



# ESAP Newsletter

Issue No. 10, 2004

## Ethiopian Society of Animal Production

### The International Goat Conference held in South Africa, University of Pretoria

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The 8<sup>th</sup> International Goat Conference (IGC) was held in South Africa, Pretoria from July 4-9, 2004. Participants were from 47 countries and included researchers, development workers, goat farmers and dairy goat cooperatives. 11 plenary sessions, 9 round table discussions and 371 poster presentations were accommodated during the conference period. Social, physical and marketing environment, nutrition, genetics and biodiversity, physiology, health, goat products and commercialization of goat farming systems were the major themes at the IGC,2004. Ethiopia was represented at the 8<sup>th</sup> IGC by Ato Ameha Sebsibe (ARARI/ILRI), Drs Eyasu Seifu and Teressa Aduna (Alemaya University), and Dr. Getachew Gebru (GL-CRSP PARIMA). The following were the titles of the presentation from Ethiopia:

*Adoption of Crossbred Dairy Goats Among Farm Households: The Ethiopian experience.*

**Teressa Adugna**

*Application of the lactoperoxidase system to improve the quality of goat milk cheese.*

**Seifu, E.,** Buys, E. M. & Donkin, E. F.

*Linking Pastoral Communities to Export Markets Chain: The case of Borana Pastoral Women Groups in Oromia Region, Ethiopia.*

**Getachew Gebru,** Solomon Desta, Seyoum Tezerra and Layne Coppock

The International Goat Association (IGA), founded in 1982, is an international organization of educators, scientists, veterinarians, technologists, producers, extension people, project leaders and development experts who advance goat management and sale of goat products to improve human nutrition, social welfare and sustainable development around the world. IGA promotes research, development, and communication on goats.

### *In this issue:*

1. The International Goat Conference held in South Africa, University of Pretoria
2. The State of Ethiopia's Farm Animal Genetic Resources-Country Report: A Contribution to the First Report on the State of the World's Animal Genetic Resources
3. Milk Production of Ada'a-Liben Woreda Dairy and Dairy Products Marketing Association
4. Ethiopian Ministry of Agriculture and Rural Development organized Agricultural Technology Exposition at ILRI campus
5. Ministry of Agriculture and Rural Development Prepared a Workshop to discuss the Draft Agricultural Biotechnology Project

IGA Main Objectives are:

- To foster the use of goats to meet the needs of goat producers and those who depend on them for food and livelihood.
- To encourage research and development of goats to increase their productivity and usefulness throughout the world.
- To improve human nutrition, social welfare and sustainable development through goat husbandry practices that protect the environment, and through the processing and marketing of goat products.



Goats from the highland, afar and Somalia areas of Ethiopia at the ILRI Debre Zeit Research Station

- To enhance education, training and information transfer from the scientific level to applied development, especially through electronic communication, didactic documents, etc.
- To promote the exchanges of information and practical experiences about the goat sector to influence public policy and understanding. Thanks to a strong collaboration with Centers of Information and International Organizations, IGA has a competent networking setup for organizing and strengthening local goat initiatives.
- To hold the International Conferences on Goats every 4 years and support Regional or International Conferences on special topics organized by IGA members.
- To sponsor the international, peer-reviewed scientific journal "Small Ruminant Research".

IGA membership is open to all. Regarding IGA Membership and The Journal of Small Ruminant Research subscriptions, write to:

**International Goat Association**  
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 Little Rock, AR 72202, USA  
 Fax: 501-907-2602  
 Phone: 501-907-2600  
 E-mail: [goats@heifer.org](mailto:goats@heifer.org)  
 Website: <http://www.iga-goatworld.org/>

The website contains information concerning membership and a membership form can be accessed, IGA projects (the inventory of goat organizations around the world, the inventory of goat products around the world, and the documentation project on goats), gives you access to proceedings of the 7th International goat conference held in Tours/France in 2000.

IGA's next venue in 2008 will be Mexico, however, the new Board of IGA plans couple of regional conferences before then.

We suggest that the following issues be given attention:

- Revitalizing the Ethiopian Goat Association and coordinating activities: There are considerable activities (Research/Action Research and development) that are in progress in Ethiopia on Goats. These activities however need to be coordinated. The Country Representative of IGA in Ethiopia and the Ethiopian Goat Association need to work towards steps to bring together goat enthusiasts, researchers, development people as well as policy makers to a common platform to allow them share experience and develop future research and development directions. Such an effort will be part of the global move by IGA towards promoting goat development.
- *Remain as part of the global effort on goats:* To remain part of the global effort, researchers, development people and those in academia may need to make frequent visit of the IGA web site. There is an effort in progress by IGA in making an inventory of goat activities and products in the world, and researchers and development people must make contributions towards the directory, which is in the making.

Utilize *materials (CD and re-prints) obtained at the 8<sup>th</sup> IGA*: We have made available electronic copies of some of the short papers of the conference and goat nutrient calculators to ESAP. Those interested can make copy at ESAP office. ESAP members are also encouraged to *contribute* towards the refinement of the Nutrient Requirements for Goats developed by Langston University Scientists. The menu driven nutrient requirement program is on CD and institutional copies can be obtained from ESAP. The back ground information, procedures, results, as well as the areas that need further work in the developed nutrient requirement program on goats has been given special focus on the recent issue of the small ruminant Research, the official Journal of IGA.

## **The State of Ethiopia's Farm Animal Genetic Resources-Country Report: A Contribution to the First Report on the State of the World's Animal Genetic Resources**

**By Kassahun Awgchew (PhD)**

Head, Animal Genetic Resources Department and National Coordinator, State world Animal Genetic Resources- Country representative,  
 Institute Of Biodiversity.

### **General**

Genetic resources are among the most valuable and strategically important assets that a country possesses. Many countries have indigenous animal species and breeds that could potentially contribute far more to food and agricultural production than they are currently contributing and meet much wider human needs.

The current international awareness of the roles and values of animal genetic resources, and concern for their rapid loss, must be transformed into effective plan of action at local, national, regional and global levels. In the next few decades, management activities mostly determine the future role and contribution of AnGR towards global food security.

It has been widely reported that huge and diverse Farm Animal Genetic Resources exist in the various agro-ecological zones of the country. However, these genetic resources have not been fully and properly identified, described, characterized and documented.

The latest animal population census (CSA, 2004 ) shows that Ethiopia has more cattle, goats and camels than what has been reported more frequently. According to the latest census the livestock and poultry

Cattle	44,319,000
Sheep	23,620,000
Goats	23,325,000
Equines	6,058,000
Camels	2,314,000
Chicken	42,000,000*

\*(Excluding pastoral and Agro-pastoral areas)

population of the country is as follows:

The total diversity among animal genetic resources contributes in many ways to the survival and well being of humans. It is estimated that, domestic animals supply about 30% of total human requirements directly and indirectly for food and agriculture (FAO 1999). The FAO has reported that the demand for livestock products in the developing world will double over the next 20 years, because of population growth, urbanization and rising incomes. To meet this growing demand, animal agriculture is intensifying and relies increasingly on few breeds that are high yielder. Consequently, less productive but genetically valuable local breeds are threatened. According to the FAO (FAO 1999) currently an estimated 35% of mammalian breeds and 63% of avian breeds risk extinction- 60% of which are in developing countries. Of the local breeds left, few are being bred for higher productivity, a missed opportunity to help the developing world feed its people.

## Farm Animal Diversity and food security

The challenge to achieve food security has become greater with increase in human population. Many developing countries of which Ethiopia in not an exception, are exposed to chronic or frequent food shortages. Animal genetic resources have been contributing to food and agriculture for thousands of years providing meat, milk products, eggs, fiber,

fertilizer for crops, manure for fuel and draught power. In addition to this, animal genetic resources also help to reduce farmers' exposure to risk and provide meaningful employment to society.

## Status of Farm Animal Genetic Resources

Loss of animal genetic resources has been greatest in developed countries, where there has been a tendency to concentrate on a few high yielding breeds and this action has unfortunately lead to a complete displacement of locally adapted breeds. It is true that genetically uniform breeds are highly productive in high-input, high-output production strategies in countries with favorable climates, and when high levels of inputs can be maintained.

In developing countries like Ethiopia, however, animal genetic resources are being eroded through the rapid transformation of agricultural systems. It is believed that interbreeding due to animal movement from one area to another, animal diseases, feed shortage due to drought and other calamities and the use of artificial insemination and other techniques that facilitate the easy transfer of genetic material from one geographical region to another have resulted in widespread crossbreeding and the replacement of local stocks and thereby contribute to the dilution or erosion of indigenous farm animal biodiversity. The latest information available from the world watch list for Domestic Animal Diversity Published by FAO indicates that 30% of the world's domestic animal breeds are currently at risk of extinction (FAO, 1999).

The FAO and its Intergovernmental Commission on Genetic Resources for Food and Agriculture (CGRFA), which has 161 members and is the major international forum for developing policies on genetic resources for food and agriculture, has requested the preparation, through a country-driven process, of the *First Report on the State of the World's Animal Genetic Resources for Food and Agriculture*. This report will provide a foundation for setting country, regional and global priorities and assistance in maintaining and enhancing the contribution of animal genetic resources (AnGR) to food and agriculture. The Intergovernmental Technical Working Group (ITWG) for AnGR has emphasized the importance of the process itself in the preparation of the report. This process entails a series of steps such as: evaluating past activities; identifying present and future problems; elaborating appropriate policies and programs; and assessing requirements for capacity building. This process should also enable the formulation of priorities for future national activities and international co-operation.

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## The Country Report

The goals of the Country Report as set by the FAO are to promote the wise use and development of locally adapted genetic resources to improve food security, strengthen environmental protection and reduce poverty. It also aims at protecting traditional livestock practices of smallholders and pastoralists.

The ultimate objective of this exercise is to develop national capacities and international co-operation to achieve the sustainable intensification of livestock production systems. This will be achieved through the wise use and development of locally adapted AnGR, whilst taking into consideration the constraints and opportunities created by growing demands on the livestock sector and by changing climate, disease status and technologies.

The National Consultative Committee (NCC) for the preparation of the State of Ethiopia's Animal Genetic Resources Country Report, representing 28 Federal, Regional and Nongovernmental Institutions was formed in early November 2003. A National Drafting Committee (NDC) of 6 people representing 5 institutions (Institute of Biodiversity Conservation, Ministry of Agriculture and Rural Development, Ethiopian Agricultural Research Organization, Amhara Region Agricultural Research Institute and Oromia Agricultural Development Bureau) has prepared the Country Report.

The State of Ethiopia's Farm Animal Genetic Resources Country Report (IBC, 2004) contains six parts: **Part 1** describes the country's major animal production systems and related animal genetic resources, their diversity, utilization, relative importance, and provides an overview of the state of the art and tools for the utilization and conservation of animal genetic resources. **Part 2** provides an overview

of the past and present policies, strategies, programs and management practices; analysis of future demands, trends of animal products, changes in production systems and their impact on animal genetic resources. **Part 3** provides an assessment of the current and future national capacity building requirements to undertake activities related to animal genetic resources. **Part 4** identifies opportunities, challenges and strategic priorities for action. **Parts 5 and 6** discuss future areas of international co-operation for utilizing and conserving the country's farm animal genetic resources.

The Country Report will be an official government report. In order for FAO to use the Country Report as an input to the *First Report on the State of the World's Animal Genetic Resources*, the Country Report must be endorsed by each country's National Government. To this effect, the Ministry of Agriculture and Rural Development has endorsed Ethiopia's Country Report and submitted officially to the FAO. Country Reports could be accessed through the FAO's website for AnGR (DAD-IS): <http://www.fao.org/dad-is/>

### References

1. Central Statistics Authority, CSA (2004). The 2001/02 Ethiopian Agricultural Sample Enumeration (ESAE), Executive Summary, May, 2004, Addis Ababa, Ethiopia.
2. Food and Agriculture Organization, FAO (1999). Animal genetic resources information No. 25. Rome, Italy.
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4. Central Statistics Authority, CSA (2004). The 2001/02 Ethiopian Agricultural Sample Enumeration (ESAE), Executive Summary, May, 2004, Addis Ababa, Ethiopia.
5. Food and Agriculture Organization, FAO (1999). Animal genetic resources information No. 25. Rome, Italy.

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## Milk Production of Ada'a-Liben Woreda Dairy and Dairy Products Marketing Association:

*Milk Collection to exceed 2.5 million liters by the end of 2004*

**Azage Tegegne and Asfaw Yimegnuhal**

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### 1. Background

The per capita milk consumption in Ethiopia has sharply dropped to 16 liters compared to the global average of 100 liters. Ethiopia annually spends over 45 million Birr for importation of milk and milk products. Ethiopia's human population is projected to reach 140 million by the year 2025 and the urban population will shoot up to 40 million. It is therefore obvious that there is going to be a serious shortage of milk and milk products unless both horizontal and vertical expansion and intensification of dairy farming is set in motion. In view of the presence of chronic shortages of milk and milk products for the increasingly growing human population of urban and peri-urban communities, the expansion of the dairy industry needs to be seriously pursued in areas where favorable climatic conditions exist and feed resources are not limiting.



The Ada'a Liben Dairy and Dairy Products Cooperative members at the main milk collection center in Debre Zeit.

Currently, a number of commercial dairy farms are emerging mainly in urban and peri-urban areas. Smallholder rural dairy farms are also increasing in number in areas where there is market access. However, the transaction cost of milk marketing is becoming a problem for individual smallholder farmers. The natural evolution resulting from such problem is the formation of milk units where farmers establish associations for processing and marketing of milk and milk products. One of such associations recently established in Debre Zeit town is the *Ada'a Liben Woreda Dairy and Dairy Products Marketing Association*.

## 2. Establishment and Objectives

The association was established in Ada'a-Liben Woreda, Debre Zeit town in September 1998 with 34 founding members who purchased a single share of 100 Birr each and an additional Birr 10 for registration fee. The initial capital of the association was only 3,400 Birr (US\$400). The first two years were devoted to making organizational arrangements for the association to be effectively operational. The main objectives of the association during its formation were to:

- Minimize the high transaction cost for the sale of milk and reduce price fluctuations over season, particularly during fasting seasons
- Reduce wastage of products due to poor handling procedures and lack of processing facilities to increase shelf-life of products
- Increase production and productivity of dairy farms and improve the overall incomes of member farmers
- Supply inputs such as feed, health services, etc. to member farmers at reasonable prices
- Provide training in dairy cattle management, milk hygiene and milk handling and milk processing to member farmers

- Ensure urban-rural linkage for dairy development, assist farmers to form milk units and establish milk union.
- Introduce saving and credit system to members
- Collaborate with other dairy associations (nationally, regionally and internationally) to enhance dairy development in Ethiopia.

With the above objectives, milk collection and marketing started in January 2000. The amount of milk collected from founding members was only 308 liters per day or about 25,000 liters per month. The association, although informally established in 1997, got its legal Certificate of Registration from the Oromiya Regional State in September 2000.

## 3. Current status

Over the last few years, the association has made a significant progress (Table 1). Currently there are a total of 711 full members composed of 375 male and 336 female. The association members now have over 2000 dairy animals and a capital of 1,344,455 Birr (US\$158,171). The number of milk collection sites has increased to 8 around Debre Zeit town. The association has created job opportunity to 33 young regular staff, with salary ranging from 60 to 300 Birr per month. The annual milk collection has increased from 288,000 liters in 2000 to about 1,800,000 liters in 2002. By the end of 2004, the association projects to collect 2.5 million liters of milk. Over 125 members have been trained in dairy cattle management and in milk handling and processing at the International Livestock Research Institute (ILRI) Debre Zeit Research Station. A small milk-processing unit has been established and production of butter, ayib and cheese is underway. The association supplies grass hay and concentrate mix to members at reasonable prices. The numbers of the shares have also increased. It is planned to expand activities to establish rural-urban linkage and it is hoped that many rural products and enhance the participation of subsistence farmers in

Table 1. Six years cumulative achievements of the Ada'a-Liben Woreda Dairy and Dairy Products Marketing Association (1998-2004).

Items	Initial	Present
Total No. of members	34	711
▪ Male	34	375
▪ Female	0	336
Share sales, Birr	3,400	291,765
Capital, Birr	3,400	1,344,455
No. of cows	729	2,070
Milk collected, liters	288,000 <sup>a</sup>	2,116,437

<sup>1</sup>USD = 8.5 Birr; <sup>a</sup>Milk collected in 2000

market-oriented production system through formation of farmers' group. Project team, staff in Bureau of Agriculture and other stakeholders are studying the feasibility of formation of milk groups and the possibility of establishing low cost milk collection centers at village levels in rural communities.

#### 4. Major Problems

Over the last couple of years, the Association has faced a number of problems in its endeavors to enhance marketing of milk. These include:

- Lack of own office and collection centers
- Price fluctuations and shortage of market during fasting seasons
- Limitation of capacity in milk handling, storage & processing
- Lack of capacity in modern animal management
- Shortage of marketing outlet shops
- Poor and unreliable input supply system
- Weak services
- Financial limitations

#### 5. Future Plan

The association would like to strengthen and expand its activities in an organized and well-structured manner. As a result, it has revised its objectives and has also developed a project proposal for future implementation. Components of the this project include:

- Establish a milk processing plant
- Establish a feed processing plant
- Provide animal health service
- Provide artificial insemination service
- Establish outlet shops and a recreation center
- Build offices, conference rooms, a training center and cafeteria

#### 6. Relevance of the Project

Transforming smallholder subsistence production into market-oriented production system is among the major development strategy of the Government of Ethiopia. This project is also in line with the agriculture-led industrialization process that the government is pursuing. Quality nutrition is the basis to build up a healthy and strong nation. Benefits to child and women nutrition and health, generation of productive employment and introduction and adoption of new technologies in dairy development make the project relevant. The project will also make significant contribution to training and development of the dairy

sector among smallholder farmers. It will contribute to securing assets, technology adoption, participation of the poor in markets and food security. The formation of the association has improved the livelihoods and quality of life of many people, impacted positively on the environment and quality of product. The project will enhance the development of the association and will ensure its sustainability.

#### 7. Beneficiaries

This project provides a great opportunity for dairy development in Ethiopia. The direct beneficiaries are 711 households, with 45% women headed households. Considering an average household member of five, this totals to over 3,000 people. A household with two improved milking cows generates an average gross income of about 200 USD per month and members are paid twice a month. Employment opportunity has also been provided to 33 young (50% women) people. The input services provided has also benefited members in terms of cost effectiveness and in efficiency of farm operation. The community, particularly women and children, have also benefited as a result of availability of safe and quality dairy product. The association could also be used as model in transforming subsistence livestock production into market-oriented system in smallholder farms and will be an example in implementing the agriculture-led industrialization process. The non-monetary benefits of the association in the development of livestock agriculture are difficult to quantify in economic terms.

#### 8. Financial Requirement for the Project

An estimated 12 million Birr (about USD 1.5 million) will be required to fully implement the development project.

*Partners:* Bureau of Agriculture; Bureau of Cooperatives, Voca-Ethiopia, ILRI, EARO and Genesis Farms.



*For Further Information, please contact us:*

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Debre Zeit

# Ethiopian Ministry of Agriculture and Rural Development organized Agricultural Technology Exposition at ILRI campus

A two-day agricultural technology exhibition was organized by the Ministry of Agriculture and Rural Development, opened on June 28 at the International Livestock Research Institute (ILRI) in Addis Ababa.

More than 20 current technologies in livestock, fisheries, crop production and natural resource management are on display at the exhibition.

Local and international agricultural research institutes who are engaged in a continued process of identifying improved, adaptable and sustainable methods of production and processing for better lives and development participated in the exhibition. Among these are: the Ethiopian Agricultural Research Organization (EARO), TARI, OARI, ARARI, SARI) and NGOs as well as international organizations such as ILRI, CIAT, CIMMYT, ICRAF, ICRISAT, IWMI, ICIPE and the World Fish Center.



More than 85% of the Ethiopian population depend on agriculture for their livelihood, and as such, agriculture is the foundation of the country's economy and the major contributing sector to food security. In recognition of this, the Government of Ethiopia has adopted the Agricultural Development-Led Industrialization (ADLI) as a major policy framework for economic development. Within the context of the Sustainable Development and Pov-



The two State Ministers of Agriculture and Rural development H.E Ato Belay Ejigu and H.E Dr Tekaligne Mamo visiting the technology exposition launched at ILRI campus

erty Reduction Strategy (SDPRS), the Rural Development Strategy aims at transforming agriculture from subsistence to small-scale commercial farming.

The technology exhibition aims to bring together the different agricultural technologies and display them by sector, thereby enabling better recognition of the various agricultural sectors and processes as well as a view of how each links with the other. It is expected that stakeholders that come to the exhibition will leave with better knowledge and know-how on new and potential technologies applicable to their individual situations.

H.E. Ato Belay Ejigu, State Minister, Ministry of Agriculture and Rural Development officially opened the workshop. Also present were ambassadors, representatives from the donor community and local and international organizations, as well as stakeholders.

## **Congratulations**

**The Executive committee of ESAP extends its appreciation on the 50 year successful accomplishment of the Alemaya University**

# Ministry of Agriculture and Rural Development Prepared a Workshop to discuss the Draft Agricultural Biotechnology Project

A draft agricultural biotechnology document has been proposed as it plays an important role in the agricultural development of a nation.

The prepared document for biotechnology assists to bridge the gap in comparison through inducing the essential challenges in agricultural production. The workshop focuses on 'capacity building in agricultural biotechnology for improved productivity and livelihood in Ethiopia'.

Ethiopia is committed to support and promote biotechnology capacity building endeavour as it helps to take Ethiopia out of the vicious circle of poverty. The workshop participants were expected to identify and appreciate the potential and limitation of agricultural biotechnology development of the country, assess and enrich the draft document.

All experts in the sector are required to formulate priority intervention and potential research and development projects based on the existing realities of the country.

The workshop participant discussed biotechnology policies, bio safety, regime for the development of biotechnology, the role of higher learning institution for capacity building in agricultural biotechnology and share experience on agricultural biotech and development.

The Workshop is entitled 'Capacity building in agriculture Biotechnology for improved productivity and livelihood in Ethiopia'.

The expected output of the workshop encompass the following pertinent issues.

- Opportunities and challenge for Ethiopian Biotechnology recognized



Ministry of Agriculture and Rural Development (MoARD), Ethiopia  
Workshop on  
Capacity Building in Agricultural Biotechnology for Improved Productivity  
and Livelihoods in Ethiopia  
July 6-8, 2004 ILRI, Addis Ababa

- Potential and limitations of Agricultural and Biotechnology in Ethiopia understood and future direction identified
- Ethiopian Agricultural Biotechnology proposal assessed and enriched
- Regional Initiative in Agricultural biotechnology understood and harmonized with Ethiopian Initiative.

Over 80 scientists, practitioners, policy makers or professionals drawn from the government offices, donor

## Obituary

Wro Fitsum was born to her father Ato Bezaw Alemayehu and her mother Wro Milatewerk Neknik in Addis Ababa in 1972. She has been serving the Ethiopia Society of Animal Production (ESAP) for over eight years as a secretary since 1994. She was honest cooperative, cheerful and dedicated. Prior to taking up a position with ESAP she served in the National Artificial Insemination Center at Kaliti.

Wro Fitsum was working for the House of Representatives at the time of her death. She was 32 years old, married and a mother of a daughter when deceased on May 13, 2004.

On behalf of ESAP members the executive committee would like to express its deep sorrow on the untimely death of Wro Fitsum at such a young age. Our condolences to her family.

*ESAP Executive Committee.*

