

Indigenous Soil Fertility and Water Resource Management Practices in Awi Zone, Amhara National Regional State (ANRS), Northwest Ethiopia

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ABSTRACT

The people of Awi have succeeded in preserving their age-old traditions that are handed down from generation to generation. In Awi farm land and soil fertility management systems employ three major types of strategies in order to manage the organic matter and chemical fertility of the cultivated soils: Mixed cropping rotational cropping and indigenous organic practices. Irrigation is the artificial application of water to soil for the purpose of crop production. The major purpose of this paper is, therefore, to bring out, to assess and analyze the indigenous soil fertility management systems as well as the indigenous managements of river waters for irrigation. In the course of the study, I have depended mainly on primary and secondary sources, as well as oral informants, and archival materials. For archives, I have used Debre Markos University Archive Center, Addis Ababa National Archives and Library Agency, Institute of Ethiopian Studies of Addis Ababa University and Awi Zone Agriculture Office. Indeed, gathering oral information from knowledgeable individuals through interviews was another important source data for the research. The interview was effectively addressed by qualitative approach through purposive sampling method. In the interview semi structured interview questions were designed for acquiring valuable information about the study. The age and the ability to remember the past events and the level of participation in the local affairs were given emphasis for the selection of informants. The data which I collected from oral sources were crosschecked with archival and secondary sources before interpretation. Thus, the consideration of the land tenure system and the social structure as well as taxation system in Agaw Meder (presently Awi Zone) helps to study and investigate not only the study area but also to comprehend other areas regarding the issue.

Keywords: Indigenous Resource Management, Soil-fertility, Irrigation System

CHAPTER ONE: INTRODUCTION

Background of the Study Area

Awi zone (formerly Agaw Meder Awaraja) is the homeland of the Agaws of Gojjam who are called Awi. It is located in north western Ethiopia, in the Amhara National Regional State.

Awi zone has remarkable physical features, characterized mainly by extensive plateau, massive mountains, broken land and River gorges. The plateau is dotted with grandiose peaks which extended from one end to the other. In between the mountainous ranges, flat topped hills (*Ambas*) and vast plains are also found. The high peaks rise from 1500 to 3300 meters above sea level. There are also several big, medium and seasonal small Rivers that drain to the Abay River.¹

The climate of the zone combines the three traditions acknowledged climatic zones of Ethiopia: *Qolla* (hot, 500 to 1500m. above sea level), *Woina Dega* (medium, 1500 to 2,200m. above sea level), and *Dega* (cold, 2,200 to 3,000m. above sea level).²

According to the Awi zone Agricultural and Rural Development office, in the zone there are three major types of soil: brown (*burburi*) red (*dimi*) and black (*sarki*). The climatic condition of the zone is conducive to grow cereal crops, oil seeds, pulses, vegetables and fruits. It is also conducive to grow different species of trees and plants as well as to raise beasts of burden and drought animals, and to rear cattle. Generally speaking, the physical setting of the study area is characterized by the prevalence of fauna and flora, natural to all ecological zones.³

The objective of this paper is to bring out some of the traditional social organizations and labor exchanging forms that have been practiced in Awi. The paper also attempts to assess and analyze the cropping patterns and the indigenous soil fertility management system. The strength and limitations (problems) of the indigenous soil fertility management practices are also discussed in brief. Finally, it deals with the utilization of water resources, mainly river water, for irrigation.

Statement of the Problem

Among the many peoples of Ethiopia recorded in different inscriptions and chronicles of Ethiopian monarchs, who ruled the country from the 14th to the 17th centuries, the people of Agaw [Awi] constitute one of the most ancient inhabitants. They were/ are one of the principal original inhabitants of north and north western Ethiopia.⁴

The Agaws [Awi] are said to have been one of the ancient peoples of Ethiopia who, even before the emergence of the Aksumite state, contributed a lot to the socio-economic development of the country. Written sources assert that the Agaws were responsible for the early development and expansion of traditional agriculture in Ethiopia. According to Greenfield, the Agaws are the first who discovered and developed new strains of plants (some introduced from abroad), and ennobled many wild plants of the plateau. They are believed to have developed variety of plants

that came from South Arabia by diffusion and to have provided the major crops of the Ethiopic agricultural civilization. They adopted and innovatively contributed to the emergence and development, in Ethiopia, of highly complex agricultural civilization.⁵

Regarding the role of the Agaws in the socio-economic, political and cultural development of the country, Murdock noted that, "all indications points to the Agaw as one of the economically, politically, and culturally most important and creative people on the entire continent."⁶

Before they came to the present area, the Agaws were involved in the overall administrative milieu of the Aksumite kingdom actively. Hence forth, they served as soldiers and officials in the royal court of the Aksumite states.⁷ In relation to their role in the Aksumite state, Ullendorf notes that "The Agaws are of crucial importance because they were the very basis on which the whole edifice of Aksumite civilization was constructed."⁸

After they came to west Gojjam and retained their linguistic and cultural identities in a place known as Agaw Meder (presently Awi zone) the Awi have succeeded in preserving their an age-old traditional associations and labor exchanging forms that aimed at close co-operation either during feast or sorrow or during harvesting or threshing. They also have indigenous resource above all, farm land and soil fertility management systems. However, all these indigenous management systems, which could be said good trends and practices, are not studied thoroughly so far. The scanty unpublished sources are focused on the political history of the people.

Therefore, this study hopes to fill some of the gaps in the socio-economic history of the Awi. It also attempts to demonstrate how Indigenous Soil Fertility and Water Resource Managements is Practiced in Awi Zone.

Objectives of the Study

The objectives of the study have emanated from the significance of the topic selected. Its general objective is to assess the traditional social organizations and the indigenous resource management systems history that

have been practiced in Awi since the earliest times. The study has also the following specific objectives. It is intended to:

- a) Investigate and analyze the cropping patterns as well as the indigenous soil fertility management systems.
- b) Identify the strengths and limitations of the indigenous soil fertility management systems
- c) Explore the indigenous water resource management

Significance of the Study

This study has multiple significances. Firstly it generates information on the application of indigenous resource management systems. This may help for sustain development of indigenous resource management. Secondly this study engenders information on the strengths' and weaknesses seen in the **Indigenous Soil Fertility and Water Resource Managements Practiced in Awi Zone**. This helps to draw lessons for the people of other areas. Thirdly this study generates information on the economic impact (both positive and negative) of **Indigenous Soil Fertility and Water Resource Managements**. It may also help to the peasants of Awi to be aware of the limitations in utilizing indigenous soil fertility practices. It also serves as a springboard for other researchers to conduct deep study on the related topics. Most importantly, the researchers hope that the study will encourage the future researchers to conduct their researches based on the latest available methods and approaches. In addition, this study will be the source of valuable information for the future researchers.

Methodology

The study is based on primary and secondary sources, as well as on qualitative data from key informant interviews and focus group discussions. Primarily, an intensive reading of secondary sources has been made in order to establish a general frame work. Then, thirty two farmers and seven governmental officials were interviewed by using structured questionnaires. Discussions were also held with nine groups of elders selected from villages located in Banja, Ankesha,

Fagita, Lekoma, Dangla, and Zigem *wärädas*. Each one of these groups comprised of five to seven elders and overall more than 42 elders were involved in the discussions. Therefore, much of the field work consists of extended interviews with key peasant informants and discussions with groups of elders.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Until recently Ethiopian history was mostly the history of the state. Almost it was mainly state centered and institutional in character. It tended to extol the centralizing and unitary role of Ethiopian monarchs (C.Clapham, 2000:38). Furthermore, the historical studies of Ethiopia mostly tend to focus on events at or near the center of the political power (A.Triulzi, 2002:277). Thus, the study of several ethnic groups and communities, who have economically, socially and politically contributed a lot to the development of the country, has been neglected. This in turn has constituted one of the major gaps in our knowledge of Ethiopian History

Among the many peoples of Ethiopia that played a great role in the socio-economic and political development of the country but who has not comprehensive and satisfactory scholarly written materials are the Awi. In fact, few scholars have attempted to provide some historical and linguistic studies about them.

George A. Lipscky (1967) in his book entitled: *Ethiopia: Its people, Its Society and Its Culture* wrote about the Agaws of Gojjam as they are one of the representatives of the ancient Caucasoid race. His description deals with the origin of the Agaws. In relation to the contribution of the Agaws [Awi] in domesticating and developing variety of plants, both Frederick Simoons (1960 :) and Richard Greenfield have made significant contributions. F. Simoons, a cultural -Geographer is one of the ex-patriot scholars who described Agaws [Awi] as one of the most important people who established Ethiopia as an important center of plant domestication. R. Greenfield (1965) noted how the Agaws [Awi] discovered and developed new strains of plants and how they ennobled many wild plants in the plateau. He further discussed how they developed variety of plants that

came from South Arabia by diffusion Ethiopic agricultural civilization. Concerning the role of the Agaws [Awi] in the socio-economic and political development of the Aksumite state, Ludendorff (1965) in his book entitled: *The Ethiopians: Introduction to the Country and People*, pointed out that the Agaws were the very basis on which the whole edifice of Aksumite civilization was constructed. Similarly, Tadesse Tamrat (1972) described the Agaws as they had played important role by being soldiers and officials in the royal court of the Aksumite state.

Already in the six century, how the Agaws [Awi] extended towards the region of Lake Tana and the sources of the Blue Nile is written by Mc Crindle (1897). In connection with the existence of the Agaws (Awi) in Gojjam and in the districts of Gondar during the medieval period of Ethiopia Trimmingham (1952) has contributed a lot. He pointed out that in the medieval period the Agaws [Awi] are said to have lived not only in Agaw Meder and Metekel but also in other districts of Gojjam and Gondar.

On the traditional belief of the Agaws [Awi] J. Bruce (1790) and Torrey Fuller (1970) have contributed much. Generally speaking, although few Ethiopian scholars and foreign travelers provided some works, most of them are fragmented and others are dealing with the Agaws relations with the Aksumite kingdom and with the efforts of the Gondarine kings to incorporate into the overall administrative structure of the Ethiopian Christian Kingdom and the development that followed.

More than others, however, it is Tadesse Tamrat who has made a great effort to interpret and reconstruct the history of Awi from the 6th to the 17th centuries. In his classic work, *Church and State in Ethiopia, 1270-1527*, Tadesse convincingly argues that the Agaws [Awi] were one of the principal founders and major pillars of Ethiopian civilization from antiquity to medieval times. Then, in his later studies, he focused more exclusively on the Agaws [Awi] of Gojam in which he showed the repeated efforts of the Gondarine kings to incorporate as well as evangelize them.

Therefore, despite their history attached with the rapid growth of their involvement in the political life of the country, no scholarly significant and comprehensive

historical study has been made on, above all, the traditional social organizations and indigenous resource management practices that have been practiced in Awi. In this paper my intention is to focus on some aspects of traditional organizations and traditional labor exchanging forms. An attempt is also made to assess and analyze the indigenous resource management practices that are connected mainly with soil fertility and utilization of river water for irrigation.

CHAPTER THREE: INDIGENOUS RESOURCE MANAGEMENT PRACTICES IN AWI

The term resource management employed in this chapter refers to the indigenous management of farm land, and soil fertility as well as the utilization of water resources for irrigation

Water Resources Utilization for Irrigation

Irrigation is the artificial application of water to soil for the purpose of crop production. Irrigation water is supplied to supplement the water available from rainfall and the contribution to soil moisture from ground water. As it is well known, in many areas of the world the amount and timing of rain fall are not adequate to meet the moisture requirement of crops, thus irrigation is a good alternate and essential to raise crops necessary to meet the needs of food.

Irrigation is an age-old activity, as old as civilization. The increasing need for crop production for the growing population is causing the rapid expansion of irrigation. According to A.M. Michael in the comprehensive strategy needed for the conservation and development of water resources, several factors are to be kept in view. These include the availability of water, its location, distribution and variation in its occurrences, climatic conditions, nature of the soil, competing demands and socio-economic condition. In dealing with each of these, every effort must be made to make the use of water, so as to make possible a high level of continuous production.¹⁶

Utilization of River Water Resources for Irrigation in Awi

In Awi zone, with the exception of few arid *wärädas*, irrigation is an age-old practice. The dependence of Awi's agriculture on irrigation has been recognized

since the earliest times. According to the Awi elders, peasants of the Awi have been used to irrigate their crops with river waters since they settled in the present area and this trend has gradually been extended during the later periods.

Although irrigation is an age-old practice in almost all *wärädas* of the Awi zone, the five *wärädas* that account a very vast area in irrigation system are Ankesha, Guangua, Fagita-Lekoma, Guwagusa and Dangla respectively.

According to the 2012 report of the Awi zone Agriculture and Rural Development Office, the major Rivers which have been used by the peasants for irrigation are:-

- i) In Ankesha *wäräda*, Zingini and Kulanti are the predominate Rivers
- ii) In Guwangua *wäräda*, Ardi, Guchiksi, Tinbil, Zili, Biliq and Doder are the most important Rivers.
- iii) In Fagita-Lekoma *wäräda*, Gudar, Zuma, Aza, Gugri, Enchitag are the predominant Rivers. In addition to these, streams like Zibed minch and Gugah minch have their own contribution.
- iv) In Guwagusa *wäräda*, Fetam and Chaqmit are the most important Rivers
- v) In Dangla *wäräda*, Laygnaw Kuwashni (upper kuwashni), Gizani, Zuma and Tachignaw Kuwashni (Lower kuwashni) are the predominant. According to the Awi Zone Agriculture and Rural Development Office irrigation department report, the utilization of water resources as estimated for the years up to 1999 E.C for various purposes was 53,490ha.. In 2000E.C. the irrigated land was 59,575 ha. In the year 2001 E.C the irrigated land was increased to 64,652 ha. Whereas, in 2002 the area covered by irrigation was 74,124 hectare and in 2004 E.C the irrigated land was increased to 89,543 ha.¹⁷

When one observes the report mentioned above, the irrigated areas were increased from year to year in a

steadily manner, This is, in fact, not the effort of the farmers' themselves only, but it is also the role of the Zonal Administration, the Zonal Agriculture and Rural Development office and the *wärädas* Agriculture and Rural Development offices together with the Zonal and *wäräda* irrigation department members. All have played significant role in creating/developing/awareness among the community; in conducting regular meetings with farmers within the irrigation block in order to discuss issues related to the operation and maintenance of the entire irrigation system; in promoting the use of water saving technologies in order to improve the overall water use efficiency and in facilitating the planning and implementation of irrigation extension activities, including training and demonstration.

Moreover, the role of water users' associations leaders (*Ye Wuha Abat*) literally "father of water" in preparing water distribution plan schedule for irrigation block, in coordinating and supervising the distribution and use of irrigation water and supervising and preparing a plan for the improvement of the canal and drainage system and in mediating and resolving any water-related disputes between farmers within the irrigation block is undeniable. By and large since the year 1999E.C in Awi Zone there is a steady and progressive development in irrigation.¹⁸

In fact, the regional government of the Amhara National Regions State (ANRS) has recognized irrigation as a vital component for the improvement of food security in the Amhara region. However, according to the report stated in the annual magazine of the Amhara Irrigation Development and management Bureau, entitled "Sustainable Water Harvesting and Institutional Strengthening in Amhara Project", the performance of the existing irrigation schemes is below expectation. According to the report, this is because of the following reasons:

- i) Low participation of farmers in planning, designing and construction process.
- ii) Water shortage due to over topping caused by the poor physical conditions of the existing irrigation infrastructure
- iii) Inadequate maintenance of irrigation infrastructures and the water users' lack

- of funds for the proper management of irrigation systems.
- iv) Insufficient technical capacity of water users to operate and maintain their irrigation systems due to lack of training and regular technical support from the concerned government agencies.
 - v) Poor transfer of appropriate irrigation technologies aimed at improved use efficiency.¹⁹

Nevertheless, to overcome these problems the Amhara Regional State Sustainable Water Harvesting... project is making every effort. The project coordinations have expressed the need to develop a cohesive strategy to improve Participatory Irrigation Management (PIM) aimed at improving the performance of small-scale irrigation schemes in the Amhara region. Furthermore, based on the review of the existing strategies and practices in ANRS, as well as the experiences with the implementation of projects based on farmers' participation in the development of management of irrigation systems in various countries in Africa and elsewhere, Sustainable Water Harvesting and Institutional Strengthening in Amhara (SWHISA) project has developed a step by step approach for the participatory development and management of irrigation system in the Amhara region.²⁰

Conclusion and Recommendation

Ethiopia is a culturally multi-farious and a 'poly' ethnic country. One of the several ethnic groups of the country, who formerly occupied large part of Gojjam region but presently confined themselves in the area what is today Awi zone are the Awis.

Awi Zone has remarkable physical features, characterized mainly by extensive plateaus, massive mountains, broken land and river gorges. The people, on the other hand, are settled agriculturalists and cattle raisers. They are also one of the Ethiopian ethnic groups who have preserved their own culture and identity.

In the tradition of the Awi, women are not only wives, mothers,...but also decision makers in resource management equally with men. In spite of such practices that reflect their equality, there are also

certain activities that need the involvement of each sex.

The close co-operation that has been practiced either during feast or grief or during harvesting or threshing is one of the traditions. Together with this, what is interesting is the existence of traditional labor exchanging forms. Indeed, both traditions are associated with moral, social and economic co-operation.

The indigenous soil fertility management systems practiced by the peasants of the Awi are encouraging and acceptable by the people, because the expense is relatively low. Furthermore, crop rotation and organic manure provide the farmers with multiple benefits. They improve not only the chemical fertility but also the soil organic matter and its physical condition. Nevertheless, to meet the demand for great amount of production using only organic manure without artificial fertilizers would be impossible. To satisfy the demand for large quantity of production effectively, the most appropriate fertility management strategy is integrating both modern and traditional management practices (Collision, 1980: 381-389).

In Awi irrigation is one of age-old activities. Nevertheless, until recently, in most parts of the area the method of utilizing water resources for irrigation is traditional. Side by side, practicing scientific management of irrigation is also important, because on the one hand it provides the best insurance against weather-induced fluctuations in production and, on the other hand, it is the best way in which farmers can make their agriculture more profitable. Together with this, conjunctive use of canal water and ground water, particularly in the lower reach of the command area, where supply of canal water may be less reliable is very important. This is because of that during the non-rainy months, the Rivers flow can dwindle to a fraction of flood and some streams can dry up altogether. To sum up, the traditional social organizations and the indigenous resource management systems that have been practiced in the Awi zone have strong impression on the people of the regional state in general and on the immediate neighboring society in particular. Furthermore, establishing good relationships among the peasants of all *wärädas* of the Awi Zone has its own effect in sharing experiences.

END NOTES

¹Ayene Mamo, "Administrative History of the Awi to 1974", (Ma thesis, Addis Ababa University, 2007), p.1.

²*Ibid.*

³Awi Zone Agriculture and Rural Development office, 15 Megabit 2004 E.C; Group discussion with elders and farmers, held on 22 Megabit in Injibara.

⁴*Encyclopedia Aethiopia*, Vol.1 (Harrassowitz Verlag:Wiesbaden, 2003), p.,142

⁵R. Greenfield, *Ethiopia: A New Political History* (London:Pall Moll press, 1965), P.15

⁶G.p. Murdock, *Africa: Its people and their culture History* (New York: Mc Graw Will,1949), p.182.

⁷Tadesse Tamrat, "Process of Ethnic Interaction and Integration in Ethiopian History:

The case of the Agaw", *Proceedings of the 9th International congress of Ethiopian Studies* (Moscow, 1998), P,194.

⁸Edward Ullendorff, *The Ethiopians: Introduction to Country and People* (London: Oxford University press, 1965), pp.130-132.

⁹Informants:W/ro Fetlie Belay, W/ro Gelaytu Ayana and Shitaye Anagaw, interview on 3 Yekatit 2004 E.C . in Gimjabet Mariam.

¹⁰Informants: Ato Alene Terefe, interviewed on 7 Yekatit 2004 E.C. in Aysa Mikael: Ato Derseh Ayele and Ato Belew Dessie, interviewed on 21 Yekatit 2004 E.C. in Dangila; W/ro Fetenech Bantie and w/ro QuanQua Belay, interviewed on 30 Yekatit 2004 E.C. in Zigem.

¹¹D.L. Karlen and A.N Sharpening, Management Strategic for Sustainable Soil Fertility (London: Lewis publishers, 1944), pp.47-51.

¹²Ayene Mamo, "Administrative History..." p.69

¹³D.L. Karlen and A.N Sharpening, Management Strategic for Sustainable Soil Fertility (London: Lewis publishers, 1944), pp.47-51.

¹⁴Informants: Group Discussion with group of elders held on 22 Megabit, 2004 E.C. in Injibara, on 26 Megabit 2004 E.C. at Dangula Yohannes.

¹⁵D.L. Karlen and A.N Sharpening, Management Strategic for Sustainable Soil Fertility (London: Lewis publishers, 1944), pp.47-51

¹⁶B.H. Jamssen, Integrated nutrient management: the use of organic and mineral fertilizers (The Netherlands: Ponsen and Looijen, 1993), pp.89.93

¹⁷Group discussion with selected elders from Ankesha, Banja and Fagita Lekoma words, held on Yekatit 11, 14,17 2004 E.C. respectively Informants: Ato Dejene Belacchew, Ato Zeleke Shiferaw and Ato Anteneh Tilaye interviewed on 19 Yekatit 2004 E.C. in Akayta Medhanialem; Ato Alem Yihunie, Ato Sewnet Arega and Ato Gashu Alem interviewed on 21 Yekatit 2004. E.C in Gimjabet Mariam.

¹⁸A.M Michael, pp.55-57.

¹⁹Zonal Agricultural and Rural Development office: Water resource management department, Tir 10,2005 E.C.

¹⁹Informants: Ato Ambaye Zegeye, Ato Limenih Setegn, Ato Dagne Bizuneh and Ato yewodia Tegegne, interviewed on 24 yekatit 2004 E.C. at Dangla.

²⁰Zonal Agricultural and Rural Development office: Water resource management department, Tir 10,2005 E.C.

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