Indigenous Knowledge Systems in Ethiopia.

Report of Ethiopia National Workshop

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1. INTRODUCTION

The Ethiopian Chapter of OSSREA held its first national workshop on 4 March 2000 at the Graduate Studies Conference Hall, Addis Ababa University. The theme of the workshop was *Indigenous Knowledge Systems of the Ethiopian People*. This theme, a foundation and component of Africa's knowledge system, had three sub-themes: a) philosophy, b) transfer of knowledge system, c) agriculture, d) medicine and birth control, and e) handicraft.

Participants came from different institutions including research institutions, academic establishments, government organizations and private sectors. In addition, selected students were present. The workshop was attended by 77 persons, a low turnout of about 40% due to various reasons.

Dr. Dereje Aredo, Liaison Officer of the Ethiopian Chapter of OSSREA, made a welcome address. He expounded on choosing the theme on indigenous knowledge and he underlined that our knowledge system is our national resource or heritage that has received little attention from researchers and policy makers.

Ato Amare Dejene, Chairperson of the Association for Promotion of Indigenous Knowledge (APIK) in Ethiopia, made an opening statement. He wondered why highly developed knowledge systems of Ethiopia (such as those demonstrated by the churches of Lalibela) lost dynamism and stopped at a point in history. He pointed out that APIK plans to build networking among international, regional and national organizations interested in the promotion of indigenous knowledge in Ethiopia.

Professor Abdel Ghaffar M. Ahmed, Executive Secretary of OSSREA, made an opening statement and co-chaired the first session. He enlightened the audience on the commendable activities undertaken by OSSREA to build capacity among researchers in the sub-region. He stated that OSSREA has focused on the promotion of high-quality action-oriented research projects in the sub-region, such as on management of resources in pastoral areas. Regarding the theme of the workshop, he underlined that indigenous knowledge is useful in such important areas as governance, conflict resolution and resource management. Finally, he emphasised the importance of scientifically verifying indigenous knowledge.

Dr. Kinfe Abraham, President of Ethiopian Institute for Peace and Development, delivered a keynote address. He pointed out that indigenous knowledge symbolises our identity and perpetuates our cultural heritage. Thus, it should be identified, recorded, explained and preserved for use by generations.

Following the opening addresses, Dr. Dejene Aredo briefly reviewed conceptual framework and research issues. At the end of the one-day workshop, a business session was held during which matters pertaining to the chapter were discussed and decisions made.

2. BUSINESS SESSION

The Ethiopian Chapter of OSSREA held its first general meeting at the end of the workshop. The meeting was attended by about 20 members of the chapter, all of whom participated at the workshop. Dr. Dejene briefed the members on three items: 1) problems of strengthening the committee of the Liaison Office, 2) lack of consolidated guidelines for the Liaison Office, and 3) selection of the executive committee members.

The meeting unanimously decided to strengthen the committee by raising the number of the members from four to five. Accordingly, Dr. Darge Wole was elected as a new member of the Liaison Office Committee.

The meeting felt that there should be consolidated guidelines defining the objectives, mandate, and responsibilities of the Liaison Office. The meeting benefited from explanation given by Ato Enemanachew Yimamu, OSSREA's Programme Officer.

The meeting decided that the committee should draft guidelines and submit to OSSREA for approval. It was felt that the proposed guidelines should be based on OSSREA's constitution and on relevant documents available within the Secretariat.

Guidelines for the election of the Executive Committee members were distributed at the meeting. After a brief discussion, the meeting unanimously nominated Prof. Bahiru Zewde as a candidate for the new Executive Committee to be elected at the Sixth Congress of OSSREA. In addition, the meeting felt that a second candidate be nominated as currently two of the Executive Committee members are from Ethiopia. Accordingly, and Dr. Fekade Azeze was nominated, although he was not a member of OSSREA at the time of nomination.

3. SUMMARY OF PAPERS PRESENTED

3.1 African Philosophy and Its Ethiopian Sources

(*Claude Sumner, Addis Ababa University*)

This paper would like to be a synthesis, within a synthesis, within a synthesis. First synthesis: African Philosophy, and within this continent-wide perspective, a second synthesis: the history of Ethiopian Philosophy written in Ge'ez, and together with this second synthesis, the oral expression of wisdom literature including mainly proverbs, songs and folktales - and its philosophical, mostly structural analysis, thus achieving a third synthesis: Ethiopian oral and written sapient and philosophical literature.

Although the project sounds grandiose, it is fraught with problems. Is there such thing as African Philosophy? If so, who is or was this African philosopher? How do we know what he thought if it was expressed orally? What are its sources? Should we speak of African Philosophy or of African Philosophies?

Ethiopian Philosophy written in Ge'ez - to what extent is it philosophy? What is its relation with religion, or even with theology? In what sense is it philosophy? What are its sources?

Oral wisdom literature expressed in proverbs, songs and folktales - this is not considered as philosophy in the West. Why should it be in Africa, in Ethiopia? How can African philosophy be African if it cuts its roots? Are the roots of European, Greek philosophy European or African, Egyptian?

If there is such thing as African Philosophy, how is it different from European Philosophy? When none can agree on the definition of philosophy itself, how can we answer the question on African or European Philosophy?

Ethiopia may play a role in this confrontation regarding the existence and nature of African Philosophy.

1. If in one African country, Ethiopia, there are several types of `philosophy' - written and oral, traditional and modern, popular sapient and personal critical, religiously related and religiously rationalistic - why persist in speaking of one continental philosophy?

2. If in one African country, Ethiopia, there are written historical documents where the words `philosophy' and `philosopher' appear many times why question the existence of philosophy and philosophers in the continent?

3. African Philosophy is not exclusively traditional or regressive as evidenced by an Ethiopian work, *The Treatise of Zera Yacob*.

In conclusion, it would not do well for philosophy to be Euro centric or Afro centric. It should rather soar over all continents to remain anthropocentric.

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Discussion of Paper: A participant wondered why Prof. Sumner was taking the Western paradigm (e.g., the philosophy of Plato and Aristotle) when he should restrict himself to the theme of the workshop, i.e., African Philosophy. In response, Prof. Sumner said that the Greek philosophers got their inspiration from Africa, especially from Egypt. He added that ideas went back and forth between Africa and Europe. The Ethiopian origin of European philosophy was evident.

3.2 The Need for Transferring Useful Indigenous Knowledge and Practices in Ethiopia

(*Wossenu Yimam, Addis Ababa University*)

Ethiopia is very rich in different indigenous knowledge systems in such areas as architecture, medicine, agriculture and cottage industry. The paper identified and listed a sample of IK systems.

1. The Konso people are famous for their traditional skills in hillside terracing and banding. They also practice traditional irrigation to supplement the meagre precipitation received during the cropping seasons.

2. In Bale administrative zone, farmers prepare a trench around a potato plot to protect the potato from a porcupine.

3. In Gondar, farmers shift their barn from one farmland to another to fertilize the land.

4. The people in Wolqite, Wolisso and Tilili areas are skilled in horn-works.

5. Around Debre Berhan, and Tigray it is common for the residents to build their houses from stone, mud and ash.

6. In Addis Ababa and Awassa, we see people (those with low income) engaged in producing and selling household furniture made of Bamboo and/or Sisal.

7. The stellae of Axum, the rock-hewn churches of Lalibella, and the castles in Gondar are some of the standing monuments of civilization in ancient Ethiopia regarding architecture.

8. With regard to metal works, what is today known as annealing and hardening is very common with every Ethiopian traditional blacksmith To soften a work piece he puts it in a fire until it becomes red - hot and air cool it. To harden a work piece he puts it in the fire until it gets red-hot and immediately immerses it in cold water and withdraws it.

9. In rural parts of Ethiopia, if some one is struck by lightening, the survivor will be immediately brought into contact with moist ground or dung. This practice is substantiated by static electricity theory though the rural people are unable to explain it. .

The other issue raised in this paper is the role of the Association for the Indigenous Knowledge (APIK) in promoting/ transferring useful IK systems in the country.

The following are some of the areas mentioned as the focal points of the association.

1. Child focus programme

2. Women and development

3. Health

4. Agriculture

5. Education

6. Cottage industry

7. Social science

8. Exchange and utilization of IK systems in the refugee camps to build self- reliance capacity of the refugees.

Finally, the paper noted that the IK systems in the country have to be identified, studied, documented, and utilized to improve the quality of the peoples' life. To this end, APIK has a plan to raise the number of its individual and institutional members to integrate its activities with them and to get the necessary cooperation from different sectors.

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Discussion of Paper: One important query was about the contradiction between the idea of transfer of knowledge from one place to another and the need to maintain and develop cultural diversity of the country. Moreover, several participants pointed out that a knowledge system is most often specific to a particular physical, economic, and cultural environment. IK is embedded in a given socio-cultural environment. This implies that it is difficult to transfer location-specific knowledge from one place to another. Further, it was stressed that questions of property rights and markets are relevant to the transfer of knowledge. For example, Gurage blacksmiths may be reluctant to forego the property rights of their knowledge and promote its transfer. Besides, a knowledge system is often operational in areas where markets for a particular product exist. Rather, it was argued, that institutions such as community-based associations be promoted to record, preserve, and upgrade a knowledge system within its natural environment. The presenter underlined the importance of creating awareness among bearers of indigenous knowledge systems.

3.3 Traditional Ethiopian Knowledge of Medicine and Surgery: An Introduction of Sources

(*Richard Pankhurst, Addis Ababa University*)

Ethiopia comprises lands of varying altitudes and climates. It has a variety of vegetation, including medicinal plants, in close geographical proximity.

Ethiopians, in their long history, discovered the medicinal properties of many plants. Medical practitioners of the northern and central provinces had the advantage of recording the information for future generations.

Such written data can be supplemented by the observations of foreign travellers, who preserved much information about Ethiopia's medical traditions.

Ethiopian medical traditions have also been studied, in the twentieth century, by many scholars from various disciplines: history, linguistics, social anthropology, botany, and medicine.

Ethiopian Medicinal Texts

Ethiopian medicinal texts were first written in the classical language, Ge'ez, and later in the modern vernacular, Amharic. Such texts were kept not in churches or monasteries but with medical practitioners, who were less able to preserve them for posterity. Traditional medicinal texts are rare, and apparently extant only from the late seventeenth century. (See S. Strelcyn, *Medecine et plantes d'Ethiopi* (Warsaw 1968; Naples 1973).) It may be assumed, however, that they were copied from much earlier works. (See also Haddis Gabre Masqal, *Mashafa madhanit* (London, 1988).)

Traditional Ethiopian medicinal texts tended to be secret, and therefore (unlike modern medicine) were not subject to independent testing. They were more holistic than modern medical works, and might for example include passages on how to win royal favour, or regain a runaway slave. They included appeals to the supernatural. Traditional texts were produced only in literate regions of the country, and they cannot automatically be assumed to apply to other areas, though this was probably the case. Such texts ignored non-medical treatments, notably bleeding, cupping, burning, sodorific heating, i.e., sweating, immersion in thermal water variolation and surgery.

The study of Ethiopian medical texts owed much to the French linguist Marcel Cohen, and to his compatriot Marcel Griaule, author of *Le liver de recettes d'un dabtara abyssin* (Paris 1930), and subsequently to the Polish Ethiopisant Stefan Strelcyn, author of many works, including his two-volume *Medecine et plantes d' Ethiopia.*

Early Foreign Reports

International interest in Ethiopian traditional medicine and health practices dates back to late medieval times. There are references to such cures in the writings of Alessandro Zorzi, an early sixteenth century Venetian scholar, who interviewed visiting Ethiopian monks. Information on traditional medicine is also found in the memoirs of the Portuguese cleric, Francisco Alvares, in the publications of the seventeenth century Jesuits, and in the *Travels* of the eighteenth century Scottish traveller James Bruce.

Field Investigations

The scientific investigation of traditional Ethiopian medical practice began in the early nineteenth century, with the writings of a number of foreign travellers. They included Nathaniel Pearce's *Life and adventures* (1831), Edmond Combes and Maurice Tamisier's *Voyage en Abyssinie* (Paris, 1838), Theophile Lefebvre's *Voyage en Abyssinie* (1845-8), Charles Johnston's, *Travels in Southern Ethiopia* (1844), and Walter Plowden's, *Travels in Abyssinia* (1868). Other relevant publications included A. Brayer's *Notice sur une nouvelle plante de la famille des rosacees employees... en Abyssinie* (1822) and Rochet d'Hericourt's Note sur une racine employee dans le Nord de l'Abyssinie (a Devratabor) contre l'hydrophobie (*Bulletin de la Societé de Geographie*, 1849).

Reference to traditional medical practice also appeared in foreign travel literature of the late nineteenth and early twentieth centuries, notably Antonio Cecchi's *da Zeila alle frontiere del Caffa* (1885-7), Arthur Hayes' *Source of the Blue Nile* (1905), Carlo Anneratone's *Abissinia* (1914), Lincoln De Castro's *Nella terra dei negus* (1915), D. Brielli, V. Calo, A. Bevilacqua's *Note di patologia ethiopica*, and Paul Merab's *Medecins et medecine en Ethiopie* (1912).

Interest in traditional Ethiopian cures also owed much to the work of Marcel Cohen's Ceremonies et croyances abyssines (*Revue de l'Histoire des* R*eligions*, 1912). This was followed by Marcel Griaule's Mythes, croyances et coutumes de Begamed (Abyssinie) (*Journal Asiatique*, 1928), Michel Leiries's Le culte des Zars a Gondar (Ethiopie septentrionale) (*Aethiopica*, 1934), Un rite medico-magique ethiopien (*Aethiopica,* 1936), and La croyance aux genies `zar' en Ethiopie du Nord.

Ethiopian Medicinal Botany

This period also witnessed the publication of a notable Italian work on Ethiopian medical and other botany: E. Chiovenda's *Ethiopia, Osservazioni botaniche, agrarie ed industriali fatta nell' Abissinea nell' anno 1909* (Rome, 1912). This was followed by several other Italian articles, including Romualdo Ganora's Flora medica etiopeca (*Archivio Italiano di Scienze Mediche Coloniali,* 1929), Paolo Rovesti's Medicamenti, aromi e droghe nei mercati indigeni del'Eritrea (*Rivesta Italiana delle Essenze. dei Profumi e delle Piante*, 1933), Giovanni Masucci's Etnoitria etiopica (*Rassegna Sociale dell'Africa Italiana,* 1940), R. Cacciapuoti's Farmacoterapia vegetale indigena in Eritrea ed Ethiopia (*Archivio Italiano di Scienze Mediche e di Parassitologia*, 1941), and Martino Mario Moreno's Ricette mediche abisine (*Medicina e Biologia,* 1943).

Such pioneering efforts were followed by a great expansion in botanical study in the post-war period. Studies included Georg Cufodintis's Enumeratio plantarum Aethiopae spermatophyta (*Bulletin du Jardin Botanique del Etat,* 1955), D. Lemordant's *Les plantes ethiopiennes* (1960), and Harold F. Mooney's *A Glossary of Ethiopian plant names* (1963). These works are now largely superseded by the publications of two Ethiopian scholars: Wolde Michael Kelecha's *A glossary of Ethiopian plant names* (1987), and Dawit Abebe and Ahadu Ayeh's *Medicinal plants and enigmatic health practices of Northern Ethiopia* (Addis Ababa, 1993). The knowledge available in such publications is being vastly enhanced by the publication of the *Great flora of Ethiopia*, the first part of which (Vol. III, edited by Inga Hedberg and Sue Edwards) appeared in 1989. Four volumes have thus appeared.

The Future

The work on Ethiopian medicine and health carried out in the last two centuries has laid a firm and invaluable basis for future, more scientific studies.

Priority should be given to: 1) the continued collection of traditional Ge'ez, Amharic, and other medical texts; 2) the systematic identification and publication of plants referred; 3) the recording and publication of traditional cures; and 4) the gathering of biographical information on traditional practitioners. The time is ripe for the establishment of a *Journal of Traditional*

Ethiopian Medicine, which would encourage research on traditional medicines and practitioners alike.

Conclusions

The study of traditional Ethiopian cures is of major importance. Such treatment is culturally preferred by large sections of the population. Thus its development on modern scientific lines is desirable to: 1) understand Ethiopian medical history; 2) seek useful cures; 3) foster national dignity and self-reliance; 4) develop local initiative and industry generating rural wealth; and 4) provide access to medicines accepted by the rural communities.

Research on traditional Ethiopian medicine is a matter of urgency for two main reasons. First, indigenous knowledge is losing ground to modern development. Second, medicinal plants are quickly disappearing because of deforestation.

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Discussion of Paper: A participant wondered whether those traditional practices particularly the herbs mentioned by the presenter still existed in the country. In response, Prof. Pankhurst pointed out that some of those plants might have disappeared for several reasons. Traditional medical practices change as they pass from generations to generations. He underlined that one of our tasks is to identify what exists today and what does not. He suggested that a specialized journal be established for this purpose.

3.4 Ethnoveterinary Practices [of] Camel Herders of Southern Afar Area

(*Taffese Mesfin, Ministry of Agriculture*)

The Afar people are one of the major ethnic groups raising camels in Ethiopia. The paper discusses Afar camel herders ethnoveteinary practices limited to gastrointestinal diseases that plague camels: diarrhoea, constipation and bloat.

Livestock keepers have well-established traditional veterinary practices often neglected and considered `primitive' (Mesfin and Obsa 1994). In parts where conventional veterinary practices are limited, the traditional healers are consulted. A survey in central Ethiopia, where conventional animal health is relatively better, indicated that 41% of the farmers have frequently utilized traditional veterinary medicine (Wirtuetal 1991). A Chinese veterinary team from Bahir Dar regional veterinary laboratory between 1974 and 1976 reported 22 kinds of traditional preparation used to treat 33,384 animals (Mesfin and Obsa 1994). The report also indicated the effectiveness of *metere* (*Glinus lotoides*) against *Moniezia*, sheep tapeworm. Taffese et al (1995) reported the effectiveness of pumpkin seeds against sheep tapeworm (*Moniezia expansa*). In recent years, ethnoveterinary medicine research is well recognized among different institutions such as the Faculty of Veterinary Science in Debre Zeit, the National Animal Health Research in Sebeta and the Biodiversity Institute.

The camel population in Ethiopia is estimated to be between 1 and 1.5 million. In recent years, due to change in plant communities, the camel population is increasing in the southern region of Ethiopia, where enzootic and epizootic diseases are common.

Afars use animal origin, mineral, and different herbs to treat gastrointestinal ailments in camels. Traditional recognition of diseases, prevention and treatment to cure diarrhoea, constipation and bloat in the Southern Afar region are discussed.

The traditional practices are based on symptoms rather than on the causative organisms. Sometimes the material used might have different ingredients; for example, *Adansonia digitat,* which is used to treat diarrhoea in calves, is very rich in vitamin C (Bendich 1987 cited in Ibrahim 1991).

This survey indicates the rich knowledge available among pastoral people and their openness to share their experiences. In this study, community based Animal Health Workers (CBAHW), popularly known as vet scouts, trained by the former EU-funded Afar Pastoral Development Project were the main informants who linked us to the pastoralists. The diverse knowledge expended to treat the three diseases stimulates more survey work. Further research on the effectiveness of these traditional remedies is needed to integrate them into the conventional veterinary service.

Either several herbs now in use will be overexploited or the knowledge will be eroded with the advance of conventional medicine.

Traditional veterinary medicine can make fast progress in research, since it is relatively easier to make participatory experiment with pastoralists including conducting post-mortem examinations.

Conclusion

An ethnoveterinary practice is an important area to be recognized as an alternative or integral part of conventional veterinary practices. It is affordable. However, it should be given support to make it available throughout the year and in different areas.

3.5 Traditional Family Planning Methods in Ethiopia: The Case of the Surma People

(*Amare Dejene, Addis Ababa University*)

The basic objective of family planning is to reduce the growing population size by preventing unwanted births, to regulate intervals between pregnancies and to determine the number of children in the family (World Bank 1990).

Now, there are extensive differences in response to family planning devices across the world due to cultural and policy variations. Responses to family planning vary across the world because of cultural and policy differences. Response to modern contraceptive devices is very low especially in developing countries due to prevailing traditional practices, lack of information and

inaccessibility. However, the people use natural contraceptive methods such as herbs with anti-fertility property, abstinence, withdrawal and breast-feeding.

In Ethiopia there has been a continuous attempt to familiarize the concept of family planning and contraceptive technologies since the mid 1960s.Such an effort, however, seems to be limited to urban centres where only less than 15% of the population resides. The majority who live in rural areas are far from informed. Yet, people have established wisdom for the maintenance of customs related to marriage, sexual intercourse and childbirth, whose indirect implication on family planning may be considered.

The Surma live in the Ethio-Sudanese border regions subsisting on agro-pastoralism, hunting and gathering on precarious environment with insecure rainfall (averaging 480mm).

Premarital sex is a common practice among the Surma. The girls will have a greater opportunity for marriage if they date many male partners, as this signifies popularity.

Surma girls wear beads on their waist, make knots on ropes they carry, incise their lip and ear to communicate specific messages, all as part of an accepted norm. Mothers also teach their daughters when to have sex, how to avoid unwanted pregnancy and how to manage their sexuality. These and other indigenous ways of `family planning' are followed by the Surma.

In conclusion, the majority of the people in the rural areas do not know and/or do not use modern family planning methods nor are they concerned with family planning as such. They, however, like the Surma, may have indigenous mechanisms for birth spacing. Therefore, it is recommended to seek ways to understand local wisdom and techniques related to family planning and integrate this with the modern concepts family planning.

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Discussion of Paper: Several participants raised questions on the relevance of indigenous birth control techniques of the Surma people to other places and to after-marriage practices. More specifically, the following questions were posed: 1) is it possible to transfer birth control techniques of the Surma people to places with quite different socio-cultural formations (e.g. to conservative areas)? 2) Do married couples (within the Surma) practice this technique? 3) How can we overcome problems of social stigma, which are often attached to sexual relations among conservative peoples? The presenter responded to these questions in a manner that instigated a need for an in depth study of the techniques of the Surma people and possibilities of transferring and upgrading these techniques.

3.6 Indigenous Knowledge of Shifting Cultivators and Strategies of Natural Resource Management: The Case of the Gumuz in Metekel, North-Western Ethiopia

(Wolde-Selassie Abbute, CISP)

The Gumuz are indigenous people belonging to the category of Pre-Nilotes, in the Nilo-Saharan language family, inhabiting areas extending from Metemma southwards through Gondar and

Gojjam/Metekel and across the Abbay (Blue Nile) River up to the Diddesa Valley in Wollega. In the present administrative context, the Gumuz dominantly inhabit Metekel Zone to the north and Kamashi Zone to the south of Abbay River in the Benishangul and Gumuz Regional State. The setting of this study is Metekel Zone. The Gumuz are ideally egalitarian with no hierarchy of recognised social strata. As an ethnic group located at the periphery, they have been marginalized from the centre.

The area is endowed with vital natural resources such as abundant land with fertile soils, enormous forest and vegetation composed of diverse plant species that also serve as a habitat for numerous wildlife, and ample perennial water resources. The Gumuz base their livelihood on these natural resources. Shifting cultivation alongside gathering wild forest foods, raising livestock (mainly goats and chicken), hunting, fishing, collecting honey, mining gold traditionally, handicrafts, and local market exchange form major sources of the Gumuz subsistence system.

The Gumuz have special relationships with their lands and the environment. They possess knowledge about their natural resources and environment based on observation and experience. Indigenous knowledge is important to the Gumuz systems of natural resource management and it can be best understood along with their traditional belief systems. The Gumuz hold that vital natural/land resources are sacred. They believe that natural resources are the ingenuous gift, blessing and creation of *Yamba* (the supreme deity), which is the source of life and livelihoods to the past, present and future generations. *Yamba* provided the Gumuz with knowledge of proper use, management and a responsibility of passing the natural resources to the next generation. The different resources have their respective *Missa* (poly-spirits) that ensure their proper use and management; violations result in severe punishments and retribution from the respective *Missa*.

Moreover, the Gumuz perceive their natural resources as an ancestral heritage. Ownership of natural resources is vested upon the whole community. The present generation runs a responsibility of trusteeship over the resources. Since natural resources do not belong to only one generation, they cannot be privately possessed or controlled by any single members of the community, only its fruits.

The natural resources are used for many purposes. The products of the land sustain life. The forests serve as sources of gathered foods, wildlife for hunting, pasture, construction materials, household furniture and utensils, traditional medicine, wild honey, fuel wood, etc. Apart from serving as a windbreak, forests provide hospitable and stable environment. The springs, streams and rivers are sources of potable water aquatic animals.

Shifting cultivation is an indigenous agro-ecological knowledge used to maintain the complex agro-ecosystem. The fields are shifted to use the nutrients of the natural vegetation-soil complex. Thus, by skilfully maintaining the natural forest and vegetation ecosystem, the other equally important natural resource components such as soil, waters and wild animals are managed in a sustainable way.

This indigenous Gumuz knowledge of natural resource management constitutes mostly norms, values, ethics and taboos that have been institutionalised as customary laws and conventions

within the community. The elders, who are respected by the community, enforce these institutions. Although these indigenous forms of natural resource management are stable, policy planners have ignored them. Therefore, this study attempts to investigate and reveal the enormous wealth of indigenous knowledge of the Gumuz and their skilful natural resource management strategies in Metekel.

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Discussion of Paper: A participant wondered whether shifting cultivation system is sustainable given population pressure leading to resource scarcity and consequent degradation of the environment. The presenter responded that at present there is no problem of population pressure in the area. He noted that if there were ay problems, these would be those externally induced (e.g., the resettlement schemes of the 1980s, which encroached upon indigenous management techniques of the native people).

3.7 Indigenous Technical Knowledge of Farmers in North Shoa: Soil and Water Conservation and Pest Control

(*Negash Demessie, Yeshitla Merene* and *Gizaw Desta, Sheno Agricultural Research Centre*)

North Shoa of the Amhara region is characterized by its 6 sub agro-ecological zones. These zones have their own distinct natural resource bases (soil, water, climate, etc.), farming systems and economic and social settings. Most of the land in each agro-ecology is cultivated to annual crops (cereals, pulses, and other crops). Productivity of the major crops in the area is very low, attributed to various environmental and demographic factors. The cultivable, forest and grassland tenure system did not consider the peasant farmers; thus, they cultivate steep slopes the their subsistence. The challenge to produce subsistence food crops made them develop and use their own indigenous knowledge (IK). This study illustrates those so far neglected indigenous soil and water conservation practices (ISWCP) and pest (Sorghum Chaffer) control techniques of North Shoa farmers.

Conditions for adoption or development of IK are the production-associated problems such as land degradation, erosion, and climate or weather change, small size of the farm , topography/landscape feature, and change in the economic, social and cultural settings of the community. Some of these indigenous techniques are flexible and area- specific as they rely mainly on the local economic, social, cultural, religious and environmental situations.

Most of the ISWCP identified in this paper are those of the mid and highland areas of North Shoa. During the survey, there were difficulties in identifying the exact indigenous farmers practices that have soil and water conservation effect and that are not overshadowed by the intervening agricultural activities. Finally, after discussing with the farming community and extension personnel, the researchers identified the practices used to conserve the physical or quantitative soil and runoff water and that fit the definition of ISWCP used by Kruger from his study in Ethiopia. Eleven ISWCP were identified in the study and they are mentioned here with their local /alternate names.

1. *Golenta / Garda / Yewhabat / Gorfmekelbesha* - A wide waterway which controls the runoff that comes from the top land and which is usually constructed at the edge / between the adjacent farmlands and has wide width (40 - 50m).

2. *Wagemet / Boi-mekelbesha / Adengale* - Medium sized traditional ditch that dissects the farmland and connects two different sides of *Golenta*. There could be two or more in a farmland and it has less width than *Golenta*. It reduces the runoff speed by diverting the excess water

3. *Boi* - Small sized traditional ditch that connects two or more *Wagemet* ditches. It has a very narrow width and it is used to dispose excess water from *Wagemet* ditches.

4. *Yedengay Erken* - It is a single line of very close stones used to retain both runoff and soil deposits. Usually it is made on a flat land with 0 - 2 % gradient.

5. *Afer Metebekia* - Some tree species planted at the edge of the field to protect the washable soil deposits. Usually it is constructed on slope lands.

6 *Dinber Shileta / Dinber Metew* - It is a land between two adjacent farmlands left unploughed for longer period forming a stoppage to water erosion.

7. Local vegetative barriers - It is similar with grass strips but it differs both in the selection of plant species and in planting method.

8. *Erken Meshar* - It is just a shifting of the terraces to a cultivable land. Terraces used for this purpose are those constructed only in the middle of the slope while the upper and lower terraces remain untouched.

9. *Degele* - Patches of grasses established on unploughed piece of land left purposely on the newly beginning waterways. The patches could be many in number.

10. Stone bund plus vegetation - A combination of traditional stone bunds and grass or perennial plant species used for the control of water erosion from the farmland on slopes with more than 16% gradient.

11. *Yedengay Kiter* - It is unique to the Ankober peasant farmers. There are two types *Yedengay Kiter* (stone terrace). The first is called `*Andanjet*' meaning made of a single block of stones and the other is called `*Huletanjet*' meaning made of two blocks of stones. The height of the terrace extends to 4 meters.

Most commonly, we can observe a number of these practices (1,2,3 and 4 ISWCP) coming simultaneously in one field, while the rest are specific to defined areas. Purpose and type, limitation, description, and suggested improvements for each practice are clearly indicated in detail.

The other theme discussed in the paper is the indigenous controls for the pest *Sorghum Chaffer*, which causes enormous damage. The pest was first observed in Minjar Shenkora (Aroge Minjar) Woreda (district). Until 1993, the pest occurred sporadically and the farmers fought it using their own IK. However, for the last five years the pest had increased its population, host range and coverage area. The IPCM listed in the paper are hand collection/picking, bending of stalks, use of bait, and hazing with smoke and use of repellent.

The paper suggested that a better understanding of the farming system in the area and the farmers' opinion on tackling agricultural constraints should be considered. Moreover, further evaluations and improvement work need to be done on the mentioned IK. Thus, integrating the traditional techniques with modern developments may lead toward a sustainable management of the ever-increasing *Sorghum Chaffer* problem leading to a comprehensive advancement of the production system.

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Discussion of Paper: The following questions were raised: 1) which of the pest control techniques need further research and improvement? 2) What other agronomic measures should be undertaken along soil conservation techniques? 3) Why did the presenters use Amharic words instead of English to express some concepts? The presenters pointed out that without any screening criteria, it is difficult to say which technique is better.

3.8 Farmer Innovators and Innovations in Land Husbandry in Tigray: The Experience of ISWC II Ethiopia

(*Mamusha Lemma* and *Mitiku Haile, Mekele University*)

It is widely proclaimed that agricultural development in Ethiopia is hampered by lack of modern technologies. This view has been espoused over the last two decades. Experience has shown that the problem is not in the lack but in the process of technology generation and dissemination. Usually technologies fail because they are developed without considering the changing and complex situation of the farmers.

The conventional technology generation has resulted in undesirable outcomes such as marginalisation of indigenous knowledge, loss of self-confidence, and dependency on external resources.

Increased attention has been given to indigenous knowledge in Africa very recently, leading to an increase in participatory research methodologies. These methodologies emphasise learning from farmers, involving them in problem prioritisation, and including them directly in the experimentation process.

The paper discusses the experience of the second phase of the program on Indigenous Soil and water Conservation in Africa. The program is funded by the Netherlands Development Assistance and is supported by a consortium consisting of two Dutch organizations and two

British organizations, and operates in Burkina Faso, Cameroon, Ethiopia, Tanzania, Tunisia, Uganda, and Zimbabwe.

ISWC II Ethiopia defines farmer innovators as those farmers who try new ideas and spontaneously develop new practices, using local resources. Farmer innovators are not model farmers who adopt recommendations of researchers and extension workers. Farmer innovations include technical, institutional, and cultural changes in the local farming system. They may be related to crop and livestock production, agro-forestry, and water and land

Relativity and variability of innovations create conceptual, methodological, and empirical problems in the identification of farmer innovators and innovations in Tigray, where the new approach is being implemented. Every farmer has to be an innovator to some degree, because of the differences between farms with respect to household and plot characteristics. The identification of farmer innovators is thus based on community views and perspectives. Innovations are also variable according to gender and economic status of households. Women's innovations involve small-scale and less obvious changes in the local farming system.

Farmer innovators are stimulated by a need to solve the many problems such as soil erosion, gully formation, moisture stress and soil infertility. Some farmers innovate for persona development while others do it influenced by farmers from other localities. .

Farmer innovators are proud of what they have achieved and are willing to share their knowledge with other farmers. However, cultural constraints and resource constraints such as lack of labour, material and time limit the wider communication of farmer innovation.

The paper concludes that promoting indigenous knowledge in Ethiopia requires attitudinal, behavioural, and methodological changes to give it a scientific touch. The changing roles of extension workers and researchers are therefore very important for a true partnership in research and extension with farmer innovators. Thus, institutionalising and internalising indigenous knowledge into the existing research and extension systems is the ultimate objective of ISWC II Ethiopia.

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Discussion of Paper: The presenters were encouraged by participants to undertake further research to substantiate their hypothesis with empirical evidence.

3.9 Indigenous Knowledge As Medium of Social Inequality: Reflection on the Situation in Dawro, Southern Ethiopia

(*Data Dea, Addis Ababa University*)

The interest in indigenous (technical) knowledge particularly as an issue of theoretical debate is a relatively recent one. The concept, however, has become one of the key concepts in the `development enterprise'. It has been included in the practitioners' vocabulary though there is still a considerable gap in theoretical understanding, more specifically on how to use it in the struggle

to shape our material world. By using field data from a rigidly stratified society of Dawro, this article examines the linkage between production/control of indigenous knowledge and reproduction of social inequality. Based on the observation of systematic difference in the knowledge/agricultural practices of two social groups who hold differential position in the social structure but share similar agro-ecology, it is argued that the main reason for the two groups to possess different indigenous knowledge is social inequality. Their difference in knowledge helps to reproduce the inequality. Therefore, it is problematic or even inappropriate to talk of Dawro indigenous knowledge in a generalised sense. In this discussion, ideas from the broader debate on the African farming practices are used where appropriate.

The empirical material for this article comes from Dawro (some times refereed to as Omate, formerly called Kullo) of southern Ethiopia. Cases that are more specific are collected from Koysha Peasant Association of Mareka Gena Woreda, North Omo Zone. Dawro land is located about 500 km south of Addis Ababa. The Dawro people are sedentary farmers with a population of about 270, 000 (CSA 1997). Subsistence mixed farming is the mainstay of the majority of the people. The extent of involvement in agricultural activities tends to vary with the social stratum of the household. The Dawro society is composed of three social strata: the Malla - the dominant farming population, the artisans -smiths, potters and tanners and the Manja - former hunter-gatherers in the process of becoming agriculturists. While the traditional association between social background and occupation is still strong, people from all social categories are tending to diversify their livelihood.

The Malla form the most prestigious and dominant indigenous social stratum of farmers. Though the term Malla has a dual meaning in two different social contexts, of relevance to this article is Malla as opposed to the artisans and the Manja. The Manja did not have access to economic resources and political offices. Although there have been changes on this since the incorporation, the continuity is still vivid.

The Manja still form the lowest stratum of people. During the kingdom of Dawro, the Manja were wood-workers and hunters. After the incorporation, they started honey production and rudimentary crop cultivation. Following the establishment of towns, the Manja diversified their income source by selling firewood and charcoal. After the 1974 revolution, they became increasingly involved in agriculture with the plots of land they were allocated. Although the Manja's agriculture is still smaller than the Malla's, their major livelihood is being transformed from hunting through other forest-based activities to agriculture.

The Dawro share a cultural identity of `the *ensete* [*Ensete ventricosum*] culture complex', which is commonly characterized by higher population density sustained by high yields of *ensete* from small plots of land. The Dawro also share other features of south western Ethiopia on matters of social stratification, food taboos and conception of pollution

Comparative case studies of the practices of the two social groups were used to explore the extent to which the farmers' social backgrounds are related to their indigenous technical/agricultural knowledge. Specifically, such issues as the following were considered: To what extent is IK shared? How is it distributed among the members of a village/locality? Do the farming practices (and local knowledge by implication) of the two groups show systematic

variation by farmer groups or random flexibility by individual farmers? Is farming in Koysha more a planned activity or an `improvised' performance?

When a certain *ensete* plant is infected by bacterial wilt, the Malla use one of the following options: uproot the infected *ensete* plant and throw it far away from the field; plant a tree called Olomo interspersed with *ensete* to deter bacterial wilt spread; not cut any leaf from the infected *ensete*; rotate the *ensete* field with other crops such as taro and barley; multiply bacterial resistant variety of *ensete* and so on. The Manja show little interest in doing any of these; as a result, whatever small *enset* plantation they have has been seriously damaged. Partly because of this, one observes clear difference in the *enset* plantation in the Malla and the Manja fields in both Guleli and Wololi villages where Mallas and Manjas live next to one another.

The Manja have better knowledge than the Malla in identifying and using natural resources related to forests and animals. They identify trees that are suitable for timber, for hanging beehives, for inking tanned leather, and for drought. Interestingly enough both the Malla and the Manja agree that Mallas are superior in their *ensete* management practices (and agricultural knowledge/practices in general) and Manjas in their knowledge related to the forests.

The comparative analysis of production practices demonstrated that the two groups of farmers display significant disparities in their farming strategies and production practices. These differences are manifestations of differential asset ownership, farming history, food habits, different livelihood strategies, and micro ecology. From this one may conclude that agricultural practices are determined not only by knowledge but also by availability of assets and ideological context of decision making. Thus, the Manja and Malla differences in farming practices are an articulation of differences in resource base and ideology rather than mere technical knowledge of farming.

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Discussion of Paper: Several participants expressed their concern about causal relations between IK and social inequality. They wondered whether differential access to IK causes social inequality, given the historical background and the socio-economic formation of the study area. This concern was because the Mala and Manja peoples were engaged in distinct economic activities consistent with the caste system that had prevailed in the study area until the land reform proclamation of 1975. The Mala people were agriculturalists who felt they were superior to the Manja people whose economic activities were based mainly on forest products. The presenter underlined that he did not mean that IK was a cause of social inequality.

3.10 Indigenous Knowledge Systems in Craftwork: The Cases of Iron Smelting, Tanning and Weaving in Ethiopia

(*Alula Pankhurst, Addis Ababa University*)

Until the 20th century in many parts of Ethiopia local traditions of smelting iron ores, tanning hides and skins and weaving clothes had existed for centuries and had been crucial to rural livelihoods. These technologies may not have been `indigenous' in the sense of invented within

Ethiopia, but they certainly were `indigenised' and developed locally. However, even insofar as these technologies are local and have been standardised into knowledge systems, they have not been static and unchanging, but rather have been worked out through experimentation and they have responded to external influences.

By the 20th century, local traditions of smelting iron had disappeared in northern Ethiopia and they were preserved until the 1974 revolution only in Dime in the southwest. Likewise, the tradition of wearing leather clothing disappeared throughout most of the country and it had only been maintained among a few groups in the Omo Valley.

This paper reviews local knowledge in the fields of iron smelting, tanning and weaving, and seeks to bring together an outline of the scanty information on technologies and techniques involved in the production of iron, leather and cloth. The paper suggests that `indigenised' technologies have been sophisticated, experimental and highly productive until they faced competition from imported materials.

How appropriate is the label `indigenous knowledge systems` to describe local crafts in Ethiopia? The term `indigenous' may be misleading. Some crafts such as tanning may well be indigenous in the sense of originating locally, whereas others such as iron smelting and weaving were probably introduced at some time in the past. However, even such technical traditions have certainly been `indigenised' since ancient expertise was developed and was refined using relatively complex techniques and technologies.

The label `system' may suggest a static view, whereas such technical knowledge has involved experimentation and has changed under certain conditions. However, this knowledge has been passed on over generations and has been standardised and reproduced through social institutions and cultural mechanisms for distancing craft producers. Since technical knowledge in different crafts does not form a single integrated system, the plural `systems' may be considered appropriate.

With expansion of trade and transport networks over the past century, local crafts have come under intense competition from imported raw materials and manufactured goods, notably from mass-produced tools and textiles. Leatherwork has been severely affected, iron smelting has disappeared although local ironwork has survived mainly for practical reasons, and woven materials have retained some cultural value.

Indigenous knowledge systems in craftwork have been shown to be sophisticated. Indigenous tanning utilises a wide variety of animal and plant products for removing hair, softening hides, tanning and dyeing them. Some European travellers commented on the high quality of the products. Though Ethiopia is the last place on earth where stone tools are still used in tanning, I have argued that it would be naïve to assume that current tanners in southern Ethiopia represent a continuous tradition. Nowadays tanners use metal and wood implements as well as sophisticated techniques involving animal produce and plant extracts. Moreover, the evidence suggests that tanners do not form linguistically or ethnically separate groups and their way of life has been shaped by their relations of subordination to and close interaction with farmers within state structures for centuries. Leather clothing has almost disappeared except among women in the

extreme southwest because of the spread of textiles and the association of leather with `primitiveness'. In spite and in part because of the interest in hides for foreign exchange, traditional tanning is on the verge of extinction, and no attempt to build on local knowledge has been made.

Iron smelting, though probably not indigenous, was certainly `indigenised' in many parts of the country. The evidence for ironwork in Aksumite times is still debatable, though ironwork is attested at least from the 14th century onwards. European travellers considered some of the products made by smiths using local iron-ore of high quality; the production system was complex and laborious. Iron smelting remained the basis of much of the rural economy for several centuries. Thus, the link between exploitation of iron, stratification and the rise of kingdoms deserves further study. Iron smelting disappeared with the development of trade and transport, especially with the increasing availability of vehicle spare parts. The craft survived only in Dime up to the 1974 revolution. The craft of the blacksmith, though, is still essential for rural livelihoods owing mainly to the need for repair and sharpening of agricultural and household tools, and the specific types favoured locally.

Although cotton may be indigenous, weaving was probably imported into Ethiopia by Arabs less than a millennium ago. The wearing of cotton clothes probably spread gradually, first among the nobility then among the peasants until it became common in the north during the 19th century. Weaving was practised in southern Ethiopia before the 19th century conquest. Competition from imports began to be felt toward the end of the 19th century, although imported yarn stimulated local weaving for a while, until imported textiles and sowing machines rapidly began to take their toll. Basic techniques have remained constant until the early part of the 20th century, when factory produced yarn began to replace spun cotton for the warp and the borders and more recently for the weft as well. Designs of borders in weaving have become more elaborate and fashionable. The symbolism of the border in mourning and cultural revival has meant that cotton clothing has managed to survive especially among the elderly and women, despite the impact of tailoring, imported textiles and most recently bulk second-hand clothing.

Indigenous knowledge systems in craftwork are certainly `indigenised' if not all indigenous. They may be considered as systems since they do not represent a single integrated body of knowledge and they have been transmitted for centuries though not static. Tanning and iron smelting could only have developed through experimentation. Integration in a global economy resulting in cheaper availability of raw materials and factory imports have spelt the demise of iron smelting and tanning during the 20th century, while craft of the blacksmiths has survived owing to practical rural needs, and weaving due to cultural values.

3.11 An Anyuaa (Anuak) Myth and Its Implications for `Kwor'

(*Bayleyegn Tasew, Addis Ababa University*)

This paper intends to share the indigenous knowledge on solving conflicts by investigating the relationship between a myth about the origin of justice and the *Kwor* system that works actively in Anyuaa society.

The Anyuaa, one of the Ethiopian Nilo-Saharan groups, live in southwestern Ethiopia, Gambella Region, bordering the Nure to the southeast, the Ajiba (Murle) and Shilluks of Southern Sudan to the east, the Majinger to the northwest and the Oromos to the west. They occupy a hostile and very hot savannah plain rampant with malaria, but rich in fertile soil. Their livelihood depends chiefly on subsistence agriculture supplemented with fishing, hunting and gathering fruits. The Anyuaa believe in the existence of one supreme creator of the universe and life in it. He is called *Jwok* (God), abiding in the sky and constituting two diametrically opposing forces. They also believe in polytheism, animism, and worshipping totems and their ancestral souls.

They practice polygamy, and they are called `a people of beads' because beads serve as currencies and symbolize high status, unity and emblems of power. They are also referred as a `riverine' people because they settle along the four major rivers: Gilo, Alwero, Akobo, and Openo (Baro). Their material and spiritual lives are closely knit with the rivers. Water is believed to be an eternal shelter for the souls of the dead. It is also regarded as the origin of justice, order, and peace, which is transmitted through the myth told about `*Naam-Jwok*' meaning River God, widely known as *Ocuudho*. *Ocuudho* revealed himself out of water at a time of necessity. At that moment, the ancestors of the Anyuaa were suffering from such dreadful social situations as rivalry, snatching men's wives and properties, blood feuds, murder and mutilations. Life was not secure before the coming of *Ocuudho*. It was then that *Ocuudho* gave laws to the ancestors of the Anyuaa. *Ocuudho* is considered as a great teacher of the principles of justice and order and of the ways of making peace generally termed as *Kwor*. He is also considered as the first founder of traditional administrative institutions (*Nyieya* system) and the noble lineage in Anyuaa society. According to the myth, *Ocuudho* taught the ancestors of the Anyuaa about justice through inquiry rather than prescriptively. As local knowledge, the general principles of justice taught by *Ocuudho* guide sets of actions for bringing peace in the society. *Kwor* actions in turn continuously recreate, validate and testify the knowledge through practice. As realized in society, *Kwor* rules enforce a felon to surrender him to a *bura* (post of a chief or king) as soon as he commits a crime to prevent additional loss of life. All the members of the community treat friendly anyone who obeys rules. The chief or king is also obliged to provide food and shelter for a felon until he settles the conflict through mediation. The whole community offers cultural objects for "*Otocing*" ceremony to avert a conflict at a critical moment to a peaceful settlement.

As the paper shows, the *jodonghe* (elders' councils) are decisive forces in conflict prevention. Conflict resolutions are realized through reconciliation rites following one of the three types of compensation: 1) compensation in kind: cultural objects like *dimui* (a special type of beads), *tongi*, spear, 2) compensation in terms of human beings, and 3) *Cere a Bere.*

3.12 Marriage without Bridal [Sic]: The Case of the Borana

(*Wondwosen Tesfaye, Addis Ababa University*)

The Borana people live about 570 km south of Addis Ababa in Borana Zone of the Oromiya Regional State. They have two moieties known as Sabbo and Gona. They speak a dialect of Oromo. They are predominantly cattle herders. Agriculture is not highly practised because of the little rainfall. Still, they plant sorghum and maize to some extent.

They are well known by their still functioning Gada system. These people have a very rich and unexplored culture. Among others, their marriage system is a very interesting one. The paper examines their wedding ceremony and some important aspects of their marriage.

In Borana, wedding ceremony is not a public event celebrated in the presence of numerous guests. On the wedding day, the groom, together with his best man, goes to the house of the bride's parents. He should arrive at the house at night when their cattle return from grazing. The bride's parents give him a warm welcome. However, they do not allow him to take the bride until daybreak.

They will spend the whole night discussing. It is called *Hayyu Daw*. The bride's parents together with some two or three respected elders offer them advice on different matters such as: how to lead their future life, what is expected from the husband and wife, and how to lead a happy marriage.

Early in the morning the groom, together with the best man, takes the bride to his parents' house provided that it is not too far from the bride's parents' house and also if the cattle of his parents and neighbours are not taken out for grazing. If they have already been taken out for grazing, they hide themselves in woods and stay there until night. At night, they go into his parents' house following the cattle.

In the house of the groom's parents, too, the wedding is performed without guests. After eating and drinking, the newlyweds are taken to their room. With this, the wedding will be over.

An extremely important aspect of the Borana's marriage is that the wedding is performed without a feast. The absence of wedding feast avoids any delay in marriage that could result from lack of money on the part of parents and couples. It also encourages young men to participate in marriage, regardless of their wealth.

The practice of offering advice helps the newlyweds to overcome some of life's challenges.

The prohibition of marriage by abduction helps to keep the right and interest of women. These indigenous practices should be encouraged.

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