling at primary level, they help themselves to lead their life using the technology they have learnt. Though not practically implemented, there is a policy that students help themselves taking different trainings (*OBCDs34, KII*).*

These experts' assertions are, however, implications of the role MTE needs to play to orient students more toward scientific knowledge to lead their life when they happen to drop their schooling. This is what the data from textbook review clearly show. In the science textbooks reviewed for this study (See section 5.6), the effectiveness of indigenous form of agricultural practices was not acknowledged.

Majority of educational professionals perceive the relation between education and development in general and MTE and rural development in particular from modernization

perspective. Most of them judge the existence of MTE-rural development relation solely from the ground of stereotype belief commonly heralded as, 'Education is a base for development.' One education expert, for example, argued as, 'Education is a base for development. They are not seen as separate entities. In the reality of existing situation, it is difficult to bring development based on the customary process.' Another expert added, 'First of all, no one can contribute to his country's and society's development unless he is educated. To develop his country and improve himself, one must be educated,' (MEOCE21). Similar judgment was reflected by one of educated farmers as to how education relates to development. 'Education is a base for development. If there is no education, there will be no agriculture. It is if you learn that you will be effective in agriculture. Therefore, education and agriculture are related.'

Participants widely claim the fact that students learn in class the modern technology of agriculture and that development experts regularly train them at school is witness for the effective relationship between education in the medium of L1 and rural development. As one teacher explained, 'There are several things that relate the two (MTE and rural development). Firstly, experts come to school and teach our students how to plant plants and take care of them. Students are expanding what they learnt from the experts. This is their relation,' (AODSTs8, FGD). Another teacher also contended as, 'Education and rural development are directly related. For example, students tell their parents using irrigation and how to use it. They also learn how to use anti-weeds chemical and sustain soil fertility. They transfer what they learn to their parents,' (MESTs27, FGD).

For this group of participants, modern approach to education is a sole option to have brought about rural development when majority of people still depend on traditional practices of agriculture to sustain their livelihood. This entails the acceptance of dominance of top down flow of knowledge about development unveiling the absence of the possibility of providing students with local knowledge.

Another prevailing relation between the two is the professional integration of experts. As one expert argued, collaboration among social servants may be where their relation is manifested.

'The two go together. Firstly, the school is situated in the society. In this society, there are experts of health, agriculture and education. We are integrated. Our integration helps us to work together,' (AEOCE1, KII). Another participant added, '... when teachers teach fertilizer in words, health experts teach about health and rural development experts teach about agriculture. This way, they have relation and their relation is very important,' (MEOCE21, KII).

However, some participants expressed their reservation regarding the relation of the two. Their reservation is related to the fact that the opportunity for the students to practice agricultural activities that was given due emphasis during the past education system has been weakened or totally lost/absent this time. One teacher witnessed: 'It (the relation) is too little in my opinion. During the Derg time, different vegetables were planted to let students practice. This is hardly practiced now. Even if the school possesses farm land, it is not used for this purpose; rather, it is given contract to generate school income,' (AODSTs8, FGD). Another teacher also commented similar thing: 'They (MTE and rural development) support each other to some extent though it is not as needed. There were practices like handcrafts in the last social system. Students practiced what they saw in their environment. If these things are expanded, they support one another. There are some instances, but have not been expanded,' (AODSTs8, FGD). In the same vein, another participant explained the less attention given to the agricultural practices at school attributing the problem to awareness of the society and students. 'Rural development experts come to school and give different fruits and vegetables. However, even if we let our students practice it, the society has no awareness and does not see it positively. The students also see it as a punishment not as part of education,' (AODSTs8, FGD).

5.6 Inclusion of Indigenous Practices of Agriculture and People's Cultural Values in MTE System

The motive behind this theme is to examine if the use of Oromo Language in primary education has facilitated the inclusion of society's indigenous practices of agriculture and

other useful cultural practices into education system. Participants for this theme were from students, teachers, regional rural development expert, curriculum experts, education officers, and farmers. Students' textbooks, curriculum syllabi and other related documents were also reviewed and used as data source for this theme. Based on the data collected, this theme is treated under two sub-themes: (a) general cultural practices and materials and (b) indigenous practices of agriculture. It seems to be fair to treat the two aspects separately.

5.6.1 Inclusion of Cultural Materials and Practices into MTE

Data obtained from students indicated heterogeneous evidences about the extent to which Oromo cultural heritages are included in school lessons. Some of student and teacher respondents asserted that students learn some of cultural heritages of Oromo society in some academic subjects like Science, Oromo Language and Civics. Some student participants, however, claimed that they do not get opportunity to learn their cultural heritages. The data also show other structures like cultural festivals held in schools and clubs in which cultural heritages are shown and practiced. Various views of participants will be presented in this sub-section.

In relation with people's cultural values other than IK of agricultural practices, the data indicated the inclusion of several practices, materials and expressions in the school lessons. Regarding the expressions that the students claimed to have learnt are cultural music, puzzle, jokes, proverbs, drama, riddles, poem, role play, folktales, and praising. With regard to cultural practices and materials, the data obtained from students indicated the inclusion of such cultural representations as cultural foods such as 'cuukkoo' (food prepared from powder of roasted barley and butter), and 'marqaa' (porridge), cultural marriage, and cultural artifacts into class lessons. Some students explicitly identified the specific materials or practices they have learnt. Two of the students interviewed individually have illustrated this way.

> *What I remember from Oromo culture is cultural materials. The cultural materials (...) there are like white dressing called 'mamud', 'coocoo'* (decorated

wood-made container of food), *'qubee harkaa' (finger ring). We learn these* (ARSS10).

For example, if we take Aesthetics in the lower grades, we were ordered to bring cultural materials like 'qululu', 'qorii' (both are cultural food containers) *and others and discuss them in the class as a lesson* (ARSS13).

Teachers have also asserted that some cultural heritages have been included in the curriculum. One of the respondents explained that cultural materials like 'alange' (Oromo cultural material which a bridegroom holds on his wedding ceremony) and 'sinke' (a cultural stick held by women at various occasions like marriage ceremony) have been incorporated in grade 8 Oromo Language lesson (OBCDO33, FGD). As a Civics teacher explained, students get opportunities to learn about culture widely which enables them to identify the useful practices and harmful ones. They also learn cultural practices of nations and nationalities which initiates students to learn the culture of other people as well. This idea is also witnessed by the students themselves. 'Yes, our teachers order us to go to home and ask our parents about what they say, harmful and useful practices as well as traditional and modern agricultural practices,' (MESS23). Moreover, cultural practices of mediating conflicts by elders sitting under trees, which is likely to contribute to the governance is reflected to have been included in and transmitted through MTE.

Contrary to the positive assertions about the inclusion of people's cultural heritages into the school lesson, data obtained from some students and farmers indicated the absence of cultural practices in school. Some students expressed that they have never learnt any cultural practices but these claims are followed by conceding ideas using connectors like 'however' or 'in fact' which show that they are, somehow, taught some aspects of culture. The following three quotations are good indicators,

We are not learning about culture in the school. Since there are no cultural materials in the school, we are not learning. In fact we learn some elements of culture on books like Oromo cultural foods, cultural clothes and so on (AODSSs7).

There is no such a thing as culture lesson. However, we have roughly learnt the useful cultural practices and harmful practices in Civics subject but we have never learnt explicitly the cultural practices that people possess (AODSS6).

*We are not learning Oromo culture in detail using cultural materials as such. However, cultural elements like cultural foods, working in mass sometimes appear in books. Other than this there are no practical activities that we regularly learn in our lessons (*AODSS5).

In these quoted expressions, students seem to have not been satisfied with the degree of inclusion compared to their expectation while admitting that they have got opportunity to learn certain aspects of their parents' cultural practices. This implies that though they are not taught society's cultural possessions explicitly and exhaustively in classroom lessons, the education system have oriented them to have some awareness and have opened good opportunity to make their effort for further exploration and expansion, as one teacher respondent argued, 'The book gives us guide not detail concerning this issue. (…) Students are doing research in this respect. Therefore, books give us direction,' (MESTs27, KII).

One of the farmers on a KII rather expressed his fear of society's and schools' failure to promote people's valuable cultural heritages that have survived without being written and transmitted orally. The participant's observation is that people are not in the position to recognize their own culture nor is the culture being taught properly in school. His blame was more on teachers. 'There is a rumor that teachers are not teaching children about our culture. I see the limitation here. I want the teachers to teach the students,' (AHGVF2, KII).

Even the OEB curriculum experts did not claim to be fully successful in ensuring the inclusion of Oromo cultural practices to the needed level in the primary education in which students learn in their mother tongue in their cultural setting. A curriculum expert of Science and Biology subjects, for example, contended as, 'We cannot claim that we are hundred percent successful in this regard. It has begun. Its implementation is under investigation. It is not long since children began using the language in education.'

How much do students bring their cultural practices into class?

My further question was whether students get opportunities to bring cultural materials and practices of their community into the class lessons. As students' responses indicate, they are

given some opportunities to ask their parents about cultural practices and materials when they are back from school and come to class with what they have got from the village for further discussion. Other few students' responses, on the other hand, show the other way round.

Some of the students' and teachers' responses witness that students are given in the form of home assignment to ask their parents about cultural materials like wooden chairs, 'hodhaa' (traditional household materials made from grass species), traditional embroidery and other practices. Then they come to school with what they have got and discuss in class. Students also mentioned cases when they take what they learn at school back to home and help their parents make use of them. To mention just few students' responses, they have reflected as, 'When we learn, they order us to make and bring cultural materials. This time, we ask our parents how they make cultural tools …,' (MESSs26). 'Our teachers order us to go to home and ask our parents about what they say, harmful and useful practices as well as traditional and modern agricultural practices. They also tell us to express them what we have gained here and help them to correct their mistakes,' (AODSS4). It was also said that in Aesthetics subjects in the lower grades, they were ordered to bring cultural materials like 'quluu' (water container), 'qorii' (cultural food container), 'boraatii' (wood-made pillow) and others and discuss them in the class lesson.

One teacher respondent stated the existence of cultural practices in the book that gives students a chance to bring cultural issues for discussion, mentioning one instance and claiming that her subject is not much concerned with agricultural practices:

> *It is more about culture. Different cultural practices exist on the book. For example, there is a word "handhuuraa". This word has two meanings. One is part of our body (navel) while the other is that in Oromo culture, when a baby is born, father gives the newly born baby one of his cattle. The students are ordered to ask elders if there is gender disparity when they give the cattle. There are also other things that the students ask elders and report (*ARSTs15*, FGD).*

In the same vein, Oromo Language teacher from another school contended that detail presentation may not be expected to appear on textbooks but the books provide students with

directions which guide them to ask elders and bring cultural practices of like cultural marriage, folktales and proverbs to the class and discuss. According to this respondent, this gives students further opportunities to examine their parents' traditional practices or 'do research' (to use the respondent's words).

On the contrary, one of students on an individual interview claimed that there is no any opportunity to bring their cultural practices to class lesson. She said that even the club which is supposed to help them in this regard is not effective. 'There has never been any way of doing this so far.' (ARSS12).

If any structure or club to help promote culture

Responding to a question if there is any special club or any other structure in the school that might help learners promote their cultural values more, most of the respondents confirmed the existence of various clubs with various purposes. The clubs mentioned are Oromo Language and Literature Club, Mini-Media Club, Music and Drama Club, Anti-HIV/AIDS Club, Music and Sport Club, Civics Club, Environmental Protection Club and Agricultural Club.

Among the clubs mentioned above, Oromo Language and Literature Club is supposed to be most concerned with promoting Oromo Language and Oromo Culture. This club was named differently by different respondents, Oromo Language and Literature Club, Oromo Language and Culture Club, and Oromo Language Promoting Club. The variation might have occurred because of its passive functioning in schools. One of the student respondents on individual interview strengthened the weak contribution of the clubs to the promotion of Oromo cultural practices, 'For example, there is Oromo Language and Culture Club which should have given more attention to this issue. I don't know why it is not properly functioning. If it were to function properly, everyone could learn his/her language and culture more. But, it is not functioning properly,' (ARSS12).

Other students confirm that the club gives them good opportunity to learn their parents' cultural heritages. 'There is Culture and Literature Club in which we learn cultural clothes, cultural foods and others. We learn more cultural clothes,' (ARSS13). Another student added, 'Yes there is a club called Oromo Language Promoting Club in which we learn, for example, 'Faaya Oromoo' (cultural Oromo beauty). We use these materials in practicing song and drama,' (ARSS11). In response to what their major duties in this club are, their responses show that they practice making and using cultural materials like traditional cotton work and indigenous needlework (embroidery), telling proverbs and riddles, and mediating conflicts.

Another club which most of the respondents mentioned to play an important role in promoting society's cultural practices in the school is Mini-Media Club. The data show that students participate in the club and demonstrate culture in the form of drama and poem. Responding to my probe as to how much the club is active in the school, they responded that it is more active compared to the other clubs. 'The very active club in the school is this club. It is functioning well,' (AODSSs7). This club transmits Oromo cultural practices in the form of notice, drama, song, poem and others literary genres. Students are also organized in this club in the form of journalists and act as commentators when students play ball. These activities are believed to initiate students to know their culture and facilitate the development of the language and culture of the society.

Other than these, Music and Drama Club was commented to be good school structural setting where Oromo cultural practices like cultural foods, cultural clothes, and cultural marriage are being reflected. Findings also indicated that the rest of the clubs mentioned above, in one way or another, have some contribution to promoting cultural practices of the people. It was further pointed out that learners get opportunity to learn these practices in a separate subject called 'Barnoota Aadaa' (Aesthetics) in lower primary cycle.

Reflecting the insufficiency of the inclusion of people's cultural practices into MT education, some participants have recommended the provision of Oromo cultural heritages as a separate subject by its own right. One of student respondents on individual interview suggested like

this: 'What I add is that I suggest preparing in the curriculum a separate text about Oromo culture and history of Oromo as a subject,' (AODSS6). Another student's comment was quite similar:

> *Regarding developing Oromo Language and Oromo culture, our culture should be taught to students as a separate subject by its own right in school. We are learning them in music and sport. Music focuses on singings and other practices. It doesn't focus on culture. Other cultural representations like cultural foods, cultural clothes and others should be taught to children (*AODSS5).

In order to cross-check the feeling of the participants on the inclusion of society's indigenous agricultural practices and cultural values in MTE with the provision of these practices in textbooks, a review of fourteen student textbooks was conducted (See Table 2). With particular to people's cultural practices and expressions, Oromo Language textbooks were given more emphasis in the reviewing. As review of textbooks indicated, cultural literary expressions and cultural materials and practices have been incorporated into the texts. In six text books (one is Environmental Science grade 4) reviewed targeting the cultural practices, 20 chapters out of 98 chapters (about 20%) deal with society's cultural practices and expressions. Out of these, 13 chapters focus on literary expressions like telling tales, poems, riddles, folktale, and praising. The remaining 7 chapters devote to cultural materials (food, clothes, household materials etc) and their sources, their benefits and ways of preparing them as well as other cultural practices like marriage. Almost all practices are provided in reading passage form which is usually followed by exercises.

The review result, therefore, indicated that MTE has reasonably considered society's cultural values in primary school lessons. However, in most of the reviewed texts, the provision of these cultural practices mainly aims at helping children practice language skills rather than providing students with opportunities to appreciate their community's cultural practices and play a role of promoting them. The exercises are particularly designed to consolidate the learners' linguistic performance. Very few exercises encourage students to learn their parents' traditional values and appreciate, practice and develop them (for example, Oromo Language, grade 7, Chapter 23; Oromo Language, grade 4, Chapter 17).

5.6.2 Inclusion of Indigenous Practices of Agriculture into MTE

In this sub-theme, responses of individual and group interviewees, and FGD discussants about the inclusion of indigenous agricultural practices into the MTE are presented. The data for this theme were collected from students, teachers, curriculum experts, education officers, and farmers. The review of students' textbooks and curriculum syllabi was also used. The data from participants indicate various views ranging from the feeling that IKA are fairly included into class lessons to the feeling that most of class lessons emphasize orienting students towards new technology granting little or no value to the traditional practices. These views will be presented one after the other below.

i. Claims that acknowledge the inclusion of both IKPs and modern agricultural practices

One curriculum expert's argument shows that when planning curriculum, areas to be included into it are decided prior to preparation. As the expert said, one area is agriculture, i.e. how people cultivate crops like mowing in groups (daboo), the cultural songs they use when working in groups and the message of the songs as well as sequences of agricultural activities where students learn processes of mowing, collecting, and storing crops are intentionally included.

Some of the participants have the view that both indigenous and modern practices of agriculture are incorporated into MTE curriculum in various proportions. A farmer I met on field observation who recently dropped schooling responded to my question if they were taught any IAPs in their class lesson as, 'Yes, I remember. For example, in order to prevent soil erosion in the sloping areas, land should be ploughed across. We learnt this and were told to teach our parents,' (field observation). Similarly, students on individual and group interviews witnessed that they have learnt, especially in relation with soil fertility and controlling erosion, practices like ploughing across, building terraces, planting trees, and using animal dung. Improved farming strategies like ploughing hilly land across and building

terraces, sowing different crops on the same land (mixed farming), using animal excrements and fertilizer are included in the science books.

Students have further asserted that though more emphasis is on teaching the usefulness of practices of modern technology, especially in terms of soil fertilizing, there are also indigenous practices. 'However, as it utilizes technological materials, we learnt that using technology is more productive. Yet, we learnt that though they are less productive, traditional practices should not be ignored,' (ARSS13). The participants' positive assertion on the inclusion of IAPs into curriculum initiated me to ask further question as to why it is important to learn these practices at school. A response given by one student manifested its twofold advantages, cultural and historical.

> *Firstly, indigenous agricultural practices are part of Oromo culture. Learning cultural agricultural practices is seen as learning one aspect of useful cultural practices of the people. The other is that understanding the past situation of the practices and how it is progressing now is very important. Moreover, it is important for this generation to identify if there was imposition upon this culture and faced problem and seek for solution (*AODSSs7*).*

Some of the teacher participants also share the idea of the students referring specific textbooks and chapters. They pointed out that practices like how to plough flat land and mountainous land, ploughing using oxen, ploughing crossways are mentioned in the lessons. One teacher, for example, explained how science subjects consider the two practices taking as an example Chemistry grade 7 Chapter 1 which deals with the role chemistry plays in community that specifically discusses how to sustain the fertility of their land using environmentally available resources (ARSTs15, FGD). But this idea is not supported by textbook review as the mentioned text part entirely devotes on role of Chemistry in provision of scientific inputs like fertilizers, pesticides, and anti-weeds chemical (Chemistry Grade 7, Chapter 1).

Fully accepting the issue of society's participation on the textbook preparation and improvement at structural level and admitting the impracticality of this scheme, one education officer has rather focused on the reason of its failure. According to the expert, teachers who are given responsibility of accomplishing the duty are highly occupied with teaching load while the guideline mentioned above allows them to share most of their teaching time for organizing discussions with the society and collecting their suggestions. 'Therefore, because of shortage of time, teachers could not approach the society and make necessary discussion with them on the preparation and improvement of the textbooks,' (MEOCE21, KII).

Similar assertion was given by another education officer. Except that some teachers have contributed a sort of supplementary compilations that the expert has shown me, there is no meaningful participation of the society on the preparation and improvement of textbooks. The expert claimed that the initiation for the teachers to prepare the compilation comes from society itself and as the result, the names of those who have contributed to the preparation in one way or another have been written on the compilations. Therefore, this could be taken as societal participation. It was after I probed twice if there is any way in which society could be involved directly in contributing to the preparation other than individuals personal endeavours that the expert said, 'Formats are regularly sent to us for textbooks evaluation. Then we pass to the concerned body. Such things as what to be added, what to be improved and its limitation to be corrected are commented on by the society and sent to Zone Education Office every year' (AEOCE1, KII).

Concerning the community's participation in decision-making on the students' learning situation, the findings indicated positive implication on the side of procedural and follow up routines while they showed lack of participation on academic matters.

5.8 Chapter Summary

The chapter has devoted to presenting data collected through interviews, focus group discussions, field observations, and documents analysis. The data have been presented under various themes on the basis of the views most frequently reflected by participants and across the divergent instruments. An attempt has been made to present the contesting and consenting views of participants reflected in various instruments on particular issue and sources of their contention. Participants' direct sayings have been quoted as evidences where needed so as to maximize the authenticity of the findings.

The findings have indicated various aspects of indigenous agricultural knowledge actively used by local people together with the practical reasons for the persistent use of the practices. The ways these practices have been transmitted over generation as well as the perceived ways to sustain their preservation and transmission have also been indicated. The chapter has also presented perceived contributions of the use of Oromo Language in education from the points of view of education, cultural revitalization, and evoking identity and right. Furthermore, the inclusion of indigenous practices of agriculture and other valuable cultural heritages into the MT medium primary education has been examined based on both participants' perception and textbooks review. Finally, data on the extent of parents' involvement in determining what and how their children learn at school has been presented.

CHAPTER SIX: DATA DISCUSSIONS

6.1 Introduction

In the foregoing chapter, the findings were presented under main themes and sub-themes based on the views of the participants from teachers, students, regional curriculum experts, education officers, local farmers, and agriculture and rural development experts working at different levels. All of them were considered to have direct bearing with the contribution of the use of Oromo Language in education in promoting society's valuable indigenous knowledge practices.

In this chapter, the themes presented in Chapter 5 are discussed critically in line with the research questions that have guided this research. The views of the research participants are discussed in relation with different academic and other government documents as well as the theoretical principles or research findings in other settings. International scholarly sources have also been used to substantiate the issues under consideration. This approach is believed to provide readers with opportunities to examine some level of association between the findings of this study and other studies. It must be made clear, however, that most of the ideas to be discussed in depth in this section are perceptions, attitudes and views of the participants involved in the study but are not necessarily representatives of the entire people in the region or the nation at large.

As a reminder to the readers, this research is exploring the extent to which the current mother tongue education system is contributing to the promotion of people's indigenous knowledge practices of agriculture in Oromia Regional State, Bale zone. The research is an investigation of whether the use of Oromo Language in education is playing imperative role in enhancing cultural dimension of rural development strategies by way of promoting people's indigenous practices and resources. This discussion is presented following the basic research questions (See Chapter 1).

6.2 Indigenous Knowledge of Agriculture actively used in the Study Area

The research question congruent with this theme is: *What are the notable practices of agricultural indigenous knowledge in Bale zone, and how have these practices been preserved and transmitted over generation?* In the literature, in both Ethiopia and elsewhere, there are evidences for active existence and continuous use of indigenous knowledge of agriculture (IKA). Warren (1991:15), for example, argues that, 'There is incontrovertible evidence that, drawn upon their own resources, African farmers have always been and continue to be great agricultural innovators and experimenters.' It is also an evidence for the valuable function of IKA worldwide that survival of about two third of the world's people relies on the food produced through indigenous knowledge of plants, animals, and farming systems, and over 90% of food in Sub-Saharan Africa is produced using customary farming practices (Twarog & Kappoor, 2004:355). In the same vein, local studies indicate that majority of the rural population in Ethiopia depend dominantly upon indigenous practices of farming to sustain their livelihood (See Chapter 3).

The present study also shows that majority of farmers in the visited area are using either indigenous ways of agriculture alone or both indigenous and modern methods integratively to sustain their livelihood. Some sort of variation in views was observed among the participants about magnitude of utilization of IAPs and modern technology inputs and provisions. Views of some participants seem to be biased by the mission they are given to realize the rural development scenario. The ambition to use and benefit from technology when they are actually using their IK practices is also observed to have influenced the participants' views. These biases and influences were realized when other discussants disproved suggestions of their peers with evidences and when the same participant witnesses the opposite in other consecutive discussions. As the findings indicate, majority of people (about 60% to 95%) greatly use indigenous knowledge practices in their farming endeavour based on the various factors. This finding is supported by Oromia Region five-year plan of rural development. The Oromo Language version is stated as, 'Qonnaan bulaan baayyeen sababoota adda addaatin paakeejii teeknoloojii guutumatti hojii irraa oolchee fayyadamaa ta'aa hin jiru,' (BMQBO, 2002:37). This literally means 'majority of the famers are not fully using the package of

agricultural technology for various reasons.' Components and magnitude of the utilization of IKA vary based on the social and environmental circumstances of particular setting as will be discussed later.

Among aspects of agriculture in which people dominantly use traditional practices for their sustainable livelihood in the visited area are controlling soil erosion and maintaining soil fertility. These are put into practice by planting trees on the edges of their plots, contour ploughing across their farm land, preparing traditional ditches, building terraces using stones and soil, using crop rotation, using fallowing, and using animal droppings and decomposed leftovers of plants. The other aspect is weeds controlling which is accomplished through hand-picking, hand-digging, crop rotation, early sowing, and clearing the seeds from unwanted seeds prior to sowing. Preparing land farms by the use of traditional oxen-pulled technique and hand-digging is another aspect where IAP is prevailing. Moreover, traditional practices like hand-mowing, traditional gallery preparation, cultural animal rearing, caring their health, fattening, milking and marketing are actively practiced in aspects of collecting yield and animal husbandry.

Other than these aspects, farm-related climatic prediction is important agricultural aspect where farmers use their IK. It was stated in the literature that traditional calendar of climatic prediction is farmers' ability to correctly identify indicators of climatic events throughout the year, and a good oral historical record of the climatic events from year to year. In this study, the findings show that farmers possess traditional climatic prediction knowledge of when rain falls, seasons in which there may be lack or excess of rainfall, rainfall irregularities, climatic causes of weeds overflow, occurrences of crop pandemic diseases and so on. Farmers predict these occurrences using indicators like position of cloud, the occurrences of morning whirlwind, direction and speed of wind and situation of moon. This climatic prediction assists them to adjust their farm land preparation and selection of seeds type compatible with the predicted weather condition. The local knowledge of climatic prediction is even commented to have more precision than meteorological broadcasts in some cases. Despite the widespread of modern health care centers for animals, some degree of health care of domestic animals by local farmers is also observed.

These findings have some level of parallelism with other findings both worldwide and in Ethiopia. Common indigenous agricultural practices reviewed in the literature generally include pest management practices, indigenous land use systems (forest gardening and shifting cultivation), soil fertility management practices, weed management practices, indigenous ways of crop harvesting and storage, seedling preparation and planting, seed preparation, sowing, fixing axes/hoes, and watering (See Chapter 3). In Ethiopia, several researchers who conducted various studies in different regions identify various lists of indigenous agricultural practices people still use for survival. These practices include traditional ditches, traditional waterways, stone terraces, traditional cut off drain, contour ploughing, local vegetative barriers, traditional pest controlling practices like hand picking, knowledge of identifying and maintaining soil fertility locally, traditional pest controlling techniques, seeds selection mechanisms, knowledge of shifting cultivators, and strategies of natural resource management that is ensured through norms, ethics, values and taboos.

A number of reasons for the sustainable utilization of the indigenous practices of agriculture are drawn from the findings. These include shortage of provision of agricultural technology and lack of infrastructure, topographical location of the farm lands and soil typology, limitation of effectiveness of the available technology, cost of the inputs and services, lack of farmers' awareness and shortage of training provisions. Furthermore, life style of farmers in different climatic zones, and farmers' commitment and willingness to use the available technology have also been put forward as reasons for the persistent use of the traditional agricultural activities.

The practical reasons put forth by participants in this study for the continued utilization of IKA mostly match with the argument pointed out in the literature. Akullo & Kanzikwera (2007:10) in their study carried out in Kenya show how farmers appreciate IKA. 'Many farmers felt that IK use must be promoted in all farming practices.' They further indicate the reasons for use of IKA that imported technology is unreliable due to lack of originality, modern techniques are not known or readily available, modern technologies are expensive for the majority of farmers, and farmers lack awareness and are financially not capable. These scholars further summarized practical benefits of IAPs as cost effectiveness, simplicity

to grasp the concepts and practices, availability on demand domestically, and absence of side effects to human health and others. Tisdell (2007:366) also gives analytical comparative evidence as to why traditional agro-systems are more sustainable than modern industrialized ones for people's livelihood, and identifies a number of limitations of modern technology in sustaining agricultural production. The limitations can generally be summarized as exhaustibility and non-renewability of external inputs, adverse impact of long-term use of chemicals on soil fertility and farm productivity.

The findings clearly show that IKA is playing a significant role in solving immediate problems of people especially in developing countries like Ethiopia where scientific technology of agriculture has not been fully utilized. This argument evokes the need for promoting indigenous resources of local people in careful integration with, but not replacing by, modern technology that is compatible with the existing local situation. It is in the realization of this promoting scenario that indigenous approach to education in the medium of students' mother tongue should be essentialized (See section 6.5).

On top of the above propositions, it was considered in this study to be essential to explore perceptions and views of development experts and other authorities in the area as to how much IAPs are important for and hence are considered in rural development strategies. In the literature, it has been reviewed that IK practices and local institutions are important components of development strategies especially for rural people. A number of scholars widely claim that as these practices are rural peoples' powerful resources, ignoring their usefulness has contributed to the African poverty. It was also pointed out that some African countries like South Africa, Uganda and others have designed a policy to incorporate indigenous knowledge systems into their national and regional development strategies.

The findings in this study indicate that IK practices are being used by rural people and are assisting them to sustain their life. The findings further indicate that both traditional and modern technological practices have benefit and limitation of their own in development strategies. There is slight variation among the development experts with respect to this argument; however, their common conviction and secondary data underline that embarking

on modern agricultural technology totally ignoring indigenous resources is by no means the sole strategy for the rural farmers so as to sustain their livelihood. There are cases where traditional practices are even more practical and effective for particular aspects of agricultural activities for factors discussed earlier. As it has been discussed in Dialectical Modernization Theory used as a theoretical lens in this study (see Chapter 1), traditions do not necessarily embed development. The experts seem to have awareness that preferred strategy is using the two forms of technology in combination where skill, cost and access allow. This assertion conforms to Tisdell's (2007:372) argument that nowadays, whether intensive agriculture based on high inputs of capital and high use of resources external to farms, and relying on 'modern' science could bring about sustainability in agriculture is becoming uncertain.

The above contention regarding the usefulness of combining the indigenous and modern strategies and resources for local development aligns with the argument reflected in another literature. It is argued that taking wisely all valuable resources from both internal and external technology and benefiting from them without too much reliance on external resources and too much insistence on exclusive internal knowledge is the preferred strategy in rural development efforts. In association with the situation of African context the scholar claims, 'Wisdom, it looks, lies in finding the golden mean – a non-antagonistic combination of indigenous and non-indigenous resources,' (Okombo, 2000, quoted in Alidou et al., 2006:48). These perceptions match with the central assumptions of the theory mentioned earlier. The theory assumes traditional and modern as social phenomena in a dialectical relationship where both types of phenomena change in the process, and where the essential result is the integration of the two. The theory, therefore, encourages the importance of the amalgamation of the local knowledge and the scientific knowledge (See Chapter 1).

The findings at the experts' perception level and secondary sources have been cross-checked with Growth and Transformation Plane (GTP) of the country and similar guideline of the region. As the review of the two documents shows, farmers' IKA is not acknowledged in the plans. Both the objectives and the specific implementation strategies of the plans exclusively emphasize on transforming local farmers' backward life style and production methods to

modern technology-led mode of production and life style (BMQBO, 2002; የገ/ኪ/ማ፣2003). The implication is that the people's indigenous way of tackling their local problems is not totally neglected by ARD experts and seems to need consideration in the rural development campaign. However, this experts' assumption is not supported by policy designers of ARD. This shows that despite the experts' positive recognition and global consensus of their being central issue in development discourses as a strategy to solutions on social and economic problems for grassroots society, and despite the fact that majority of the people are making use of them to date, people's indigenous knowledge practices of agriculture have been sidelined in the ARD policy provisions. Other local studies (e.g. Wolde Selassie, 2005) similarly claim that useful IK practices are not considered by policy planners as valuable contributions for related projects like natural resource management.

6.3 Ways of Conservation and Transmission of People's cultural Values and IK Practices of Agriculture

The research question corresponding with this theme is: *How have these practices been preserved and transmitted over generation?* Though this question is part of research question 1, it was found important to discuss it as a separate theme. In the literature review, it has been discussed that indigenous knowledge is basically transmitted, shared and communicated orally, through imitation and demonstration, or by specific example, and through cultural activities. Indigenous forms of communication and organization are vital to the preservation, development and the spread of IK. This is because IK is stored in people's memories and activities and is expressed in stories, songs, folklore, proverbs, myths, cultural values, believes ritual community laws, local languages, traditional agricultural activities, and traditional materials.

Findings in this study show that indigenous knowledge practices and traditional agricultural practices in particular have been preserved and transmitted from generation to generation orally and through observation of practical activities (through the cultural system of apprenticeship) and through people's ritual values mostly from parents to children. The

findings further indicate that though resent history, primary education in the medium of learners' mother tongue has also contributed to the preservation and transmission of people's indigenous practices.

In this theme, it was extended to examine the view of participants on the importance and ways of preserving and transferring useful cultural practices and traditional practices of agriculture to the areas of similar context (horizontal transmission) as well as from elders to the young generation (vertical transmission). Most of them agreed to the idea of transferring these practices to others for the reasons discussed in section 6.2. With relation to the horizontal transmission of useful traditional practices of agriculture, sharing experience among farmers of different experiences and strengthening the awareness of the farmers about the usefulness of these traditional practices are possible ways. These practices should be carefully investigated, documented and transferred to other contexts.

Regarding passing people's indigenous practices over generation, practical observation and education in the medium of students' mother tongue have been widely claimed. The role of MTE in this regard was seen from the point of view of last education system when promoting cultural values of majority of Ethiopian ethnic groups via education was not so easy. Hence preparing syllabi and textbooks based on the reality of the society and environmental situation is one important way. It seems to arise from this belief that the responsibility for practicality of the preparation of primary education curriculum is given to regional curriculum designers in collaboration with local community members. Community elders are perceived to be proprietors of both society's indigenous practices and what is taking place in schools. It is suggested in this study from this view point that the involvement of farmers and other stakeholders in curriculum designing and implementation would extend the apprenticeship mode of preserving and transmitting people's local knowledge of agriculture by way of integrating society's indigenous values and resources into classroom lessons.

6.4 Perceived Social and Pedagogical Contributions of the use of Oromo Language in Primary Education

Research question that corresponds with this theme is: *What is the perception of participants about the use of Oromo Language in primary education in relation to preserving and promoting people's cultural values?* The main concern of this theme was to explore how the participants perceive the extent to which learning in mother tongue helps one learn and promote society's cultural practices, with special emphasis to Oromo Language. However, various dimensions other than cultural promotion that are attributed to learning in Oromo Language are also discussed in this section based on the participants' views as well as on findings from other studies. In the literature, contribution of mother tongue education is seen from various angles by various scholars. Most of the scholars judge the value of MTE from pedagogical, psychological, linguistic, cultural, sociopolitical, and economic perspectives (Kioko et al., 2008; Ouane, 2003) (See Chapter 3 for detail). This section discusses the findings from cultural, pedagogical, and symbolic perspectives.

The use of Oromo Language in education system has been fully accepted by almost all stakeholders of education participated in this study. This positive impression is highly likely to have emerged from the critical observation and comparison between language in education policies and practices of the past education systems and the current one. The language in education policies of the past social systems were more of segregationist, dismissive or repudiationist, and assimilationist compared to the current pluralist or maintenance mode of language policy (Moges, 2010:27) (See Chapter 2).

It is from the premise of this historical phenomenon that the participants claim the MTE to help both students and parents know, remember and revitalize their cultural values that have been forgotten as it offers them an opportunity to discuss at home what is learnt at school. Participants' perception extends to the extent of judging the use of Oromo Language in education analogizing the issue as, 'digging the land and looking for what has been hidden in the soil for long.' Other than restoring the society's cultural heritages, it was learnt from the

findings that the use of MT in education also plays irreplaceable role in developing the language being used as medium. As has been discussed in Chapter 3, one of the most important means of maintaining indigenous forms of life is to maintain the language, for society's traditional values and knowledge are encoded in each language. This account entails the adverse effect of not using children's familiar language in their primary schooling on the preserving and promoting their society's traditional values and local knowledge because learners learn and follow the culture of the society whose language is serving as a MOI.

These findings conform to the arguments by Alidou & Brock-Utne (2006), Benson (2004), Kuper (2003), and Ouane (2003) in their studies on the needs for mother tongue-based bilingual education in different countries. The findings by these scholars clearly show that the use of the students' mother tongue during primary education reinforces optimal promotion and transmission of the child's social and cultural values. Children who attend schools using their mother tongue or a familiar language as well as the community at large develop pride in their cultures and languages. Benson (2004:14) further contends, 'Seeing the mother tongue in print in the official context of schooling elevates its status and usefulness.'

However, there is a fear on the part of some participants that the young generation's level of attention to their cultural heritage seems to be limited though they learn in their mother tongue. Participants' observed fear should not be disregarded but should rather be used as an important input for further effort to maximize the role MTE in promoting culture. The effect of globalization could also be considered with respect to this issue. The generation is likely to be exposed to external cultural actions that are potentially capable to tempt their internal cultural pride. This claim aligns with the argument in the literature which indicates that just as colonialism adversely diluted the rich cultures of the colonized people, globalization may indirectly do the same to indigenous culture and knowledge (See Chapter 3 for global effect on cultural values).

Thus, intergenerational transmission of cultural knowledge and practices (from elders to younger people) is most effective when children are able to learn through the medium of

their mother tongue. Compared to the former education system where Amharic was serving as a sole MOI in primary level in the entire nation, using Oromo Language in education is becoming a facilitating agent in restoring community's cultural values. It is perceived as good opportunity for the revitalization of Oromo cultural values and development of the language itself on condition that due emphasis is given by stakeholders of the scenario.

The other aspect of contribution of MTE as perceived by participants is its educational value. Students, teachers, curriculum experts and other participants have strong stand on the positive contribution of using one's MT to education especially at lower level. It has been learnt that students' cognitive, psychological, and attitudinal development is best reinforced when the medium of their primary education is the language they use with their family. The major argument in this finding is that when students learn in their home language, they are not challenged with the language of learning and content of the subject matter. Learning in learners' home language also reduces their psychological stress and fear that hamper their learning condition. It was also learnt that it provides them with confidence and freedom to ask questions and express their feelings freely. This aspect of the use of MTE associates with Benson's (2004) critical observation:

> *The affective domain, involving confidence, self-esteem and identity, is strengthened by use of the L1, increasing motivation and initiative as well as creativity (...) unlike submersion classrooms where they are forced to sit silently or repeat mechanically, leading to frustration and ultimately repetition, failure and dropout (p.* 4).

Participants strongly argue that students develop grounded basis of understanding at lower level when they use their own language which offers them dependable academic ground when they complete primary level and pass to the next level. When the language is not students' mother tongue, they are forced to learn the language which takes them considerable length of time before learning the content. If the language is their mother tongue, however, they immediately understand the content and develop their creativity. These findings conform to the statement by Ouane (2003). Ouane argues that the use of a mother tongue familiar to children enables efforts to be chiefly devoted to the learning of content while

using a foreign language causes effort to be expended first on learning the medium of instruction and only then on learning the content which takes much more time and energy.

It is also learnt from the findings that mother tongue education creates suitable classroom situation by solving the instructional communication problem and enabling students to actively and meaningfully participate in the education process and offers them the opportunity to demonstrate their full range of experience and competence. It also helps prepare culturally contextualized and relevant teaching materials which, in turn, maximize the relevance of the content and effectiveness of the methodology. Benson's (2004:3) argument aligns with the above claims when she says:

> *Since content area instruction is provided in the L1, the learning of new concepts is not postponed until children become competent in the L2. Unlike submersion teaching, which is often characterized by lecture and rote response, bilingual instruction allows teachers and students to interact naturally and negotiate meanings together, creating participatory learning environments that are conducive to cognitive as well as linguistic development.*

The findings in this study also depict the negative impact of mother tongue education on the future academic effort of the students. The major premise of this reflection seems to be connected with the late transition model that resulted in the short time interval between the completion of MT medium primary school and the time at which secondary education national examination takes place in English medium. Another source of fear is the variation of language in education policies of primary level (linguistic transitional variation) across regions while all the students from all regions are judged by the same type of national examination at the end of secondary education. The fear also seems to emanate from the observation that the English language students are taught as a subject right from grade one onwards may not be sufficient to equip them with the needed level of linguistic competence. The authenticity of this latter assumption needs further investigation, however.

The implication of the above findings is that earlier transition from MT schooling to English medium schooling remedies the variation of academic competence of students of different regions created as the result of dissimilarity of students' exposure to English medium content

subjects and guarantee the equal competition among students at higher level. As the result, few participants commented on this particular issue suggested the inception of English language as a MOI from the beginning of the second cycle of primary school (grade 5). However, these propositions were not suggested by any of the subjects from education officers or curriculum expert cycle.

As findings of studies on bilingual education in various countries (Kioko et al., 2008; Benson, 2004; Ouane, 2003; Ogutu, 2002 and others) and in Ethiopia (Dereje, 2010; Teshome, 2007; Heugh et al., 2007; NOE, 2004) indicate, children learnt in their MT medium receive meaningful education and outperform in most subject areas those children who have learnt in the medium of foreign language (See Chapter 3). It may be essential to refer to recent studies by Heugh et al. (2007) and Dereje (2010). Heugh et al. (2007:7), for example, contend, 'The current MoE policy of eight years of mother tongue medium schooling is one of the best on the continent and promotes sound educational practice.' Dereje (2010) has also pointed out the pedagogical role Oromo Language is playing in the primary education and its ultimate contribution to quality education as one of major 'positive findings' in his study. He concludes that 'This could also be explained that in maintaining students' good academic performance beyond primary education, at secondary and tertiary education and training levels, the medium of learning has played a positive transformative role,' (p. 200). Hence, the negative impact of late inception of English medium education or the extended MT medium schooling on future academic achievement of students does not seem to be supported by empirical investigations.

Contribution of MTE is not limited to cultural revitalization and educational reinforcement. It is also perceived as means of empowerment of social identity and social right. The power of learning in Oromo Language in maintaining and sustaining Oromo ethnic identity and linguistic right has been given due emphasis in the findings. It has been seen as one of the most important instruments in which Oromo ethnic identity is manifested. As rightly reflected in the findings, as compared to the encouragement one gains to claim oneself belong to one's own identity when learning in his/her mother tongue, it is not easy to claim so when learning in non-mother tongue medium. It is one, perhaps the best way, through

which the promotion of social identity of certain community is realized. Kuper (2003:96) supports this finding saying, 'Children who are educated in a foreign language lose their identity and are deprived of the possibility to express themselves in their proper vocabulary and in their own morpho-syntactical structures.'

Although some scholars hardly claim the one-to-one language-identity relationship in the era of globalization with the view that people have variety of identity markers other than language, Dereje (2010) argues that Oromo identity via Oromo Language must be seen in the context of sociopolitical, linguistic and cultural situation of past and present Ethiopia. It is implied in this study that children are being aware of their identity as the result of their being taught in their home language. The findings have got direct association with what Kioko (2008) and Ouane (2003) contend. Ouane's (2003:81) argument is that, 'Mother tongues are the first foundation of the personality of an individual and of the nation.' This assertion aligns with Kioko's (2008:8) statement: 'The affirmation of the child's cultural identity through use of the mother tongue has a significant impact on the way that child sees the relevance of school to his or her life.'

It has been further learnt that using Oromo Language in education is not only facilitating promotion of social identity but also is ensuring linguistic human right. As has been pointed out in other sections, the judgment of role MTE is playing from the point of view of maintaining human rights is also anchored on the past imbalance role the Ethiopian languages were offered to play in various social domains. The findings stress that learning in one's own language is like declaring human right. When learners' MT is used in education, Benson (2004:4) argues that 'basic human needs are being met so that schooling can take place.'

In general, mother tongue education is thought as fully responsive when it plays the role of facilitating school instruction, maintaining the cultural values of children's community, and ensuring social and individual identity and right. When measured on this ground, the use of Oromo Language in education has been found to be imperative in terms of the pedagogical ease the language medium has created in the classroom interaction, in cultural and linguistic

valorization, and in identity empowerment. The confidence, self-esteem, and relaxed reaction during the interviews and group discussions on the part of the participants were the reflection of these facts. The fact that most of the participants expressed their psychological satisfaction that Oromo Language is valued to serve in school as MOI and in other social domains could be an indication of the contribution attributed to MTE for re-establishing the linguistic and cultural imbalances that was rooted in the past sociopolitical pragmatism.

6.5 Inclusion of People's Cultural Values and Indigenous Practices of Agriculture in MTE System

The research question related to this theme is: *How much does the mother-tongue primary education consider the inclusion of people's practices of indigenous knowledge of agriculture?* The motive behind this question is to explore if the use of Oromo Language in primary education has facilitated the inclusion of society's indigenous practices of agriculture and other useful cultural practices into education system. The necessity for incorporating IAPs and other valuable traditional practices into MT primary education has arisen from the assumption that endogenous approach to education process which is practically based and conceptualized to the local and national needs of the society is essentialized for society's sustained livelihood. This belief goes in line with Jomtien's 1990 World Conference goal which was to promote African national languages as MOI with the need to improve classroom pedagogy and the integration of IKSs and other cultural values into school curricula. This was to create MT-medium curricula whose main parts are cultural and agricultural activities that enables learners to become productive in their society (Alidou & Brock-Utne, 2006).

As Owuor (2007:34) strongly argues, 'Revitalizing the value of indigenous knowledge through curriculum reforms is vital if communities are to engage in sustainable economic development that is oriented to their local needs.' The realization of this scenario is further commented to be through education in the medium of MT stressing that, '...the incorporation of cultural heritage and values as the grounding for education, perpetuated through

indigenous languages as and transmission of indigenous knowledge,' (Ibid.). The purpose of doing this, as Owuor (2007:34) argues, is to establish an appropriate balance between society's cultures, knowledge, values, economic needs, social pressures, national demands with localized and global development strategies (See Chapter 3). These propositions conform to Skutnab-Kangas' argument on the role MTE needs to play beyond pedagogical benefit. She contends that using the mother tongue only as a MOI is not enough. The contents of the education and its teaching methods need to be context-sensitive and fit into the life situation of the indigenous people and acknowledge and promote the traditions, knowledges, values, history and identities of the group. They should also need to start from the children's and community's experiences and knowledge and take the children from practical everyday thinking to scientific horizon (Skutnab-Kangas, 2009:7).

The above assertions of indigenizing bilingual education by way of incorporating valuable practices of grassroots people into primary education system have perpetuated the discussions on the extent to which the use of Oromo Language in education have contributed to the inclusion of IK practices and other society's valuable traditions. Views, perceptions and judgments of participants are critically discussed and cross-checked with reviewed literature, students' textbooks, curriculum syllabi and other related documents to come up with evidence-based conclusions. Based on the data presented in sub-themes in the foregoing chapter, the inclusion of general cultural practices and materials of the society and indigenous practices of agriculture into MT medium primary education will be discussed. The need to discuss general cultural practices in this theme emanated from the belief that culture is what shapes societies' and individuals' ways of life, a source and methods of people's innovation and creativity, the foundation stone of endogenous systems of forms of expression and ways of preserving and transmitting knowledge (Banda, 2008; UNESCO, 2005; Pascallon, 1982).

Cultural practices that the data indicated to have been included in the school lessons could be put into various aspects. The literature categorizes cultural practices of a society into two dimensions, culture as social practices and culture as artistic expressions. While the former dimension comprises practices of religion, language, education and social and family

practices, the latter includes literature, dance, music and films (Ministry of Foreign Affairs, 2002:5). In this study, too, cultural heritages are put into cultural practices and materials and literary expressions. The inclusion of both dimensions of cultural practices into class lessons occasionally is manifested in the data.

Regarding the culture of literary expressions, cultural music, riddles, jokes, proverbs, drama, songs, poem, role play, folktales and praising are mentioned to have been reflected on various occasions and parents' meetings and are also learnt at school. As far as culture of social practices and materials are concerned, cultural clothes like 'mammud' (white-colored cultural dressing), 'qubee harkaa' (finger ring) and other cultural materials like 'coocoo', 'quluu', and 'qorii' (decorated wood-made containers), wooden chairs, 'hodhaa' (traditional household material made from grass), and traditional embroidery are included in the class lessons. Practices of preparation of cultural foods like 'cuukkoo' (food prepared from powder of roasted barley and butter), 'marqaa' (porridge) and others together with cultural marriage and culture of works are also claimed to have been taught at school.

It has also been learnt that the use of MT in primary education offered students an opportunity to learn cultural practices of nations and nationalities which initiates students to learn the culture of other people as well. Further, the role Oromo elders are playing in the local governance, especially in mediating conflicts is also initiated and transmitted as the result of using students' MT. This reminds us similar findings obtained from elsewhere: '... the L1 brings cultural values into the classroom, which parents highly appreciate' (Benson, 2004:14).

My further question was whether or not students get opportunities to bring cultural materials and practices of their community into the class lessons. Students' responses showed that they are given some opportunities in the form of home assignment to ask their parents about cultural practices and materials when they are back from school and come to class with what they have got from the village for further discussion. On the other hand, there are also cases when they take what they learn at school back to home and help their parents make use of them. The findings claim that detail presentation may not be expected to appear on textbooks

but the books provide students with directions which guide them to ask elders and bring cultural practices to the class and discuss which gives students further opportunities to examine their parents' traditional practices.

Related to the inclusion of the people's cultural values in the MTE, the role of non-academic school structures, especially clubs, were found to have contribution to promote their culture more. It was learnt that various clubs are organized in schools with various purposes. Among the clubs mentioned to have aimed at promoting Oromo cultural practices are Oromo Language and Literature Club, Mini-Media Club, and Music and Drama Club. The weakness and strength of these clubs to achieve their goals varies across schools visited depending on the commitment of coordinators of the clubs and that of the school management at large. In any case, these special school structures could be taken as promoters of traditional practices of students' parents. In these clubs, children are offered opportunity to learn, practice, demonstrate and transfer useful traditional practices of their parents. These opportunities have helped them make and use cultural materials, tell stories, proverbs and riddles, and practice mediating conflicts in the form of notice, drama, song, poem and other literary genres. Students are also organized in club in the form of journalists and act as commentators when students play different games. These activities are believed to initiate students to know their culture and facilitate the development of the language and culture of the society.

Despite the positive assertions about the inclusion of people's cultural heritages into the school lessons, some degree of dissatisfaction on the part of participants, especially of students and farmers has been reflected. The implication is that the practices incorporated in the school lessons are below the expectation of the participants in the primary education in which students learn in their mother tongue in their cultural setting. The dissatisfaction could also emanate from the high desire the students and the society have developed to know more and revitalize Oromo cultural values. Some participants, particularly farmers, have expressed their fear that society's valuable cultural practices which had survived without being written are not being taught to students properly and regularly in explicit, practice-based and detailed way. The fear reflected is attributable to society's and schools' failure to promote people's

cultural heritages. Among the blame-takers for this failure are curriculum designers and teachers.

The result of students textbooks review indicated that in most of the reviewed texts, people's cultural practices, cultural materials and literary expressions are considerably incorporated. Among the textbooks reviewed particularly for these practices, 20% of the total chapters involve people's traditional valuable practices and expressions. Given the various goals (economic, political, social and a like) a curriculum needs to meet, this much inclusion of the practices may not be considered to be below the level of satisfaction. However, the provision of these cultural practices in the textbooks mainly targets helping children practice language skills rather than providing them with opportunities to appreciate their community's cultural practices and play a role of promoting them. Most of the exercises are particularly designed to enable students to consolidate the linguistic aspects of the contents rather than giving them opportunity to discover their society's cultural values and discuss. Very few exercises encourage them to learn their parents' traditional values and appreciate, practice and develop them.

In sum, it could be concluded from the findings that children have opportunity to learn cultural heritages of Oromo society in some academic subjects like Science, Oromo Language, Aesthetics, and Civics supplemented by other non-academic school structures like cultural festivities held in schools and various clubs. The sufficiency and the aim of the provision of the cultural practices in the MTE curriculum from the point of view of revitalizing society's cultural values, however, needs further effort.

The extent to which the indigenous agricultural practices are included into the MTE curriculum is another concern to be discussed in this section. My intension to raise this point was to identify if the use of Oromo Language in education has influenced the education system to consider people's cultural values and indigenous knowledge practices of agriculture with the implication of sustaining rural development. The dominant utilization of indigenous knowledge of agriculture in the visited area has been discussed in section 6.2 in detail. It was pointed out that 60-95 percent of local farmers are still using these practices for

their local livelihood for various reasons. Therefore, the promotion and transmission of these people's valuable heritages in education in the medium of people's indigenous language is indisputable.

In terms of the emphasis of mother tongue primary education with regard to agricultural practices, the participants' views considerably vary ranging from the feeling that IAPs are fairly included into class lessons to the feeling that most of class lessons emphasize orienting students towards new technology granting little or no acknowledgement to the traditional practices. Findings obtained from some participants show some inclusion of cultural practices of agriculture along with technological agricultural practices and the usefulness of mainstreaming both techniques in comparison into the MTE especially in Science subjects at various grade levels in various proportions. The indigenous practices mentioned by participants are more related to soil conservation activities which include using animal excrements and preparing decomposed materials, ploughing farm lands sideways, planting trees and building terraces along the mountainous farm lands in order to control soil erosion and to keep fertility of soil.

Data from curriculum experts reveal that when planning curriculum, areas like cultural practices, agricultural activities etc are decided to be included into it prior to preparation and included accordingly. Agricultural activities are given in the form of exercises whose main goals are twofold; one is linguistic, i.e. to teach sequential process of doing something, and the other is agricultural, i.e. to teach process of agricultural activities of their environment.

The importance of including indigenous knowledge practices into education was perceived by some participants as cultural and historical benefit rather than developmental benefit. For those who see them from cultural perspective, leaning indigenous agricultural practices is considered as learning one aspect of useful cultural practices of the people as indigenous agricultural practices are regarded as part of Oromo culture. From historical account, understanding the past situation of the practices and how it is progressing now is very essential. Seeing the importance of including these practices into MTE from outside of

developmental dimension could show the lack of orientation as to how IAPs are related to rural development agenda.

In any case, critical observation of the view of most participants, especially students, shows the inclusion of the usefulness of practices of modern technology like fertilizer and anti-weed chemical into school lessons predominantly compared to the inclusion of traditional practices. The lesson contents raise the traditional practices in the form of history, rather than considering them as important components in rural development. Providing students with opportunities to bring people's traditional practices to school lessons is one way to orient students towards the practices. With regard to this, the findings show general instances rather than clear indication of specific aspects the students happened to bring into their school lessons, which is likely to be an indication of the less opportunity the curriculum offers the students to bring agricultural indigenous practices of their environment to the school lessons. Moreover, some of the practices claimed by the participants to be included into MTE are not actually IAPs. This may be resulted from the ambiguous features of IKSs discussed in Chapter 3.

The data obtained from the participants cross-checked with review of textbooks. From the textbooks reviewed, it could be said that insignificant instances of indigenous practices of agriculture are included in the text lessons. From all science subjects from grade 4 to 8 reviewed, only three instances appeared in three chapters (out of 49 total chapters) that roughly constitutes 6% of total chapters with an emphasis to traditional and modern methods of collecting and storing crops and gardening. Whereas from Oromo Language texts reviewed, six instances are incorporated in six chapters (out of 93 total chapters) that roughly constitutes 6.5% of total chapters with an emphasis to indigenous methods of controlling weeds, controlling soil erosion, and making traditional and modern beehives. The main objective of chapters (parts) of these texts in which the inclusion is made is mostly to orient students towards immersion into modernization. Most of the exercises aimed at helping students practice linguistic skills and strengthening the modern ways of understanding the life not at creating learners' awareness of the usefulness of the indigenous practices of the society.

The textbooks review data further show that as grade level goes up to upper primary cycles, especially in sciences the consideration of IK practices of society is lost altogether. All chapters of upper primary level texts devote exclusively to how these subjects provide agricultural sectors or other social milieu with modern technology inputs and services which orient students towards absolute reinforcement to scientific approach to rural development disregarding the usefulness of society's local knowledge practices.

To sum, contents and methods employed in the textbooks dominantly influence the students' attention towards scientific technology exclusively. There are insignificant cases where students appreciate and acknowledge local resources and local technology in the society while majority of people rely on indigenous agricultural practices. There is insignificant concern the MT education system draws to the importance of people's local technology in the grassroots people's rural development agenda.

The findings contrast with the studies elsewhere. The literature claims that mother tongue education needs to consider community's indigenous knowledge which is not just mere cultural resource but is fundamental component of local livelihood. In line with this, Owuor (2007:34) states that 'Unless disciplines taught and methodologies adopted reflect genuine commitment to the integration of indigenous knowledge, acceptance of multiple perspectives of knowledge in the curriculum, and encouragement of local community inputs, school knowledge will continue to be abstract, and irrelevant.'

Atchoarena & Sedel (2003:59) also argue that education must be given a rural orientation to encourage more pupils to pursue agricultural activities in order to foster the development of rural areas and as a result to control migration to the cities. It seems to be from this ground that some African nations considered the inclusion of the grassroots people's local knowledge in their bilingual education. In Burkina Faso, for example, one of the stated goals of bilingual education stresses the link between education and local production by way of providing pupils with opportunity to carry out manual activities such as farming, cattle rearing, handicraft, carpentry that are related to the local economy. These activities are part

of the courses taught and also constitute practical fields for the lessons learnt (Brock-Utne & Alidou, 2006:111).

This may assert an assumption that MTE designers in principle needs to make people's indigenous knowledge practices the major elements when designing contents and teaching methods, as Ouane (2003:81) argues: 'Use of mother tongues at school makes it possible for the family and the community to: continue the educational effort already undertaken in the family setting; and play a part in the child's education by seeing to it that traditional values are taken into account at school.' This is because knowledge acquisition is not linear process but is a process that could be realized on the basis of various local and national circumstances. Owuor's (2007:34) argument, for example, is on the favour of this claim: 'Diversity of knowledge should be valued and need not be reduced to the standards and epistemology of Western perspective of knowledge base.'

The conclusion that could be drawn from these findings is that primary education in the medium of Oromo Language disregards people's traditional knowledge emphasizing predominantly to modern knowledge of way of life. Lesson contents orient students towards the understanding that using traditional practices of agriculture is loss and failure while using modern technology is absolute gain and success. This exclusive emphasis of education to modern technology seems to influence students and other stakeholders of education to consider and prefer modern technology as the sole option in the local development agenda. This assumption is contrary to the basic premise of Dialectical Modernization Theory that was used as an orienting lens for this study. In this theory, it was stated that traditional institutions and practices do not necessarily hinder development, but could even promote it. This theory also contends that modern provisions may, on the other hand, function against development at times. The findings also contrast with Vigotisky's personal development theory on which Cultural Historical Activity Theory, the other theory used as a theoretical lens to guide this study, is grounded (See Chapter 1). Vigotisky proposes enculturation into the practices of a society and acquisition of society's technology as the major mechanisms through which children's higher psychological process develops.

Some sort of contradiction is observed between the real situation of how much modern technology of agriculture is assisting people's local livelihood (See section 6.2) and the way primary school students are oriented in their education. As Grenier (1998:5) and Akullo & Kanzikwera (2007:12) contend, when young people acquire at school values and lifestyles different from those of their ancestors or are taught modern techniques exclusively, they are vulnerable to losing their community's indigenous values which ultimately widens the gap between society's life situation and school orientation rather than narrowing it.

I also attempted to examine perceptions of participants as to how MTE relate to ARD strategies. The findings indicate that participants acknowledge the mutual existence of the relationship between MTE and rural development as well as the importance of their relation in general. However, the way the participants perceive this relation varies. The perception of some participants, especially development experts about the relationship between the two sectors is more of communicative aspect. They see it from the angle of creating healthy communication between rural development experts and the rural society who benefit from the effective communication. The implication is that when children learn in their home language at the lower level, they get opportunity to know the language and content of the work of the area so that they can be easily engaged in the local development activities. The findings further indicate that learning in their language enabled students to get awareness on the modern technology through various trainings and put it into practice in relation with the traditional practices in order to lead their life when they happen to drop their schooling. The latter claim may imply the perception of participants to see MTE as related to rural development from the dimension of facilitating the inception of modern technology.

This claim parallels with findings obtained from majority of educational professionals who perceive the relation between education and development in general and MTE and rural development in particular from modernization perspective. Most of them judge the existence of MTE-rural development relation solely from the ground of stereotype belief commonly heralded as, 'Education is a base for development.' This implies that as it is difficult to bring development based on the customary process, MTE is related to development by way of orienting students towards 'scientific knowledge' of agriculture and other development

sectors. Participants widely claim the fact that students learn in class the modern technology of agriculture and that development experts occasionally train them at school is witnesses for the effective relationship between education in the medium of L1 and rural development strategies.

This entails the dominance of top down flow of conventional knowledge about development and the little attention given to the possibility of providing students with local knowledge. For this group of participants, it seems that MTE is seen from the point of view of linear approach to development, the principle inherited in the advocacy of Modernization Theory in the half of 20th century (See Chapter 3). It could be inferred that they perceive modern approach to education as a sole option to have brought about rural development when majority of people still depend on traditional practices of agriculture to sustain their livelihood.

Another prevailing relation between the two is the manifestation of professional integration of various experts. Strong collaboration among social servants of different sectors is anchored on the use of society's language in education through which the experts have passed in their low level education system. The fact that school-aged students have been offered opportunity to access school where they get awareness of their immediate environment or how the surrounding people are leading their life is also claimed as evidence for the mutual relation between the two. However, some participants expressed their reservation regarding the relation of the two. Their reservation is related to the fact that the opportunity for the students to practice agricultural activities that was given due emphasis during the past education system has been weakened or totally lost this time. The reason mentioned were awareness of the society and students as well as school commitment.

In sum, participants acknowledge the existence of relationship between MTE and rural development as well as the importance of their relation. The connection is perceived from the perspectives of effective communication among local farmers and service givers, professional integrative collaboration, and technological diffusion. The benefit of the use of

MT in education for revitalization of people's local resources and knowledge in sustaining rural people's survival is not adequately perceived by participants.

6.6 Community's Participation in Decision-Making about what Students Learn at School

A research question congruent to this theme is: *To what extent has the use of Oromo Language as a MOI enhanced parents' participation in decision making about what students learn at school?* The importance of exploring this issue has emanated from the premise that one of the contributions of mother tongue education is creating conducive situation for local people to approach schools and make intervention on decision-making about students' learning contents. In the literature review, evidences show that one of the scenarios of MTE is enhancing community's participation in decision-making about children's schooling. In another words, it harmonizes the operation in the school and community. One of the goals of bilingual education in Burkina Faso, for example, is promoting parents' participation in preparation of school curriculum (Brock-Utne and Alidou, 2006:111): 'Fathers and mothers take part in the drawing up of the school syllabus and in the definition of certain aspects of education in school such as production and culture.' This entails that the integration of children's culture and languages into curricular activities facilitates parental involvement in rural schools. It also promotes a favorable attitude toward schools among parents and pupils (Ibid.).

From home side, one of the four goals of a primary curriculum guideline entitled 'Madallii Raawwii Adeemsa Hojii Sirna Barnootaa fi Madaallii Barnootaa' (Curriculum Implementation Assessment and Education Evaluation) prepared by Oromia Education Bureau, BPR Committee (BBO, 2002:6) is ensuring the society's and experts' 100% participation on the preparation and improvement of students' textbooks. The main purpose of doing this is to assess people's needs as to what people's cultural resources, ritual values and history their children need to know at school and how much these things have been included in the school lessons (BBO, 2002:41).

Basically, the school-community relationship could be seen from two angles. One is the harmony between the two entities in terms of managerial and follow-up routines while the other is society's direct involvement in decision-making about academic content of what their children learn and in preparation and improvement of students' textbooks. The findings in this study indicate the general belief of participants that when teachers and parents work in collaboration, students learn properly and behave well. There is implication that teachers and community seem to have common goal in relation to children's schooling. However, parents' participation in school matters is more on managerial duties than on decision making on academic contents of the school subjects.

The findings show considerable improvement on the parents' participation in managerial issues of schools related to student discipline, students class follow up and scoring, school income generation, school construction, teachers-related and other problems. Parents participate in these routines using opportunities like committee meeting, end-year ceremony, kebele meeting, unplanned personal contact or personal follow up, or when their children are told to call their parents or involving in different school structures like community-school committee and others. This close harmony between society and school could be attributable to the use of Oromo Language in education. The justification for this harmony seems to be related to the past education situation where children had no opportunity to discuss what they learnt at school with their parents because of the linguistic and cultural gap between home and school. Both parents and students are likely to benefit from this harmony as the situation encourages parents to remember the cultural practices they have forgotten. Besides, parents consider the school as their property and need to take care of it feeling that it is where their language and culture is developed and where they learn technology at the same time.

These claims align with Benson's (2004:14) statement: 'Another outcome of bilingual programs is increased parent participation in school affairs, a situation likely to be related to the fact that they are allowed to use the L1 to speak to the teacher. … Parent participation is a widely-cited factor in successful bilingual programs.' These assertions also coincide with Dereje's (2010) findings. According to him, community-school relationship has been enhanced compared to the situation in the past where Oromo communities could not consider

schools as their own institutions because of a communication break-down, specifically in the rural areas where the majority of Oromo population lives. The change of school mediums into Oromo Language has changed the situation. However, Dereje also commented that the community's participation was limited to financial support, material supplies, and the labour investment.

Regarding the society's participation on decision-making about what their children learn at school, and the preparation and improvement of textbooks at large, the findings show that people rarely suggest on what to include and not to include in the content of the students' lessons. As it has been discussed earlier, the society makes various contacts with local schools for various purposes taking personal initiatives or being invited by the schools. However, their collaboration targets school matters other than academic contents of class lessons. The society could not make such participation because of limited awareness they have about subject contents learnt in class.

On the other hand, the curriculum guideline of OEB mentioned above states that experts and society should have full participation on textbooks preparation and improvement. The responsibility of realizing this scenario is given to wereda education offices and schools as one of their major duties. This is designed in such a way that formats are designed at OEB and is sent down to the wereda via zone education office and then to schools. The wereda education office curriculum department takes the duty of approaching and initiating the people to take part on the preparation and improvement of the textbooks while the schools formally discuss with the people and collect their suggestions using the formats. It is after these people's suggestions are collected from various zones, analyzed, and evaluated that the preparation and improvement of textbooks is accomplished at the regional level. This is to assess people's needs on what their children should know at school and to ensure the achievement of this goal (BBO, 2002).

Regional curriculum designers and curriculum department officers of wereda education offices are aware of the need for society's full participation via school facilitation in the textbook preparation and improvement at structural level. However, this society's

participation has not been realized for people have never obtained any orientation or training on the issue. The reason for impracticality of implementing the society's participation scheme could be attributed to weakness of education bodies, especially teachers who are given responsibility of accomplishing the duty sharing most of their teaching time for organizing discussions with the society and collecting their suggestions, but are highly occupied with teaching load.

In summary, students' parents are involved in various duties in primary school in relation with school general well-being and students' schooling, specifically in students learning follow up, school financing and construction and students discipline matters. However, the parents have no direct involvement in the decision-making about what their children should learn and should not learn at school. In other words, contrary to the premise of the OEB's curriculum guideline and other similar consensus in external literature that claim the need for full participation of students' parents in making decision on preparation and improvement of textbooks in the scenario of MTE, it is learnt that parents are far away from determining what their children need to learn at school. The reason could attribute to lack of awareness on the part of the society and lack of commitment on the part of those to whom the responsibility has been given (schools, wereda education offices, curriculum department of OEB). This could enable one to conclude that the use Oromo Language in education has never brought about a change on education stakeholders (teachers, education experts, officers etc) to consider the local people to determine what their children learn. Local people have never got opportunity to make decision on what valuable traditional practices their children need to learn at school.

6.7 Chapter Summary

In this chapter, the data presented in Chapter 5 have been discussed critically in line with the research questions. The views of research participants have been discussed in association with academic documents, policy strategies, and research findings in other settings. The chapter has focused its discussion on five main points aligned with the research questions. In

the first section, IK practices of agriculture local farmers are dominantly using to sustain their livelihood to date and major reasons for the persistent utilization of these practices are discussed. Related to this, how these practices have been preserved and transmitted over generation together with perceived means of promoting and transferring them to the next generation has been discussed as a separate section though it is part of the first research question. The third point that the chapter has dealt with is the contribution of the use of Oromo Language in education to pedagogical and other social milieus. It has been pointed out that the use of Oromo Language in education is contributing to pedagogical ease and to promotion and transmission of Oromo cultural values. It is also playing a crucial role in maintaining people's identity and right.

The fourth section of the chapter has devoted to examining the extent of the inclusion of indigenous knowledge practices of agriculture and other valuable traditional practices into mother tongue primary education. The chapter has come up with the findings that while cultural values, practices and literary expressions are considerably incorporated in the education, the indigenous knowledge practices of agriculture have been sidelined in mother tongue education compared to the values they are offering people for local sustained life. In its last section, the chapter has discussed community's participation in decision-making on their children's education. The conclusion has been reached that parents closely approach their school and provide it with managerial and follow up routines; however, they don't involve in decision-making on what their students should learn and should not.

CHAPTER SEVEN: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

7.1 Summary of Procedures and the Findings

7.1.1 Procedures of the Findings

This study was concerned with exploring the contribution of mother tongue education in promoting people's indigenous knowledge with special emphasis to agricultural practices in Oromia Region, Bale Zone. The major concern was to examine if the use of Oromo Language in education is playing the role of enhancing the process of harnessing the indigenous knowledge of grassroots people in the rural development campaign. In line with this, the study aimed at specifically investigating the indigenous knowledge practices of agriculture actively practiced to date, the role mother tongue education is playing in preserving and transmitting society's traditional values, the incorporation of indigenous agricultural practices in primary school curriculum, and the participation of parents in the students schooling matters. To achieve these objectives, interdisciplinary qualitative exploration was employed as an approach.

The data were collected through qualitatively designed interviews and focus group discussions from primary school students and teachers, education officers, regional curriculum designers, rural development experts working at various levels, and local farmers. Besides, field observations and review of students' textbooks and other academic and non-academic policy documents were also conducted. In the data analysis process, qualitative content analysis was used for the data collected through interviews and focus group



discussions. Integrative thematic approach was used as a means of data scrutiny. That is the data obtained from various participants were integrated based on their thematic association and presented. For coding the immense texts into meaningful sections and categorizing the codes into broad patterns or themes, Open Code 3.4 version software was used after which the interpretations were given.

7.1.2 Major Findings of the Study

In this section, major findings will be drawn based on analysis and discussions carried out in Chapter 5 and Chapter 6.

1. Majority of local people (about 60% to 95%) in the study area dominantly use either indigenous practices of agriculture alone or both indigenous and modern technology integratively so as to sustain their livelihood with varying components and magnitude of the utilization. These practices comprise practices of controlling and maintaining soil erosion and fertility that include planting trees on the edges of their plots, contour ploughing across their farm land, preparing ditches/cut-off drains, building terraces using stones and soil, using crop rotation, fallowing, and using animal droppings and decomposed leftovers of plants. The others are weeds controlling practices like hand-picking, hand-digging, crop rotation, early sowing, and clearing the seeds from unwanted seeds prior to sowing.

   Moreover, oxen-pulled ploughing and hand-digging for farm land preparation, and hand-mowing, are active practices of agriculture. Further, local farmers possess traditional knowledge of climatic prediction of seasons of lack, excess, and irregularities of rainfalls, causes of weeds overflow, and occurrences of crop pandemic diseases using indicators like position of cloud, direction and speed of wind, and situation of moon. This knowledge helps them adjust their farm land preparation and selection of seeds type compatible with the predicted weather condition.

2. Reasons for the sustainable use of indigenous agricultural practices include shortage of provision of agricultural modern technology and lack of infrastructure, topographical location of the farm lands and soil typology, and limitation of effectiveness and cost of the available modern technological inputs and services. Further, lack of farmers' awareness and shortage of training provision, life style of farmers in different climatic zones, and farmers' commitment to use the available modern technology were suggested. How much indigenous practices of agriculture are perceived to be important and hence are considered in rural development strategies was also examined in this study. It was learnt that there is experts' positive consideration and global recognition of the fact that people's indigenous knowledge practices of agriculture are central issue in development discourses as strategies to solutions for social and economic problems at grassroots level. However, these valuable knowledge resources have not caught due attention in the policy formulation and implementation strategies of agriculture and rural development both at regional and national levels.

3. Indigenous knowledge practices and traditional agricultural practices in particular have been preserved and transmitted from generation to generation orally and through observation of practical activities (through the cultural system of apprenticeship) and through people's ritual values mostly from parents to children. Regarding the importance and ways of preserving and transferring useful cultural practices and traditional practices of agriculture to the areas of similar contexts, sharing experience among farmers of different experiences and strengthening the awareness of the farmers about the usefulness of these traditional practices are found to be possible ways.

   Concerning perceived ways of passing people's indigenous practices over generation, practical observation and education in the medium of students' mother tongue have been widely claimed. The role of mother tongue education in this regard was seen from the point of view of last education system when promoting cultural values of majority of Ethiopian ethnic groups via education was not exercised. Hence preparing syllabi and textbooks based on the reality of the society and environmental situation is one important way.

4. Almost all parents, teachers, students and curriculum experts participated in this study have positive impression about the use of Oromo Language as a MOI in primary education. It has been found essential in terms of creating pedagogical ease, revitalizing the society's cultural values and practices as well as the language itself, and sustaining social identity and linguistic right of the community. From educational point of view, it has been widely claimed to be positive reinforcement on students' cognitive, psychological, and attitudinal development. The major argument in this finding is that when students learn in Oromo Language, they are not encountered with double challenges, challenge of comprehending the content of the subject matter and challenge of language of learning. Students strive to understand the contents and develop their creativity instead of exerting much effort to learn the medium which would take them considerable length of time. It has also provided them with confidence, self-esteem and freedom to express their feelings. Hence it is believed to have enabled them to develop dependable academic basis of understanding at lower level.

   Negative impact of mother tongue education on the future academic effort of the students was also reflected in this study. One of the perceived assumptions was the late exit bilingual-based education model that resulted in the short time interval between the completion of mother tongue medium primary school and the time at which secondary education national examination takes place in English medium. The other was the variation of the inception of English medium schooling across regions while students from all regions are judged by the same type of national examination at the end of secondary education. Further, the insufficiency of the English language students are being taught as a subject from grade one on to equip them with the needed level of linguistic competence was source of the fear. However, these propositions were not suggested by any of the subjects from education officers and curriculum expert cycle nor were they supported by local and external findings on mother tongue education.

5. From the socio-cultural perspective, the perceived power of the use of Oromo Language as a medium of instruction is perceived to help both students and parents to develop pride in their culture and language that were sidelined as it offers them an opportunity to discuss at

home what is learnt at school. Further, its role in maintaining and sustaining Oromo ethnic identity and linguistic right has been given due emphasis in the findings. Children are being aware of their identity as the result of their being taught in Oromo Language. Using Oromo Language in education is reflected as declaring linguistic human right of the children and of the society. Therefore, from the point of view of maintaining the cultural and linguistic values of children's community and ensuring social and individual identity and right, the use of Oromo Language in education has been perceived to be imperative. It is playing the role of re-establishing the linguistic and cultural imbalances that were rooted in the past sociopolitical reality. However, some participants have been observed to have some fear that the young generation's level of attention to their cultural heritage seems to be limited though they learn in their mother tongue. This could be resulted from effect of globalization as the fact that the generation is exposed to external cultural actions can potentially tempt their internal cultural appreciation.

6. Children learn some of Oromo cultural representations in some academic subjects like Science, Oromo Language, Aesthetics, and Civics. Cultural artistic expressions (music, riddles, jokes, proverbs, drama, songs, folktales, and poem), cultural marriage, cultural foods, and cultural clothes and other materials are incorporated in the students' class lessons. Special school structures (clubs) like Oromo Language and Literature Club, Mini-Media Club, and Music and Drama Club, in which children practice, demonstrate and transfer useful traditional practices, are playing important role to initiate students to know and develop their language and culture. Emanating from the high desire the students and society have developed to know more about and revitalize Oromo cultural values, the sufficiency of the provision of the cultural practices in the mother tongue school curriculum is, however, criticized. It was learnt that the provision of these cultural practices, especially exercises, mainly target helping children consolidate language skills rather than providing them with opportunities to appreciate, practice, and develop their community's cultural values.

7. Mother tongue education needs to make people's indigenous knowledge practices parts of its major elements and target rural orientation to encourage pupils to pursue agricultural

activities in order to foster the development of rural areas and as a result to control migration to the cities. However, insignificant instances of indigenous practices of agriculture are included in the text lessons. There is rare case where students learn and appreciate local resources and local technology while majority of their parents rely on indigenous agricultural practices. Especially upper primary cycle subjects, specifically sciences, devote exclusively to how these subjects provide agricultural sector or other development domains with modern technology inputs and services orienting students dominantly towards scientific approach to rural development and disregarding the usefulness of society's local knowledge practices. There is little opportunity the curriculum offers the students to learn and appreciate agricultural indigenous practices of their environment in the school lessons.

Participants acknowledge the mutual existence of the relationship between MTE and rural development as well as the importance of their relation at the face value. The way they perceive this relation is from the angle of creation of effective communication between service providers and the local people and the professional collaboration among social servants of different sectors, teachers and various extension workers. The findings further indicate the perception of participants that they see mother tongue education as related to rural development from the dimension of facilitating the inception of modern technology and societal modernization. The fact that students learn exclusively the modern technology of agriculture in class is perceived as absolutely correct relation between MT education and rural development strategies.

8. One of the contributions of MTE is creating conducive situation for local people to approach schools and make intervention on decision-making about students' learning contents, monitor what people's cultural resources and history their children need to learn at school, and ensure how much these values have been included in the school lessons. There is considerable improvement on the parents' participation in general well-being of schools related to student discipline and schooling follow up, school income generation and construction, teachers-related and other problems. Besides, parents consider the school as their property and take care of it feeling that it is where their children learn and

develop their language and culture and where they learn technology at the same time. This close harmony between society and school is attributable to the use of Oromo Language in education. The justification for this harmony is related to the past education situation where children had no opportunity to discuss what they learnt at school with their parents because of the linguistic and cultural gap between home and school.

On the other hand, local society has not made meaningful involvement in decision-making on what their children learn at school, and in the preparation and improvement of textbooks despite the affirmative policy provisions and similar consensus in external literature on society's full participation in the scenario of mother tongue education. Reasons are society' lack of awareness and lack of commitment of curriculum designers, education officers and teachers to organize, orient and make discussion with the society and collect their suggestions so as to assess people's needs on what their children should know at school and to ensure its achievement.

7.2 Conclusions

In this section, conclusions have been drawn from the findings and discussions, mainly based on the acquired data sources. As qualitative research design, my own valid interpretations and professional assumptions and perspectives have also been taken into account in drawing conclusions.

1. Majority of local people in the study area dominantly use and benefit from indigenous practices in various aspects of agricultural activities, alongside with modern technology inputs and services in sustaining their livelihood. Reasons for the sustainable use of indigenous agricultural practices include various constraints of provisions of agricultural modern technology, topographical and climatic challenges of the farm lands, effectiveness limitation and cost of the available modern technology, and farmers' awareness and commitment. Thus it could be concluded that indigenous agricultural practices are playing a significant role in solving immediate problems of local people in

amalgamation with scientific technology of agriculture or where the technology has not been fully utilized. This argument evokes the need for promoting indigenous resources of local people in careful integration with, but not replacing by, modern technology that is compatible with the existing local situation.

The preservation and transmission of these practices over generation have taken place through the cultural system of apprenticeship and people's ritual values. As to the perceived ways of preserving and transmitting the indigenous practices, practical observation and education in the medium of students' mother tongue were claimed. The responsibility for the preparation of primary education curriculum given to regional curriculum designers in collaboration with local community who are perceived to be proprietor of the indigenous practices and local schools seems worthwhile ground to achieve this scheme. In line with this, it is believed that the involvement of farmers and other stakeholders in mother tongue education curriculum designing and implementation would extend the apprenticeship mode of preserving and transmitting people's local knowledge of agriculture by way of integrating society's indigenous values and resources into classroom lessons.

This study has also come up with the conclusion that there is a gap between development policy provision and perception of agriculture and rural development experts. While the experts practically recognize the fact that people's indigenous knowledge practices of agriculture are important components of rural development strategies for grassroots society, these valuable local resources have been excluded in the policy formulation and implementation strategies both at regional and national levels.

2. This findings indicated that the use of Oromo Language in primary education has got full acceptance by both education professionals and other mainstream people. In terms of education, it has reinforced students' cognitive, psychological, and attitudinal development that has helped them acquire dependable academic basis at lower level. The findings also revealed that the power of learning in Oromo Language and its use in other social domains is playing a pivotal role in sustaining society's cultural, linguistic, and

symbolic re-establishment. The judgment of the role Oromo Language is playing in maintaining individual and societal socio-cultural values is highly likely to have emerged from the critical observation of the past imbalance role the Ethiopian languages were granted to play in various social domains and comparing it with the current language in education situations. Hence it is becoming an optimal opportunity to facilitate the restoration of the Oromo traditional values and development of the language itself and to reinforce their promotion and transmission.

The findings further revealed participants' reservation about the young generation's (both teachers and students) level of attention to their cultural heritage and the sufficiency of the provision of the cultural practices in the mother tongue education curriculum, which could be attributed to education stakeholders' commitment and global effect. Although the inclusion of the cultural practices may not be considered to be minimal, given the various national and regional goals an education system needs to meet, this people's reservation should not be disregarded but should rather be used as an important warning for further effort to maximize the role of mother tongue education in promoting cultural values.

3. Mother tongue education needs to mediate scientific innovations and society's local technology. Contrary to its goals and learning theory discussed in the literature review and in the theoretical lens (Cultural Historical Activity Theory), the use of Oromo Language in education gives little importance to the people's local technology for the sustained rural development. It is mainly imposing on children the modern approach to education and preference of modern technology and lifestyles as the sole option in the local development discourse. The perception of the education stakeholders about the relationship between mother tongue education and rural development strategies is also that education is only a means of induction of modern technology. The role mother tongue education needs to play in harnessing people's local knowledge practices in sustaining the local livelihood is not appropriately understood by education as well as rural development experts when majority of people still depend on traditional practices of agriculture to sustain their livelihood. The positivist approach of top down flow of knowledge with little attention given to the

possibility of providing students with local knowledge seems to dominate these participants.

4. This study revealed that parents participate in their children's school matters related to student discipline follow up, school income generation and construction, and teachers-related and other problems seemingly considering that schools are parts of their possessions. This close harmony between society and school may attribute to the use of Oromo Language in education. However, society's involvement in decision-making on what their children should know at school, and in the preparation and improvement of textbooks is insignificant for various practical reasons. Thus the use of Oromo Language in education has never harmonized education experts and local people to mutually determine what valuable indigenous practices their children need to learn at school. It seems that the authority of decision making about what students should learn and should not learn has been given to the education experts leaving no room for the society to intervene on their children's learning contents.

7.3 Recommendations

This study has come up with the potential and practical importance of indigenous agricultural practices and rationales that necessitate the promotion of these practices through mother tongue education. The following points are recommended from the rural development and mother tongue education perspectives at least to stimulate discussions.

A. For Rural Development Domain

Development is not universal that is solely defined by its end goal. Dialectical Modernization Theory discussed in Chapter 1 proposes an open conception of development whose contents have to be decided in accordance with each individual society's particular circumstances and the inclination of its citizens. This leads to the conception that development is realized by amalgamated efforts and interests of the various social and institutional involvements.

However, despite the experts' perceived practical consideration and global recognition of the fact that people's indigenous knowledge practices of agriculture are important components of rural development strategies for grassroots society, these valuable local resources have been sidelined in the agriculture and rural development policy formulation and implementation strategies both at regional and national levels.

Therefore, before formulating rural development strategies, policy planners should adequately understand the indigenous agricultural practices of the society and acknowledge their potential resourcefulness for grassroots people. When designing new ideas of development policies, they need to recognize these valuable local experiences and carefully integrate the valuable indigenous knowledge practices, which majority of the people is making use of, with the provisions and inputs offered by modern technology. As suggested in the theoretical lens mentioned earlier, it is only by bringing the two forms of knowledge together through dialectical process that sustainable rural development is maintained. Any development programme institutions with the goal of sustaining local livelihood need to critically analyze the limitations of available modern technology and its accessibility to the peripheral grassroots society as well as the needs and inner capacity of the society. Their programme should be based on the potentiality of community's indigenous knowledge and strategies and designed by integrating local technological knowledge with new technology in the planning, implementation and evaluation of their projects.

B. For Mother Tongue Education Domain

Oromo Language has become a medium of education and training for primary level education and an official language of Oromia Regional State since the early 1990s. The educational and social benefits it has accrued to the children and the society at large has been well investigated by scholars in the area. This study has also concluded from the participants' suggestions that the use of Oromo Language in education has reinforced students' cognitive, psychological, linguistic, and socio-cultural development. However, functions of mother tongue education should go beyond pedagogical and cultural horizon. It needs to shed some light on the rural development effort by way of unmasking people's local potential resources

alongside with introducing children to modern technology. It needs to play the role of mediating the scientific innovations about rural development strategies and the effectiveness and potentialities of local technologies to guide the modern innovations. This is realized by integrating valuable indigenous knowledge practices of mainly agriculture into the mother tongue primary education where children are supposed to acquire their parents' culturally and linguistically situated technology as traditional practices are best expressed in indigenous language.

However, it has been learnt from this study that the ultimate goal of mother tongue education has been seen mainly as more of a stepping stone than an end by itself. This research has shown that the use of Oromo Language in education places low emphasis on indigenous knowledge practices of local people. There is insignificant concern the mother tongue education system has drawn on the importance of people's local technology in the grassroots people's rural development agenda. It has also been revealed that integrating these practices with school curriculum may add a developmental relevance to the curriculum since they are practically observed to have been helping majority of rural people in sustaining their livelihood.

Hence, at the policy planning level, a curriculum must be designed in such a way that its contents are balanced between modern technology and local potentials of grassroots people to acquaint children with scientific technology as well as to orient them towards the potential contribution of local technologies to the local life. Therefore, Oromia Regional Education Bureau must adopt a model of an education reform that must aim at integrating the indigenous knowledge of agricultural practices with primary school curriculum. Such a hybridized curriculum would make primary school education not a mere prerequisite or stepping stone for secondary school education but could be an end in itself, producing local entrepreneurs and ensuring self-reliance. When doing so, it is important to identify the valuable indigenous knowledge of agriculture and examine a rationale for valuing these practices in mother tongue education system with its implications for education and rural development.

Mother tongue education enhances the harmony between school and community so as to narrow the gap between the two social entities. There is a need for a more participatory approach to education that involves communities in decision-making about the school programs as a way of acknowledging their skills based on the understanding of the principles of sustainable development. However, the study indicated lack of society's involvement in decision-making on what their children should know at school, and in the preparation and improvement of textbooks despite the affirmative provisions of the regional curriculum guidelines on society's full participation in the schooling of their children. The curriculum designing and implementation seems to be reserved exclusively for the education experts with powerfuls to make decisions for the powerless. The situation of low emphasis given to local knowledge resources and lack of community involvement in the provision of mother tongue education may victimize the children as they have to negotiate between the two cultures when they are at school and in the community. Therefore, Oromia Education Bureau should design a structure and evaluate its implementation that involves local community in the decision-making about the contents of mother tongue education curriculum.

Mother tongue education also needs to play an instrumental role to bring experts of various sectors in order to strengthen common understanding of issues related to main premise of children education at lower level and rural development strategies. The findings have shown that the professional orientation of education experts and rural development experts seems to be kept separate. Thus there may be a need for Oromia Education Bureau and Oromia Agriculture and Rural Development Bureau to come up with mechanisms of integrating the expertise of both sectors and design ways in which the expertise from one sector involves in the other's venture for the benefit of the society. Similar bilateral collaboration could also be adapted by ministries of the two sectors at federal level. Curriculum designers should design strategies of involving other sectors mainly Agriculture and Rural Development, and Culture and other related sectors when designing contents of mother tongue education curriculum.

7.4 Recommended Areas for Further Research

1. This study came up with the importance role indigenous knowledge practices are playing in local livelihood, notwithstanding the benefit of provision of modern technology. It was also suggested that these valuable social inputs be incorporated into the mother tongue primary education so that the education contributes to sustained local livelihood. However, the study has not examined possible models and mechanisms of incorporating these practices into the curriculum, i.e., how indigenous knowledge and pedagogy can be integrated in a reciprocatory way with western knowledge in the mother tongue medium school system. This investigation is left for further study.

2. The present study has emphasized the developmental implication of harnessing indigenous knowledge practices in mother tongue education. These practices could also have pedagogical benefit. This may be investigated further.

3. The concern of this study is mother tongue education and indigenous knowledge of agriculture in particular. It does not include the other aspects of indigenous knowledge like human health care, handcrafts, learning systems and a like. The other area of investigation is, therefore, exploring the role mother tongue education is playing in promoting the indigenous knowledge systems in these domains.

4. Finally, the focus of the present study is formal primary education in the medium of Oromo Language and indigenous knowledge practices of agriculture. These practices are also believed to prevail in non-formal basic education. Thus, further study is required to examine the extent to which these practices are considered in non-formal basic education.

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APPENDICES

Appendix 1: Data Collection Tools: English Version

i. Individual Interview Guidelines for Primary School Students

Informant's background information

Name of school: _____

Grade level: _____ Age: _____ Sex: _____

Other information: _____

Date of interview: _____

1. How much are you aware of cultural practices of your community?
2. Where and when have you acquired them?
3. How do people accomplish these activities?
   a. How do they keep soil fertility?
   b. How about controlling soil erosion?
   c. Regarding weed controlling, what system do they use?
   d. How do farmers know time when it rains, when it stops raining and so on?
4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)
5. How much are you happy for learning in your first language? Why?
6. How much does learning in Oromo Language help you to learn your community's cultural practices?
7. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?
8. How do you think Oromo cultural practices could be promoted?
9. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.
10. How much are your teachers aware of your parents' traditions and give attention to it?
11. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?
12. How often do you bring community's indigenous agricultural practices to classroom lessons?

ii. Individual Interview Guidelines for Farmers

Informant's background information

Name of wereda and local village: _____

Age: _____ Sex: _____

Educational background (if any): _____

Other information: _____

Date of interview: _____

1. What types of traditional agricultural practices are being practiced in your area?
2. On which aspects of knowledge do more people depend/rely on more for survival? (scientific technology, indigenous practices, or the integration of the two)
3. Why do you think these traditional practices have been utilized to date?
4. How have your cultural practices and values and agricultural indigenous practices been passed over generations?
5. How much are young generation aware of cultural practices and traditional agricultural practices of their community? How much do they appreciate them?
6. What proportion of people in this area dominantly use traditional agricultural practices and what proportion use modern technology to lead their livelihood?
7. On which activities of agriculture do more people in your kebele use modern/scientific agricultural technology and on which do they use traditional one?
8. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?
9. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?
10. What role do you think primary school teachers are playing in promoting cultural practices of agriculture?

iii. Individual Interview for Regional Curriculum Experts

Informant's background information

Academic subject: _____

Work service: _____ Sex: _____

Educational background: _____

Other information: _____

Date of interview: _____

1. How could Oromo traditional practices be promoted, documented and transferred?
2. What is the goal of primary education?
3. Besides the lessons given in the classroom based on the curriculum, is there any structure or club that can contribute to the promotion of Oromo cultural practices in schools?
4. What do students and society as the whole benefit from the education system in the medium of students' mother-tongue?
5. How sufficient do you think the cultural practices of Oromo people that are included in the school system?
6. What is the major goal of the primary school curriculum of your subject?
7. When preparing MTE curriculum, how much does it consider Oromo traditional practices of agriculture?
8. In case students go back to society and lead their life after completing grade 8, do what they have learnt at school and what they encounter in the society, especially with regard to agricultural practices, relate?
9. Do parents get opportunity to participate in decision making on what students learn at school and on the preparation of curriculum of mother-tongue primary education? If they do, in what way do they participate?
10. What do you think is the relationship among language, culture and education?

Do you have anything to add?

iv. Individual Interview for Wereda Agriculture and Rural Development Experts

Informant's background information

Name of wereda: _____

Education background: _____

Work experience in the field: _____ Sex: _____

Other information: _____

Date of interview: _____

1. What traditional agricultural activities are practiced in this locality?
2. How do people benefit from these practices?

3. How should knowledge of such practices be developed, transferred and documented?

4. On which aspect of knowledge of agricultural activities (modern technology, indigenous knowledge practices, or integration of the two) do more people depend to sustain their livelihood? Why?

5. What is the ratio of people (in percentage) in your kebele who use modern/scientific agricultural technology and indigenous knowledge to sustain their livelihood?

6. On which aspect of agriculture (e.g. soil erosion control, weeding, mowing, yield storage, commercializing etc) do people in your area use more modern technology and indigenous knowledge practices?

7. Does the rural development strategy acknowledge and accept the use/benefit of people's indigenous agricultural practices for sustained rural development? How?

8. What do you think is the relationship between primary education in the medium of Oromo Language and strategies of rural development?

9. How do you think language and rural development relate?

Do you have anything to add?

v. Individual Interview Guidelines for Oromia Agriculture and Rural Development Expert

Informant's background information

Educational background: _____

Work experience: _____ Sex: _____

Other information: _____

Date of interview: _____

I am here to conduct a research on an association between mother tongue education and rural development strategies. As a senior expert at regional level, you are requested to give me genuine information for my study. I assure you that the information you offer me will be used for this study only and be kept confidential. I thank you in advance for your cooperation.

1. What is the harmony between education and rural development strategies?

2. How much do you work in collaboration with schools and on what issues does your collaboration focus?

3. Which aspect of agriculture (indigenous/traditional practices or modern technology) do more people use in general to sustain their livelihood?

4. How much does the rural development strategy consider the farmers indigenous knowledge practices of agriculture?

Probe: Do you mean that these cultural aspects agricultural activities are considered in the rural development strategies?

5. In order to take part on incorporating developmentally important practices, both modern and indigenous technologies, into curriculum how much do you get opportunity to work with OEB?

Probe: Is there any plan of action to incorporate agriculture into primary education?

vi. Individual Interview for Wereda Education Experts

Informant's background information

Educational background: _____

Work experience: _____

Other information: _____

Date of interview: _____

1. What is the general goal of mother-tongue primary education?

2. What do students in particular and the society in general benefit from mother-tongue education?

3. How sufficient are the Oromo cultural practices including traditional practices of agriculture that are included in primary education?

4. What way does mother-tongue education relate to rural development?

5. How do language of education and education relate?

6. How do you see the harmony between culture and education in mother-tongue?

7. What is the harmony among culture, language and education?

Do you have anything to add?

Thank you very much.

vii. Focus Group Discussion with Farmers

Informant's background information

Wereda and local village: _____

Number of discussants: _____

Other Information: _____

Date of discussion: _____

1. What indigenous agricultural activities are practiced in your locality?
2 Do more people in this area use indigenous practices of agriculture or modern technolojii to sustain their livelihood?
3. What proportion of people in this area use modern technology of agriculture and indigenous practices or integration of the two?
4. On what aspects of agricultural activities do you use more modern technology and on what aspects of agricultural activities do you use more indigenous practices?
5. How have Oromo cultural practices and indigenous practices of agriculture been passed on to generations?
6. How much are the new generations conscious of and appreciate Oromo cultural practices and indigenous agricultural practices?
7. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?
8. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

viii. Focus Group Discussion with Rural Development Agents

Informant's background information

Wereda and local village: _____

Number of discussants: _____

Year of experience in the field (in range): _____

Other Information: _____

Date of discussion: _____

1. What indigenous agricultural activities are practiced in this locality?
2. How do people benefit from these practices?
3. How should knowledge of such practices be developed, transferred and documented?
4. On which aspects of knowledge do most of the community depend/rely more for survival, (scientific technology, indigenous practices, or the integration of the two)?
5. Do modern technologies or indigenous agricultural practices assist more the local people in sustaining their livelihood? Why?
6. Do the rural development strategies acknowledge and consider the value of indigenous knowledge of agriculture? How?

7. What do you think is the relationship between primary education in the medium of Oromo Language and strategies of rural development?

8. Is there any remark you would like to add, or any additional information or questions you think would be relevant?

ix. Group Interview with Primary School Students

Background Information

Name of Wereda and School: _____

Number of interviewees in grade level and sex: _____

_____

Other Information: _____

Date of interview: _____

1. Are you aware of cultural practices of your community? Do you appreciate them?

2. Where (and when) have you learnt them?

3. What indigenous methods/practices do your parents use:

   a. to select and prepare seeds?

   b. to prepare plot/soil and maintain its fertility (using manure compost, scientific fertilize etc)?

   c. to control weeds?

   d. to keep animal health?

   e. to control soil erosion and increase fertility?

4. Are you happy for learning in your first language? Why? What do you benefit from it?

5. How much does learning in Oromo Language help you to learn and promote your parents' cultural practices?

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

7. Do you have any especial club or structure in your school that help you promote your culture more? If you have, would you mention some?

8. Do your parents participate in decision making on what you learn at school? If they do, how often?
9. Do your teachers give attention/emphasis to community's cultural practices?
10. Have you learnt indigenous agricultural activities at school? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt them?

11. Which aspects of agricultural practices (modern/scientific aspects or indigenous aspects) are given more emphasis in your education? Why?

12. How often do you bring community's indigenous agricultural practices to classroom lessons?

x. Focus Group Discussion with Primary School Teachers

Informant's Background Information

Name of wereda and school: _____

Number of discussants in experience, education background and sex: _____

_____

Other Information: _____

Date of discussion: _____

1. How can children in general and primary school students in particular best learn and appreciate Oromo culture and indigenous agricultural practices?

2. As you work in and with local community, you know more about the situation of the society. Which aspects of knowledge (indigenous practices or scientific technologies or integratively) do most of the people use to sustain their agricultural productivity?

3. Why do you think indigenous agricultural practices sustained till now?

4. How much do you work with the community on the education and other societal issues, alongside engaging in the class lesson?

5. What does the Oromo community benefit from the current mother-tongue education system?

6. What indigenous agricultural practices of Oromo community have been incorporated into the curriculum of the subject area(s) you teach?

7. How often do students bring the knowledge of indigenous agricultural practices to classroom lessons?

8. What do you think is the relationship between medium of instruction and education?

9. What do you think is the relationship between development and language?

Appendix 2: Data Collection Tools: Oromo Language Version

i. Gaafi fi Deebii Dhuuffaa Barattoota Sadarkaa 1ffaa

Odeeffannoo waliigalaa

Maqaa mana barumsaa: _____

Sadarkaa barnootaa: _____Umrii: _____ Saala: _____

Odeeffannoo biraa: _____

Guyyaa gaafii fi deebii: _____

1. Waa'ee gochoota aadaa uummata Oromoo irratti hammam hubannoo qabda?
2. Eessatti (fi yoom) isaan baratte?
3. Uummanni maalitti fayyadamanii dhimmota kana raawwatan?
   a. lafa qotuu fi gabbina biyyee eeguu akkamitti raawwatu?
   b. Manca'ina biyyee hoo akkamitti lafa qotiisaa irraa dhoowwu?
   c. Kanbiraa, aramaa hoo akkamitti midhaani irraa ittisu?
   d. Yeeroo itti bokkaan roobu, yeeroo itti irraa caamu, kana kana akkamitti beeku?
4. Warrikee akaakuu beekumsa qonnaa kamtti irraa caalaa fayyadamu sitti fakkaata (qonna aadaa moo kan hammayyaa)?
5. Afaan jalqabaa keetin barachuu keetif hammam itti gammadda? Maalif? Faayidaa maal irraa argachaa jirta?
6. Afaan keetin barachuun kee gochoota aadaa uummata kee barachuuf hammam sigargaare? Akkamitti?
7. Gola keessatti gochoota aadaa Oromoo nibarattaa? Yoo baratte wanttoota baratte keessaa muraasa maqaa naaf dhahi.
8. Gochoota aadaa uummata Oromoo babal'isuuf maal gochuutu gargaara jetta?
9. Warri keessan wanttoota isin mana barumsaatti barattan irratti mari'achuu fi murtii keennuu irratti hirmaachuuf carraan akkasii jiraa? Yoo hirmaatan haala kamiin hirmaatu?
10. Barsiisotni keessan waa'ee gochoota aadaa Oromoo hobannoo qabuu, xiyyeeffannaas itti kennuu?
11. Gola keessattii gochoota beekumsa aadaa qonnaa barattee jirtaa? Yoo baratte (ykn yoo barachaa jiraatte), akaakuu barnootaa kam fi kutaa kamitti baratte?
12. Hammam gochoota beekumsa aadaa qonnaa hawaasa naannoo keessan jiran gara mana barumsa fiddanii irratti mari'achuuf carraa argattan?

ii. Gaafi fi Deebii Dhuuffaa Qotee Bultootaa

Odeeffannoo waliigalaa

Maqaa aanaa fi kan gandaa: _____

Umrii: _____ Saala: _____

Haala barumsaa (yoo jiraate): _____

Odeeffannoo biraa: _____

Guyyaa gaafii fi deebii: _____

1. Gochoota beekumsa aadaa qonnaa maalfaatu naannoo keessanitti raawwatama?
2. Irra caalaan ummata naannoo kanaa gochoota aadaatti fayyadamaa jira ammoo kan teeknoolojiitti fayyadama, akka walii galaatti? Maalif?
3. Raawwiin gochoota kanaa maalif hanga ammaatti itti fufuu danda'e sittifakkaata?
4. Gochootni aadaa uummata Oromoo fi beekumsi gochoota aadaa qonnaa akkamitti dhaloota irraa gara dhalootattii darbaa dhufe isinitti fakkaata ?
5. Dhalootni haaraan gochoota aadaa Oromoo fi gochoota aadaa qonnaa hammam dinqisiifatu, hammam hubannoos qaban?
6. Naannoo/ganda keessan keessatti namoota hagamitu teekinoologii qonnaa hammayyaatti fayyadamuun jiruu isaanii badadachaa jira, hammamitu gochootuma aadaatiin of garagaaraa jira, akkasumas walitti makaniillcen kan itti fayyadaman yoo jiraatan isa kana irratti mee yaada maal qabdu?
7. Akaakuu hojiiwwan qonnaa kami irratti irraa caalaa teekinoolojii hammayyaatti fayyadamtu? Isa kami irratti irra caalaa aadaa fayyadamtu?
8. Gochoota aadaa Oromoo kunuunsu fi daddagaagsuu ilaalchisee sirna barnoota sadarkaa 1^{ffaa} afaan Oromootin baratamaa jiru fi sirna barnootaa asiin duraa ture jidduu garaagarummaa jiju akkamitti ilaaltu?
9. Qophii sirna barnoota afaan jalqabaa hojiirra olaa jiru kana irratti hirmmaachuu fi murteessuuf carraa argattanii beektuu? Yoo argattanii jiraattan gumaachi isin gootan haala kamiini?
10. Barsiisotni sadarkaa 1^{ffaa} beekumsa aadaa qoonnaa babal'isuu irratti gahee maal taphachaa jiru jettanii yaaddu?

iii. Gaafi fi Deebii Dhuuffaa Ogeessota Sirna Barnoota Oromiyaa

Odeeffannoo waliigalaa

Akaakuu barnootaa: _____

Tajaajila: _____ Saala: _____

Sadarkaa barnootaa: _____

Odeeffannoo biraa: _____

Guyyaa gafii fi deebii: _____

1. Gochootni aadaa Oromoo haala kamiin babal'achuu, galmeeffamuu, fi tatamsa'uu qaba?
2. Kaayyoon barnoota sadarkaa 1^{ffaa} maali?
3. Barnoota golatti sirna barnootaa irratti hundaahee kennamuun alatti, caasaan biraa kan akka gumii kan aadaa Oromoo babal'isuuf gargaaru jiraa?
4. Barnoota afaan Oromootin baratamu irraa faayidaan barattotni fi hawaasni argatan maali?
5. Gochoota aadaa Oromoo kan sirna barnootaa keessatti baratamaa jiru hammam gahaa dha jeettee yaadda?
6. Kaayyoon gosa barnoota sadarkaa tokkoffaa ati irratti hojechaa jirtuu maali?
7. Sirni barnoota afaan Oromootin baratamaa jiru kun yeroo qophaahu, hammam gochoota aadaa qonnaa uummata Oromoo ilaalcha keessa galcha?
8. Barnootni barattootni hanga kutaa 8 barataanii tasa gara hawaasatti kan deebi'anii jiruu isaanii itti fufan taate wanti isaan mana barumsaatti baratanii fi wanti yeroo gara hawaasatti deebi'an isaan qunnamu, keessattuu gochoota aadaa qonnaa walitti dhufeenya qabaa?
9. Warri barattootaa wanttoota barattootni mana barumsaatti barattan irratti mari'achuu fi qophii sirna barnootaa irratti murtii keennuu irratti hirmaachuuf carraan akkasii jiraa? Yoo hirmaatan haala kamiin hirmaatu?
10. Walitti dhufeenyi aadaa, afaani fi barnootaa maal?

Wanti itti dabaluu barbaadddan yoojiraate carraa isinii haakennu.

iv. Gaafi fi Deebii Dhuuffaa Ogeessota Qonnaa fi Misooma Baadiyyaa Aanaa

Odeeffannoo Wliigalaa
Maqaa aanaa: _____

Haala barnootaa: _____

Tajaajila ogummaa: _____ Saala: _____

Odeefannoo biraa: _____

Guyyaa gaafi fi deebii: _____

1. Gochoota beekumsa aadaa qonnaa maalfaatu naannoo keessanitti raawwatama?
2. Gochootni aadaa qonnaa kun akkamitti jiruu isaanii adeemsisuuf uummata gargaaraa jira?
3. Akkamitti gochootni beekumsa aadaa kun babal'achuu fi guddachuu danda'a jettee yaada?

4. Irra caalaan ummata naannoo kanaa gochoota aadaa qonnaatti fayyadamaa jira ammoo kan teeknoolojiitti fayyadama, akka walii galaatti? Maalif?

5. Dhibbantaan uummata beekumsa aadaa qonnaa fayyadamuu fi teekinooloji hammayyaa kan fayyadamu hagam sitti fakkaata?

6. Akaakuu qonnaa kam irratti uummatni naannoo keessanii baay'inaan gochoota aadaa qonnaa fayyadama; isa kam irraatti ammoo kan hammayyaa fayyadama?

7. Tarsiimon misooma baadiyyaa faayidaa fi bu'a qabeessummaa gochoota aadaa qonnaa uummataa ni amanaa? Akkamitti?

8. Barnootni Afaan Oromootin baratamuun isaa tarsiimoo guddina baadiyyaa waliin haariiroo maal qaba jettee yaadda?

9. Afaan fi misoomni qunnamtii qabu jettee yaaddaa? Akkamitti?

Waan itti dabaltan qabduu?

v. Gaafi fi Deebii Dhuuffaa Ogeessa Qonnaa fi Misooma Baadiyyaa Oromoyaa

Odeeffannoo waliigalaa

Haala barnootaa: _____

Tajaajila: _____ Saala: _____

Odeeffannoo biraa: _____

Guyyaa gaafii fi deebii: _____

I am here to conduct a research on an association between mother tongue education and rural development strategies. As a senior expert at regional level, you are requested to give me genuine information for my study. I assure you that the information you offer me will be used for this study only and be kept confidential. I thank you in advance for your cooperation.

1. What is the harmony between education and rural development strategies?

2. How much do you work in collaboration with schools and on what issues does your collaboration focus?

3. Which aspect of agriculture (indigenous/traditional practices or modern technology) do more people use in general to sustain their livelihood?

4. How much does the rural development strategy consider the farmers indigenous knowledge practices of agriculture?

Probe: Do you mean that these cultural aspects agricultural activities are considered in the rural development strategies?

5. In order to take part on incorporating developmentally important practices, both modern and indigenous technologies, into curriculum how much do you get opportunity to work with OEB?

Probe: Is there any plan of action to incorporate agriculture into primary education?

vi. Gaafii fi Deebii Dhuunfaa Ogeessota Barnootaa Aanaa

Odeefannoo waliigalaa

Haala barnootaa: _____

Tajaajila: _____

Odeeffannoo biraa: _____

Guyyaa gaafi fi deebii: _____

1. Kaayyoon barnoota afaan dhalootaa sadarkaa tokkoffaa maali?
2. Barattootni afaan jalqabaatin barachuun isaanii kallattiidhan barattoota, akkasumas akka walii galaatti ammoo hawaasa maal fayyada?
3. Gochootni aadaa uummataa adda addaa kan beekunsa aadaa qonnaa dabalatee barumsa sadarkaa tokkoffaa afaan jalqabaatin baratan keessatti dabalamee jiraa? Yoo dabalamee jiraate hmmam gahaa dha jettu?
4. Barnootni sadarkaa tokkoffaa afaan jalqabaa haalli inni misooma baadiyyaatin walitti qunnamu jiraa?
5. Afaan barnootaa fi barnootni qunnamtii maal qabu?
6. Walitti dhufeenya afaan jalqabaatin barachuu fi aadaa yoo akkamitti ilaaltu?
7. Walitti dhufeenya aadaa, afaan fi barnootaa akkamitti ilaaltu?

Yaada dabalataa qabduu?

Baay'ee galatoomaa.

vii. Marii Garee Qotee Bultoota waliin

Odeeffannoo Waliigalaa

Aanaa fi ganda: _____

Baay'ina mari'attootaa: _____

Odeeffannoo biraa:_____

Guyyaa marii: _____

1. Gochoota beekumsa aadaa qonnaa maalfaatu naannoo keessanitti raawwatama?
2. Irra caalaan ummata naannoo kanaa gochoota aadaatti fayyadamaa jira ammoo kan teeknoolojiitti fayyadama, akka walii galaatti?

3. Naannoo/ganda keessan keessatti namoota hagamitu teekinoologii qonnaa hammayyaatti fayyadamuun jiruu isaanii badadachaa jira; hammamitu gochootuma aadaatiin of garagaaraa jira, akkasumas walitti makaniilleen kan itti fayyadaman yoo jiraatan isa kana irratti mee yaada maal qabdu?

4. Akaakuu hojiiwwan qonnaa kami irratti irraa caalaa teekinoolojii hammayyaatti fayyadamtu? Isa kami irratti irra caalaa aadaa fayyadamtu?

5. Gochootni aadaa uummata Oromoo fi beekumsi gochoota aadaa qonnaa akkamitti

   dhaloota irraa gara dhalootattii darbaa dhufe isinitti fakkaata ?

6. Dhalootni haaraan gochoota aadaa Oromoo fi gochoota aadaa qonnaa hammam dinqisiifatu, hammam hubannoos qaban?

7. Gochoota aadaa Oromoo kunuunsu fi daddagaagsuu ilaalchisee sirna barnoota sadarkaa 1^{ffaa} afaan Oromootin baratamaa jiru fi sirna barnootaa asiin duraa ture jidduu garaagarummaa jiju akkamitti ilaaltu?

8. Qophii sirna barnoota afaan jalqabaa hojiirra olaa jiru kana irratti hirmmaachuu fi murteessuuf carraa argattanii beektuu? Yoo argattanii jiraattan gumaachi isin gootan haala kamiini?

viii. Marii Garee Ogeeyyota Misooma Baadiyyaa waliin

Odeeffannoo Waliigalaa

Aanaa fi ganda: _____

Baay'ina mari'attootaa: _____

Haala muuxannoo isaanii:_____

Odeeffannoo biraa:_____

Guyyaa marii: _____

1. Gochoota aadaa qonnaa maalfaatu naannoo kanatti raawwatama?

2. Gochoota kana irraa hawaasni faayidaa maal argata?

3. Beekumsi gochoota aadaa kun haala kamiin babal'achuu fi kunuunsamuu qaba jettee yaadda?

4. Irra jireessi ummata ganda kanaa jiruu fijireenya issa adeemsisuuf irra caalaa gochoota qonnaa teeknoolojii hammayyaa irratti ammoo kan aadaa irratti (yookin lachuu walitti makuun) hundaa'a?

5. Deeggarsi teekinoolojii hammayyaa kuni jireenya isaaniitiif hammam uummata gargaaraa jira? Beekumsi aadaa qonnaa hoo hammam uummata gargaaraa jira?

6. Tarsiimoon qonnaa fi misooma baadiyyaa bu'aa qabeessummaa gochoota aadaa qonnaa ilaalcha keessaa galchaa? Akkamitti?

7. Barnootni Afaan Oromootin baratamuun isaa tarsiimoo guddina baadiyyaa waliin haariiroo maal qaba jettee yaadda?

8. Dhimmoota mari'anne kana irratti yaada dabalataa yookin gaafii yoo qabaatani?

ix. Gaafii fi Deebii Garee Barattoota Sadarkaa 1ffaa

Odeeffannoo waliigalaa

Maqaa aanaa fi mana barumsaa: _____

Baay'ina gaafatamtootaa (kutaa fi saalaan): _____

_____

Odeeffannoo biraa: _____

Guyyaa gaafii fi deebii: _____

1. Waa'ee gochoota aadaa uummata Oromoo irratti hammam hubannoo qabda?
2. Eessatti (fi yoom) isaan gochoota kana barate?
3. Dhimmoota asiin gaditti tarreeffaman kana raawwachuuf warrikee maloota aadaa maalfaatti fayyadamu?
   a. sanyii filachuu fi qopheessuuf,
   b. lafa qopheessuuf hoo,
   c. aramaa too'achuu irratti hoo,
   d. dhibee beelladootaa hoo ittisuuf maal gargaaramu,
   e. gabbina biyyee eegaf hoo.
4. Afaan jalqabaa keessaniin barachuu keessaniif itti gammadduu? Maalif? Faayidaa maal irraa argachaa jirtu?
5. Afaan keessaniin barachuun keessan gochoota aadaa uummata keessan barachuuf hammam singargaare? Akkamitti?
6. Gola keessatti gochoota aadaa Oromoo nibarattuu? Yoo barattan wanttoota barattan keessaa muraasa maqaa naaf dhahaa.
7. Mana barumsaa keessatti gumii yookan chaasaa biraa kan aadaa keessan dagaagsuf isin gargaaru jiraa? Yoo jiraate maqaa naaf dhahaa.
8. Warri keessan wanttota isin mana barumsaatti barattan irratti mari'achuu fi murtii keennuu irratti hirmaachuuf carraan akkasii jiraa? Yoo hirmaatan haala kamiin hirmaatu?
9. Barsiisotni keessan gochoota aadaa uummata Oromoo irratti xiyyeeffannaa godhuu?
10. Gola keessatti gochoota aadaa qonnaa nibarattuu? Yoo baratta wantoota barattan keessaa muraasa maqaa naaf dhahaa.

11. Barnootni keessan akaakuu gochoota qonnaa (kan hammayyaa yookin kan aadaa) kamitti irra caalaa xiyyeffata? Maalif?

12. Hammam gochoota beekumsa aadaa qonnaa hawaasa naannoo keessan jiran gara mana barumsa fiddanii irratti mari'achuuf carraa argattan?

x. Marii Garee Barsiisota Sadarkaa 1ffaa waliin

Odeeffannoo waliigalaa

Maqaa aanaa fi mana barumsaa: _____

Baay'ina mari'attootaa (muuxannoo, sadarkaa barnootaa fi saalan: _____

_____

Odeeffannoo biraa: _____

Guyyaa marii: _____

1. Barattootni haala kamiin gochoota aadaa fi gochoota beekumsa aadaa qonnaa dinqisiifachuu fi barachuu danda'u?

2. Hawaasa waliin waan jirtaanif, waa'ee hawaasaichaa ni beektu. Uummatni irra jireessi jireenya qotiisa isaanii gaggeessuf akaakuu beekumsa kam (gochoota beekumsa aadaa yookin teekinoolojii hammayyaa yookin lamaanuu wal'simsiisun) irra caalaa fayyadamu?

3. Gochootni aadaa qonnaa kun maalif hanga ammatti itti fufuu danda'e isinitti fakkaata?

4. Hojii barsiisummaan ala hagam waa'ee barnootaa fi dhimma biraa irratti hawaasa waliin hojjettu?

5. Barnoota Afaan Oromootin baratamu kana irraa uummatni Oromoo maal fayyadama?

6. Gochoota aadaa qonnaa maalfaatu barnoota ati barsiistu keessatti dabalamee jira?

7. Barattootni hammam gochoota aadaa qonnaa naannoo isaanii jiru gara mana barumsaatti akka fidanii baratan carraa argatu?

8. Hariiroon afaan barnootaa fi barnoota jidduu jiru akkamitti ilaalta?

9. Hariiroo misooma fi afaan jidduu jiru akkamitti ilaalta?

Appendix 3: Data Collection Tools: Field Observation Checklist

Typology and Selected Features of Indigenous Agricultural Practices in the community

Observation Background

Location of observation: _____

Date of observation: _____

Agricultural Areas of Knowledge	Bearers of Knowledge	Time of practice	Area/site of practice	Purpose of Practice	Manifestations (examples) of Knowledge

Adapted from: World Bank (1998:19) & Boven and Morohashi (2002:262)

Appendix 4: Data Transcripts

1 Agarfa Wereda Education Office Curriculum Expert (KII)

1. What is the general goal of mother-tongue primary education?

Re. First of all, goal of education is, no one can contribute to his country's and society's development unless he is educated. To develop his country and improve himself, one must be educated. Therefore, goal of education is to develop a country. The second one is, learning in the first language is very important. If children learn in their first language, they can easily understand what they are learning. The language does not hinder their education.

2. What do students in particular and the society in general benefit from mother-tongue education?

Re. Firstly, learning in one's own language enables the learners to understand the contents because as they use the language they use at home, they easily comprehend. Their parents can also follow them. There are four stakeholders: the society, the students, the teachers and the school. As the society is one of the stakeholders, they follow and discuss with their children as to what they have learnt at school. The students can also tell their parents what they have learnt. This is one advantage. They can also benefit in cultural aspects. They can develop their culture. They have no challenge. This way they benefit from it.

3. How sufficient are the Oromo cultural practices including traditional practices of agriculture that are included in primary education?

Re. This could be seen from the progress of language in the process of education. It is difficult to say that all the Oromo cultural practices have been included at this level. It is on the progress. For the time being, there is a separate subject taught to grade 1-4 students called 'Aesthetics' (Barnoota Aadaa). They learn their own culture in this subject. The teacher teaches cultural values of the society.

Probe: As I have read from a book entitled 'Sirna Barnootaa fi Madaallii Sirna Barnootaa' prepared at Oromia Education Bureau (OEB), society's participation in the textbooks preparation and improvement should be 100% and give big role to schools and wereda education offices for the practicality of this scenario. How much has this been put into practice?

Re. This is good. I have an evidence to show you. Concerning teachers, there are some teachers who are attempting to prepare books (showing the compilation). We are also encouraging their attempt. For example, there is a teacher who has prepared a supplementary book in English that can help grade1 to 4 students and submitted to our office on 9/4/2004 in order to look for someone who could comment on and recommend for publication. We are also attempting to seek for qualified persons in the area for comment and encouraging the teachers to maximize their participation in the future.

Probe: This is from teachers. How about the society's participation? How much do they participate?

Re. This teacher by himself is not from his own initiative when writing the book. He discusses with the stakeholders we have already mentioned. The society has a role. For example, other than the one I have shown you, another teacher has already written and got approval to be published.

However, he could not get it published for financial constraint. Here members of the society who supported the teacher in various ways have been written on the book. Therefore, the society has contribution on its preparation.

Probe: Other than this individual endeavor, based on the structural procedure, how much have you worked on collecting the comments from schools, organizing them, documenting and sending to the OEB via Zone Education Office?

Re. Formats are regularly sent to us for textbooks evaluation. Then we pass to the concerned body. Such things as what to be added, what to be improved and its limitation to be corrected are seen with the society and sent to Zone Education Office every year.

4. What way does mother-tongue education relate to rural development?

Re. The two go together. Firstly, the school is situated in the society. In this society, there are experts of health, agriculture and education. We are integrated. Our integration helps us to work together. There is a case where the school participates in the agricultural activities. Therefore, we are integrated.

Probe: Can one claim that the creation of the integration/harmony between the school and the society is attributed to the use of Oromo Language as a medium of instruction or to something else?

Re. Learning in one's own language facilitates students understanding. When the language is not students' mother-tongue, they should learn the language which takes them two or three years before learning the content. If the language is their mother-tongue, they immediately go for understanding the content and develop their creativity. Therefore, learning in one's language is very important.

Probe: The focus of my question is whether the use of mother-tongue in education has contributed to the harmony between schools and the society.

Re. Yes, it has contribution. What the society needs is its language. It was also the society's interest to use the language in education in the past.

5. How do language of education and education relate?

Re. One way is that the students easily understand the lesson. The other is for example when we were learning in Amharic, to call 'birbirsa,' we say 'zigibaa'. As the students do not know this word, they try to know the word first and then try to seek for its values, say its being source of oil. But now as the language is not new for them, they understand the value of the tree the moment they are told. So they immediately begin understanding the science. They straight go for comprehending that medicine is found from plants not for seeking for the translation of the name of the plant. Therefore, learning in one's own language facilitates science. Otherwise, they need to learn the language first and then comprehend the science. This takes time.

6. How do you see the harmony between culture and education in mother-tongue?

Re. Language has a big contribution in promoting culture. If one wants to develop his/her culture, he/she never face shortage of words. If one wants to develop his/her culture but the language is not his/her mother-tongue, he/she may look up words in dictionary. This is disadvantage. If you want to develop your culture through your language, as the source of the language and the source of the

culture are both the same, you can develop it easily. You can identify the culture of a society by observing their activities like clothing, feeding and so on without being told. You can get words for the activities. Therefore, language and culture have strong relation.

7. In case students go back to society and lead their life after completing grade 8, do what they have learnt at school and what they encounter in the society, especially with regard to agricultural practices, relate?

Re. Concerning this issue, there was expectation of employment after completion in the past education systems. Today this has been changed. Let alone primary education completes, university students are happy to drop and create his/her own business as I think because they can get good product from few things. If possible, even I am personally happy if university students withdraw from the university and join the society and create some job. The curriculum also supports this idea. An educated person can create something in his/her society in the language used in education. Therefore, if students come back to the society and serve them with the language they have learnt, there is no any obstacle.

Do you have anything to add?

Re. You have already exhausted the points I was supposed to raise. I say thank you.

Thank you very much.

2. Agarfa Wereda, Haro Goda Local Village Farmer (KII)

1. What types of traditional agricultural practices are being practiced in your area?

Re. This is good question. Our culture is using oxen. We get the oxen domestically. We feed them, train them, and use them for farming using traditional farm tools. We also use traditional methods to weed and to mow crops. Children and women also participate on weeding. We also use mass (daboo) to collect the harvest and store yields in traditional gallery. We have been leading our life this way.

2. On which aspects of knowledge do more people rely on for survival? (scientific technology, indigenous practices, or the integration of the two)

Re. We are more benefited from traditional ones. The modern technology appeared not farther than two or three years. Our farm lands are heterogeneous. There are mountainous, flat, gorge and other pieces of farm lands. Some of them are not accessible to vehicles for ploughing and mowing. We have got access to combine harvesters to some extent. Tractors are not still accessible. Those whose farm land is flat have used combine harvester for three years including this year. As we have been trained by rural development experts, we have used fertilizer and combine harvester. But there is no tractor. The traditional ones that we were using are also as they were. Except for mowing, others like ploughing are practiced like they used to be.

3. Why do you think these traditional activities are still functioning?

Re. The reason is lack of tractor. We are using chemical. We are also using combine harvester and fertilizer. The traditional practice that has still persisted is traditional ploughing.

Probe: Do you use chemical to all types of crops?

Re. We use it for wheat and barley only. The problem we encountered here is that there is a weed called 'sinaara' which could not be avoided by the chemical. You also need to seek for solution. We do not use chemical to other crops. We weed them by hand. We use fertilizer, however.

4. How much are your children (or others' children) aware of cultural practices and traditional agricultural practices of their community? How much do they appreciate them?

Re. We tell them the traditional values but they are not in the position to take it into consideration. Oromo culture is a valuable culture. When we tell them, they have the feeling that it is backward and affects their modernity. Others in fact want us to teach them about Oromo culture. There are various views.

Probe: Can we relate the reason why at least some of them have interest to learn their culture to the use of Oromo language in education?

Re. Yes, we can. Some of them are interested. Those who are not interested to learn are not because they claim that the culture is bad but because of lack of awareness. Those who want to learn our culture are academically strong students and teachers. Academically low students are not also committed in cultural issue.

5. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. Thank you. During the H/Silassie Empire, no one is concerned about culture be it teachers or students. We are not using our culture publicly. We use it at home only. Now students are learning publicly as they like. It is in this time that we are explaining and using our culture. Truly speaking, they urge us to use our culture. It is in this government that they tell us to bring back our culture, revitalize it and use it.

6. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

Re. We were not invited for long time. Recently, there is tendency to invite us to teach about our culture. We also went and told them. We feel that they are teaching our children about our culture. However, the students do not practically use it. They learn in their language but they are not this much practicing.

7. Do primary school teachers give attention/emphasis to community's cultural practices and cultural practices of agriculture?

Re. This idea is worth raising. The previous teachers are unlikely to be concerned about such issues. The current director and vice director are making students learn their culture. Teachers are teaching the students. Students are properly learning their and developing it.

Probe: Does learning in their language help the students to learn about their culture, and contribute to the close harmony between school and the society?

Re. They are attentively following their culture. The teachers are teaching properly. What is remaining is students are not properly receiving. In our village, teachers are teaching the language convincingly in order to make students accept it.

8. On which aspects of knowledge does most of the community depend/rely on more for survival, (scientific technology, indigenous practices, or the integration of the two)?

Re. More people are using modern technology. Their interest is more of the modern one. Even those whose farm land is not suitable for vehicle are more interested in using the modern technology than the one they used to use and benefited from. Even there are people who have no scythes for this three years time. As they are benefited from it, those who have no access to vehicles also desire to use the modern technology.

Do you have anything to add?

Re. Regarding their work, people are doing well. What I feel a bit is that our people are not in the position to recognize their own culture. As I have been invited in my village, others are not making serious follow up about their culture and language. Oromo valuable cultural practices that have survived without being written are not being taught properly. Therefore, as you have recorded our voice, you should also make follow up about our culture because it is useful for us. There is a rumor that teachers are not teaching children about our culture. I see the limitation here. I want the teachers to teach the students.

Thank you very much.

3. Agarfa Wereda, Oche Dino Primary School Student Individiual Interview (Stu.1 Gra. 8 M)

1. Are you aware of cultural practices of your community? Do you appreciate them?

Re: In our culture, when people work in mass they use different sayings which make Oromo Language develop and pass to the next generation.

Probe: Do you mean you have awareness about the practices?

Re: Yes, for example, I have awareness by learning from each other about what people say when they are engaged in certain work and how they say it.

Probe: What do you remember about what people say at work?

Re: During hand-weeding, for example, they say 'Hoo'aa baala taraa ari'ee waltarattaraa; hoo'aa baala okomii ari'ee wal kora kormii,' which show bravity. During hand-mowing (...).

2. Where (and when) have you learnt them?

Re. I got this experience from elders or our friends who know the practices previously.

3. What methods/practices do your parents use to accomplish the following activities?

a. How do they prepare farm land and keep soil fertility?

Re: Nowadays, although farmers use traditional practices, people use compost. They plough on time, they identify the type of crops to be sown this year, and the crop will to be sown next year. They also consider the amount of fertilizer required for certain plot. They see things this way.

b. How about controlling soil erosion and maintaining soil fertility?

Re: In our area, a piece of land which is used for animal shelter this year will be used for farm for the coming year. The other is farmers apply decomposed animal dung and plant remains to keep the fertility of soil. If we see crops in their type, farm land is prepared on time using compost and pepper is planted after which it is weeded. The other is wheat is weeded in mass. Maize was simply sown in the previous time. Now it is sown in line using fertilizer and burning plant decomposed leftovers.

c. How do farmers know time when it rains, when it stops raining and so on?

Re: They know something about it. Some people not all (Unrelated)

4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re. When we recognize now, people use more traditional methods. As there is no tractor, we use oxen to plough land. There are also farmers who use the tradtional farm tools, not the modern ones. Not only modern materials are used.

5. How much are you happy for learning in your first language? Why?

Re: I am very happy for learning in my own language. The reason is that I do not feel frustrated; I speak it freely. I also develop my culture with it. I don't think it is harmful. I follow my education properly with it. If it were another language, I feel that it would be difficult for me to learn. As there is nothing to fear, I am very happy.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. Yes, nothing prohibits us to learn them in class. In civics and Oromo Language, teachers sometimes ask us to tell jokes when we feel bored. There is mini-media club in our school. We get it there.

7. How do you think Oromo cultural practices could be developed?

Re. For these cultures to be developed, we need to closely observe when people prepare cultural foods. We should also take experience when they make cultural clothes and use it instead of demoralizing them.

8. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. It is true. They get the chance. For example, there was meeting this week. On the meeting, there was the condition that people say, 'Our children should learn this way; things should go this way.' There is a relation between school and students' parents. There is follow up. For example, some parents check how much the students learn by checking their exercise books and follow their children.

9. How much are your teachers aware of your parents' traditions and give attention to it?

Re. They have good awareness. For example, they teach us what Oromo culture look like. So they have awareness.

10. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re. Although I have little awareness on this issue, traditional activities of agriculture like mowing are widely practiced in our area. In some areas, farmers use combine harvester but mainly, they use oxen to plough and use hand to mow.

11. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. Yes, I myself prepared something on the cultural practices. For example, we are arranged in groups and discuss about what people say when they are mowing. Then a group representative explains the group discussion to the class.

Thank you.

4. Agarfa Wereda, Oche Dino Primary School Student Individual Interview (Stu. 2, Grade 8, F)

1. How much are you aware of cultural practices of your community?

Re. The awareness I have is that we reflect this culture. We invite our parents and explain them in the form of music and poem.

2. How do people accomplish these activities?

a. How do they keep soil fertility?

Re. They use fertilizer. They also use compost. (...)

b. Regarding weed controlling, what system do they use?

Re. They use both hand picking and anti-weed chemical.

Probe: Do they use chemical to all types of crops?

Re. They also use hand-weeding. They follow it from the beginning before the weeds get matured. If it grows, they use chemical.

3. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re. People use oxen to plough. But they use modern technology to control weeds. For harvesting, they use combine harvester. They are on attempt. It is said that ox-pulling should be changed to tractor ploughing. Things are integrative.

4. How much are you happy for learning in your first language? Why?

Re. I am happy to lean in Oromo Language. I also want to promote my culture.

5. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re. Yes, we have learnt. We learn the cultural and the modern one. They teach us by identifying their advantages and disadvantages.

Probe: Which one did they say has harm? On which do your lessons incline more, the traditional or the modern one?

Re. As the traditional one requires more labour, it harms both the oxen and human. They explain the usefulness of using tractor when ploughing. Its benefit is that it needs less labour and is time saving.

6. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. Yes, for example, our parents came to school this week and we together present them music, poem etc. They also explain us how students should learn; what culture they should reflect and how students should use their plans.

7. How much are your teachers aware of your parents' traditions and give attention to them?

Re. As there is no teacher who came from distance, they know the cultural sayings and other activities of the area. So they have awareness.

8. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. Yes, our teachers order us to go to home and ask our parents about what they say, harmful and useful practices as well as traditional and modern agricultural practices. They also tell us to express them what we have gained here and help them to correct their mistakes.

Thank you very much.

5. Agarfa Wereda, Oche Dino Primary School Student Individidual Interview (Stu.3 Gra. 8 M.)

1. How much are you aware of cultural practices of your community?

Re. The awareness I have include cultural foods, solving personal conflict etc, which strengthens people's harmony.

2. Where and when have you acquired them?

Re. I have got from my father as he used to participate in mediating conflicts.

3. How do people accomplish these activities?

a. Land preparation and maintaining soil fertility.

Re. They use oxen for ploughing, after which they apply animal dung. We plough two or three times and sow seeds. Even now more than 95% use this way.

b. Controlling soil erosion.

Re. In our area, there is soil erosion. We prepare ditch in the hilly areas. We also build terraces and detour floods.

c. Controlling weeds.

Re. We use hand-picking. We use anti-weed chemical and also pick with hand.

d. Guessing when it rains, stops raining and other related issues.

Re. Our parents count months to sow seeds. They never identify when it rains or stops raining. They also consider what and when others do.

4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re. During previous time, there was 'daboo' which means mass work. Now it is 'waanfala' which is slightly different in that the latter assumes returning the service back. It was in 2000 E. C. that vehicles came to our area. Even it is not accessible to all areas. So we mow manually.

5. How much are you happy for learning in your first language? Why?

Re. It is good question. It is good to learn in Oromo Language; however, we need to think critically. If we think critically, we are in danger because we face English when we complete primary school. We face problem there. It would be good if it were in Oromo Language at secondary school as well. I mean that Oromo Language helps us a lot at this level but it does not help us at higher level.

Probe: Does it help you much to understand contents at this level?

Re. Here it is very helpful. We learn more subjects in Oromo Language and speak in it as well.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. We are not learning Oromo culture in detail using cultural materials as such. However, cultural elements like cultural foods, working in mass sometimes appear in books. Other than this there are no practical activities that we regularly learn in our lessons.

7. How do you think Oromo cultural practices could be promoted?

Re. What I think would promote Oromo cultural practices is that they should be included in education. One way to promote oral and practical cultural activities is through education. If we need to develop the culture, we should reflect cultural representations in schools. If this never happens, we cannot exchange experiences.

8. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. This is completely absent. I don't think anyone asks his children what and how they learn in school. Our parents want us to help them in work rather than ask us about our education and what are missing in our education.

9. How much are your teachers aware of your parents' traditions and give attention to them?

Re. Yes, they teach us. There are two kinds of culture, the helpful ones and the harmful ones. We are learning them in comparison. There is no special practical activity. The attempt is being done through Mini-Media Club this year. Other than this, there is nothing.

Probe: Is it only Mini-Media Club that has concern about culture?

Re. Anti-HIV Club and Civics Club are also working in collaboration in this regard.

10. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re. There are indigenous agricultural practices that we learn. For example we learn about ploughing across land not down way. Our lessons are more related to modern technology like using fertilizer and anti-weed chemical. This does not mean that animal dung and decomposed materials are not helpful, but the former is more useful. Subjects like Biology and Civics teach us this way. Especially in Biology, we learn about soil fertility in relation to living things.

11. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. I have never come across this way. No one asks us to bring these practices to class.

Probe: How about cultural practices in general?

Re. What we happened to bring regarding culture is that when we practice drama, they tell us to base our practices on what is practiced in the society. We practice in the way it is practiced in the society and attempt to teach people.

Do you have anything to add?

Re. It is good. I thank you for offering me this chance. Regarding developing Oromo Language and Oromo culture, our culture should be taught to students as a separate subject by its own right in school. We are learning them in music and sport. Music focuses on singings and other practices. It doesn't focus on culture. Other cultural repsentations like cultural foods, cultural clothes and others should be taught to children. I also suggest that Oromo Language should also be taught in the higher levels.

Thank you very much.

6. Agarfa Wereda, Oche Dino Primary School Student Individual Interview (St.4 Gra. 8 M)

1. How much are you aware of cultural practices of your community?

Re. The awareness I have is that there is culture of working in cooperation in which working in mass is accustomed. Others like mediating conflict are also there.

2. Where and when have you acquired them?

Re. I have acquired them myself and got from surrounding. The awareness I have already had has been strengthened in the school.

3. How do people accomplish the following activities?

   a. How do they prepare farm land and keep soil fertility?

Re. There are two types of farming in our area. These are winter farm and summer farm. We use decomposed materials to fertilize soil. There is also scientific fertilizer these days.

b. How about controlling soil erosion?

Re. We farm across at the beginning and prepare ditch. We also intentionally leave land edges used as terraces.

c. How do you remove weeds?

Re. Though there are cultural activities, we use modern system. We use anti-weeds chemical.

Probe: Do you apply chemical to all kinds of crops?

Re. We use the chemical to crops like wheat, barley, and sometimes to maize. We don't use chemical for crops like beans, chickpea, pea, and linseed. We use hand-picking.

d. How do farmers predict when it rains, when it stops raining and so on?

Re. There is no such a significant awareness about this. There is some indication somehow. For example, there is a custom that if there is morning whirlwind (hobonboleettii barii), it shows that rain is approaching so that farm land should be prepared beforehand.

4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re. Although the modern technology is being expanded now, people are using the cultural practices. If we take weeds controlling mechanism, it is only the new generation that has awareness about the modern technology. So, most people use cultural practices.

5. How much are you happy for learning in your first language? Why?

Re. I am happy to learn in Oromo Language. However, it has its own problem. For example, it gives me opportunity to understand the contents of the lesson the moment I leave my family. On the other hand, I feel that the fact that the linguistic shift which occurs when I join secondary education has negative impact.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. There is no such a thing as culture lesson. However, we have roughly learnt the useful cultural practices and harmful cultural practices in Civics subject but we have never learnt explicitly the cultural practices that people possess.

7. How do you think Oromo cultural practices could be promoted?

Re. Before developing cultural practices of a society, we have to identify the useful cultural practices and harmful practices and learn them accordingly so that the harmful ones will remain and the useful ones will be promoted.

8. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re. Learning in my language helped me to learn my culture in school like culture of work, marriage etc. I could identify the harmful and the useful cultural practices.

9. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. Our parents have no participation in this issue. They don't know about education. Even there are parents who don't know what their children learn.

Probe: Is the school not playing any role in inviting parents to contribute ideas in this regard?

Re. What the school is doing in this regard is that it invites them every semester. However, as our parents' awareness is very limited, they don't say 'students should learn such things, they benefit from such things.'

10. How much are your teachers aware of your parents' traditions and give attention to them?

Re. They have good awareness I can say. In civics education, for example, they are aware of about promoting one's own culture. They teach us harmful practices and useful cultural practices.

11. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re. Yes, we learn. For example, we have learnt the usefulness of anti-weeds chemical in science grade 6.

12. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. They have told us to ask about proverbs; they have never ordered us to write and report to group.

Do you have anything to add?

Re. Thank you for giving me this chance. What I add is that I suggest preparing in the curriculum a separate text bout Oromo culture and history of Oromo as a subject.

Thank you very much.

7. Agarfa Wereda, Oche Dino Primary School Students Group Interview

1. How much are you aware of cultural practices of your community?

Re. We are using our language in education. Firstly, we are promoting our culture via Oromo Language. The other is we are enjoying learning in our language.

Re. Learning in our language is very interesting. It gave us good advantage. For example, there was imposition not to learn in this language in the past education systems. It was after 1987 E. C. that learning in one's own language has been developed in our country.

Probe: I want you to focus more on if you have awareness about it. How much are you aware of your community's cultural practices?

Re. We have some awareness but there are no ways that help us to develop our culture more in our area.

Re. (F.): Using mother-tongue in a society has a lot of advantages. For example, mediating conflicts has advantage for a society.

Re. Our culture was relegated in the past social systems. Now our children are not forced to learn in other's language. Our culture that was transferred orally and was about to disappear is now being written on books. This is the result of learning in the mother-tongue.

2. Where and when have you acquired them?

Re. (F.): Thank you. We obtained this awareness from what our parents have been practicing. We have to expand this awareness more than our parents do.

Re. We got this awareness from what we read on books and newspaper when we learn in the school. We have also obtained from our teachers.

3. How do people accomplish the following activities?

a. How do they select and prepare seeds?

Re. They have been using traditional ways except since few years. For example, they were used to sow the seeds they had been using for long. But now using modern technology, they are using selected seeds.

Re. For example, the farmers were taking training this week. Using the modern strategy to expand harvest that they have learnt on the training, farmers are now developing their harvest using fertilizer and selected seeds.

b. How about to prepare farm land/ to plough?

Re: For example, there is no tractor at the moment in our area. We use oxen and plough properly. We develop our harvest using the training we have taken and looking for preferred seeds. We also use 'gabatee BPM' and harvest more yield.

Re. Previously, we were not aware of selected seeds. Now we are using on the transmission of strategy of good experience.

Re. Previously, we were using fertilizer at the high cost even those of us who do not have much money to buy. Now as the result of the development of good experience, we are preparing in the form of compost and increasing our yield.

c. How do you control weeds?

Re. Here we use modern technology. We used to use hand-picking. Now we use chemical. Re. Previously we spray the chemical innocently. Now we do it in consultation with experts as to what time interval is needed to spray it after sowing. In case the weeds are not completely disappeared, we use hand-picking.

Probe: Do you use chemical for all crops?

Re. With regard to weeds controlling, we cannot say that farmers are using chemical exclusively. There are some who use cultural methods for some reasons like shortage of money. Crops have also different varieties like pepper, lentils, maize and others in which case no chemical is used as it is not effective for such crops. It could affect such crops. That is why we say not all farmers are using modern technology for their farming.

d. What do farmers use to treat when their domestic animals are sick?

Re. Previously, as they have no awareness, they lose a lot of cattle. As we have got awareness now, we take them to veterinary clinic and get them treated.

Re. As has already been said, because of lack of awareness, cattle were infected by diseases like rubies, 'dhibee gorbaa'. Now when our cattle get sick, we emmediately take to clinic and get them treated.

e. How about keeping soil fertility?

Re. In order to sustain soil fertility, our parents take ash, animal dung, compost to the farm plot and scatter on it.

Re. (F.): In order to keep soil fertility, they build terraces. They also use decomposed materials and ash.

Re. (F.): People use animal dung, compost and ash and prepare ditch to let flood away in order to increase soil fertility. This way they obtain good harvest.

Re. People sow seeds in rotation. For example, if they sow wheat this year, they sow another crop next year.

4. How much are you happy for learning in your first language? Why?

Re. Thank you. I am happy for learning in my language because Oromo Language was not recognized in the last social systems. Now it is used as medium of instruction up to grade 8. This gave me pleasure.

Re. (F.): Thank you. We are happy for learning in our language. Learning in Oromo Language will give us opportunities to speak in our language, promote our culture, and take over our parents' practices.

Re. Learning in Oromo Language has many advantages; learning in other language has disadvantages. If we take those who learnt before the implementation of mother-tongue education, the language they use at home is different from school language so that they were afraid of expressing themselves in their own language. This did contribute to the high dropout rate and ultimately facilitated illiteracy. Other contribution of learning in mother-tongue is that it helps to develop our culture and our language. Moreover, the fact that it is documented in written will contribute to the development of Oromo Language. The fact that it is learnt in universities show its development and its being language of research.

5. How much does learning in Oromo Language help you to learn and promote your parents' cultural practices?

Re. For example, in the court when I present my case in Oromo Language, no need of translating it. We can also develop our culture.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. We are learning in Oromo Language. Oromo people have their own culture. For example, we learn for what purpose puzzles are used in the form of question and answer so that children become ready to learn useful cultural practices at their childhood. As they are asked at school, they will be ready to answer without any difficulty. This is its advantage.

Re. Regarding what we learn in the school, for example, there was festival on which cultural clothe were shown. This occasion should have continuity.

Re. We are not learning about culture in the school. Since there are no cultural materials in th school, we are not learning. In fact we learn some elements of culture on books like Orom cultural foods, cultural clothes and so on.

7. Do you have any especial club or structure in your school that helps you promote your cultur more? If you have, would you mention them?

Re. There are various structures in the school. For example, there is Mini-Media Club in which w develop our culture. Students participate in the club and demonstrate culture in the form of drama and poem in the school.

Probe: How much is the club active?

Re. The very active club in the school is this club. It is functioning well.

Re. This club transmits Oromo culture in the form of drama, song, poem and other literary genres. This is to initiate students to know their culture. The other is when students play ball, the journalists transmit the situation. This also facilitates the development of the language.

8. Do your parents participate in decision making on what you learn at school? If they do, how?

Re. Yes, they get to some extent. Even this week, they came for meeting and discussed what their children learn, what they do, what Oromo culture exists and so on.

Re. Our community is changing. Previously they never used to come to meeting. Now, for example last week, no one was absent. This shows us that the society is aware of education and is ready to educate their children.

Probe: Do they get opportunity to discuss exactly on what you learn in class?

Re. They don't get opportunity on this issue. Honestly speaking, they did not get opportunity. They have no awareness about this thing in fact.

Re. As has already been said, though the awareness they have is limited, they have some opportunity to some extent. Our parents are developing awareness on how students and teachers are working in harmony. In the last time, all they knew was our going to school and coming back not what we were exactly doing. Now they make follow up as to where their children go and what they do.

Probe: Do you think the source of this awareness change is your being educated in Oromo Language or something else?

Re. Here the change arises more from their awareness about the value of education than from the fact that the medium is Oromo Language as they believe that educated people can be creative.

Re. The other is as the previous generation did not learn in Oromo Language, our parents are happy for we are learning in Oromo Language. For example, when we ask them proverbs, they respond us happily. They say, 'Do you learn such things?' We respond them. Oromo Language gives us assignment to ask our parents about various things. Our parents can understand us when we read them. They easily respond us too.

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Re. We are learning in Oromo Language. Oromo people have their own culture. For example, we learn for what purpose puzzles are used in the form of question and answer so that children become ready to learn useful cultural practices at their childhood. As they are asked at school, they will be ready to answer without any difficulty. This is its advantage.

Re. For me, it is because of Oromo Language that people gathered with us and held discussion with us. They begin discussion on meeting by Oromo proverbs. This is happening because of the use of Oromo Language in education.

9. Have you learnt indigenous agricultural activities at school? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt them?

Re. Yes, we do but we are taught more of its disadvantage. It also includes aniamal husbandry. What we learn reflects that our parents did not harvest good yield using traditional farming. Regarding animal husbandry, we learnt that treating animals traditionally when they are sick is harmful. Therefore, as we have learnt in the class, using traditional practices in agriculture is not only useful. There are also harmful practices.

Re. What I add is that in the previous time, people did not use to prepare farm land properly. Nor did they use to weed their crops. They used to get little yield. But now, even using the traditional methods, they prepare farm land properly ploughing several times and using compost. If they properly plough their land and use compost and sow seeds in rotation, the soil gets fertile and they will get good yield.

Re. (F.): By learning this, we are striving to use oxen for food only and use tractor for ploughing.

Re. What I suggest here is that using indigenous practices of agriculture has not only disadvantage but also advantage. In my opinion, though it has more than 50% disadvantage, they also have advantage. For example, if we take maize, it is dug using traditional way. In this case, what is ploughed using tractor is not equal to the harvest obtained by ploughing with oxen. What we have to know is that the kinds of crop determines. For example, if we use modern technology for crops like chickpea, lentils, beans and peas, the disadvantage is more prevailing than its advantage. The chemical has functioned against these crops. It burns the crops. Weeding by hand has more advantage. Therefore, using traditional methods is also useful.

10. Why do you think it is important to learn these practices at school?

Re. I say it is important. We have to learn in the modern way because, for example, we can harvest more using irrigation.

Re. (F.): If we learn them in class, we can show improvement and obtain more harvest.

Re. Learning indigenous ways of farming in school has advantage. Firstly, indigenous agricultural practices are part of Oromo culture. Leaning cultural agricultural practices is seen as learning one aspect of useful cultural practices of the people. The other is that understanding the past situation of the practices and how it is progressing now is very important. Moreover, it is important for this generation to identify if there was imposition upon this culture and faced problem and seek for solution.

Re. In my opinion, including agricultural practices in the school lesson is useful not only for individuals but also for the society because, crops like lentils, beans and others have never got chemical to avoid weeds yet. This issue may get solution via school. Human beings are enlightened if they are educated and educated people can create new things. Connecting education and agriculture will obviously develop a country.

11. Which aspects of agricultural practices (modern/scientific aspects or indigenous aspects) are given more emphasis in your education? Why?

Re. Raising the traditional practices in the form of history, our lessons orient us more to the modern technology. It informs us that the latter is more useful.

Re. (F.): Though it focuses on the modern one, the traditional ones are touched us a history. We also learn some useful traditional practices which new generation like us should capture. In general, it emphasizes modern technology.

12. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. (F.): Our parents mediate conflicts occurred between individuals. This does not exist on our books. Mediating the conflict, the country (…)

Re. Culture has variation though it can be taken as one regionwide. There are cases where our books order us to explain to the class based on our area.

Re. Yes, there are occasions where we are asked what kinds of culture Oromo people possess. There are situations where we are made to bring cultural practices that do not exist in the school and discuss them with other students. For example, we explain the cultural practices of Oromo people to other students in different clubs.

Re. For example, among Oromo cultural practices are 'geerrara' and 'walaloo'. People use 'geerrara' when they kill something. There is initiation to change this thing to written document.

Thank you.

8. Agarfa Wereda, Oche Dino Primary School Teachers Group Interview

Civics Teacher = (C), Oromo Language Teacher = (OL), Oromo Language Teacher & Vice Director = (OL & VD), Science, Chemistry & Biology Teacher = (SChB)

1. How much do students have awareness about Oromo cultural practices?

Re. (OL & VD): Regarding the advantage, students gain when they learn in their first language.

Probe (Redirecting the question): Excuse me, we will come to its advantages and disadvantages later. Now we focus on their awareness.

Re. (OL & VD): Students have no much awareness when they come to school. The teachers teach them about society's cultural practices and the use of learning in their language. As they are children, they easily catch what the teacher teaches. They develop their understanding as they grow up.

Re. (SChB): Students know nothing when they come to school. They gradually become aware of their culture, for example, about their clothes. As they learn in their language, it strengthens their awareness and enables them change it into practice. It doesn't also take them long time as they learn in their language. They also promote their culture in the process. In science, they learn about cultural food, cultural clothes and culture of farming from grade 1 onwards. As they learn in their language, they practically use what they learn.



Re. (C): I partially support what science teacher has explained. Students are not aware of culture when they come to school, especially until they pass grade 1-4 except that they happen to use their language as the matter of chance. Then as they advance in age and in the education, they learn from their school and their environment, they begin to recognize their language and culture in relation to their environment. They relate practices like marriage and conflict resolution to what they learn in the school and analise their usefulness.

2. As you work in and with local community, you know more about the situation of the society. Which aspects of knowledge (indigenous practices or scientific technologies or integratively) do most of the people use to sustain their livelihood?

Re. (OL & VD): Most of our people use cultural practices of agriculture. As it is not possible to say that technology is accessible to every corner, most of our people use oxen regarding farm land preparation. One aspect of agriculture where technology is prevailing is mowing. Even in mowing, the technology began to be practiced very recently. Regarding anti-weed chemical, too, people have been using traditional practices except after few years. This is also not used everywhere. When we see in our area regarding aspects like selected seeds, ploughing, controlling floods and so on, people mostly use traditional methods. In terms of when and what type of seeds to sow, they use their own knowledge. Regarding fertilizing soil, only those who afford use fertilizer. Others never use it. Now rural development experts make people prepare compost and initiate other farmers to use it by awarding selected seeds. Though there is change, generally, people in our area use more of traditional agricultural practices.

Re. (C): What our parents have been using is traditional. But now they are coming to the technology. When some use new method, there is competition. However, they cannot afford to use it. When we say affordability, there are several things in it. For example, they know that they can harvest three times using technology compared to the case in which they harvest only once traditionally depending on seasonal rain. The cost limits them to the traditional practices. Their awareness is limited. They don't even want to take training. Nor is their training sufficient. Therefore, more than 80% of people use traditional methods.

Re. (SChB): As the geographical situation is determinant factor, people in this area use more of cultural method. However, as people are occasionally taking training currently, they are trying to use compost. Yet not all farmers are using it. As the farm lands are more of mountainous, people use traditional. There is no much utilization of technology. In case shortage of rain occurs, hunger may occur because there is no any irrigation. Farmers are not thoughtful to use technology and control hunger. They are struggling to lead their life using traditional methods. Therefore, there is no much change on the part of farmers by way of using technology.

3. Why do you think indigenous agricultural practices have still sustained?

Re. (OL): My opinion is different from others. I say that farmers are using more modern technology. When I was a child, people used to obtain little harvest in this area. Technology has changed them these days. Their harvest has been increased. This is the result of different trainings being held in the local areas. More than this, they have minimized the fertilizer cost by preparing compost.

Re. (OL & VD): I argue against his opinion. The basic question here is that the aspect of agriculture that people are using to lead their livelihood. When we see farmers around us, how many people use selected seeds, plough in the way the technology guides using scientific materials, use anti-weed chemical, sow seeds in lines at appropriate time, and use mixture crops. It is if they use these ways that we say the farmers use technology. Honestly speaking, which method do more people use? I say that they use more the traditional ones.

Re. (OL): Your argument is on the situation of their utilization of technology and traditional practices. If this is the case, are you saying that the cultural ones are used more?

Re. (OL & VD): Yes. When we compare the two practices they use now, we say that they use the traditional ones more.

Re. (OL): We can agree. As I see, your point of argument is on which aspects people use now. They use traditional ones. Because of transportation problem, shortage of training and others, it is clear that more people use traditional practices. However, if they use technology, there is great change between the situation when I was a child and now.

Re. (C): One reason is they are limited by affordability. The other is the influence of the past administration. In my opinion, they are not accustomed to approach administrative personnel and experts to obtain experience. More than this, what I encountered when I was somewhere in low land wereda was that people were not happy when it rains for fear the food donation would stop when climate is suitable for production whereas if they use the rain and sow on time, they harvest in very short time. But they prefer the short term donation to obtain immediate remedy. This actually shows lack of awareness. Therefore, except around town, the distant areas are far from technology. In addition to affordability, people' awareness should be changed.

Re. (OL & VD): In addition to what they say, the big obstacle to use technology is that our farmers are not goal-oriented in saving what they have. People produce a lot, after few months; they don't have anything (unrelated idea)

4. How much do you work with the community on the education and other societal issues, alongside engaging in the class lesson?

Re. (SChB): Students' parents are not willing to come to school and solve school problems. When we let students bring their parents for certain problem, there are cases where they are not willing. They come to school and try to observe school problems only when their children are exiled from the school. Otherwise, they do not want to school and see problem of students and the teachers. However, members of the school committee come to school when some problem occurs in school as they are representatives of the society. Generally, community is not observed to come to school and solve school problem and follow how students are learning.

Re. (AO): Actually there is harmony between school and society but the harmony is very limited. The reason is that the society considers school and teachers as the sole responsible bodies for the school well-being. That is why they keep quiet. Unless the three bodies-government, society and school work together in harmony, the school does not achieve its goal. As society does not have awareness, it is important to empower them.

Re. (OL & VD): It is true. The whole society does not come. They have already assigned representatives who follow the school activities. They come to school when required. Other than this, the parents committee should make monthly meeting to discuss about school problem in regulation. Based on this, we have recently made meeting and discussed several issues of the school including the fact that the school is people's property and that they need to take care of it. However, when they are invited to come, they prioritize their job. They are not aware of the fact that the major legacy of the children is education. On the other hand, students themselves are not striving as was the case in the past. It is time of competition to get job. Students should work hard to be competent. Some students may go back to the society. Parents should follow them. Some parents complain to come to school claiming that it is wastage of time. We cool them down telling them that you need to come to school not only when the students commit maldiscipline but also

when they are doing their duty properly in order to sustain their good deed. We strongly tell them that it is worth taking little time to discuss about the children while they are at young before they are getting elder and it becomes difficult to shape them. They finally agree with us. It is, however, not to the needed level concerning the parents' willingness to approach school and discuss about it.

5. What does the students and Oromo community in general benefit from the current mother-tongue education system?

Re. (C): If it is given due consideration, I say that learning in the students' first language is useful. They are not challenged by another language. They can easily learn about their environment. However, these students compete with students from other regions. For example, they learn in Oromo Language here up to grade 8 and shift to English when they enter grade 9. Their result will be lower there. While learning in their language is useful, they see its negative effect from the national point of view. There is English language as a subject from lower level but it is said to be insufficient. Though they use their language for speaking and explaining their feeling, they don't trust its consequence yet. Although they are not aware, its result is great.

Re. (SChB): They get great advantage. For example, students and teachers can easily communicate and understand each other. Students can freely ask questions and understand more. However, students raise that they may be challenged when they join secondary school. They say that the language they have used in the lower level is different from the language they use in the higher level. Their challenge is not the difficulty of the contents of the subjects but the meaning of the words. At the lower level, there is the situation of competing and arguing over contents. As Oromo Language is their parents' language and the language they always use everywhere, they also use it in the school. Even when the teacher is not in the class, they read the books and come with questions. Therefore, they are benefited from the system. But they complain that it can affect their higher education.

Re. (OL & VD): It has great value. I was taught during the Derge regime. Before we tried to comprehend what the teacher taught us, we were seeking for the meaning of the words. But now, you don't seek for meaning. Instead, you straight go for comprehending the content. Even when they join secondary school, if they are good students, they easily relate what they learnt at lower classes with what they are learning. The big question is if they attentively follow their education even if the medium is their own language. When we compare their class participation in English class and Oromo Language medium subjects, they participate in English classes by force whereas they participate in the classes of Oromo Language medium subjects to the extent of debating over issues. This shows that they understand the contents in depth in the later case. Regarding the benefit the society gains from MTE, the society benefit a lot when their children learn effectively. If the students discuss what they learn with their parents, the parents can support them. For example, if the students ask their parents about culture, parents can help them. Nothing gives parents pleasure other than helping their children.

6. What cultural practices and indigenous agricultural practices of Oromo community have been incorporated into the curriculum of the subject area(s) you teach?

Re. (OL): They are properly incorporated in the education. We are expressing in the form of jokes, poem, role playing, praising while working in mass and so on. We are also reflecting the culture on various occasions and parents' meetings. Regarding language, they are explaining to their parents. They are practically transferring what they observe in their environment. It is their culture. They are living with the society. They explain this all.

Re. (OL & VD): They are written on the books. For example, Oromo Language grade 7, there is topic about forestry in which it recommends taking care of animals. It also explains about irrigation and use of water in grade 7 Oromo Language. Furthermore, in grade 6 Oromo Language, under the title 'Science and Technology', it deals with weeds and production. Regarding other cultural practices, it explains about culture in grade 4 and recommends students to discuss with their parents.

Re. (SChB): Many of them have been incorporated. When we see the case of Science, for example, in grade 6 Basic Science, it raises how to plough flat land and mountainous land and guides to plough across. In grade 2 Environment Science, it shows in the form of picture when ploughing is taking place using oxen, tractor and hand. Concerning soil fertility, the effectiveness of ploughing across is mentioned. The use of fertilizer is also mentioned in Chemistry.

Re. (C): It explains about culture widely. It sees culture from two perspectives-the useful practices and harmful ones. The useful ones include working in collaboration and so on. The harmful ones include chewing chat, wasting working time, genital mutilation etc. it also raises the equality of cultures. Cultural practices of nations and nationalities are all mentioned. It initiates students to learn the culture of other people.

7. What do you think is the relationship between rural development and primary education in the medium of MT?

Re. (SChB): There are several things that relate the two. Firstly, experts come to school and teach our students how to plant plants and take care of them. Students are expanding what they learnt from the experts. This is their relation.

Re. (C): It is too little in my opinion. During the Derge time, different vegetables were planted to let students practice. This is hardly practiced now. Even if the school possesses farm land, it is not used for this purpose; rather, it is given contract to generate school income.

Re. (OL & VD): They support one another to some extent though it is not as needed. There were practices like handcrafts in the last social system. Students practiced what they saw in their environment. If these things are expanded, they support one another. There are some instances but have not been expanded. The other is about agriculture. Rural development experts come to school and give different fruits and vegetables. However, even if we let our students practice it, the society has no awareness and does not see it positively. The students also see it as a punishment not as part of education. What I suggest is that it is necessary to design agriculture as a separate subject and taught to students. We have farm land but we cannot make students practice it because the society considers as if we enforce their children to be engaged in farming at the expense of their education. Therefore, it needs due consideration to be given as a subject by its own right.

Re. (SChB): Experts come and give training. As has already been said, it is better if it is taught as a separate subject. There are cases where teachers invite experts and give training on caring environment by the help of Environmental Club.

8. What do you think is the relationship between medium of instruction and education?

Re. (SChB): When we come to science, it is the science learnt in the other language that has been translated to Oromo Language. However, there is a case where students face difficulty in understanding the words while they are learning in their own language. Nevertheless, they can easily guess and understand. Therefore, as the concept is others' except the change of the letter, students sometimes face difficulty.

Re. (OL): They have relation because students can easily understand what they are learning.

Re. (OL & VD): They have relation. Their relation is firstly based on advantage. For example, if we take Oromo Language, students learn the history and the culture in the language. They also learn plants and their features, types and their usefulness in the language.

Probe: What if they learn these things in another language?

Re. (C): It has no problem. However, they understand more when they learn in their language. In this area, the society is a bit mixed. There are Oromo community and Amara community. It is better if they learn in their language to understand what they are learning more.

9. What do you think is the relationship between development and language?

Re. (OL & VD): Language and development is related because if a national language is the language of work, people can develop their culture through the language. When the culture develops, it becomes good for their work. This student needs another language only for global communication when he/she advances. Otherwise he/she understands more in the first language. For example, countries like China pursue their education in their language up to second degree. Therefore, if their language is used, they do not need to translate to any other language to follow their work and do different investigations. It never requires them high cost, too. Hence the two things support each other.

Re. (C): Every language is important. However, to approach modern technology, the global language may have influence. Materials are manufactured in foreign languages. For example, the fact that computer works in English may affect those who do not speak the language. Therefore, if they learn all languages, they will be benefited. It is also useful if they learn modern languages which bring them to the modern technology.

Re. (OL): I don't think it has problem. If one learns one's own language properly, he/she is not challenged to learn the other global languages. As one's language contains one's cultural practices, it is not problem to use it.

Re. (SChB): It does not have any problem for development. Learning in one's language does not affect anything. The main point is science. If the science is understood, transferring the science into practice is not problematic. Therefore, their relation is great.

Re. (OL): They have compared the two systems, the Derge and the current one with regard to the harmony between rural development and primary education. During the Derge time, students were working because the policy makes do so. Now there is no such a policy. It is given as training. The experts in the local villages are training students and the school. We have said that agriculture was given as a subject during the Derge time. It was compulsory. Now students do not work farming. They are made to learn freely.

Re. (SChB): When we say this, they practically participate in gardening whether voluntarily or by force. What we are saying now is if it is designed as a separate subject, experts can come and give training which let students pass gradually to modern technology. This guides them to lead their life in better way in the future. In the contrary to the case where there was little production from large plot, now the experts train to produce large harvest from small plot. This helps students to produce effectively and pursue their schooling properly. If this is learnt as a subject, they read it and put it into practice in their garden and improve their livelihood.

Re. (OL & VD): What I want to argue is that we are not comparing the two social systems-Derge and the current one. That time, students were made to exercise handcrafts and acquire experience. Agriculture had also its own book from which they obtain some basis. If students practice different arts from what exists around them, they use the materials and gain experience. They can also generate income from the nearby resources. Such things need to be given due consideration to enable students to help themselves as the base of technology is cultural resources.

Thank you very much.

9. Agarfa Wereda Agriculture & Rural Development Expert (KII)

1. What traditional agricultural activities are practiced in this locality?

(This question along with introductory words was not recorded.)

Re. To begin with seed selection, seeds selection is related to land preparation (not audible). Then they wait for the coming of rain. They have traditional knowledge of when rain falls. For example, they observe wind direction, wind speed, and situation of moon. Hence they predict and say that there would be good rain this year; it would rain earlier this year; it would rain late this year and so on. They get these customs from their parents. Based on this prediction, they prepare their plots. They also prepare seeds on the basis of the amount of the expected rain. If the rain is expected to be heavy, they select the type of seeds that overcome the rain. Other conditions are arranged according to the predicted weather condition. Ditch preparation to control soil erosion is also prepared prior to sowing. If they guess that there would be shortage of rain, they sow crops that need short season rain and that would be harvested earlier. Knowledge of this practice both has existed earlier and has been introduced by rural development experts. (...). There is an attempt to use technology to control erosion but they use more traditional way. For example, in the sloppy area, they use ditch to convert flood away from their farm land. (...). The way they care farm land was also similar. For example, there is tradition of caring for surrounding plants. They used to keep indigenous trees to remain uncut. (...). As population is getting larger, people have began to destroy forests and used for cultivation. The previous tradition was taking care of the forests. There were beehives and livestock raring, but later, people began sharing lands and destroying forests.

Probe: So, were the indigenous practices useful for environmental sustainability?

Re. Yes, it was very useful.

2. How do people benefit from these practices?

Re. First of all it helps them to control floods. It also helps to keep the fertility of soil. A piece of land needs to stay uncultivated for a minimum of two years to be fertile. When it is exposed to erosion, the outer layer can be eroded and rocky soil may be resulted. Therefore, to sustain the fertility of soil for long time, these practices are very useful.

Probe: You have mentioned about indigenous calendar, i. e. they guess time to accomplish various farm activities. Secondly, you have also mentioned that they select seeds based of weather conditions. What do these help them?

Re. These are very important, especially their time/season guessing ability. Even we get genuine information about seasonal variation rather than we get from metrological broadcast. It is

sometimes very surprising. Based on (...) and wind speed, they broadcast about the coming of rain. When we ask them as to where they have learnt it, they tell us that they have learnt it from their parents. This helps them to select seeds suitable for the season. Metrology's broadcasting usually indicates wide coverage at regional or zonal level. The farmers' indigenous broadcasting targets their specific local area only based on what happens in their surroundings. This is the difference. So, the local one is more effective. Some farmers, however, do not follow the indigenous one but many people use it learning from one another.

3. How should knowledge of such practices be developed, transferred and documented?

Re. This is very important. I personally appreciate this idea, especially indigenous broadcasting. Those people who have such creativity/ knowledge should be searched and their experience should be recorded and prepared in writing. Plus how their knowledge meets the scientific innovation (the metrological broadcasting) has to be checked and there difference has to be analysed. Taking this as a document, it is possible to transfer to the users of other areas. There are certain people called local elders who are skilled in such indigenous practices. They are already known. They have all-sided personality. It is not only what I have said. There are a lot of things. For example, if we take indigenous medicine, they know a lot of things. There are medicines for vaccination, for cure etc. There is a sort of burning, or to be buried in the skin of a patient. Scientifically there is disease which can be cured when skin of a patient cut and air is allowed to inter. What they locally do is similar. So, the practice is supported by both science and tradition. They also have skill of how to completely cure/repair a broken bone of human without any scientific education. They collect medical spices from various herbs, roots and other parts of trees and use to cure various diseases. They surprisingly succeed.

4. What is the ratio of people (in percentage) in your kebele do use modern/scientific agricultural technology and indigenous knowledge to sustain their livelihood?

Re. In fact this requires survey study. There are several forms of technology that include live stock raring. What is widely practiced is disseminating selected seeds. This is even used by few people because of financial constraints. In this regard, the users of technology are not more than 15%. More people use locally produced crops of better quality. There are other related things like fertilizers. Some people use mixed systems. Others still use their local knowledge alone which includes crop rotation, animal dung and so on that has been used for long. What we teach them is to use it in an improved way. When we tell them to use selected seeds, they tend to use only wheat because wheat is suitable for modern technology utilization and for commercialization. The problem they face is that they become mono-crop producers. This exposes them to fertility problem, crop disease and weed dissemination. Here we intervene by telling them to use other crops and to use fertilizer in order not to lose fertile land in few years.

5. On which aspect of agriculture (e.g. soil erosion control, weeding, mowing, yield storage, commercializing etc) do people in your area use more modern technology and indigenous knowledge practices?

Re. They use more (inaudible) technology on seeds selection because they have access to supply of selected seeds and these selected seeds give more yields compared to the previously available seeds. They have also good resistance to diseases as well as they have market demands. Because of these reasons farmers prefer using the modern seeds. There are some crops which are not suitable for technology. If they use the indigenous seeds and use fertilizer for such crops, they may not be productive. But the selected seeds are already produced in such a way that they can easily adapt to technology. They have market demand as they are needed for seeds and consumption rather than indigenous seeds. They are suitable to use mowing machine as well. When we come to

the storage, what is on practice is not similar to the previous practice. Previously, they used gallery and 'silicha' (a container of crops made from goat hide). Now they use 'medaberia' and stored it in a store house built from corrugated sheet. In fact this has its own advantage and disadvantage. It is vulnerable to microbes and other threats though they use chemicals. Any how, they use it for a season and change or consume it when the next harvest arrives.

Probe: (Confirmation and illustration) Well, you said they use more technology on seeds selection. How about on soil conservation?

Re. Regarding the soil conservation, mostly we give advice. For example, if they need to build terraces, there is a rule based on the heaviness of the flood and condition of the land. But they do not take what we advise them. They prefer using their indigenous way. Previously, farm land is ploughed selectively. As population grows, all lands including easily erodable areas are used for farm. Forests are also being exploited for various reasons. Therefore when the rain rains, more land is exposed to erosion. So, protection is very crucial. Indigenous knowledge is helpful here. The protection process requires the effort of not a single person but that of the whole society. Previously, as a single person uses little land, he can convert floods to the area that is not used for farming. But now it is difficult to avoid floods where a series of plots are used for farming. It requires collaborative efforts. However, collaboration is weak in our society. With regard to utilization of compost and animal dung, there is good beginning. When the cost of fertilizer is high, they tend to use animal dung. They use either preparing compost or collecting the animal dung carefully.

Probe: Compost is not entirely technological innovation but rather an improvement of what has been practicing. Is it?

Re. It is not. What is improved is, for example, well is dug in square and plants residue is stored proportionally in the well for three months to ferment, and taken to the farm area in proportion. This is what we have done technologically. Previously, however, they store animal dung somewhere until its color fads and disperse on the plot.

6. How much do these modern technologies assist them in sustaining their livelihood?

Re. (inaudible) especially they use selected seeds along with fertilizer. There is also an improvement in storing and taking their crops to market. Though not fully utilized, hybridization of animals is also being practiced. There are people though few who surprisingly improved their life in this respect. If a cow is hybridized with 12% to 50% foreign species, its milk yield is so high. (inaudible). The other thing is animal fattening. Basically, it is not new innovation. But when to fatten, what to feed them and fattening quickly and taking to market are what improved. Previously, they just leave free an ox that has served much or got older or that is not good at ploughing to get fat and after some time they take them to market. Now they select an ox that could get fat, feed it properly and analyse market demand. This is what is improved.

7. On which aspect of knowledge of agricultural activities (modern technology, indigenous knowledge practices, or integration of the two) do people depend more to sustain their livelihood?

Re. To answer this question, it is worth categorizing the farmers into three groups. First, there are people who use only their indigenous knowledge. The other more people are those who have their own knowledge, but yet take modern practices that he gets from experts and other means and use in mixture with what he knows, what he sees and what he hears in all farming aspects like ploughing and storing. This is the larger portion of the people. The other group is those who completely use modern technology by seeking for new farming innovations related to harvesting,

animal fattening and so on from different sources like mass media, experts etc and applying them quickly. This group is few in number.

8. Does the rural development strategy acknowledge and accept the use/benefit of people's indigenous agricultural practices for sustained rural development? How?

Re. (...) Yes, it accepts. It is very important because if we totally ignore indigenous resources and embark on technology utilization, we are left without resource and will be in vacuum. For example, indigenous crop varieties give not more than 10 quintals per hectare whereas the selected varieties give about 40 to 50 quintals per hectare. But these varieties are originated from the indigenous ones. They get resistivity to weather condition and give high yield from the indigenous species. This is known to the experts and it is also in the strategies. There is also farmers' knowledge. In our part, we tell them what the new technology says. Actually, there is no localized technology. Most innovations are hypotheses. They are applied by trial and error in the high land areas or moderate areas not meant for particular area. For particular area, we provide the farmers with the modern technology, means the resource and the know-how. We also identify the trend of the local farmers. Then we encourage them to use the two forms of knowledge integratively. In some cases, the better practices are gradually examined and will be widely used. The farmers' knowledge is also crucial. We cannot encourage them to use modern technology absolutely because of factors like skill, access and cost. Moreover, we cannot be confident to do so as there is no locally proved technology at hand. Hence we encourage them to use comparatively more effective local practices and available technology in combination.

9. What do you think is the relationship between primary education in the medium of Oromo Language and strategies of rural development?

Re. Although I am not familiar with the curriculum of primary education, in my opinion, there is very important relation. When students learn in their mother-tongue, they can easily and quickly capture what they are told. They learn what is around them like environmental protection (inaudible). Therefore, as they learn in their environment using their own language, it is useful for development unless the implementation is ill-organized.

Do you have anything to add in relation to what we raised or that you feel must be added?

Re. (...) how to identify farmers' indigenous knowledge practices and how the identified practices can be used with the new innovations.

Thank you very much.

10. Agarfa Wereda, Reteba Primary School Student Individual Interview (Stu. 1 M)

1. How much are you aware of cultural practices of your community (example: using traditional medicine, telling tales, resolving conflict traditionally, making crafts etc?

Re: The Oromo cultural practices are so wide, for example, culture of marriage, culture of feeding and others.

2. Where and when have you acquired them?

Re: Means (...) Being Oromo, no one is ignorance of Oromo culture.

3. Let me focus on traditional agricultural practices. When we say these, they include traditional weed control, traditional ploughing ethno-veterinary, and traditional yield storage and marketing. How do people accomplish these activities? For example:

a. How do they keep soil fertility?

Re: To conserve soil, they first plough using tractor in order to dig out the inner layer of the soil. Then they use animal dung and plough using oxen so that they harvest better yield.

Probe: Do all people use tractor?

Re: Not all. This is what my parents do. Many others, however, use oxen.

b. How about controlling soil erosion?

Re: As the soil could be eroded when it is raining, they protect soil erosion by ploughing side way and by building terraces.

Probe: Do they do this from their own knowledge?

Re: Yes, from their own knowledge.

c. Regarding weed controlling, what system do they use?

Re: The way they control weeds is that when crops newly sprout, they up root individual weeds, like in the case of 'teff'. With regard to wheat and barley, they use anti-weed chemical.

Probe: In which crop land do they use hand-weeding, and in which they use chemical?

Re: They use chemical for wheat land. For crops like maize, 'teff' and a like, they carefully up root the unwanted plants with hand.

d. How do farmers know time when it rains, when it stops raining and so on?

Re: For example, as farming for 'teff' plot is suitable in the rainy season rather than in the sunny season, and is also suitable in the flat area than hilly area, they use their own knowledge and perform accordingly.

4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)

Re: They use the modern technology more. Previously, they used hand to mow and oxen to sort yields from straw. When they use oxen, the oxen feed yield which affects the yield to be collected. Now it is tractor which does all works. Especially those who have money use tractor to plough, to mow to collect yields. Others, however, use hand-sowing, hand-weeding, hand-mowing.

Probe: Which system do you think most people use?

Re: In my opinion, most people use modern technology. For example, people use oxen-pulled ploughing in the mountainous area. But such farm land is not majority.

5. How much are you happy for learning in your first language? Why?

Re: Learning in my language gives me great pleasure. Previously, all subjects were taught in Amharic language. Now all subjects are taught in Oromo Language. Its benefit is that as this language is the language of large ethnic group, it is useful in learning and teaching.

6. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re: It helps me much. Learning in my language helped me to know more about my parents' culture. Suppose if I were taught in Amharic language, I would not be aware of what my community's culture looks like.

7. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re: What I remember from Oromo culture is cultural materials. The cultural materials (...) there are like white dressing called 'mamud', 'coocoo' (a container of milk), 'qubee harkaa' (finger ring). We learn these.

8. How do you think Oromo cultural practices could be promoted?

Re: Newspaper (...) on books (...).

9. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re: They get. For example, they ask us what we learn. For example, we learn harm and benefit of weeds. Our parents learn this from us.

Probe: Do they have opportunity to directly suggest what you should learn and what you should not?

Re: This kind of opportunity is during the end-year ceremony that they raise what we learn.

10. How much are your teachers aware of your parents' traditions and give attention to it?

Re: They have good awareness. For example, teachers come from different areas. They refer about the community's culture from different books and teach us. There were teachers who did not know Oromo Language and learnt it here and teach us now.

11. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re: For example, we learn about using modern technology and its usefulness. Using traditional way is harmful for animals and human beings. When using oxen to sort straw from yields, what the oxen eat reduces the yields. Using modern technology improves harvest. For example, farmers are trained. We also learn benefit and harm of using animal dung. People now use scientific fertilizer.

Probe: Can all people use fertilizer?

Re: Actually those who have the financial capacity use it. Others use animal dung. Gradually, however, using fertilizer is widely used.

12. Does this tell us that your education favours more the scientific technology than indigenous technology?

Re: Yes. It inclines to technology.

13. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re: We bring. For example cultural materials like spear, (...) we prepare it here and practice it for learning.

Thank you.

11. Agarfa Wereda, Reteba Primary School Student Individual Interview (Stu. 2 F)

Welcome to my interview. I am under taking issues that relate learning in Oromo Language and Oromo culture. You are requested to give me genuine information in this respect. In case you do not have idea about the question, you have to feel free not to suggest or say 'I have no idea.' Thank you in advance.

1. How much are you aware of cultural practices of your community (example: using traditional medicine, telling tales, resolving conflict traditionally, making crafts etc?

Re. I am aware of it. (...)

Probe: How and where have you acquired this awareness?

Re. First I acquired it from my parents. I also obtained it from school.

2. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. Yes, we learn. We learn cultural songs and how cultural foods like (inaudible)

3. Let me focus on traditional agricultural practices. Which one do your parents use, modern technology or traditional farming? For example:

   a. What do they use to plough land?

Re. First they use cultural practice to plough land. After ploughing using culture, they use technology.

   b. How do they keep soil fertility?

Re. Before the expansion of fertilizer, they used to use animal dung. As technology is being expanded, they now use fertilizer

Probe: Do all farmers use fertilizer?

Re. Now all farmers use it. In case they have no money, they take it in credit and pay it at the end of the harvest.

   c. How do they control soil erosion? Do they use technology or traditional practice?

Re. They use traditional practices, not technology. For example, they prepare traditional ditches and build terraces.

   d. To rear cattle, which system do they use more?

Re. They use more traditional one though there is some use technology.

e. How about yield storage and taking to market?

Re. Previously there was gallery. But now as the result of technology, 'quintal' is widely used both to store and to take to market. In stead of traditional measures like can, they now use 'mizan' for transaction.

4. How much are you happy for learning in your first language? Why?

Re. I am very happy for learning in my language. (inaudible)

Probe: What is the benefit of learning in one's own language?

Re. The benefit of learning in one's language is that it is human right, not obligation, to use one's own language and acquire more knowledge.

5. How much does it help to acquire one's culture?

Re. Say if we learn in other's language, we learn things by force. But when we learn it in our language, we learn things without any fear and we can express what we learn freely.

6. What indigenous agricultural activities have you learnt at school? If you have already learnt them, or if you are learning them now, in which subject(s), and at what grade(s) have you learnt them?

Re. Yes we learn. For example, in grade 4 science, there is a topic 'Agriculture'. In this Agriculture and Livestock, we learn traditional farming and modern farming in comparison.

Probe: Apart from what you learn in class, is there any structure which helps you acquire your culture?

Re. Yes there is a club called Oromo Language Promoting Club in which we learn, for example, cultural materials of Oromo beauty. We use these materials in practicing song and drama.

7. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. Yes they get. For example, if we score below what we have planned, teachers can order us to bring our parents and discuss with them why we scored less than our plan.

8. How much are your teachers aware of your parents' traditions and give attention to them?

Re. It is good. For example, they ask us question when teaching, and give us explanation. So they have awareness.

9. How often do you bring community's indigenous/cultural practices to classroom lessons?

Re. There is, for example, in grade 5 Aesthetics subject which invites us to practice such traditions as preparing cultural materials like wood-made pillow.

Probe: Is there any topic which invites you to do so in your lesson?

Re. Yes, there is. In Biology, for example (...)

Probe: Do you happen to bring traditional agricultural practices in your community to the class lesson and discuss?

Re. We learn that if it is impossible to use technology, it is possible to use traditional hand-weeding to control weeds.

10. Which agricultural practices (modern technology or traditional practices) have got more attention in your education? Why?

Re. As we get more yields, we learn modern technology more. Say if we use traditional practices, we may lose some thing. When using technology, nothing is lost and we can improve our product.

11. Which do most of the farmers use more (modern technology, indigenous knowledge or integration) to sustain their livelihood?

Re. People use indigenous ones more though there are some technological practices.

I have completed my questions. Do you have something to add? (...) If you have no more idea, thank you very much.

12. Agarfa Wereda, Reteba Primary School Student Individual Interview (Stud. 3 F)

I am conducting a research on the relation between mother-tongue education and Oromo cultural practices. You would contribute to my study in giving me genuine information. Where you have no ideas on what I am asking you, feel free to just say 'I have no idea'. Thank you in advance.

1. How much are you aware of cultural practices of your community (example: using traditional medicine, telling tales, resolving conflict traditionally, making crafts etc?

Re. As culture is a sign of identity, everyone needs to express his/her culture. One can express his/her culture in such a way that he/she has to acknowledge his/her own culture that has passed over from their parents other than the others' culture.

Probe: Where and how could you acquire these practices?

Re. I learnt it by asking my parents as to how our culture can be promoted.

2. Let me focus on traditional agricultural practices. Which one do your parents use more for farming, modern technology or traditional farming? For example:

   a. What do they use to plough land?

Re. First they prepare farm land and plough individually or in group.

   b. How do they control weeds?

Re. They use anti-weeds chemical for crops like barley and wheat. Crops like 'teff' and maize are weeded using hand.

Probe: Why don't they use chemical?

Re. They don't use it because it is not suitable for such crops as maize and 'teff'.

c. How about to control soil erosion?

Re. When the rain rains and floods occur, farmers prepare traditional ditches and plough the farm land along the sloppy surfaces.

Probe: Does the technology help in this respect?

Re. I haven't seen its contribution to this.

d. What do they do to improve the fertility of the soil?

Re. They use fertilizer more. Some people also use animal dung.

e. How about in storing their products and taking to market?

Re. More people use 'quintal'. Some still use traditional gallery.

3. How much are you happy for learning in your first language? Why?

Re. As Oromo Language is the language of my community, (...) I am happy to learn my language more. I am happy because this language will serve the next generation as well.

4. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re. As I ask what I want to ask in the language, it helps me to learn more this way.

5. What cultural practices have you learnt in class? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt?

Re. What we have learnt regarding cultural practices is like culture of work, means how some work is done (inaudible).

6. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt?

Re. Yes we learn traditional agricultural practices. Some people complain when their product decreases without using fertilizer. If they use fertilizer, there is no reason that their product decreases.

Probe: Do they raise these issues in your lesson?

Re. Not this year. We learnt them on Aesthetics subject in the lower grade.

7. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. They have not got such chance. However, they ask me if I have any problem at home. Though they don't have chance to go to school, they ask me how we learn.

8. How often do you get opportunity to bring community's indigenous agricultural practices to classroom lessons?

Re. There has never been any way of doing this so far. However, there is opportunity in clubs. If it is worked on in the clubs, we can learn about our culture more. If not in the class lesson, there is in the clubs.

Probe: Do you have particular structures in the school that help you learn more about Oromo culture?

Re. For example, there is Oromo Language and Culture club which should have given more attention to this issue. I don't know why it is not properly functioning. If it were to function properly, everyone could learn his/her language and culture more. But, it is not functioning properly.

9. How much are your teachers aware of your parents' traditions and give attention to them?

Re. For example, there are students who deviate from their culture and display unusual deeds. There are cases where teachers advise such students to respect their own culture.

Probe: Do the teachers themselves have enough awareness about the traditions of the community?

Re. The teachers have good awareness. For example, they teach those students who have no good awareness in the clubs.

I have completed my questions. Do you have something to add?

Re. What I want to add is that as all the students, teachers and the community are all from the same society, they should promote people's cultural practices that have passed over generations.

Thank you very much.

13. Agarfa Wereda, Reteba Primary School Student Individual Interview (Stud. 4 F)

Welcome to my interview. I am under taking issues that relate learning in Oromo Language and Oromo culture. You are requested to give me genuine information in this respect. In case you do not have idea about the question, you have to feel free not to suggest or say 'I have no idea.' So as the result of this study could be useful for the community, your response should be based on reality.

Thank you in advance.

1. How much are you aware of cultural practices of your community (example: using traditional medicine, telling tales, resolving conflict traditionally, making crafts etc?

Re. I have the awareness. As this big community's culture is being expanded and not under any oppression, we can even learn it from our parents.

2. Let me focus on traditional agricultural practices. Which one do your parents use for farming, modern technology or traditional farming? For example:

   a. What do they use to plough land?

Re. They use traditional farming. For example, they use oxen-pulled ploughing and sometimes they also use hand digging.

   b. How do they control soil erosion?

Re. By building terraces and by preparing traditional ditches.

c. How about controlling weeds from various types of crops?

Re. They use various systems. First they clear the seeds prior to sowing. When the crops germinate, they use hands to up root weeds, especially in case of crops like maize. They also use anti-weed chemical. In the case of weeds control, they use modern technology.

d. Regarding the storing and taking their products to market, do they use more technology or traditional way?

Re. As the modern technology is being expanded nowadays, the traditional materials like 'dagoogoo' (a container made from soil), traditional gallery, and hive are not in use. In stead, they use modern ones like quintal both to store and take to market.

3. How much are you happy for learning in your first language? Why?

Re. I am very much happy for learning in my language. Learning in the first language at the initial level is useful. Those who learnt in Amharic language were not as expressive as we are today. In my opinion, education has been strengthened since Oromo Language was introduced as medium of instruction

4. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re. It is Oromo Language that helps me to learn culture and other things. As I am well familiar with the language and it is widely used at my home and in the community I live, it helps me a lot to be acquainted with the culture.

5. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. Yes we learn. For example, there is Culture and Literature club in which we learn cultural clothes, cultural foods and others. We learn more cultural clothes.

Probe: Do you learn them in the classroom as lesson content?

Re. If not in grade 8, we learn them in the lower classes. For example, we learnt cultural marriage, cultural foods like porridge.

6. What indigenous agricultural activities have you learnt at school? If you have already learnt them, or if you are learning them now, in which subject(s), and at what grade(s) have you learnt them?

Re. Regarding agriculture, we learn both traditional and technological agricultural practices. We also learnt the usefulness of both techniques.

7. Which one do your lessons give more attention to?

Re. Both are useful. However, as it utilizes technological materials, we learnt that using technology is more productive. Yet, we learnt that though they are less productive, traditional practices should not be ignored.

8. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. For example, if they are called for meeting, when there is discussion topic on education, they discuss how we can be well educated with the teachers.

9. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. For example, if we take Aesthetics in the lower grades, we were ordered to bring cultural materials like 'quluu', 'qorii' and others and discuss them in the class as a lesson.

10. How much are your teachers aware of your parents' traditions and give attention to them?

Re. Our teachers have diverse knowledge and skills. Oromo Language teacher, for example, teaches us about culture more than others.

I have completed my question. In case you have something to add, let me give you more chance.

Re. In promoting Oromo Language and Oromo culture, Oromo Language means language of a big community. We have been well informed that it is the language that has been under oppression, and liberated now. I am very much happy and impressed in your effort to promote the language and the culture. We should also work on promoting and transferring this culture to the next generation without violating the others' culture.

Thank you. Good luck!

14. Agarfa Wereda, Reteba Primary School Students Group Interview

As I said, I am here to conduct a study on indigenous practices of agriculture in relation to the primary education in the medium of mother-tongue. You are grade 8 students and I request your willingness to give genuine information.

Thank you in advance.

1. Are you aware of cultural practices of your community (example: using indigenous medicine, telling tales, resolving conflict indigenously, making crafts etc? Do you appreciate them?

Re. 1: Yes. We have

Probe: How about you?

Re. 2: Yes I have to some extent.

You, do you have awareness, do you appreciate?

Re. 3: I appreciate, but (inaudible)

How about you?

Re. 4: Yes I have awareness. As you said, regarding farming when males are engaged in farming, females also participate in other activities like hand weeding. At home, we also involve in cooking and arranging clothes. I have such awareness.

Probe: How about you?

Re.5: (...)

2. Where (and when) have you learnt them?

Re. 1: The way I have got the awareness is that when my family prepare program for weeding or mowing and talk about the work in group; or when they discuss about different cultural activities be it in the morning or in the evening, I acquire this way.

Re. 2: I, too, have got the awareness from school (...) (bell ringing to declare end of rest, students are noisily rushing to class)

Re. 3: The Oromo culture is widely available. In farming when males farm, females also work related works. This needs to be encouraged. It is not fair to say this is not females' work. Everyone should work in cooperation. Similar trend should occur in schools. House hold cultural materials are also disappearing because of the technological influence.

Probe: How about you? How did you get the awareness?

Re. 4: Yes. These cultures have both advantage and disadvantage. (unrelated idea)

Probe: How about you?

Re. 5: (female) I got it from my parents as my parents have been using for long. My awareness is strengthened in the school. In school, cultural education is given. They teach us cultural materials and cultural foods. We also exercise doing things in practice. I learnt this way.

3. What indigenous methods/practices do your parents use:

a. to select and prepare seeds,

Re. 1: Seed selection in my opinion takes place in accordance with the situation of the soil that is suitable for certain crop.

b. How about to prepare plot/soil and maintain its fertility (using manure compost, scientific fertilize etc)?

Re. 1: In my opinion, for example to cultivate' teff', they see the situation of the land.

Probe: How about you?

Re. 2: In our area, farm land is prepared for different crops in different ways. There are types of crops that need soil to be ploughed several times and that do not need much ploughing. For example, 'teff' needs soil to be ploughed several times to give high production while maize does not need much ploughing.

Re. 3: Yes, that means if seed stays for long time, it expires (unrelated idea)

Re. 4: In general, after selecting seeds, the soil suitable for the type of the crop is prepared and fertilizer is added. This way they use the land.

Re. 5. As I think, the ancient people use stick to plough land and passed to metal. Therefore this culture should not disappear. We hear that there is a place where these materials are prepared, but we could not see it, though we need to see. This culture should not be lost (___).

c. to control weeds,

Re. 1: For the hilly mountain area, anti-weed chemical is used. For the flat one, hand weeding used.

d. to keep animal health,

Re. 2: Indigenous medicine was used, now the scientific medicine is being used.

Probe: Indigenous medicine is not used now?

Re. 2: It is used (...).

e. to control soil erosion and increase fertility,

Re. 3: You mean how to increase soil fertility?

Probe: Yes.

Re. 3: For the soil not to be taken by water, they build terraces. In addition, they plant different trees. They also use fertilizer.

Probe: Which one they use more, indigenous one or the modern technology?

Re. 2: They use fertilizer more than they use indigenous animal dung.

4. Are you happy for learning in your first language? Why? What do you benefit from it?

Re. 1: Yes. It helps me to know more about my language.

Probe: How about you?

Re. 2: Yes, I am happy because my language means my body. (bell ringing noise). We have heard that Oromo Language was not spoken before some decades. When I think that, I feel sad. Now I need to learn more.

Probe: How about you?

Re. 3: (unrelated idea)

Re. 4: I am very much happy to learn in my language. All languages are equal. But when I learn in my language, I am happier and it encourages me.

Probe: What is your idea?

Re.5: Yes, I am happy. As learning in Oromo Language is promoting Oromo Language, I am happy. If we have not been learning in Oromo Language, we cannot hear the culture that our parents have passed through. Hence I am happy to learn in my language.

5. How much does learning in Oromo Language help you to learn and promote your parents' cultural practices?

Re. 1: It helps me a lot. I cannot explain how much it helps me. Oromo Language is now being promoted.

Probe: How about you?

Re.2: (unrelated idea)

Re. 3: Yes. Learning in one's language and promoting one's culture have great relation. What language and culture are all about are learnt only in the medium of one's own language.

Re.4: Learning in the medium of Oromo Language helps us to learn our parents' culture that they were using for long.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re.1: Yes we learn. As we learn so far, to respect teachers, to get quality lesson (---)

Probe: (illustration)

Re. 2: Yes. The culture in the society and that we learn in class are similar. So we learn it in school.

Probe: (illustration using examples)

Re. 3: Yes. What we learn in school include the benefit of animal dung and other related cultural practices used by our parents.

7. Do you have any especial club or structure in your school that help you promote your culture more? If you have, would you mention some?

Re. 1: Yes, there is. It is called Oromo culture and literature.

Probe: What is your main duty in the club?

Re. 1: Cotton work, indigenous needlework (embroidery) etc.

Re. 2: It is called Oromo Language and literature. We also express our ideas which include Oromo proverbs and riddles through this club. There is also culture of work where those who are not familiar with work will learn. If we see it in education, when students discuss together, discussion is Oromo culture. When we arbitrate/settle disagreements, this is also Oromo culture.

8. Do your parents participate in decision making on what you learn at school? If they do, how often?
Re. 1: (unrelated idea)

Re. 2: The school invites students' parents and discusses what students should learn, how they should behave, how educated people should behave.

9. Do your teachers (science, civics, Oromo Language) give attention/emphasis to community's cultural practices?
Re. 1: Yes, they do. They advise us to be free from corruption, develop tolerance, and fairness.

Probe: How about on culture?

Re. 2: They also have attention on culture. In addition to what we learn from our parents, we learn our culture from our teachers.

10. Have you learnt indigenous agricultural activities at school? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt them?

Re. 1: Yes, we learn. For example, regarding to soil conservation, they teach us how to preserve soil. They teach us that if the land is mountainous, it is possible protect erosion by building terraces.

Re. 2: Yes we learn. In order to protect soil from erosion and water, the land should be ploughed side way.

Re. 3: Yes we learn. In science of soil conservation, we learn that building terraces, planting trees, and using animal dung can protect soil from erosion and keeps soil fertility.

Probe: Why do you think it is important to learn these practices at school?

Re. 1. It is important because all students may not be employed in government organizations. Therefore students need to develop skills of these agricultural activities. (...)

11. Which aspects of agricultural practices (modern/scientific aspects or indigenous aspects) are given more emphasis in your education? Why?

Re. 1: They teach us more modern technology than indigenous one.

Probe: (illustration)

Re. 2: They give more emphasis to modern technology.

Re. 3: Though more emphasis is on modern one, there are also indigenous ones. (bell ringing). For example, regarding using fertilizer and animal dung in farming, we learn in comparison. But we have learnt that using scientific methods has more advantage.

Re. 4: It emphasizes more the scientific methods. This means those who used to use the indigenous method did not benefit much. Therefore what we need to learn is the modern one. (the one who has communication problem in Oromo Language)

12. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. 1: Yes. In addition to what we learn from the books, we are given various lessons. For example, to indicate/teach behaviour of those students who seriously follow/attend their education and those who simply come to school and go back to his home, we show this in the form of role play.

Re. 2: They order us to ask our parents about the indigenous agricultural practices and we discuss these in comparison with what is on the books.

Re. 3: Yes. We are given in the form of home assignment to ask our parents about cultural materials and others. Then we wander in the village and ask elders and expand what we have got then we discuss these in class.

This is all what I have planned to ask you. If you feel that you need to add more on what we raised, please welcome. (___) If you have nothing to add, I thank you very much. Thank you.

15. Agarfa Wereda, Reteba Primary School Teachers Group Interview (+ V. Director)

(Introductory words were not recorded) This helps me a lot. Let us straight go to questions.

1. How can children in general and primary school students in particular best learn and appreciate Oromo culture and indigenous agricultural practices? (illustration given on Cultural practices and indigenous knowledge of agriculture)

Re. (civics teacher, male): Ok. Such kinds of questions encourage us to learn and work more in our school. In our school students adjust things they learn with environment. Especially the indigenous materials you have mentioned, students search in their surroundings and make themselves some materials like (inaudible) and bring to class. Other students like those who come from town learn from them. Regarding the IK of agriculture they see what their parents practice like how they select seeds and relate with what we teach here. Not only seed selection, they also relate what they learn here with what DAs teach like in the case of soil preservation and using land pertaining to the type of crops. Another thing is resolving conflict. Sometimes conflict takes place between students. When this occurs, instead of accusing each other, students solve the quarrelling on the spot, especially by the help of elder students.

Re. (Oromo Language teacher, female): As has already been said, first of all, students have such knowledge in their community. In addition they expand their knowledge in the school. For example, they learn from their teachers how to increase soil fertility by applying animal dung, other than waiting for scientific fertilizer. This way they learn how to increase soil fertility indigenously and increase production. The other thing is cultural materials. They know these materials in their community. We give them assignment to bring them to the school and preserve in school as models so that those who do not know these materials like those who come from town could learn.

Re. (Science teacher, female): Thank you. Regarding cultural practices and soil conservation, our subject itself teaches it. For example science teaches that land should be ploughed across the slop and terraces should be built to protect soil from erosion. These are in the book and the students learn them. They also learn in school how cultural materials are prepared and they practice this at their home and bring to school. The society can also learn from them. With regard to cultural practices, science subject clearly provides useful and harmful practices. For instance, harmful practices like abduction, rape and others are taught to the students in the subject. Students teach their society about these practices. On the other hand, we teach about useful cultural practices like cultural clothing, (faaya adda addaa). They teach their parents about these practices on their part.

Re. (Science teacher, male): I want to add some. Regarding conflict resolution, there is regulation in the school to prevent conflict. Conflict may occur, but there is also resolving mechanism. The other is in relation to farming. In this area, farming takes place indigenously using indigenous materials which are products of trees. So, when cutting trees for this purpose, care must be made and students should teach their parents.

2. As you work in and with local community, you know more about the situation of the society. Which aspects of knowledge (indigenous practices or scientific technologies or integratively) do most of the people use to sustain their agricultural productivity?

Re. (Science teacher, female): They use both. If we take the modern one, there are DAs who teach farmers to use fertilizer and selected seeds. For example, potatoes are harvested twice from the same plant using scientific method, indigenously is harvested only once. So, both are being used. Selected seeds for different crops are also supplied by Agriculture and Rural Development Office. Farmers are changing to modern way but the base is indigenous.

Re. (Oromo La. teacher, female): Ok. Farmers use both methods. For example, previously, farmers use ox and consume much time. But now different machines are used for mowing, ploughing and so on and get high production. This saves time of farmers. The other is that using indigenous practices, farmers also get high production with less cost. So the two systems are integratively used.

Re. (civics teacher, male): In the rural area, farmers use these two methods. Actually most people know that the modern technology is more useful. What is remaining is putting into practice. As the result indigenous practices are prevailing this time. It needs to work on to encourage people to use. Those who used the modern system have benefited a lot.

Probe: That is true but I want you to tell me what is practically on the ground. Can you estimate the ratio of people who use technology and who use indigenous system to lead their life in this kebele?

Re. (civics teacher, male): As I think, 60% use indigenous while 40% use modern technology.

Re. (vice director, male): As I think most of the people use the indigenous practices. This is because even those who are categorized under the modern users, only those who have capital can utilize machines. We can only say they use technology when they use technology to plough, to weed, to mow, and to collect. But very few farmers use technology this way. The reason is the topography of the area does not allow many people to use machines. Besides, farmers' awareness about the benefit of technology is reason. For such reasons, as has already been said, 60% and above of people depend on indigenous practices.

3. Why do you think indigenous agricultural practices sustained till now?

Re. (vice director, male): Besides cost and other, these practices are easy to be transferred from generation to generation.

Probe: So can we say that indigenous agricultural activities actively functioning in the community?

Re. (civics teacher, male): Sure. They are widely functioning.

4. How much do you work with the community on the education and other societal issues, alongside engaging in the class lesson?

Re. (science teacher, male): What I want to add is that what is done in the school except technical procedures is all done with the community.

5. What does the Oromo community benefit from the current mother-tongue education system?

Re. (Oromo La. teacher, male): As to me, Oromo people benefit a lot from learning in their language because if the medium is other language, learning become difficult as it is not related to their culture. Learning in one's own language reinforces learning one's own cultural activities like marriage, death and other social life. So it has great value.

Probe: Do you mean that Learning in the mother-tongue and promoting culture have direct relationship?

Re. (Oromo La. teacher, male): Absolutely yes. He learns in his own language. What he wants to do on culture, he can do it easily. So I say they are highly related.

Re. (science teacher, female): As they learn in their language, they easily understand what they learn. If they lean in other language, say Amharic, they could not understand the lesson. But as grow they can learn other languages easily. At the initial, they need to learn in their language.

Re. (civics teacher, male): Learning in their language has big benefit for children. For example, when they learn in their language, they do not face difficulty to express what they have got from their parents. When use other language, they do not understand easily. If we take an example, 'Genfo amta,' they cannot understand. But if we say, 'Merka fidi,' they easily understand it. So it is only if they learn in their own language that they can express their internal feeling.

Re. (vice director, male): It is question. In the first place, learning in Oromo language is a sign of identity. It is a means of expression of their identity and their right. Secondly, when student learn in their own language, they learn the content of the lesson without being challenged by the medium. If they learn using other language, they are challenged by two things, the content and the language. In addition, they also easily learn their culture from their parents and other community member and promote it.

6. What indigenous agricultural practices of Oromo community have been incorporated into the curriculum of the subject area(s) you teach?

Re. (science teacher, male): Unfortunately I taught (inaudible) for short time. However, I remember that when they learn basic science, they learn how different chemicals are used to control weed. They also learn how plants are cared to give high production.

Probe: Sorry, (redirecting the interviewee to the target question)

Re. (science teacher, male): Regarding this, the other science teacher would rather suggest.

Re. (science teacher, female): What is included in the lessons include harmful indigenous practices, about agriculture, how to conserve soil and others. For example, in chemistry grade 7, it deals with

the role chemistry has in community. It says community and chemistry are inseparable. It discusses how to sustain the fertility of their land using environmentally available resources, especially how chemistry services them in terms of preparing humus, and how to use their production. Chemistry along with Biology teaches a lot about farming comparing the indigenous and modern system.

Re. (Oromo La. teacher, female): In Oromo Language, cultural materials are incorporated in the lessons. For example, 'alange' is one of the Oromo cultural materials. In the book, it raises that culturally people use it for marriage purpose, i.e. the bridegroom holds it on the ceremony. The other material is 'sinke'. This is held by women when there is a need to pray to God for rain believing that if women do this, God will fulfill their beseech. The other purpose of 'sinke' is that on a marriage ceremony, it accompanies the dishes provided to the accompaniers of the bridegroom. This is incorporated in grade 8 Oromo Language course.

Probe: Do you remember which grade these things included?

Re. (science teacher, female): Yes. In grade 7, biology, there is about feeding. In grade 7, chemistry subject, there is about fertilizers. In grade 5, there are details of plants and about harmful practices. In grade 6, there is about HIV/AIDS and about reproduction and family planning.

Probe: Regarding family planning, does it raise in relation to tradition? Or it teaches the scientific one?

Re. (science teacher, female): Well. It teaches the modern one but relates it with the problems of large family and how to minimize member of family using scientific methods.

Re. (civics teacher, male): In the case of civics, from grade 5-8, they are included in different chapters. For example in the chapter 'National Love', it explains that if one knows his/her country very well, he/she also know and express his/her cultures and related things. So as the developed countries like America teach their children first about their country, I suggest that these issues need to be seriously included.

7. How often do students bring the knowledge of indigenous agricultural practices to classroom lessons?

Re. (Civics teacher, male): Yes. The book orders students to do so. For example, though I am civics teacher, I also teach grade 4 science. It orders students to ask elders about the indigenous plants and bring their seeds to the class and discuss how much they know them.

Re. (Oromo La. teacher, female): In Oromo Language, it is not concerned much with agriculture. It is more about culture. Different cultural practices exist on the book. For example, there is a word "handhura". This word has two meanings. One is part of our body while the other is that in Oromo

culture, when a baby is born, father gives one of his cattle to the newly born baby. The students are ordered to ask elders if there is gender disparity when they give the cattle. There are also other things that the students ask elders and report.

Re. (physics teacher, male): In relation to science, as I teach on physics about charge, there is a belief that when thunder lighting occurs and harms a person, there is a case where people dig a well in cattle's house and burry the one hit by the thunder to save his/her live. This relates to what the science says. On the book after describing about the indigenous deed, it comes to the science and explains that charging electrons means grounding it. So the book relates the grounding system of electrons and what the people indigenously practices.

16. Agarfa Wereda, Makona Cafe Local Village Rural Development Agents FGD (+ Kebele Manager)

As you know, we have discussed different things previously. You are rural development experts and kebele manager. I am conducting a study on the relationship between indigenous agricultural practices and primary education in the medium of mother-tongue. You are ones of those who have rich information on this issue, and I believe you would give me authentic information that will contribute a lot to my study.

Thank you in advance.

1. What indigenous agricultural activities are practiced in this locality?

Re. Ok. When we see the indigenous agricultural activities that were practiced by our fathers and grandfathers and transferred to the present generation they are also actively functioning today. Though they use technology in some cases, they, for example, know how a plot that was cultivated last year should be composed this year to be ready for cultivation for next year. When they use oxen, they are aware of when to do the first, second, third etc ploughing to prepare a plot for sowing seed.

Re. The indigenous agricultural activities are actively functioning today. Farmers know when and how agricultural activities are accomplished and all what science did is improving based on this indigenous knowledge. For example, in order to ensure the soil fermentation, farmers plough during the rainy/ moisture season. To prevent erosion, they either plough across the slop of the land or build terraces or plant trees on the top edge of the plot. Regarding animal disease, they know cultural/indigenous herbal medicine that they have already learnt from their ancestors through time.

Re. For the question whether indigenous agricultural activities actively exist or not, I say they actively exist. For example practices like hand mowing, hand weeding, using animal dung for cultivation, and hand digging are practiced.

2. How do people benefit from these practices?

Re. Let me give you an example related to these indigenous agricultural practices which I encountered with a foreign investor. After receiving about 500 hectares for investment, the investor ploughed the land using tractor, when there was no any rain or moisture. In less than two-week time, the investor ploughed the land once again and sowed seeds where there was no soil fermentation occurred. When we asked him why he did not need the soil to be fermented before sowing, commenting that this would not give him good harvest, he answered, "What you say is

what you know in culture, but there is no reason why the harvest would be bad as long as seeds, soil and water are mixed right when sowing." Ultimately, however, the harvest remained unproductive. This shows that technology, for the sake of being technology, could not be effective unless it is grounded on the local knowledge.

Re. First of all, any agricultural production should be related to the local context. In this case, they contribute to the production. Secondly, these practices which have stayed with the farmers for a long time (and if their benefit is known) are foundation for the today's technology.

3. How should knowledge of such practices be developed, transferred and documented?

Re. (Female): When we say indigenous knowledge we should know something. We can take hand mowing, for instance. In the hilly high land areas, machine cannot mow. Here hand mowing is effective. This practice could not be effective in the flat/leveled areas where it is possible to use machine. Indigenous agricultural practices which are useful at certain area may not be useful at others. In any case technology is the result of indigenous knowledge. Especially, farmers use animal dung to fertilize their land. Technological compost preparation emanated from this existing practice.

Re. In my opinion, in order to disseminate useful indigenous agricultural practices, one way is arranging experience changing program by moving farmers from an area where the practices are not familiar to the area where the practices are well utilized. For example, if farmers in some area are not using skill of fermenting soil and ploughing on time, these farmers can be taken to the area where this skill is used to acquire experience. Similar program can be arranged for rural development agents.

Re. As to how to disseminate useful indigenous agricultural practices:

a. strengthening the awareness of the farmers about the practices,

b. showing and teaching farmers its usefulness through practice.

4. On which aspects of knowledge do most of the community depend/rely more for survival, (scientific technology, indigenous practices, or the integration of the two)?

Re. (kebele manager-female): Yes. In our kebele, though modern technology is used, large percent use indigenous one. This is because, for large number of people who live on hilly mountain, modern technology is not convenient to use. They use hand mowing, hand weeding, and hand digging. In flat area farmers use modern technology (they use machine to mow, they use anti-weed chemical and fertilizer). Hence we can say the two practices are mixed. It depends on the land topography. Yet the large percentage of people use indigenous practices.

Re. When we see the ratio of people using modern technology and indigenous practices, we can say it is at the stage of integration of the two. If the large number uses oxen to plough land, they use technological inputs (fertilizer, anti-weed chemical, selected seeds). They are using modern technology. Hence it is at the level of integrated agricultural system.

Re. female: Large percent of people (80%) use modern technology. The opinion given by the first respondent may be based on the area coverage. Large people use technology. They use mowing machine, they use modern compost, and nobody is using animal dung nowadays. They are teaching their children; they take care of their health.

Probe: To say more or less people use indigenous practices, you can support your idea with evidence. For example, the reasons may be in terms of cost, transferability, access, labour, etc.

Re. We can see this issue in two different ways. Regarding ploughing, indigenous, ox-pulled practices are used by more people, because the land is well prepared as it is convenient to plough so many times (5-7 times) until the soil is well fermented and becomes wet. This is impossible if tractor is to be used because of high cost and even access. Hence as far as ploughing is concerned, over 90% of people use indigenous. With regard to mowing, most people use machine as large plot could not be collected timely using indigenous hand mowing. Therefore, the practices are said to be integrative.

5. How much do these modern technologies assist them in sustaining their livelihood?

Re. It helps a lot. When a machine is used for mowing, it shortens the time and labour as it accomplishes several tasks at time- mowing, sorting out grains and straw, and colleting into gallery. If the indigenous method is used, each task takes a lot of time and labour.

Re. (kebele manager): In the case of our farmers, it helps them very much. Hand weeding and using chemical are not the same. Using chemical is by far better in saving time and labour.

6. How much do Indigenous agricultural practices assist them in sustaining their livelihood?

Re. All that have advantage always have disadvantage. Both IAK and modern agricultural inputs have advantage and disadvantage. For example, ploughing machine saves time. However, this machine operates during dry time, while indigenous(oxen-pulled) farming can take place any convenient time including rainy or moisture time, though it takes long time, so that the resultant harvest is by far better. It has also no effect on environmental pollution. Therefore both have their own advantages and disadvantages.

7. What do you think is the relationship between primary education in the medium of Oromo Language and strategies of rural development?

Re. As long as children use their mother-tongue for their primary education, there is no reason why community's useful cultural practices are not incorporated into school. The students originated from the society; the source of the cultural practices is the society; the language used in the school is that of the society. Therefore, bringing the indigenous ways of farming into the school is important. Particularly, the goal of primary education encourages learning by demonstration. When they learn by demonstration, they do not forget it. If what is already in their society, with their fathers, is included into primary education curriculum in well organized way, it is helpful.

Re. What Grade 1-8 students are supposed to learn is about their environment and culture. As we observe, education both primary and secondary to university is inclining to modern technology. When they learn their culture in the lower levels, they amalgamate these practices with the modern technology and use them in the future.

Re. As this idea is connected with language, it is very important. This is important in order to make this language a language of technology and research. The foundation for technology is in the society. When this language becomes language of research and technology, it should take this society as its base.

Re. (kebele manager): The purpose of learning in one's own language is to promote one's cultural values. When promoting society's language, it is necessary to promote their culture as well. The available culture should be integrated with the language and be taught to children to the higher

level. This helps the culture revive instead of being instinct. It could also be transferred to other communities.

Re When children learn in their own language, it helps them admire and promote their family's culture. I say it is very important.

8. Is there any remark you would like to add, or any additional information or questions you think would be relevant?

Re. An education which integrates culture needs to be expanded. To achieve this, the role of mass media should be considered. Mass media should give more coverage to the primary education and the promotion of Oromo culture.

Thank you very much.

17. Agarfa Wereda, Makona Cafe Local Village Elder Farmer 1 (KII)

1. Let me put my question forward. How have your cultural practices and values been passed over generations?

Re. As I think, some of them have been passed orally and others have been passed though practical demonstration.

2. What types of traditional agricultural practices are being practiced in your area?

(illustration with examples)

Re. Regarding controlling soil erosion, we prepare ditches above the farm land which lead flood away from farm land and prevent it not to enter the farm plot. We do this from our own knowledge not by the help of modern technology. The farm land was also not too large. When one plot got tired, we used another plot and harvested good product. Regarding storage of products, there is a case where people prepare well and use it to store. In our case, we have been using gallery or hive to store products.

Probe: How about seeds selection?

Re. There was no such thing as selected seeds previously. The two prominent types of crops we used were wheat and black barley including mixed types of wheat. Other than this, there were peas and beans.

Probe: Why do you think these traditional practices sustained to the present time?

Re. Because it has advantage. For example, it is effective to prevent floods from farm land. It is not expensive. People can also easily acquire from one another. It is being improved now. (interruption, someone came in)

Probe: Is there hand-weeding this time?

Re. Not much. Except for crops like maize and beans, we use anti- weeds chemical to control weeds.

Probe: Do you use traditional/cultural medicine to keep the care of your domestic animals' health?

Re. There is. Even there is more. Diseases which used to affect animals before some time were 'sombe', 'fure' and 'madini'. But now as the result of the follow up from government, 'sombe' and 'madini' have disappeared. But 'fure' still exists. It cannot be got rid off, but can be weakened.

Probe: Do you use any cultural treatment for this disease?

Re. There are some. The most dangerous disease that attack both people and animals is 'dhibee saree'. As there are some people who can cure it, we are using it. The other disease is the one which causes cattle be bloated.

Probe: Is the cultural treatment effective to cure these diseases?

Re. Yes, it is effective.

3. How much are your children (or those of others') aware of cultural practices and traditional agricultural practices of their community? How much do they appreciate them?

Re. (contemplating for a while) It is so difficult to suggest about the new generation. They undermine the traditional things. Anyhow, what we have discussed goes according to the geographical location of the farm land. Those who live on hilly mountain area and who live on plate surface are not the same. Erosion affects more the mountainous areas not the flat ones. Therefore, they accept where there is problem as they cannot live if they ignore the traditional practices of controlling erosion.

4. On which aspects of knowledge do you depend/rely on more for survival? (scientific technology, indigenous practices, or the integration of the two)

Re. Regarding this, the way previous people lived is different from the way people live now. (interruption, children touched his horse) Previously, things were very cheap and little money can buy a lot of things. Big material is also sold for little money. Big cattle are sold for little money. But now, the reverse is true. Value of money is now deteriorated. Little money does not buy any thing. Therefore, life is by far expensive. As land was not crowded and grazing grass was sufficiently available for cattle, milk and butter was available. Things were not easily finished. Land now is not sufficiently available and is not fertile. Unless animal dung is used, it is not productive.

Probe: To solve the problem of soil fertility, what mechanism are you using more?

Re. If animal dung is used, it can give good product without high cost though more weeds may occur. If one could avoid weeds, the yield will be good.

5. What traditional agricultural practices that have been used have disappeared now? Why do you think they have disappeared?

Re. Hand-weeding has disappeared.

Probe: What technique do you use for seeds selection?

Re. A wise man purifies seed prior to sowing and sows it. Others sow without doing this. Now no one sows without purifying seeds.

Probe: Do you think more people use fertilizer or animal dung?

Re. More people are inclining to fertilizer. Those who have cattle, however, use animal dung. Animal dung can stay for two or three years without losing fertility.

Probe: How do you identify cattle which are suitable for rearing? Do you use your own knowledge?

Re. Yes, we identify them looking at their physical make up using our own knowledge.

Probe: Do you use irrigation using traditional way?

Re. Yes, we use.

6. Do more of people in your kebele use modern/scientific agricultural technology or traditional one in general?

Re. It depends on the land condition. For example, those who live on the other side of this river (pointing the area) as vehicle cannot reach, cultural practices are used. They plough using oxen, they use hand-mowing and sort out yields from straw. The area where vehicle can reach is ploughed using tractor and mowed by mowing machine. I myself use it.

Probe: So can we say it is mixed system?

Re. Yes, it is mixed. There is no absolute practice in both cases.

7. I will take you now to issues related to education in the medium of Oromo Language. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. There is difference between the former education and the current one. The medium as well as the alphabet is now different. In the former one, the language was foreign. In the former, there was imposition, but no any imposition now. Now the right of the children is acknowledged and they have opportunity to conserve their culture. There is no any obstacle to promote their culture unless there is difference across schools with regard to quality. So there is difference between the two systems.

8. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

Re. Yes, I participated. The school regularly invites us to discuss on issues related particularly to medium of instruction. We discussed on to which level Oromo Language should be used as medium of instruction (to grade four, six or to which level), at which level Amharic and English should begin to be taught and so on. We have suggested on these issues.

Probe: Have you ever raised the issue of including cultural practices especially that of agriculture into primary education in your discussion?

Re. Never. We have never raised this issue so far.

9. What role do you think primary school teachers are playing in promoting cultural practices of agriculture?

Re. Actually we are not conscious of this issue. In our opinion, the fact that our children are learning is a big deal. We are more impressed in their being taught and being literate than judging how effective their teachers are. We are glad not to expose our mystery to the outsiders like in the case

where education system was in the medium of other's language. Now our own children can read everything for us. This is not a simple thing for us. Otherwise, we are not in the position to evaluate teachers, and we are not capable of doing it indeed.

Probe: This is all I have intended to discuss with you. Do you have some thing to add?

Re. I think the government is changing many things. We have tought our children under high cost. They have learnt for 10 or 12 years. But they cannot be employed. They are not even joining the college that others have joined. We are warying about this nowadays.

Let us wind up our discussion here. Thank you very much for paying attention to my questions.

18. Agarfa Wereda, Makonaa Cafe Local Village Model Farmer 2 (KII)

I am conducting research on an issue of agricultural activities using scientific technology and traditional knowledge in relation to an education in the children's first language. How much the current education considers the people's cultural values is the central focus of the study. You are requested to provide me with genuine information. Let's straight move the questions.

1. What traditional agricultural practices are being practiced in you area? (illustration with examples)

Re. Ok. As I think, people are not similar; they differ in many things including knowledge. There is farming on the mountainous areas and flat ones. In the case of sloppy areas, people use traditional ditches to control erosion. In the flat areas, we use technology (BPM) to avoid stagnant water. Not all people use this method, however. We use two things to increase our product. One is applying animal dung on the farm lands. The other is using fertilizer. Those who are using animal dung are obtaining more products if they use small plot. Those who have more plots are unable to use either the animal dung or fertilizer and are not obtaining good products. Those with small plot are benefited more. Any way it is better than the previous farming system. Previously, people gain only 3 to 4 quintals per hectare while now we are harvesting 45 to 50 quintals per hectare. Regarding cattle rearing, there was ample land previously for grazing, but now cattle rearing is limited because of shortage of grazing land. In our kebele, there are three types of animal species: Borana species, 'Ferenji' species, and Habasha species. I also have them. You can see them. The two species, thet of Borana and 'Ferenji' are more productive. For example, I earn more than 1000.00 birr per month from milk.

2. Do more of people in your kebele use modern/scientific agricultural technology or traditional one in general?

Re. More people incline to traditional one because, as we have already said, they cannot use fertilizer or animal dung to all the plots. Only few farmers can get access to selected seeds. So people use more traditional practices.

Probe: Why do you think these practices have persisted to the present?

Re. There are two things here. One is that there are people who believe that crops to which fertilizer is used is not good for health (contaminated) and shortens the people's life span. The second reason is that some people are suspicious to take fertilizer in credit in case the harvest fails to be productive. They don't trust the technology.

3. How do you think the traditional agricultural practices have been transmitted over generation?

Re. I have got this from two sources. I have got assistance from the rural development agents. The major problem of our community is lack of trust on the technology. The other is ignorance (lack of knowledge). As previously people focused more on rearing cattle than farming, people are not conscious of the benefit of farming. These are the two problems of our society.

4. How much are the new generation aware of the people's cultural values, especially traditional cultural practices?

Re. There are cultural practices that should be sustained and that should be avoided. In the case of agriculture, it is more demanding to use the technology rather than traditional ones to bring change. Other cultural values such as promoting the community's language, cooperation, love and a like should be sustained because they are traditions of Oromo people. What students are taught at school is also good. It needs to sustain.

5. What traditional agricultural practices that have been used have disappeared now? Why do you think they have disappeared?

Re. In the past, people simply collect animal dung and disperse over the farm plot. This allows more weeds to grow. If this is done in the form of compost, weeds will not grow and the product will also be high.

6. In your kebele, how many of people do you think use modern technology to sustain their livelihood? How many of them use traditional one and the mixed system? Can you guess in percentage?

Re. It may be difficult to put them in percentage. As I guess, those who use the modern technology are larger. If they do not fully applied, they use it at least partially. The life of our people is improving.

Probe: As I observe, considerable size of the farm land in this area seems to be mountainous. Are you saying that these all use technology?

Re. Those people whose lands are sloppy use oxen to plough and use hand-weeding and hand-mowing. They use the traditional practices as the location is not suitable for technology.

7. On what aspect of agricultural activities do you use technology more and on which do you use traditional one more?

Re. In the sloppy areas, erosion usually occurs. Nowadays, people are using traditional ditches to control erosion.

Probe: (redirecting to the target question)

Re. Hand weeding is used for flowering crops like maize, 'teff', beans and pepper while anti-weed chemical is used for wheat and barley.

8. I will take you now to issues related to education in the medium of Oromo Language. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. It is by far better to learn in one's own language than in the other's language because it does not need translation. A one who learns in his/her own language can easily understand things compared to the case when second language is used.

9. What is the role of learning in the mother-tongue in promoting one's cultural practices? Does it make difference if other language is used as a medium of instruction?

Re. Learning in other language adversely affects the promotion of one's language and culture. If mother-tongue is used, learners can easily understand lesson and they can also promote their culture.

10 Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

Re. Yes. I am a chairperson for the school-community committee. We meet every month to discuss issues of school related to problems of teachers and students. We gather problems from both students and teachers and solve them in discussion. We discuss how students should learn and strengthen Oromo cultural values. We also have similar meeting for similar purpose at wereda level every quarter a year. We come to the school with the discussion outcome and enforce our school to apply it.

Probe: So do you say there is strong harmony between community and school?

Re. Yes. People make discussion with the school twice a year, at the beginning and at the end of the school time. During these two periods, we discuss how the schooling should go about and the outcome of the school year respectively. Therefore, school and community have close harmony.

Probe: Have you ever raised an issue related to the inclusion of traditional agricultural practices in the education system? I raise this because in case students who are dominantly taught to scientific technology come back to the society with lost society's traditional practices, they face difficulty to fit to the community.

Re. As the students are already farmers' children, we are not expected to raise it. They know everything. We have never raised this issue.

Probe: I have completed my question. Do you have something to add?

Re. I have actually exhausted my idea. The problem that our students have is English language. As they learn from grade 1 through grade 8 in Oromo Language, their English is not good. We always raise on the discussion how English language teaching should be strengthened from the lower levels. This is what I wanted to add.

I thank you very much.

19. Agarfa Wereda, Makona Cafe Local Village Young, Educated Farmers (FGD 1)

The reason why I want you hear is that to discuss on the relation between mother-tongue primary education and indigenous practices of agriculture, I require information from farming community. Therefore, as I forward questions, you are requested to provide me with genuine and correct information. Let us proceed.

Thank you in advance.

1. What indigenous agricultural activities are practiced in your locality? (wide illustration with examples)

Re. As all know, we have been ploughing with oxen; we have also been using hand to weed crops. Similarly, we have been rearing cattle. This is what our life looks like.

Probe: Are you saying that what I mentioned are all being practiced?

Re. Yes we are still using hand-weeding and oxen-pulled ploughing.

Re. As he said, there is hand-weeding alongside using chemical. Rearing cattle is also practiced in indigenous way. So (___)

Probe: Is there anyone who wishes to add? Would you please say loudly?

Re. As they said, in our area we use more indigenous practices. Especially regarding soil protection in the mountainous areas we plough across the slop. With regard to seed selection, we change/rotate type of crops year to year. Not only this. Our parents also save seeds using indigenous way, and estimate the amount they need for sowing. They also indigenously know time for sowing seeds. Other than this oxen-pulled ploughing is still used in our area using indigenous farming materials. In the case of cattle rearing, people use indigenous way by caring their health, bringing up the small ones and selling the old ones.

2. Why do you think these indigenous agricultural practices are still used/sustained in your areas? For example you relate it with cost effective, easily transferable, easily adapted etc.

Re. The reason why they are still used is that the topographical situation in my area, for example, is not suitable for technology. In the weeding we also use chemical in some cases and still some use hand-weeding. Hand-weeding is very useful. So, in general, the situation of the land matters. In flat area technology is widely used, in integration with indigenous ones because when the two are used together, the production is good. So, indigenous practices cannot disappear as people benefit much from under low cost and easily accessible.

3. How have Oromo cultural practices of agriculture been passed on to generations?

Re. In my opinion, there was no education as such through which these practices are passed over. Generation learn from each other by observing what is practically happening. For example, I learn from what my father does and I also work with his and learn from him. This way it has been transferred to the next generation.

Re. All what he said is correct. As he said, we learnt from what they do, not in the form of education.

Probe: In the mean while, can you tell me your education background?

Re. (They all told their education background. They are all from grade 7-10 except one who is 3)

4. Good! My next question is (interrupted- somebody came and talked to someone in the group) How much are the new generations conscious of and appreciate Oromo cultural practices and indigenous agricultural practices?

Re. Regarding Oromo culture, we have not interrupted. We continued practicing as our parents used to do. In the case of soil conservation, for example, we use building terraces to prevent floods in the mountainous areas. For flat areas, we use (...) especially during rainy time. (...) has already been distributed for sale, and everybody buys and uses it. It helps the flat or plane area not to be covered with water and expoil the seed. The farming land with (...) and without (...) is not the same in production. The former gives more harvest.

5. How much do these indigenous agricultural practices assist you to sustain your livelihood?

Re. It is actually not helpful, yet people use it to live.

Re. As I think, our parents have been using these indigenous practices. However, we cannot say they benefited from the practices. In any case, though it does not take us to the level of high development, people use them to sustain their life. Hereafter, people are striving to the technology.

6. Are there any indigenous agricultural practices that were used by the society but have disappeared nowadays?

Re. What was used in the past but is not used now is like hand-weeding which is substituted by chemicals.

Probe: Is chemical used for all types of crops?

Re. No. It is used for certain crops only like wheat and barley>

Probe: So weeding with hand for other crops still continued?

Re: Yes.

7. How many of people in your kebele do get access to modern/scientific agricultural technology?

Re. Ok, in my opinion, most people use modern technology especially for mowing, ploughing and fertilizer. I think about 75% of the people use technology.

Re. As he said people use the modern technology as much as possible to strive for development. For example, people use chemicals to avoid weeds where suitable. In addition, we selectively use our parents' helpful indigenous practices and drop those which are not useful.

8. On what aspects of agricultural activities do you use more modern technology and on what aspects of agricultural activities do you use more indigenous practices?

Re. Modern technology is more used in animal fattening and using for commercial purpose. This is introduced by modern system.

Re. When we come to weeding, there are crops like pepper, maize, beans and so on which are weeded only in hand. For these crops chemical is not used. These crops which are weeded with hand give even high production. Really what is weeded with hand have big benefit.

Probe: Anyone who wishes to add? (___)

9. Ok. I will take you now to issues related to education in the medium of Oromo Language. With regard to preserving and promoting Oromo cultural practices, how do compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. As I observe, it in the current education that the promotion of Oromo culture is encouraged because there is Oromo culture and literature club and other structures in the school. So I think there is great difference between the two systems. When we read from the books they deeply investigate the people's culture and compare the past history with the current.

Re. As he said, though we did not learn in the former system, I think the difference is great. This is because we have learnt a lot about our culture and we are using it.

Re. Learning in Oromo Language has plaid a lot in this respect. As every body knows, in the previous systems, Oromo Language was oppressed in which no education takes place. However, after the fall of Dergue, it became language of education and of different media. It is also used in different social domains. In relation to culture, it is helping us to know, remember and revitalize our culture that has been forgotten.

Probe: In my part, I have completed my question. If you have anything to add, especially on the relationship between indigenous agricultural practices and primary education in the medium of Oromo Language, I will give you more chance.

Re. A lot have been said. What I want to add is that sometimes, some structures like clubs are established in schools, but are not sustained. They are interrupted in the middle. I suggest that the continuity of such things should be followed.

Thank you very much.

20. Agarfa Wereda, Makona Cafe Local Village Elder Farmers (FGD 2)

As I said, I am conducting a study on the interrelationship between the primary education in the medium of Oromo Language and agricultural practices. I hope you would give me authentic brief information based on the question I raise.

Thank you in advance.

1. What indigenous agricultural activities are practiced in your locality at present?

(wide illustration with examples of indigenous knowledge of agricultural practices)

Re. (male): Yes, cultural knowledge means knowledge which is naturally and culturally acquired from the beginning. Farmers prepare farming materials from tree based on the natural talent given to him by God. In the former time, our ancestors dug small humus land and harvest a lot of production. Later, they plough half or quarter a hectare and gain enough harvest to lead their livelihood. Regarding weeding, it was done with hand when hand-weeding was used, it gave good harvest. This way our parents sustained their life. When we see the production using technology, it seems higher in terms of harvest, but it does not stay long (quickly consumed). In terms of health, the indigenously harvested crops are healthy while that harvested using technology does not give health. Whereas in the former time, people eat once and drink milk and then do not feel hunger the whole day, at present, it is easily digested which means people need to eat 4 or 7 times a day. We sometimes feel if the use of the technology may result in such problems, and we feel sorry to say this.

Probe: So do you mean that these practices are active today?

Re. (male): Yes there are.

Probe: Do you have something to add?

Re. (female):I do not know



Re. (female): No much to add. Regarding weeding with hand, people use hand-weeding unless it is difficult to cover because of the size of the plot. When we see using animal dung, there are people who use it. All are not using fertilizer. There is also hand-digging and using ox for small plots.

Probe: How about in your area? You can also say something in relation to food processing.

Re. (female): Regarding the indigenous way, there are a lot to do. Previously, people did not much go to health center when they were sick. They knew indigenous medicines. In terms of food processing, vegetables like green pepper and potatoes are indigenously used. Regarding fertilizer, animal dung is pealed up in the cattle's house and are scattered over the farm land and it never expires for 2-3 years. It increases soil fertility. I myself used it. The scientific fertilizer is also helpful.

Probe: So the traditional practices are still functioning?

Re. (female): Yes, they are functioning. Even without it, the harvest is not complete.

2. Why have these indigenous practices been continued to function to the present time?

Re. (male): Ok. The reason why it continued is that it is what practically exists. It is not affordable to use technology. Formerly, farmers used to weed in hand. When it was beyond their effort, they just ignore the harvest. But now they use chemical and no harvest is lost. Any way the indigenous practices also being used to the present.

3. How many of people in your kebele do depend more on modern/scientific agricultural technology and how many of them depend on the indigenous activities to lead their livelihood?

Re. (male): Thank you. In our kebele, most people use indigenous technology. However, with regard to fertilizer and weeding, most of the people use modern technology. When we see their result, in my opinion, we farm using the indigenous system ploughing 3 or 4 or 5 times before sowing. We also use the indigenous ditch not the scientific terraces to prevent erosion. Except for fertilizer and anti-weed chemical, we are not benefiting from technology, we use cultural practices. Crops like maize, beans and a like are weeded in hand and it even gives more harvest.

4. On what aspects of agricultural activities do you get more access (and use) to modern technology?

Re. (male): We use more on soil fertility. Regarding weeding, it depends on the width of the plot. If the plot is not large, we prefer to use hand because it gives more product. If the plot is large, we use fertilizer.

Re. (male): On what you said, when we see the ratio, in terms of productivity, those who use the technology are better. In terms of total population, those who use the indigenous method are larger. Our other problem is that in the last time people use milk and butter widely. This is so rare now because of the shortage of grazing land. There was no disease, people were strong. Young people of the present time are so weak and are easily affected by disease. There is great difference between old generation and young generation. There is narration of expansion of health centers, but people are not cured once affected by disease. This all is the result of the disappearance of the culture of using cattle. Regarding production, yes some people improved their life, changed their house roof to corrugated sheet, counted a lot of quintals of wheat. These all are accompanied by a lot of expense. Over all, most of the people are not the beneficiary of the technology. Indigenous practices are forgotten.

5. How have agricultural cultural practices been passed on to generations?

Re. (male): Take, for example, myself. I am not educated. We see how our parents were doing things. We learnt by observing. The current generations look their parents down. They undermine us. They claim that their knowledge is better. They incline to the modern technology and are reluctant to accept their family. They never respect their parents; never feel ashamed when they commit social taboos. Inversely, we began feeling shame.

6. Can you tell me any proverb or tales which indicate cultural norm in relation to agricultural activities?

Re. (male): Yes. The elders say, 'Waan lafti namaaf kennitu haati namaaf hin kennitu.'

Probe: Very good. Any other? If you don't remember I will come back to it later.

Re. (male): There a lot of proverbs in Oromo culture (unrelated) traditions like respecting elders, hospitality or kindly welcoming guests and others are deteriorating nowadays.

7. In promoting Oromo cultural practices in general and indigenous agricultural practices in particular, how do you see the difference between the current education system in the medium of Oromo Language and the former education in the medium of Amharic Language?

Re. (female): During the former system, when we tell what our parents have told us to our children, they did not sense it and accept it. But now, as they learn it in the school, they ask us about cultural practices. Then I tell them more from our past activities. As education is coming to culture, students seem to close to indigenous activities. Therefore, our culture is being revitalized more at present than during the former education. For example, in relation to cultural clothing, cultural song and others, traditions are reappearing and we are also telling our children about our culture.

Probe: Would please add some

Re. (female): All are said. I don't have more.

Re: (male): During the former education, when we never did home work, they punished us. But now, (unrelated)

Re. (male): Cultural issues are now being strengthened. In Derg regime, culture was not taught. But now because of the change of social system, there is a declaration which encourages the promotion of culture. Indifferent situations like school, in community, and a like, there is atmosphere of promoting cultural practices.

Probe: How about indigenous agricultural practices? Are they included in what you said?

Re. (male): They may learn it in some fields like agriculture. But I have no much information.

8. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

Re. (female): If not in the form of committee, sometimes students happen to call their parents, and we go to school. On this occasion, the teachers tell us to discuss together and advise our children to be serious on their education. The discussion is also held with teachers raising the issue that when teachers and parents work in collaboration, students learn properly and behave well.

Re. (male): What I add is that when children get weaker on academic performance, teachers make them call their parents and discuss with them about the students instead of punishing them corporally.

Re. (male): As he said, with regard to development, it is always announced that students should go to school on time and when they back from school, they need to help their parents in looking after cattle and weeding crops. By doing so, they can also acquire about their culture.

Re. (male): Ok. Regarding education, during the imperial period, when government tried to teach children, parents refused to allow their children to go school for fear they would be taken away. Now the value of education is known to everyone. (unrelated)

Probe: In general, do you say that education in the medium of their own language is useful to promote and revitalize cultural practices?

Re. (male): Yes, it has great value. If they learn in other language, they cannot develop their own culture because they follow the culture of the language they learn in.

Re. (female): As they know the language and as the culture is also introduced through the first language, that is why. If something new comes to me, it takes me long time until I learn it. If it is the language I know, I can do in my culture.

Re. (female): I also say learning in one's own language helps to develop culture. When we do in our culture as we know the culture it is easy to do. If we learn in other language, we learn the language and then translate to our culture. This takes much time.

Re. (male): When we learn in our language, the past tradition is not forgotten. We also transmit to the next generation. Then our children take from us. If we ignore our culture, the new generation cannot know the culture

Probe: Do you have something to add especially on the contribution of learning in the medium of mother-tongue to promote indigenous practices in general and indigenous agricultural practices in particular?

Re. (male): What I want to add is that in our area, children learn in Oromo Language from grade 1-8. In my opinion, if they learn other languages, they may be benefited. This means if in case a one from Oromo family goes to Amhara region, as he cannot speak the language, he cannot be employed. So if they learn all languages, it could be useful for them.

If there is no more suggestion, I thank you very much for your patient attention and time sacrifice.

21. Menna Wereda, Education Office Curriculum Expert (KII)

1. What is the general goal of mother-tongue primary education?

Re. The goal of primary education is that there was no such chance in the past education systems. There was problem in understanding the contents and making people understand. As they do not know the language, they cannot understand easily. People have benefited today when they learn in their language. They learn without asking for translation. The other is that understanding the content of the science easily, they can contribute to the development of the country. It also helps them in using technology and improving their livelihood.

2. What do students in particular and the society in general benefit from mother-tongue education?

Re. One thing is students understand their culture in easy way. They are learning in their language and developing their cultural values like cultural marriage, cultural farming, traditions related to death and sorrow. Regarding the society's benefit, students did not use to discuss what they had learnt with their parents in the last education systems. Now they discuss what they have learnt, about their culture with their parents and encourage their parents to remember the cultural practices they have forgotten. It has contribution to promoting their language and culture.

Probe: Does this takes us to the assumption that the system facilitate school-parents harmony?

Re. Yes, because school is where students learn in their language. Parents are the society who sends their children to school. Previously parents did not know what students learn. But now as the students discuss what they learn with parents and initiate them, parents consider the school as their property and need to take care of it. They feel that it is where their culture is developed and they learn technology. Therefore, the two are related.

3. How sufficient are the Oromo cultural practices including traditional practices of agriculture that are included in primary education?

Re. Like in other country, curriculum is improved regularly in our country. In the past education system, the curriculum that excludes our language and culture was designed and implemented. Now since Oromo people secured their right to use their language in education, books have been designed in Oromo Language. In the preparation of the books, though no proper study has been made, there might be some limitation. That is why the textbooks that have been functioning will be changed for 2005 E.C. The cause for the change is that they are examined at lower level. Suggestion comes from schools as to what elements are required to be added including Oromo cultural practices. We analyze the suggestions collected from schools and send to Oromia Education Bureau (OEB) where the suggestions are finally identified and necessary inclusions are made on the basis of existing realities and in the way it facilitates the promotion of society's cultural values and language before it is published. They are improved from time to time. However, it is difficult to claim that everything has been exhaustively included.

Probe: As I read from a book entitled 'Sirna Barnootaa fi Madaallii Sirna Barnootaa' (Curriculum and Curriculum Evaluation) prepared at OEB, society's participation in the textbooks preparation and improvement should be 100% and the big role is given to schools and wereda education offices for the practicality of this scenario. How much has this been put into practice?

Re. The guideline regarding the preparation and improvement of books confirms what you raised. The guideline has put structure in school and wereda education offices to implement this thing. At wereda level, a curriculum expert is structurally assigned for the accomplishment of this issue. It indicates on the guide that society should participate in the preparation of the books. When we see its practicality, it is difficult to say that people are taking part in the preparation and improvement of the books because, teachers who are supposed to accomplish this duty are engaged in teaching holding 30 periods a week while they are required to hold only 10 periods. Therefore, because of shortage of time, teachers could not approach the society and make necessary discussion with them on the preparation and improvement of the textbooks. However, though they have not got chance to suggest on the inclusion and exclusion of contents of the books, it does not mean that the society has never made any participation. They are taking part in various ways, directly or indirectly. Even they suggest on the strength of coverage of books and their price. Therefore, although it is not 100%, they have participation.

4. What way does mother-tongue education relate to rural development?

Re. We can say that education by itself is development. Education is a base for development. There are not seen as separate entities. In the reality of existing situation, it is difficult to bring development based on the customary process. It is said that farmers should be grade 8 completes. In this respect, educated citizens are effective and helpful for oneself and for the country. For example, practice-oriented adult education is based on this development vision. For example, when teachers teach fertilizer in words, health experts teach about health and rural development experts teach about agriculture. This way they have relation and their relation is very important.

5. How do language of education and education relate?

Re. I have already raised it in detail. Children learn all subjects in their mother-tongue in grades 1 to 4. They add Amharic language as a subject in grade 5. From grade 9 onwards, all the subjects are taught in English. I don't think this has problem and it has never been problem so far. They learn from 1 to 8 in their language. When they join grade 9, there is no change except the change of language to English. They have been learning English beginning from grade 1. If the students are committed and a committed teacher has been teaching them, this change is not problematic. So language of education and education have good relation.

Probe: Do you mean that the linguistic shift they face at grade 9 has not affected their education?

Re. I think it has no any problem because they learn English beginning from grade 1. It is what they have been learning in grade 1 to 8 that has been changed to English language. If they have leant English very well, nothing hinders their understanding of the contents of other subjects.

Probe: If they learn, for example, in French in grade 1 to 8, what is its effect on education?

Re. In my opinion, it affects. Do the students learn the language or the content? They should learn both. If they use their language, they can easily understand and develop their knowledge. They can further develop something easily using their knowledge. On the contrary, if they learn in the language that their parents and themselves do not know, they cannot bring necessary change. But if they use their language, this will contribute to cultural revitalization and development.

6. How do you see the harmony among culture, language and education?

Re. As I think, the three domains have harmony because culture is expressed in language. It could be expressed in literature. It can also be expressed in education. This shows that culture of a society could be transmitted through education. For example, it is reflected in the preparation of our books that Oromo elders sit under tree and mediate conflicts. The role they are playing in the governance is also indicated. These all are transmitted through education. Therefore, they have harmony. In the other way, modern technology in relation to the people's traditions is also transmitted in education. This education takes place in language. This way, they have harmony and complement one another.

Probe: In case students go back to society and lead their life after completing grade 8, do what they have learnt at school and what they encounter in the society, especially with regard to agricultural practices, relate?

Re. According to the national policy, students can drop the school after completing grade 8. When this is a case, the policy has formulated plans regarding their fate and it is already at work. There is Technical and Vocational Education and Training (TVET) programme at wereda level whose main focus is training grade 8 complete people as to how they can join the society and lead their

livelihood. It is being worked out to enable them to survive using the training together with the experience in the society. This way they harmonize what they learn at school and their life in the society. The curriculum also supports this idea. What is being done is enabling them to use their creativity and help themselves. That is why the curriculum is improved from time to time.

7. What do you think is the relationship between language and development in general?

Re. Look. In order to bring development, communication is very important. Language is a means of communication. To exchange experience, communication is compulsory whichever language it may be. For example, to use the experience of China in our country, communication with Chinese people is necessary. This communication is done in language. Where there is no language, there is no development. To transfer experiences to the society, it is compulsory to communicate with the society. Unless there is communication with the society, unless the society understands us and accepts us, it is nothing. Therefore, language and development are related; we cannot separate them.

Do you have anything to add?

Re. In order to ensure the development of society's culture through education, primary education especially up to grade 4 is prepared at the regional level even in the developed countries. People take part in the preparation of the books suggesting what to include and what not to include in the contents. In our case, too, the beginning is towards this direction. The issue of following the curriculum by examining what to be added to the contents regarding people's cultural promotion, social development and others that have been started has to be sustained. I also suggest that such investigation on making Oromo Language the language of research and technology and on the remaining issues needs to be encouraged.

Thank you very much.

22. Menna Wereda, Erba Primary School Student Individual Interview (S. 1 grade 8 M)

1. How much are you aware of cultural practices of your society?

Re: There is awareness about Oromo culture. The awareness I have, for example, is that Oromo has its own governance. Other than this, there are cultural music, cultural food, culture of cooperation and working together. This is the awareness I have.

2. Where and when have you acquired this awareness?

Re: I have got this awareness from my parents. I have also got from school.

3. How do people accomplish the following activities?

a. How do they plough farm land?

Re: They use cultural practices; they could not use technology. They use ox-pulled farming.

b. How do they control weeds?

Re: They use hand-weeding in mass. For crops like 'teff' and wheat, they also use anti- weed chemical.

c. How about to fertilize soil?

Re: Scientific fertilizer is used. They also use cultural practices like animal dung. They use both practices.

4. How much are you happy for learning in your first language? Why?

Re: I am happy for using my language in my education. It was impossible to learn in one's own language in the previous times. Other's language was used. Now I am happy for learning in my language and speaking in it.

Probe: Why are you happy? What if another language is used?

Re: Simply because it is my language though it has no problem to use other's language. There is no prohibition. We heard that Oromo Language was oppressed in the past.

5. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re: It helps me. There was no much about Oromo culture and Oromo Language in the past. I am now developing my culture through Oromo Language.

6. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re: We learn in class. For example, in civics there are many ethnic groups with their own cultures like cultural foods, cultural clothes. We practice and learn these all in our lesson.

Probe: Is there any structure or club in your school that helps you to develop your community's cultural practices? If there is, how much does it assist you?

Re: There are some clubs in our school.

7. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re: There is good chance. However, they do not say 'our students should learn this, they should not learn that.' Rather, their discussion is about how students could keep on following their lessons attentively. As people in this area are more of pastoralists, their awareness about education is very limited.

8. How much are your teachers aware of your parents' traditions and give attention to it?

Re: They know the culture.

9. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re: There are practices in environmental science.

Probe: To which aspects of knowledge do your lessons incline the indigenous or the scientific one?

Re: It focuses more on scientific practices though it touches the traditional ones.

10. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re: This happens. We are given as home work to make cultural tools at home and bring to school and practice them.

Thank you.

23. Menna Wereda Erba Primary School Student Individual Interview (Student 2 Grade 8 F)

1. How much are you aware of cultural practices of your community?

Re: I have the awareness any way. Cultural foods, cultural clothes and others are our culture.

2. Where and when have you acquired them?

Re: I have acquired some from my parents and some from school.

Probe: What do your parents harvest?

Re: 'Teff', sorgume, wheat, maize and so on.

3. How do people accomplish the following activities?

a. How do they prepare farm land?

Re: They use oxen. There is no tractor.

b. How do they keep soil fertility?

Re: Our parents use fertilizer. Some people also use animal dung.

c. How do they remove weeds?

Re: More people use anti-weed chemical. They also use hand-weeding.

d. To control soil erosion, what system do they use?

Re: To detour the floods, they plough across. When land is ploughed across, floods do not take seeds away.

4. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re: Ploughing are more of hand-digging and oxen-pooling. Mowing is also practiced culturally using hand.

5. How much are you happy for learning in your mother-tongue? Why?

Re: I am happy for leaning in Oromo Language because Oromo Language is my language. As I give answer to questions in my language, I get no challenge.

6. How much does learning in Oromo Language help you to learn your community's cultural practices?

Re: As my parents know about culture, I need to learn from them and develop my culture.

7. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re: We have learnt about cultural clothes, cultural foods, cultural weeding somehow.

8. How do you think Oromo cultural practices could be promoted?

Re: We need to learn Oromo cultural practices from one another so that the coming generation can learn and develop them.

9. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re: Yes, they discuss. Teachers sometimes order students to bring their parents. They discuss what should be done and what should not be done with the parents.

10. How much are your teachers aware of your parents' traditions and give attention to it?

Re: They teach us about the culture for they know it.

11. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re: From agricultural practices, we learn hand-digging and hand-weeding. They also teach us about scientific technology like machine (inaudible).

12. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re: We do. For example, we are ordered to ask our parents and we ask and discuss it in the class.

Thank you.

24. Menna Wereda Erba Primary School Student Individual Interview (S. 3 Grade 7 M)

1. How much are you aware of cultural practices of your community?

Re. Yes, cultural clothes and cultural foods.

2. Where and when have you acquired them?

Re. I have learnt from my grandfather.

Probe: What do your parents harvest?

Re. maize, sorghum, saliixii.

3. How do people accomplish the following activities?

a. What do they use to plough land?

Re. They use oxen.

25. Menna Wereda Erba Primary School Student Individual Interview (Student 4 Grade 7 M)

1. How much are you aware of cultural practices of your community?

Re. Yes, cultural wedding celebration.

Probe: What crops do you harvest?

Re. Crops like wheat, 'teff' (…)

2. How do people accomplish the following agricultural activities?

a. What do they use to plough farm land and to maintain soil fertility?

Re. They use oxen to plough. To keep soil fertility, they use fertilizer. They also use compost.

b. How do they control weeds?

Re. They use anti-weeds chemical.

Probe: Can the chemical be used to all types of crops?

Re. No, they use hand.

c. How about mowing crops?

Re. Hand- mowing is used in mass (dabo).

3. Which aspects of knowledge do your parents use more for their farming (indigenous knowledge or modern technology)?

Re. They use traditional ones.

Probe: Combine harvester and tractor as well as selected seeds are not used?

Re. There are no vehicles. Selected seeds are being introduced recently.

4. How much are you happy for learning in your first language? Why?

Re. Learning in my language gives me pleasure. I understand and interact in my language. That is why I am happy.

5. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. There is culture like music which people use on work. For example, 'Jiga jettee walyaafattee jiga eebon galaafattee.'

Probe: Why do they say so?

Re. Workers feel thirsty and hungry at lunch time. These are signals that it is high time for lunch so that they will be given lunch.

6. How do you think Oromo cultural practices could be promoted?

Re. In order for the new generation not to forget their culture, it should continue this way.

7. How often do your parents get opportunities to participate on the decision making about what you learn in the school? If they participate, mention how they do.

Re. No such a thing. They follow us at home. They sometimes ask limitation of the school and tell us what they obtained from the school.

8. How much are your teachers aware of your parents' traditions and give attention to it?

Re. They have awareness. Some of them have no awareness indeed.

9. What indigenous agricultural activities have you learnt at school? If you have learnt (or are learning) any, in which subject(s) and at what grade(s) have you learnt them?

Re. There are practices like ploughing across in basic science.

Thank you a lot.

26. Menna Wereda Erba Primary School Students Group Interview

1. Are you aware of cultural practices of your community? Do you appreciate them?

Re. We have a variety of culture. Our culture is very interesting. We rare cattle, we do farming.

Re. When we say awareness of culture, there are cultural clothes, various songs and music, cultural foods and materials. There is also cultural agriculture. These still exist with us.

Re. (F.): There are various cultural practices. Among these, there is culture of marriage. This should continue. Therefore we have awareness.

Re. The awareness we have is that the existing practices of cultural marriage should continue. For example, our parents use horses for weeding ceremony. Nowadays, females prefer going themselves. We suggest the previous norm to be revitalized.

2. Where (and when) have you learnt them?

Re. I obtained from my parents and surrounding people. I also got from elder children.

Re. We got the awareness from elderly people. Our parents got from their parents and we obtained from them. It needs to continue to the next generation.

3. Do you learn Oromo cultural values and practices in classroom? If you do, can you mention some of them?

Re. Teachers teach us from Oromo Language, Science and Civics subjects. They also teach us from their own experience.

Re. (F.): Teachers explain us the cultural practices in class.

4. What indigenous methods/practices do your parents use for the following activities?

a. How do they prepare farm land/plough?

Re. Some people use ox-pooling. There are also some who use hand-digging. They could not get chance to use tractor. It is too far to use tractor. We will try our best. Currently, we are using cultural practices.

Re. In our area, people use oxen to plough. In addition, those who have no oxen use 'jaambaa' (a metal-made traditional farm tool to dig land with hand).

b. How do they control weeds?

Re.They use anti-weeds chemical for crops like teff. They also use hand-weeding.

Re. (F.): More people use hand-weeding here.

Re. Our people use hand-weeding. Sometimes they use chemical. Crops like 'teff', barley and wheat are weeded by hand.

c. What do they do to sustain soil fertility?

Re. (F.): They use animal dung as fertilizer. They also use fertilizer.

Re. They use fertilizer. Besides, they use animal dung and plants scraps. We use these to get more harvest.

d. How about to mow crops?

Re. As there are no such crops as wheat, we use had to mow crops like teff and maize.

5. Are you happy for learning in your first language? Why? What do you benefit from it?

Re. We are happy for learning in our mother-tongue. As we can speak freely and we can easily understand what we learn in other subjects using our language, we are very happy to learn in our language.

Re. It is necessary to learn in our language. In the last education system, people were forced to learn in Amharic language. But now learning in our language and speaking in it gives us pleasure. We want it to continue.

Re. We are happy because it is our mother-tongue and it makes what we learn in it easy to understand.

Re. (F.): We are happy for learning in our mother-tongue. We speak in it so we are happy.

Probe: Does it have any change if we use another language?

Re. (F.): It might have no change in education. However, learning in our language and explaining in it is more demanding.

6. How much does learning in Oromo Language help you to learn and promote your parents' cultural practices?

Re. It helps much. It enables the future generation not to forget their culture and not to follow others' culture.

Re. I want to add that it helps the coming generation to learn from past generation.

Re. (F.): It also helps the generation not to struggle with the language they are not familiar with and learn with the language they already know.

7. Do you have any especial club or structure in your school that help you promote your culture more? If you have, would you mention them?

Re. There are such clubs as HIV Club and Sport Club.

Probe: Is there any club which particularly helps you to practice your culture?

Re. There are some which teachers tell us and we sometimes practice in the form of play in it.

Re. Our teachers are not as such active in culture. However, they sometimes tell us. Our cultural practices are like tolerance, togetherness, marriage and so on. Regarding clubs, there are clubs like Anti HIV Club and Sport Club.

8. Do your parents participate in decision making on what you learn at school? If they do, what way?

Re. It is not as such. As they have no much awareness about education, our parents do not encourage their children to learn. No one follows his children with very few exceptionals. Re. Our parent do not make follow up on education. Most of them tend to let their children married. Children have interest to learn but parents want them to be engaged in farming and get married.

Re. Some parents keep quiet when students drop from school. There are some parents who ask what their children learn, however.

Re. In fact some parents support us though they have no chance to come to school.

Probe: They may support you at home. What I am saying is that do they get chance to come to school and discuss with teachers on what you learn at school?

Re. Some parents come when their children happened to be told to bring their parents. They can suggest what they know on this occasion.

9 Do your teachers give attention/emphasis to community's cultural practices?

Re. They have awareness. If we reflect (...). Therefore, they have awareness about our culture.

Re. It is not as such. However, when they teach, they teach us somehow. They also tell us the importance of learning in our language.

10. Have you learnt indigenous agricultural activities at school? If you have learnt (or are learning), in which subject(s) and at what grade(s) have you learnt them?

Re. Yes, we have. We learn the modern one on different books. Regarding cultural ones, we also learn the usefulness of using animal dung to increase yield. We also learn the advantage of fertilizer.

Probe: Which aspect do your lessons emphasize more, the modern or the traditional technology?

Re. Compost and fertilizer are now widely used. Our parents used to use animal dung. They did not know fertilizer and compost.

Re. Compost is buried in a well and applied to farm land to increase soil fertility.

11. How often do you bring community's indigenous agricultural practices to classroom lessons?

Re. When we learn, they order us to make and bring cultural materials. This time, we ask our parents how they make cultural tools like chairs from wood.

Re. Our teachers sometimes give us an assignment to ask our parents and learn what we don't know.

Re. We sometimes make cultural materials like 'hodhaa' (cultural material made from grass) and traditional embroidery and bring to school.

Do you have anything to add?

Re. It is good to learn in Oromo Language. We speak in it. We learn in it. I suggest that it should transfer over generation.

Thank you very much.

27. Menna Wereda Erba Primary School Teachers Group Interview

Oromo Language Teacher = (OL), Chemistry Teacher & Vice Director = (Ch & VD),

Civics Teacher = (C), Science & Biology Teacher = (S & B), Mathes Teacher = (M)

1. How much are your students aware of their society' cultural practices?

Re. (Ch & VD): There are three ethnic groups in this area: Arsi Oromo, Shawa Oromo and 'Gondore'. They all learn in Oromo Language at primary level. They reflect Oromo culture. There are various clubs in our school like Music and Drama club and anti-HIV Club. In these clubs, there are Oromo cultural practices like cultural foods, cultural clothes, cultural marriage etc. Learning in their language enables them to reflect their competency.

Re. (M): In this area there are three forms of culture. However, the widely demonstrated culture is that of Oromo. To some extent, the other two also reflect their culture in the form of drama. Therefore, students demonstrate their awareness of culture in our school.

Re. (OL): As has already been said, students come from different linguistic background. As Oromo Language teacher, I order students to bring different literary genres and they do it. Hence, they could demonstrate their culture properly. They found most of the genres from their parents.

2. As you work in and with local community, you know more about the situation of the society. Which aspects of knowledge (indigenous practices or scientific technologies or integratively) do most of the people use to sustain their agricultural productivity?

Re. (C): The people in this area use various methods for their farming. Though their methods are cultural, they also use scientific inputs like anti-weed chemical. They lead their life in farming. More people use traditional methods though they also use modern technology.

Re. (S & B): People use more cultural practices. They also use fertilizer and chemical nowadays.

Re. (Ch & VD): Most of the people here are pastoralists. Farmers are not many. Farming is recently appearing. Based on the training they are taking currently, they began using fertilizer and compost. Their farming is limited to few crop types like maize, sorghum, 'saliixa' and 'teff'. They also harvest various fruits and vegetables. Moreover there are beehives.

3. Why do you think indigenous agricultural practices have still sustained?

Re. (Ch & VD): Because the land is not suitable. It is not possible to use vehicle completely. The other reason is lack of awareness. For example, they take fertilizer by force. They do not analyse the fertilizer cost and the result of their final harvest.

Re. (C): I happened to ask someone. When they use tractor, it grows only weeds. Other than this, their land is easy to use oxen. Instead of paying for tractor, they are effective if they use oxen.

4. How much do parents get opportunity to come to school and discuss on the students' education? How much do you work with the community on the education and other societal issues, alongside engaging in the class lesson?

Re. (M): Nowadays the society is developing awareness. They sometimes come to school and see the problem of the school and education. They follow their children. There is some improvement. Now they feel sense of ownership over the school.

Re. (Ch & VD): The society wants to make big participation on the issue of school. They also make follow up on the teaching learning process to the extent of suggesting on how teachers are teaching in the class. They follow us very much.

Re. (C): In the school, there is a structure called 'raayyaa misooma barattootaa' which means students' discussion about broblems related to class lessons and students discipline that is facilitated by homeroom teacher and selected students. This has connection with local administration's 'raayyaa'. Through this structure, information exchange between school and local administration on the issue of the students. This strengthens the relationship between school and the society.

5. What does the Oromo community in general and students in particular benefit from the current mother-tongue education system?

Re. (C): I see this from two perspectives. It has both advantage and disadvantage. On one hand, competent students can comprehend contents in their language and take it into English without any difficulty. On the other hand, students learn 1-8 in Oromo Language; they learn grade 9 in English; then they take national examination at grade 10 in English. Here they face difficulty even to understand the language let alone understanding the content. In other regions, children learn from grade 5 onwards in English and when these students meet at university, their competence may vary. This I think will have big effect. I suggest using English as MOI starting from grade 5. Students also support this idea.

Re. (M): Learning in their language is necessary. In the last education system, students faced problem in reading in Amharic first and attempting to understand the content. But now it is useful as students understand immediately what the teacher teaches and pass to examining the issue in depth. However, when students pass to upper grades, they face problem as they take the national examination in few years time. They face difficulty in acquiring federal language, too. This is also a problem. So it is good at lower level but it is better to use English at upper primary levels. Besides, when students join university, and when teachers explain things in Amharic, students face difficult to understand it. So it is better to use all language. Regarding society, those who learnt in

the last education system observe the current education as it is simple. They made big effort but understand little compared to the current situation where students understand much exerting little effort. As they judge education this way, learning in the society's language is useful for the society.

Re. (S & B): Learning in their language is advantageous for the students. They learn in the school what they already know and practice in their area. However, if they learn in English starting from grade 5, they are more benefited because they will not face a problem when they enter grade 9 & 10.

6. What indigenous agricultural practices of Oromo community have been incorporated into the curriculum of the subject area(s) you teach?

Re. (S & B): There are agriculture-related lessons in science. For example, if we take improved farming, ploughing hilly land across and building terraces, sowing different crops on same land (mixed farming) are instances of improved farming. The other is farmers can use different methods to keep his soil fertile. This includes using animal dung and fertilizer to maximize his yield. These are written on books.

Re. (C): In Civics books, there are modern agricultural materials and traditional farming materials.

Probe: How about cultural practices in general?

Re. (O L): All grades touch literature aspects. Especially in grade 5 & 6, there is 'folktales' in wide.

Probe: Do you think what are included in books are enough?

Re. (C): It expresses culture. It says that culture is human life. Culture has two types, useful culture and harmful culture. There it encourages development of the useful ones.

Re. (S B): It touches to some extent. Drought may appear and this drought may cause hunger. The drought may be resulted from deforestation. People should use irrigation. Otherwise, drought may appear. These are mentioned on the book.

Re. (O L): The book gives us guide not detail concerning this issue. What we do is that we tell them to ask elders and bring cultural practices like cultural marriage, 'folktales' and proverbs to the class and discuss. Students are doing research in this respect. Therefore, books give us direction.

7. What do you think is the relationship between mother-tongue education (use of Oromo Language in education) and rural development strategies?

Re. (Ch & VD): The meaning of rural development is developing rural community. One aspect of developing rural community is sending school-aged children to school. When they enter school, in the first cycle, they learn about their environment and how the surrounding people are leading their life. This way, we can say that we integrate one aspect of rural development into education and use education for development.

Re. (M): There is mutual relationship between mother-tongue education and rural development. Students tell their parents what they have grasped from school about their environment so that the society develops awareness. This way the MTE and rural development have mutual relation.

Re. (OL): Sending children to school is by itself development. Once they enter school, they learn various issues like how to keep environmental sanitation and put this into practice when they go

back to home. Their parents gradually learn from what they practice at home. Therefore, the two have mutual relation.

Re. (S & B): Education and rural development are directly related. For example, students tell their parents using irrigation and how to use it. They also learn how to use anti-weeds chemical and sustain soil fertility. They transfer what they learn to their parents. Therefore, education and rural development are directly related.

8. How do you see the relationship between language of instruction and education?

Re. (Ch & V D): Education is change. I think it shows a change. This is a process. The point is achieving educational goal using certain language. This way, language and education is related.

Re. (M): This issue is associated with several things. For example, if someone completes his education using the language in which he has started, he can comprehend all the contents of the lessons. This would be a big deal. Shifting the language somewhere in the middle is a problematic. If a student is outstanding academically but weak in English language, he/she may not be successful because the awareness he/she has may be troubled when the medium is changed. Otherwise, he/she can gradually develop his/her understanding if he/she begins and completes education in English language. I suggest using the same language throughout instead of shifting the medium of instruction, say using Oromo Language to the university level.

Re. (C): To my understanding, there is a mismatch between language and education. For example, some words have no substitute in Oromo Language. English words are used in different subjects. Here it mixes the two languages. They don't have direct translation. The experts use English language as it is global language. Therefore, I don't say education and the medium match hundred percent.

9. Do development and language have relation/harmony? How?

Re. (C): Yes, they have. In this globalization time, people learn different languages to leave for abroad. Hence, there is big relation between the two. Say if someone holds masters degree in Oromo Language, but ignorant of other languages, he/she is limited to certain area. So, the two have good relation.

Re. (Ch & VD): I have nothing to add. Acquiring language is not harmful.

Do you have something to add?

Re. (C): I need to add something on education and development. More of our country's income is agriculture. Hence if agriculture is taught as a separate subject in school, it enables the country to advance in agriculture.

Thank you very much.

28. Menna Wereda Erba Local Village Farmers KII (pair)

1. What indigenous agricultural activities are practiced in this locality?

Re.1 Thank you for interviewing us. If you make such interview regularly, it initiates us. There are traditional agricultural practices. Previously, our parents were using oxen and traditional wood-

made farm tools. However, the wood-made tools are shifted to metal tools. We were farming three times but now plough four or five times using oxen before sowing and obtain good harvest using cultural practices. We also separate yield from straw using oxen. Some of us plough with oxen and integrate the cultural practices with modern ones. What we are benefiting is currently chemical which minimizes human labour. In stead of fully relying on the chemical, it is more productive if we are able to use hand-piching to avoid weeds. Regarding collecting the harvest, combine harvester is more effective to collect much yield at time depending on the geographical location of the farm land.

Re. 2. As Jemal said, farmers are converting to modern technology because we are doing well getting training from experts in our village. If we take my case, in 1996, I have implemented the strategy that the government has designed. I have also implemented the water saving strategy and rewarded at federal level. As fertilizer has chemical, people are shifting to compost. They are also sowing seeds in line unlike the situation in the past when they were using scattered method.

Probe: Have the traditional practices been disappeared or they are still used by people?

Re. 2. It is still used. The modern ones are continuing to be used.

Re. 1. Regarding the issue of using compost that we have been trained on the strategy of good strategy, our parents were also using animal dung as they possessed a lot of cattle. They did not use fertilizer. They used to obtain much yield from small farm land fertilizing the land using animal dung. Using compost is the same to using traditional methods we have been using except burying it in the soil.

2. Why do you think have these traditional practices of agriculture continued to date?

Re. 1. One hindrance for not using modern technology is geographical location. As the land is full of mountains and gorges, it is not accessible to vehicle. The second is the soil condition. There are grey and black types of soil which are sticky and loose respectively. The sticky one has capacity of holding water in it and is strong so that it can break vehicles. Tractor can plough only few lands in our area especially when the land is dry. The third one is lack of awareness. As we have been using the traditional practices, there is problem of awareness. Other than this, as the modern technology has come from outside, it is not accessible to all areas. We are taking different trainings and waiting for more access. We are also taking special training on the broblem of deforestation and the expantion of deserts. This desertification is also another factor hindering the implementation of technology. To control it, we are taking training that we have to take care of forests and rehabilitate gorges and rivers.

Re. 2. There is no obstacle. People are progressing. They have been focusing on rehabilitating forests and gorges.

3. Which aspects/knowledge of agriculture (modern/scientific agricultural technology or traditional one) do more people in your kebele use?

Re. 2. As to me, people are urgently transferring to modern technology. We can say they are changed.

Re. 1. Though what he said is true, if we see in percentage, more people use traditional practices. 70 to 75% use traditional. Regarding raring cattle, for example, rtraditional feeding, milking and fattening are practiced. Our farming is also traditional. Beekeeping is also practiced traditionally. Some people living on this mountain, for example, have about 200 traditional beehives.

4. How much are your children (or others' children) aware of cultural practices and traditional agricultural practices of their community? How much do they appreciate them?

Re. 1. I myself have children. One learns in grade 6. The other two learn in grade 4, and the remaining one in grade 2. As I have observed and asked them, their idea is promising. For example, they have learnt in grade 1 to 4 aesthetics about different songs, stories and others.

Re. 2. Children nowadays are very active. They are active on their education.

Probe: Why do you think are the students aware of their culture? Is it perhaps because they are learning in their mother-tongue?

Re. 1. Yes, it could be because their first language is Oromo Language. They have acquired the language from their parents. Even Amharic native speakers have adapted from their neiboughrs and have become good speakers of Oromo Language. Learning in their language shows them only alphabets, teachers have nothing to teach regarding the language. As they are not challenged by the medium, they can easily comprehend what their theacher teaches them.

5. In case students go back to society after completing grade 8, do what they have learnt at school, especially with regard to agricultural practices help them to lead their livelihood?

Re. 1. Yes. This is good question. Education is base for development in any case. First they learn language then they learn other things like science and easily understand it. The current students do not want to be employed. Previously, people learn for employment. Now the goal of learning is to help oneself. For example, I completed grade 10. It helped me to be engaged in farming and improved my livelihood. It is the result of education that I have got 80 to 90 quintals compared to the situation before my literacy in which case I used to get only 30-35 quintals. I have also converted grass huched house to corrugated sheet house. Other than this, I have built a house in the town from which I have generated some income by renting it.

Re. 2. I actually learnt in Derge time. In 1996, I readmitted to school and learnt in Oromo Language. After I completed grade 10, I continued in my work. I have a house here. I was also rewarded a piece of land and built a house.

6. What do you think is the relationship between education and rural development?

Re. 1. They have relationship. Firstly, on taking care of environment, as the students learn about it at school, and with the collaboration of experts, they discuss with their parents at home. They tell us being taught from their teachers as to how environmental sanitation should be kept and how farming should take place. Students also support us when there is climatic preasurize us to harvest crops urgently. This way, the school and farmers are closely related.

Re. 2. Education is a base for development. If there is no education, there will no be agriculture. It is if you learn that you will be effective in agriculture. Therefore, education and agriculture are related.

7. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. 1. The education in the Derge regime buried cultures. There was no cultures like cultural clothes and culture of language. But now what the students learn are all based on culture. When we say culture, we mean cultural clothes, culture of visting historical places. This did not exist during the

Derge regime. There was promotion of the culture of one ethnic group at the expense of the others'. Hence there is difference.

8. Have you ever got opportunity to participate in decision-making on the issues of designing mother-tongue education curriculum? If you have participated, what was your contribution?

Re. 1. Yes. Regarding the education, it was the government that constructs the school in the Derg time. When Derg disappeared, all things were destroyed except school because most of them were made by force. But now as it is done in the people's willing and government, most of the works of the school belong to the society.

Probe: How about in textbook preparation?

Re. 1. As it has been long since I dropped school, I may not have close relation. However, as students are taught in different clubs, they learn some aspects of culture. For example, civics education began recently. The idea of this education arose from the culture issue. In this education, children are properly learning about law and right of people.

9. Are primary school teachers aware of society's traditions and traditional practices of agriculture? What role are they playing to promote society's culture?

Re. 1. As most teachers have been trained in the current education system, and learnt our traditions in the training, they are following the culture properly. They have no problem. As they have learnt in Oromo Language, they are teaching properly. Nothing will obstacle them.

Do you have anything to add?

Re. 1. What I want to add is that to capacitate our children, the teacher should be capable himself/herself. We want them to be evaluated in the reality of our traditions. Government needs to give due consideration. Secondly, there are distant areas in our village. As our people are scattered, we need primary schools to be opened at different places.

Re. 2. If secondary school is established in our area, our children do not have to go to town and become misbehaved. On the other hand, if it is opened here, they undergo there education and their farming side by side.

Thank you.

29. Menna Wereda Erba Local Village Farmers FGD

Re. 2 = Chair Person of the Village

1. What indigenous agricultural activities are practiced in this locality?

Re. 1: Cultural practices like ploughing by oxen, detouring floods manually, traditional sowing, and working other duties by hands are all practiced as they have been in the past.

Re. 2. There is no technology of farming in our areas as such. All are traditional. Activities like farming by oxen, using hands to dig lands, hand-weeding and so on are practiced culturally. No technology of farming is practiced here.

Re. 3: In our area, traditional farming is widely used. Technology is recently appearing. What we can take as technology so far is sowing seeds in line. Others are still traditional.

2. Why do you think these indigenous agricultural practices are still used/sustained in your areas?

Re. 2: After people have taken training on the good strategy of development, these things are decreasing. Based on the training on the maximizing production, people are using technology like sowing seeds in line. Our people are learning. It is only because the training is not sufficient that people are not fully engaged in the technology as people usually are reluctant to accept what they do not know. Otherwise, our people are striving towards technology. We have good hope to avoid the traditional ones.

Re. 1: It is only because of the accessibility of the training. It will gradually disappear.

3. How have Oromo cultural practices and traditional practices of agriculture been passed on to generations?

Re. 4: They have been transmitted from parents to children. Skills are acquired in two ways. One is from education while the other is from heredity. As their parents are farmers, children follow their parents' foot prints by observing how their parents plough, how they dig land and so on. This way they have been transmitted.

Re. 2: As he said, it is through heredity. If there is modern education, we can escape it.

4. How much are the new generations conscious of and appreciate Oromo cultural practices and indigenous agricultural practices?

Re. 1: During the time of our grandfathers, the farming was too primitive using sharpened stick. It was during our fathers' generation that these materials shifted to metal farming tools. This generation is also on good change. We hope that they are in progress with the help of education.

Re. 4: I have doubt that unless they get the awareness from their school, this generation is not this much aware of their culture. They are watching others' culture through different media. Although they may learn at school, the generation is not good at considering the culture as their own culture. They are not considering the source and the value of their culture. They watch the foreign culture on video. As their mind is free to accept new things, they follow the new culture and are neglecting their own cultural practices. However, it is in good condition at school. It should be encouraged more.

Re. 3: Oromo people have their own cultural clothes. This generation wants to wear fashioned clothes, not the cultural ones. There is also cultural marriage but they do not follow it. They are told about culture of the society but they follow the foreign culture.

5. How much do these indigenous agricultural practices assist you to sustain your livelihood?

Re. 2: It was helpful in the past. But now it is not helping us. The modern method is more helpful. We are imagining that people can get experience very soon. The cultural ones do not help people; the modern ones help us rather.

Re. 4. We have stuck to it as we are accustomed to it. It is rather laborious. Our farming tools are not modern. It should be modern. The modern tools have never reached yet. What we are using is not useful. They are backward.

6. On what aspects of agricultural activities do you use more modern technology and on what aspects of agricultural activities do you use more indigenous practices?

Re. 1: We use traditional practices to harvest maize. We have benefited this way. Crops like wheat and 'teff' are also weeded by hands. If it is difficult to control, we use chemical which we can consider as modern technology. The production will be high when the remaining weeds are picked by hands. This shows that the traditional practices are still functioning. The two practices are integrated.

Re. 4: The modern technology that is said to be applied is the use of fertilizer. As the animal dung cannot cover large plot, fertilizer is used. People have begun to use it.

Re. 3: Dallo was not known as farming area. It was known for its pastoral area. People were more of pastoralists. Still people use animal husbandry. Those who began farming use traditional practices. Only 5% or 10% of our people use modern technology. When we see production, technology is more productive than the traditional ones.

Re. 2. It may be difficult to identify in percent. However, we can guess the case of our village. While 80% use traditional practices, 20% use technology.

7. With regard to preserving and promoting Oromo cultural practices, how do you compare current primary education system in the medium of Oromo Language and the former education system when Amharic was used as a medium?

Re. 4: I was taught during the Derg time. I was learning for the sake of learning. It was too far. That time, you learn Oromo Language but you write in Amharic alphabet. Now you learn in your letters. Language should have its own alphabets. I have also learnt in the current schooling up to grade 5. It encourages you. You learn the origin of Oromo from the beginning. You learn history of Oromo especially in grade 4 & 5, which you have never learnt. You learn all about Oromo rivers, Oromo lands and so on. You feel the sense of your being Oromo. I really felt when I saw Oromo history in grade 4. Therefore, in promoting culture, there is great difference between the past education and the current education systems. When I encountered cultural marriage, cultural foods etc in lessons I learnt, I was impressed. I saw it in the education, nowhere else. I also learnt numerical counting in Oromo Language in mathematics. I learnt in Amharic in the previous time. Hence I was in doubt of even learning anything in my previous education.

Re. 1: On one hand, this is true. On the other, though Amharic alphabets were used in education, Oromo people were practicing their traditions like clothing, marriage and so on. When I observe it critically, Oromo culture was more prevailing that time than now. As the respected, aged elders existed that time, in my opinion, the culture was stronger than is now. However, it can be felt as a tree with expanding branches and seeds this time when children are learning in their language. If there are responsive citizens who claim for promotion of culture and the generation acknowledges it, it is good. In the previous social systems, to be Oromo was insulting. Today, when children are learning in their language, when people are using their language for communication, the culture that should not be sidelined should be taken care of not to be ignored. If this generation follows the culture of people and promotes it and transfers it to the other generation, this education system is a great thing. This mother tongue education is providing people with good thing. If it is learnt in school but without due follow up, children may ignore it. Therefore it should be followed.

Re. 2: In the previous time, Oromo Language was suffered from inferiority. If someone spoke in Oromo Language, he/she was considered to be self-confident. It is good for our children to learn in Oromo Language. I have in mind that what they are learning can contribute to national

development. Children hate when Amharic is spoken. Therefore, learning in Oromo Language can be an indicator of its existence.

Re. 3: Learning in Oromo Language is like digging the land and looking for what has been hidden in the soil for long. It uncovers the culture that has been obscured. In my opinion, writing in Oromo Language shows us our hidden culture.

Do you have anything to add?

Re.2: I am very happy in your coming and visiting on behalf of this village. I hope you will come back some other time as well.

Re. 1: I feel happy for your coming here and discuss with us. I have never seen anyone discussing such issue. I have also felt that there are people who are studying Oromo culture. If you never come back, I may be disappointed.

Re.4: What I say is Oromo culture is a wide culture. As you have asked us, you need to develop it farther.

Thank you very much.

30. Menna Wereda Local Villages Rural Development Agents FGD

LA = Local Administration

1. What indigenous agricultural activities are practiced in this locality?

Re. (Dayu LA): In our local village, there are activities like sowing crops in line, weeding on time, collecting harvest on time. There are also activities as to how to prepare farm land, how to use fertilizer and sometimes how to use animal dung. These practices are still practiced.

Re. (Erba LA): Similarly, there are practices like weeding on time, preparing farm land and using fertilizer and animal dung in our village.

Re. (Malka Amana LA): Those who are using traditional practices are still using them. However, they are transferring to modern technology. Our people have good wish to use technology.

2. How do people benefit from these practices?

Re. (Dayu LA): When we see its advantage, they were rejecting when fertilizer first came. Later as they were gradually using and taking continuous training, they began to apply to office for provision of fertilizer. Previously, farmers did not even know the meaning of compost. Now since they have understood its advantage, they came to office and ask how compost is produced. In terms of raring animals, they are emphasizing more the quality than the quantity of domestic animals. They are, for example, asking for Borana species of cattle.

Re. (Malka Amana LA): In our village, people are more of pastoralists. Traditional agricultural practices are very limited. They may use traditional animal husbandry which focuses on quantity but grazing field may not be available. They may also lose many cattle in case some endemic disease occurs. Therefore, changing to modern way of raring animal that enables them to get much value from few cattle is becoming indispensable.

Re. (Erba LA): If I am not mistaken, your question is whether people benefit from these practices or not. I say they benefit. For example, people did not have awareness to use fertilizer or compost or animal dung. After obtaining training from experts, they are using animal dung and are able to increase their production. If not accessible to all, 85% of the people should use it and should get the benefit that they need to get.

Re. (Dayu LA): What I want to add is that this area is known for its beekeeping as is so for its raring domestic animals. They were using traditional practices and are also using now. However, they are now changing to modern technology. The young generation is attemting to use the transitional beehives. They are practicing it.

3. Do you think these traditional practices should be avoided or be sustained? Why?

Re. (Dayu LA): There are some practices which should be promoted. The harmful ones should be avoided whereas the useful ones need to be used. For example, traditional beekeeping in the mountainous areas is not harmful because there are in this area. If we take raring animals, it is dangerous to have too many cattle as it is not easy to vaccinate all of them in case of epidemic occurrence. Therefore it is advisable to minimize the number of animals and use then effectively.

Re. (Dayu LA): It is not easy to avoid practices like ox-pulled farming and hand-weeding at time. It is equally difficult to make technology accessible to all farmers at time. This happens gradually as technology is introduced in process. We need to make this technology accessible to farmers in the course of time.

Re. (Erba LA): I suggest using tractor rather than using oxen to plough and using combine harvester rather than using hand to mow because these are time saving. Therefore, it is important to shift to modern technology.

4. On which aspects of knowledge do most of the community depend/rely more for survival, (scientific technology, indigenous practices, or the integration of the two)?

Re. (Dayu LA): It is difficult to identify. Although more people use traditional methods, there are some people who use modern technology. The difference between them is decreasing. Most people in this area are pastoralists. As there is lack of infrastructure, people use traditional practices from ploughing to collecting yields. Combine harvester cannot be used. And nor can tractor except for few villages. Therefore, regarding farming, they use traditional methods from the beginning to the end.

Re. (Malka Amana LA): They use the traditional ones. Both ploughing and sowing are made traditionally. Weeding is also mostly done by hands. Few people are using technology. Therefore, most of our farmers are using traditional methods.

Re. (Dayu LA): Our farmers are at the beginning of technology. When we see it in percent, more percent is using traditional methods. For example, there is what we call 'full package' in our area. Only few people use this 'Full Package'. For example, if they use selected seeds, they do not use fertilizer. Few people may use both. When we see this way, we can say that few people use modern technology.

Probe: Why do you think most people still use traditional methods?

Re. (Erba LA): The reason is that as there is no infrastructure, people are not aware of using vehicles. This is why our people stick to cultural practices.

Re. (Dayu LA): I see the reason from two ways-the inner and the outer problems. The inner one is the problem emerged from our wereda while the outer is that comes from elsewhere. If we see the inner problem, the people in this area are pastoralists. As they move from place to place, it takes time to convince people to accept and use technology. We tried but we did not succeed as needed. The second problem is the area is hot; there is no enough farm land. It is difficult to bring technology. People have also begun farming very recently. These are reasons why technology has not been utilized.

5. Do the rural development strategies acknowledge and consider the value of indigenous knowledge of agriculture? How?

Re. (Dayu LA): Our strategy is not to avoid the traditional agricultural practices immediately. It is to expand the technology first and gradually avoid the useless traditions because the acceptance rate of our people in this low land is very low. Otherwise they blame you. Even we are currently on meeting concerning this issue. The main agenda of the meeting are how to convince people and disseminate technology.

Probe: Didn't you raise the issue of indigenous practices of agriculture in your meeting?

Re. (Malka Amana LA): It doesn't mean that the cultural practices are completely ignored. There are useful ones. But we urge our people to use the modern technology more because, while the farmers obtained about 5 quintals from one hectare in the past, they obtain about 10 quintals from one hectare now. On the other hand, as it is more productive when they use hands to avoid weeds than when they use chemical especially if the land is small, our strategy does not ignore such traditional practices. Such traditions are useful for the farmers.

6. What do you think is the harmony between education in the students' mother-tongue and rural development strategies?

Re. (Dayu LA): They have harmony. For example, when students learn in their language, there is language of work in that area. Knowing the language of the area is by itself the result of learning in the first language. As they learn in their language, there is a case when they bring agricultural practices to the school. If they learn in their language, when they are engaged in job, they work without any help because they learnt the contents of the work in detail in their language. If it is in other language, they may not comprehend the idea properly though the can read the words. This way they have harmony.

Re. (Malka Amana LA): It has harmony. For example in agriculture, if children learn in their language from lower grades say about crops and plants, they can practically use at home. Regarding adults, we give them practice-based training in their language. Therefore, the two have harmony.

Re. (Erba LA): What I add is that students learn in Oromo Language. The society speaks Oromo Language. For example, when farmers are engaged in weeding, they use encouraging sayings like songs in their language. Students can prepare songs, poems and others and provide to farmers so as to initiate their feeling of work. This way they have harmony.

31. Menna Wereda Agriculture & Rural Development Expert KII

1. What traditional agricultural activities are practiced in this locality?

Re. There is great difference between farming tradition they were using and the current ones. Farmers were not using the modern methods. They used to plough only once. Now they plough repeatedly. As they are using technology like fertilizer and selected seeds, there is big change from the traditional practices. No one is using traditional method now. It is difficult to say that they are using traditional method.

Probe: We mean by traditional practices activities like hand-weeding, using animal dung, ploughing by oxen, hand-digging, hand-mowing and so on.

Re. There is no hand-digging in our area. They use oxen unless the land is inaccessible to oxen. Using tractor has never been started. There is also hand-weeding. Few people use chemical. Regarding soil conservation, though not expanded, there is building terraces and planting trees. Although fertilizer is used, more people do not use it.

2. Do people benefit from these traditional practices to lead their livelihood? How?

Re. Using traditional practices do not help them. For example, if they use chemical, though it is costly, they save their time and labour. Using traditional method is wastage of time and labour. It harms them.

Probe: Why do you think more people focus on the traditional methods?

Re. One problem is awareness. The other is people do not want to expend money. They prefer using their labour to paying money. The main problem is lack of awareness. There is also lack of access for all farmers. Even if the farming vehicles are needed, there is no access. Farmers cannot obtain what they want.

3. What ratio of people (in percentage) in your kebele does use modern/scientific agricultural technology and indigenous knowledge to sustain their livelihood? Why?

Re. People are heterogeneous in this respect. If conditions are suitable, people prefer using modern technology unless financial capacity determines them. There are some active people to use technology. Our farmers can be categorized into three-active, moderate and lower. As there are individuals who have interest to use technology if condition allows them, it is difficult to identify them.

4. Do the rural development strategies acknowledge and consider the value of indigenous knowledge of agriculture? How?

Re. Regarding development strategy, government and regional plan is encouraging people to use modern technology and maximize their production. However, there is no assumption of avoiding traditional practices immediately but minimizing them gradually as technology is introduced. For example, there is a case where we train farmers to use traditional methods to control weeds which cannot be controlled by chemical. There is no assumption that traditional agricultural practices are totally not needed.

5. How do you think can these useful traditional practices be promoted?

Re. Until they access the technology, we tell our people on meetings not to ignore the practices that they have been using so far. We can transmit such message at religious sites, on marriage and funeral ceremonies. It is done this way.

6. What do you think is the harmony between education in the students' mother-tongue and rural development strategies?

Re. I personally feel that they have harmony. Learning in their language is helping them to learn their society's cultural practices at school. Nothing challenges them when they go back to the society. As they learn everything, they don't worry to face anything new in the society. What the students are learning at school and agricultural practices have good relation.

7. Do you think language and development have any relationship? How?

Re. Language and development have relationship. People communicate in language. The one who cannot speak the language of the society cannot communicate with society. If he/she knows the language and the culture of the society, he/she can understand the need of the people. Otherwise, even if he/she is knowledgeable, he/she cannot transmit to the community. It is only if one knows the language of the society that he/she can plan accordingly. Therefore, knowing the language of the society is very useful.

Do you have anything to add?

Re. I thank you for giving me this chance. As I understand, the study you are conducting is important as it relate development and language and seeks for solution as to how to sustain the people's traditional values because there are some traditional practices that people still benefit from and need to be preserved.

Thank you a lot.

32. Oromia Bureau Agriculture and Rural Development Expert KII

I am here to conduct a research on an association between mother tongue education and rural development strategies. As a senior expert at regional level, you are requested to give me genuine information for my study. I assure you that the information you offer me will be used for this study only and be kept confidential. I thank you in advance for your cooperation.

1. What is the harmony between education and rural development strategies?

Re. This is given due consideration on the part of the government. It is also related to the strategies. Especially education is a base for development. Without education, scientific agriculture and development is unthinkable. Therefore, some of the students from the farmers can be farmers in the future. The fact that their children learn in their language to higher level has contribution to achieving the development strategies and putting them to practice. I see it this way.

2. How much do you work in collaboration with schools and on what issues does your collaboration focus?

Re. When we see our beginning from grassroots people, there is mutual collaboration. This is manifested that teachers are in the local village; schools are there; and our extension workers are in

the village. These bodies are working together there on both school strategies and rural development strategies. For example, on activities carried out in the agriculture like organizing, orienting and mobilizing people, teachers participate. Our extension workers also participate on school affairs. There is also case where they take part on different bilateral committees. Similarly, at the wereda level, the two bodies closely work together in several ways like information exchange and others. The same is true at the zonal and regional levels.

3. Which aspect of agriculture (indigenous/traditional practices or modern technology) do more people in the region use in general to sustain their livelihood?

Re. When we see these things, it is improved from time to time in activities like using fertilizers, taking training and putting it into practice. However, when we see this issue, still traditional agricultural activities are dominantly utilized. We will work in the future on this thing to enable farmers to use modern technology and increase productivity. This is widely worked on. What is promising is that model farmers' experiences are being transferred to other farmers through the strategy called Transferring Good Experiences. To realize this, about four million farmers have taken training this year to use modern agricultural technology.

4. How much does the rural development strategy consider the farmers indigenous knowledge practices of agriculture?

Re. Regarding the farmers' indigenous knowledge of agriculture practices, there are practices to be appreciated. Agricultural development is carried out though studies based on agroecology of the area. In the studies carried out by scientists, these cultural skills which have been used for long time are considered with the modern technology. They have benefits. When we say Good Experiences, there are cases when we encourage the farmers to use cultural local knowledge practices like using animal dung for fertilizer, controlling weeds and preventing pests,. Other farmers are also encouraged to use these practices. Regarding natural resource protection, local skills which can go with scientific innovations, as science is also based on local resources and knowledge and improved it, are attempted to be used. Especially, not only importing knowledge from outside but appreciating and developing the inner knowledge is encouraged.

Probe: Do you mean that these cultural aspects of agricultural activities are considered in the rural development strategies?

Re. What we personally see on the ground is this. We cannot apply modern technology as it is. But it is seen in accordance with the circumstance of our ecology and considered with the local cultural situation. We especially emphasize on harmonizing the technology with the local situations.

5. In order to take part on incorporating developmentally important practices, both modern and indigenous technologies, into curriculum how much do you get opportunity to work with OEB?

Re. Although I have not participated, I heard that on big meetings higher officials discuss on issues related to education and rural development. At the local level we train farmers in Farmers Training Programme (FTC). This training is used as software for farmers to use technology. Farmers' children should also get opportunity to learn about agriculture in schools. I personally suggest this.

Probe: Is there any plan of action to incorporate agriculture into primary education?

Re. I don't think this plan officially exists. As an expert, I suggest that if basic elements of agriculture are taught at school, some of students may come back to farming so that they will not face any problem.

I have completed what I planned to raise. Do you have anything to add?

Re. This is all I have. Thank you.

Thank you very much.

33. Oromia Education Bureau Curriculum Designer (Oromo Language)

My study is about the relationship between mother-tongue education and people's cultural activities. The main goal is to see how much the MTE system is contributing to the promotion of people's indigenous practices, alongside its pedagogical benefit. I assure you that the information obtained from you will be used only for the research purpose and it will be kept confidential. I thank you in advance for your being willing to participate in this interview.

1. How could Oromo traditional practices be promoted, documented and transferred?

Re. One of the ways in which Oromo culture could be transmitted to the next generation is education. The current emphasis of the government is also education. The government declared full right to maximize learning opportunity and environmental understanding of people by way of using MT as a medium of education. So I believe that it has great contribution in the promotion of Oromo culture because if children learn in their first language, they can easily understand the cultural heritages and practices of their parents. They can also develop awareness about their environment and about their identity. Therefore, due emphasis should be given to education. For the education to succeed, unity of the people is very important. Unless there is harmony among people, it is danger for the language. If there is segregation based on religion, specific areas and clans, language as well as the culture will not be promoted. We have to take care of this. Language is not transmitted through blood, but through education. As large people use this language (Oromo Language), there is good opportunity for its expansion. As we, the educated people and community as the whole, are the one who can determine the effectiveness of the opportunity, we have to have correct outlook and work for the promotion of the language. We have to work together avoiding separation so that all Ethiopian people would love our language and work towards its promotion.

For example, Amharic language is the language of federal government of Ethiopia, and hence is developed at the federal level. This is because no one says, 'you cannot learn it, you cannot work in it.' Although there was imposition during the former regimes, those who could speak the language were allowed to be employed. If we take English language, it is international language. Those who can speak the language is benefiting from it. No one says, 'as you are not native English, you cannot use it.' Previously, there was a case where people were inhibited from employment because of not being from Oromo. Therefore, we have to work towards changing the people's mind so that they would develop the impression of aspiring to love the language, to be convinced to learn it and to be competent in it in any social domain.

2. What is the goal of primary education?

Re. The major goal is to maximize people's understanding about their environment, their culture, and their identity. When curriculum is designed, based on the environmental reality, it begins from self, then to the family, then to the society, then to the nation. As it goes up, it familiarizes the students with the national context and international science and technology. When it ascends to

secondary level, it is based on world reality. Therefore, the emphasis in curriculum is from self through family via society and nation

Probe: Do you have an access to make follow-up about its implementation?

Re. I have participated on curriculum designing only since 2001 E.C. I had been serving as an Oromo Language teacher for 14 years. I could only tell you my contribution as a teacher in this regard. I am not aware of what had been happening before a year. Yet I see some attempts, for example in the form of club.

Probe: We will come to it (the club).

Re. The newly designed textbooks have never been fully implemented yet.

3. Besides the lessons given in the classroom based on the curriculum, is there any structure or club that can contribute to the promotion of Oromo cultural practices in schools?

Re. Actually, I taught in secondary school. In any case there are clubs.

Probe: Can you mention their name?

Re. Promotion of culture and (...) I forgot. It is Oromo culture promotion, I guess. (inaudible) was working on it. I was making an effort since 1997 E.C. through 2001 to contribute to the Oromo culture promotion in club when I was a teacher in Adama. I even happened to get access to media broadcast. Therefore, though research is needed to know its extent, there are clubs in schools as a whole.

4. What do students and society as the whole benefit from the education system in the medium of students' mother-tongue?

Re. Learning in Oromo Language has a lot of benefits. As I said at the beginning, students learn more when they use their MT in the class. They don't feel stress. When they learn in other's language, they are challenged by the language and the content. This is problem. If a child learns in his/her own language, he/she can easily understand his/her environment, is aware of his/her identity, and learns more comfortably. Therefore, learning in Oromo Language is very useful for Oromo people. In the previous systems, Oromo Language was oppressed. The people were also forced to learn in the other language. Learning in Amharic language was too difficult. On the other hand, it was compulsory to learn the language to be employed. Otherwise, it was compulsory to use interpreter to convey any message. Learning in one's own language is declaring human right. So it has great value to express one's feeling.

5. How sufficient do you think the cultural practices of Oromo people that are included in the school system?

Re. It is difficult to say that sufficient Oromo cultural practices are included in the school system. What we can say is that some cultural practices are considered when the curriculum is prepared. As the region is wide so are its cultural practices. It is difficult to exhaustively include all of them. The promotion of cultural practices is enhanced through different club in the schools.

6. What is the major goal of Oromo Language curriculum of primary school?

Re. In general, the major goal of Oromo Language is teaching Oromo Language, teaching Oromo culture, teaching identity of the people. So its goal is helping children learn in their language, develop their culture and know their identity. So it is promoting the language and culture.

7. When preparing MTE curriculum, how much does it consider Oromo traditional practices of agriculture?

Re. There are areas which should be included into the curriculum. What students need to cover and comprehend at one stage is designed before they pass to the next level based on the environmental and national context, especially in the context of Oromia region. For example, in foreign country, children learn the technology of that country. In our country, they learn the Ethiopian condition. The curriculum is designed this way. Based on this, what areas should be included in the curriculum and in turn what topics need to be subsumed in each area is planned. One example is agriculture where they learn benefits of forests and wild animals and how to take care of them, people's cultural heritages, environmental whether condition (inaudible). They also learn how people cultivate crops like mowing in groups (daboo), the cultural songs they use when working in groups and the message of the songs. In collective working (daboo), for example, there is culture. In addition, sequences of agricultural activities are given in the form of exercises. They learn processes of mowing, collecting, and storing crops. The main goal of this exercise is to teach sequential process of something. In this lesson, they also learn the process of agricultural activities of their environment. Therefore we can raise many things. Though not directly, every thing is there.

8. What do you think is the relationship among language, culture and education?

Re. These are basically one. The one's culture and identity is reflected in the language he/she speaks. Education strengthens this fact. Education expresses and promotes culture. So the three are in harmony and reinforce one another. When education expands, it promotes language and maximizes the use of language. When the education is carried out in the people's language, this function of language is strengthened more.

Probe: I have completed what I have planned to raise. Do you have anything to add?

Re. We have already raised important points. When children learn in their own language, they will be psychologically free. They don't feel stress. They also develop their cognitive domain. If they learn in other's language, however, they will be challenged as they don't speak the language. So learning in their own language helps them learn easily their environment and world situation and be aware of their identity.

Thank you very much.

34. Oromia Education Bureau Curriculum Designers KII (Biology & Chemistry)

Subjects: 1. Chemistry

2. Biology

1. How could Oromo traditional practices be promoted, documented and transferred?

Re. (Chem.): As all know, cultural practices of a society are developed through education. Using Oromo Language in education, especially Oromo Language and Culture Education subjects, plays a big role in promoting Oromo culture. If we see in relation to sciences, these subjects are taught in Oromo Language from grade 1 to 8 in the region. For example, there is Environmental Science subject from grade 1 to 4 whose bases are invironmental issues. This subject deals with issues like what is taking place in the area, what environmental cultural practices exist and so on. It begins

from the environment. It begins from local life and family. Therefore, learning in people's language plays an important role in promoting culture of the society. There are different cultural practices including indigenous practices of agriculture in our area. There is family life in the environmental science subject. In grade 5 and 6, the three sciences are integrated. It raises there what the children need to know and participate in the technology in the life of the society. There are different materials related to climate, water and the like that can develop students understanding. There are also activities like taking care of environment, maintaining soil fertility, taking care of water in science subject. I think these have values. There are also agriculture-related things in Chemistry. For example, in grade 7 and 8, there is how to prepare fertilizer and its values. What I want to say is, therefore, learning in Oromo Language has good advantage.

Re. (Bio.): In order to transmit culture from generation to generation, preparing books is one way. For the practicality of this, national and regional curriculum is very important. It is a big deal to prepare curriculum syllabus based on the reality of the society. The contents that we are working on in text books and other things are related to the environmental situation. For example, science textbooks are prepared in accordance with Oromo culture. The new curriculum is designed in relation with the environmental reality. For example, grade 5 to 6 science subjects are integrated sciences. Their contents are arranged from simple to complex. They contain points about water, climate, plants and animals. In regard with agriculture, experts sometimes participate on the preparation of textbooks. When participating, points like forms of farming of the area in relation to culture, its values and problems are discussed. For example, the necessary inputs for the farming like fertilizer as well as how the farming is taking place are included. The effectiveness of scientific fertilizer and locally used materials are seen in comparison. Our parents use decomposed plants and animals remains and animal excrement which is natural fertilizer. As our people have been using it, the natural fertilizer is encouraged. The preparation of compost is provided especially in the new syllabus. Regarding energy, bio-gase preparation is offered occasionally. How to use water in the garden is also included. There are points like how to take care of water, how to take care of soil and so on. This is related to environmental protection which has three components: water protection, soil protection and environmental sanitation. How to plough land, like ploughing across in order to protect flood, how to protect flood by ploughing aross are mentioned. Our parents have been using these practices. There are cases where the traditional practices are encouraged and cases where it corrects the incorrect ones.

2. What do students and society as the whole benefit from the education system in the medium of students' mother-tongue?

Re. (Chem.): First of all, it has advantage to develop Oromo culture. Secondly, as learning in one's own mother-tongue enables students to capture what they are learning based on what they already know, it has great benefit in cognitive development. It also helps them to comprehend the contents of the subject matter. In the case of mine, I myself have been able to properly understand concepts of Chemistry subject since I began reading books written in Oromo Language. Therefore, one can guess how much it helps students to understand lesson contents.

Re. (Bio.): From the human right perspective, it is the right of the children to learn in their own language. This is well studied. Children gain a lot of things when they learn in their language. Firstly, they can be aware of their culture. The second one is if they learn in their language, they can easily comprehend the concept of the lesson content. Therefore, in order to develop their culture and understand lesson contents in depth, learning in one's mother-tongue is indispensable.

3. How sufficiently are the Oromo cultural practices included and being taught in the primary education in the medium of Oromo Language?

Re. (Bio.): We cannot claim that we are hundred percent successful in this regard. It has begun. Its implementation is under investigation. It is not long since children began using the language in education. A lot of things have been documented this year. This can be witnessed by the fact that large number of students has been registered and are at school this year. This is one success. The other is we are also successful in participating in the development aspect because when they learn in their language, they participate on various things. Therefore, things are being improved from time to time. The reason why curriculum is improved from time to time is to incorporate the remaining points.

Re. (Chem.): What I add is the participation of curriculum in the promotion of culture is especially in Oromo Language and Culture Education (Aesthetics). With regard to Sciences, our primary focus is not to promote culture but it may raise cultural issues in its way.

4. Do parents get opportunity to participate in decision making on the preparation of curriculum of mother-tongue primary education?

Re. (Bio.): The participation of society in the preparation of curriculum is procedurally obvious. Students, teachers and the society should participate. However, only teachers are participating as they are part of the society. We know that it should be associated with the surrounding society. Nevertheless, people's participation in the improvement of textbooks has not practically been put into practice except that agricultural experts occasionally participate. Physically only teachers have made participation. Others' contribution is not more than reading some books written in Oromo Language.

Re. (Chem.): There are different ways in which the society has participated. In textbooks preparation, there is no much participation of the society. Students and teachers are invited to suggest on the improvement of the textbooks. Individuals from the society who are supposed to give suggestion in this regard are also invited to give comments. The other is there are instances in the curriculum in which elders are invited to share their experiences in relation with society's traditions. There are also cases where health and agriculture experts can participate. The curriculum is open. In the textbooks, there are spaces where these experts and elders can be invited and give comments.

Probe: Other than what the students lean in classes, is there any structure like clubs in the school that help students to develop their culture and pass on to generation?

Re. (Bio.): In the school, other than depending on the textbooks to teach students, there are structurally various clubs. One of the clubs is Environmental Protection Club which consists of about climate, about water, about soil conservation and a like. This is to teach students practically how plants grow and their features. It is where children learn practically like laboratory. In some cases, there is a club called Agricultural Club which is based on growing plants in accordance with the situation of the environment. It strengthens what the students learn in the class.

Re. (Chem.): As he said, there are different clubs like Anti-HIV Club, Civics Club, and Environmental Protection Club. These clubs invite the society. These clubs sometimes function towards solving societal problems. Therefore, there are activities with this respect. The other is you have said that it has never been put into practice. What I want to say is that it is in the curriculum. If it is in the curriculum, it means that it is in the books. Therefore, when there is an issue to be addressed to health experts, rural development experts and so on, the teacher sends the students to the experts accordingly so that students practically participate.

Probe: What I am trying to say is that have you ever invited the society in any way to participate on the preparation and improvement of textbooks?

Re. (Chem.): They might have been invited when these books were prepared. We two were not available when the curriculum was prepared. Later when it was improved, they did not participate.

5. What do you think is the relationship between language, culture and education?

Re. (Chem.): Culture is expressed through language. Education is also transmitted through language. They are closely related. Language is a base for all of them. The messages are transmitted through it. Culture can also be transferred from generation to generation through education. Therefore, these three are strongly related.

Re. (Bio.): As to my understanding, the three are inseparable because one aspect of culture is language. To teach culture, language is very important. Hence language, culture and education are closely related.

6. In case students go back to society and lead their life after completing grade 8, do what they have learnt at school and what they encounter in the society, especially with regard to agricultural practices, relate?

Re. (Bio.): This is true. All students may not complete their education. In the policy itself, all students are not supposed to be employed. After getting some awareness on the modern technology, they are expected to put it into practice. Practically, there are students who have completed grade 8 and went back to the society and became effective in their work. The primary education curriculum indicates this realty. They can use simple technology like how to prepare bio-gase. Therefore, when they go back to the society, they can get good result. To relate this with the rural development, the current education directs towards how students use technology in relation with the traditional practices and get good production. Therefore, I believe that it has great contribution to the development.

Re. (Chem.): Curriculum is gradually improved. When it is improved, it takes different policies into consideration. It also considers developmental issues. The other is when the children learn, they learn modern technology and the traditional practices of agriculture. For example, regarding animal husbandry, the modern and the traditional methods are taught to the students. If students drop their schooling at primary level, it helps them to lead their life using the technology they have learnt. Though not practically implemented, there is a policy that students help themselves taking different trainings.

7. What is the goal of primary education in general and that of your subject area in particular?

Re. (Bio.): Regarding major goal of education, it is producing citizens who love their country and are productive. When we see the case of science, it has 5 major goals. These are available on the syllabus pertinent to its contents.

Re. (Chem.): The goal of education in general is to create capable, disciplined citizens and that contribute to the national and regional development by using technology. The goal of primary education can also be included in this goal.

Thank you very much.

36. Sinana Wereda Agriculture & Rural Development Experts (pair, KII)

Re. 1=male Re. 2= female.

1. What traditional agricultural activities are practiced in this locality?

R. 2: The traditional agricultural activities are like hand weeding, traditional ploughing, and hand mowing. However, nowadays, farmers are coming to technology and improving their life using technological inputs. They use selected seeds. Previously their way of ploughing was not good. They did not use to plough repeatedly. Now they plough 6 or 7 times and use selected seeds and different fertilizers. Other than this, they in fact use hand-weeding. They sow on time, they harvest on time. Others are also following these farmers.

Re.1. What I add is some farmers use traditional ploughing, animal dung and decomposed materials. In terms of seeds, there are original seeds. When we compare the previous and the recent one, now they have been trained on using compost in modern way. They also use fertilizers. There is also the situation where they use wheat varieties for different purposes.

2. What way do people benefit from these practices and not benefit from them?

Re 2: When we focus on the use of traditional ones, farmers miss something. In terms of fertilizers, they use undecomposed or surface parts only. The compost gives chance to get fermented as it takes long time. The benefit they get is that they use original seeds which do not easily become out of use. These seeds are more resistant to changing conditions without changing its characteristics. These have become effective around Goro and Agarfa weredas by help of an organization called Biodiversity than those invented through investigation. These kinds of seeds are effective. They do not change with the change of conditions.

Re 1: Regarding benefits and disadvantages of traditional activities, their benefit is on weeding. When they weed using hand, they get benefit. But when their way of ploughing is traditional, they do not get good yield. To get good yield, land needs to be properly prepared from the beginning, sowing on time, using proper amount of seeds and using necessary inputs. Traditional ploughing can easily be identified. It does not give good yield when compared to those ploughed using tractor. However, even using the traditional system using oxen, if the land is properly ploughed 6 or 7 times, it can give good yield. If they also use hand-weeding on time, they can also be effective using this cultural way and using necessary inputs.

Probe: Therefore, can we say that the two systems complement each other?

Re 1: Yes, when the two systems are used, they complement each other. When we say they complement each other, for e.g. when they use ox-ploughing, the dung obtained from the oxen helps in the form of compost. Then the harvest will be good. The straw and other harvest leftovers are used as animal food. This way they complement each other.

Re 2: Here the technological practices are more useful not withstanding the traditional activities. We have about 19, 284 farmers in our wereda. If they all use extension package, they would be effective. Among these, there are advanced farmers who properly use the extension package and outshine the others. Others use traditional practices, but I cannot say these practices are equally useful with technological practices, because in the latter one, you use fertilizers. In the case of traditional way, they may simply sow without fertilizer. They may not also use anti-weed chemical. Therefore, I say the technological practices are more effective though the cultural ones are also there.

Re 1: When we compare and contrast the two, both have benefit as well as harm. In the case of anti-weed chemical, it is taken as a last, seventh option. It is not recommended. There are other 6 options before it as I learnt. It has side effects. The reason why we say that cultural activities are better is that when we use hand-weeding and hand-digging, it lets air to enter the soil. These two practices are recently added taking from cultural activities, especially for cereal crops. Previously crops like maize were dug, but now it is recommended that cereals like wheat also need to be dug. This concept is taken from culture, but developed. In Arsi- Lode Xusa, one farmer, sowed 'digalu' ploughing three times, and used animal dung and decomposed materials in the form of compost at the fourth step. These activities could be said traditional practices. After this, he sowed the seeds in line. This is also almost cultural except that the seeds are sowed in line. These lines help to apply fertilizers between the rows and lets air to enter, and is suitable to pick up weeds. The plants are not also stuffy. Therefore, the harvest will be high. This way, the two practices mutually help the harvest to be high. The other is what we have already said, the complementarity issue. This means that as only crop harvesting would not make one effective in agriculture, animal husbandry and others need to be included so that it increases the benefit we get from agriculture.

3. How should knowledge of such practices be developed, transferred and documented?

Re 2: In my opinion, the traditional practices that I think should be expanded are hand weeding and digging. These should not be disappeared. The third one is crop rotation. This itself is cultural practice. (...).

Re 1: By inviting other farmers to visit and copy model farmers practically on the farm and make them use of their experience.

Re 2: As he said, we have 20 kebeles. We take farmers from one kebele and invite them to see what that model farmer has used and benefited.

4. What ratio of people (in percentage) in your kebele does use modern/scientific agricultural technology and indigenous knowledge to sustain their livelihood?

Re 1: This is difficult question. It requires formal research. However, it can be said that more farmers use integrative/mixed approach. Approximately about 60% use mixed.

Re 2: In general we have about 4,000 or more model farmers who use the technology accurately out of 19,284. But these by themselves use cultural practices like hand-weeding within modern technology. They inevitably use the traditional practices. For e.g, they use hand weeding. It is too difficult to tell in number or in percentage.

Re 1: What I want to add is I did my thesis on poor farmers who never use fertilizers which accounts for 30%. 'Why these farmers in Sinana wereda are reluctant to accept using the recommended fertilizers' was my thesis title. These incline to using cultural practices. This may require in-depth research.

Re 2 You may obtain more evidence from the farmers themselves.

Re 1 There are periphery kebeles like Walta'i, Shawede, Weib, and Basmana that never use much technology. They use more of traditional original practices claiming that their land is naturally fertile though they are harming the ecology by deforestation and eradicating the natural resources.

5. On which aspect of agriculture (e.g. soil erosion control, weeding, mowing, yield storage, commercializing etc) do people in your area use more modern technology and indigenous knowledge practices?

Re.1: They use technology more on fertilizer. They highly use it though financial constraint limits them. The other is anti-weed chemicals. They use these chemicals.

Re.2: As he said, they use technology especially fertilizer, selected seeds though its transmission is scarce. They have high need to get selected seeds but the demand and supply do not match. The other is anti-weed chemical. They use varieties of chemicals.

Probe: Is the chemical useful for all the crop types?

Re. 2: In our case the first harvest is wheat, barley and oat. There are also 'teff', lentils, chickpea and beans. Some fertilizer is sprayed on wheat, barley oat and 'teff' only. Chemical is not used on crops of legume family. They are weeded using hand. Crops like maize, beans, peas, linseed etc are not used with chemical. But compost can be used.

Re 1 In terms of disease controlling and controlling weeds, the traditional system is sowing early so that the crop escapes from weeds and cold. Farmers also know that when there is cloud, it causes 'waagii' (crop disease caused by extensive cold).

Probe: What method do farmers use to identify climatic conditions? Do they use meteorology or traditional knowledge?

Re.1. Farmers, especially elders know the time of rain (...). Though nowadays few farmers listen to media (TV), most farmers know the climatic conditions from cultural knowledge. They know how heavy the rain would be traditionally by wind direction. There are farmers who predict rain by looking clouds. They, for e.g, use 40 years traditional knowledge for seed sowing and others. The experienced farmers even know the soil fertility by smell. (__)

6. Does the rural development strategy acknowledge and accept the use/benefit of people's indigenous agricultural practices for sustained rural development? How?

Re. (__)

7. What do you think is the relationship between primary education in the medium of Oromo Language and strategies of rural development?

Re. (__)

Probe: How do you think is language related to development? Does it have contribution to development?

Re. 1: (...) when we take Oromo language, we may not get equivalent words. Either we take the foreign term itself and use in Oromo language. This means it develops the language. Development develops language as I said. Say for e.g a term appears as the result of technology but the word does not exist in Oromo language. Here we must use the original term. This way it develops language.

Re. 2: Ok, good. I say language contributes to development. Because nowadays, everyone learns in his/her own language. It is becoming expanded. Walaytigna, for example, uses its own writing. The same is true for Oromo Language. Similarly schools are expanded. At all levels like technical schools and high schools are expanded. Children are creating good things. That means they create their own innovations in technology sectors using their language. I, for example, saw children inventing electrical manipulations in their language. This way they are doing useful things. This is being expanded so that it complements the development. In terms of farming, materials which are

suitable for farmers like sickle are being invented. This all are done in their own language. They speak in their language. So it has contribution to development.

Re. 1: The other is let me take myself. My mother-tongue is Oromo Language. When I began learning during the time of Empire, I was forced to lean in Amharic. At that time one challenge was acquiring Amharic language which is double problem. This day the children learn in their language. They can easily understand the content of the subject without difficulty. This can help them to develop creativity at their level. Even farmers are becoming creative.

8. Do you have anything to add in relation to what we raised or that you feel must be added?

Re. 2: What I add is that farmers are more aware about what we have discussed. So you need to contact them together with DAs. They have more expertise in the area.

Re. 1: Yes, you need to take sample informants especially in kebeles like Basmena, Basaso etc for more information and compare with what you obtained from us.

Thank you very much.

Declaration

I declare that this thesis is the product of my own effort and has not been presented to any university in the same or different form to merit a PhD degree other than that for which I am now a candidate, and that all sources used for the thesis have been duly acknowledged.



Signed.....

Alemayehu Jote Tullu

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