



Eritrea's Agricultural Progress in Different Sub-Sectors

Agricultural Extension Department (AED) which is the major technical department at the Ministry of Agriculture (MoA), surveys the implementation of Agricultural projects across the country in collaboration with all regional administrations. This department underwent numerous structural reforms since the establishment of the Ministry of Agriculture and currently carries out extensive activities in three divisions namely; Natural Resources and Irrigation Development Division (NRIDD), Crop and Livestock Development Division (CLDD) as well as Animal and Plants Health Division (APHD). Fre-Tsari- a magazine of the Ministry of Agriculture – conducted an extensive interview with Mr. Semere Amlesom, Director General of the Department, with regard to the major accomplishments registered in the last 32 years. An excerpt of the interview follows:

Question (Q): Mr. Semere! Let's begin with the background of the Agricultural Extension Department?

Answer (A): The Department of Agricultural Extension has been undergoing numerous structural reforms since the wake of independence. It was established as Land Resources and Crops Development Department in 1994 until it was reformed anew in 2003 as the Department of Agricultural Development in line with the overall structural reform of the Ministry of Agriculture. Its mandates were also restructured as per the new changes encompassing animal resources and animal health related tasks. It was finally revised in 2011 to have the current structure which includes comprehensive Agricultural Commodities. In addition to the three technical divisions, the department has supportive units like Planning and Statistics; and Agricultural Input Supply (the latter was moved to the Administration and Finance in 2023). Each division has its own units; Natural Resources and Irrigation Development as well as Animal and Plant Health Divisions respectively have three units while Crops and Livestock Development Division has 11 units.

Q: What is the overall size of arable farm land of the country, before proceeding to the progress of Agricultural Developments?



Mr. Semere Amlesom

A: Eritrea has a total of about 2.1 million hectares of cultivable farm land. The 1.2 million hectares are conducive for rain-fed agriculture and the 600 thousand hectares are favorable for irrigation. Also there has been variation in figure due to various conditions, statistical data since 2021 indicated that around 500,000 hectares, which constitutes 24% of the potential farm areas, have annually been cultivated. The 93% of the total figure are farm lands that have been cultivated alongside soil and water conservation activities while the 7% has been cultivated through irrigation systems. There has been an increase of 54% when the total area cultivated in 1992 is compared to that of farm land cultivated in 2021.

Q: Let's have a look at the activities of the Divisions starting with the Natural Resources and Irrigation Development?

A: As its name indicates, the mandate of NRIDD, is conservation and development of land resources. Based on the policy and strategy of the Ministry of Agriculture, this division works in redressing farm lands and water catchment areas that were depreciated due to various reasons and thereby to advance the agriculture sector through modern and mechanized irrigation system that is anchored on soil and water conservation activities. It is in line with this vision that the government and people of Eritrea have been carrying out soil and water conservation activities since independence.



Q: What are the advancements in the construction of water reservoirs?

A: The country has registered visible achievements in the construction of water reservoirs. The total number of big and small dams which was 138 in the wake of independence rose to 785 in 2021. The total amount of water impounded in water reservoirs structures is now about 300 million cubic meters. This is an indication that concerted efforts is being exerted by the government.

Q: What about the developments in the introduction and usage of irrigation systems and new agricultural technologies?

A: 65,000 hectares of the 600,000 hectares of the potential farm land has been cultivated through modern and traditional irrigation systems in the last 31 years. The 37 thousand hectares are through surface irrigation, 23,000 hectares through canal irrigation system, 1,500 through drip irrigation and the 2,800 hectares through sprinkler irrigation systems. Concerted actions have been taken to promote and increase irrigation systems in the post-independence period. Hence, irrigation through canal systems has been raised to 23,000 hectares which resulted to an increase in the supply of fruits and vegetables to markets throughout the year. The introduction of drip and sprinkler irrigation systems to conserve water and boost agricultural produce has been quite encouraging. Significant experiences have been gained in the introduction of renewable energy for irrigation activities which were aimed at environmental protection and a decrease in energy consumption.

Of the 65,000 hectares that used to be cultivated through irrigations systems, only 30,000 hectares are in good shape. Except the 5,300 hectares in Sheb, Northern Red Sea Region which is cultivated by spate irrigation, the rest is not cultivated at this time due to damage of irrigation systems and other technical issues in the other regions of the country. Since we have gained valuable experiences from machinery and technology assisted irrigation activities, we are making effective preparations to revive it to the best level.

Q: Let's move to crops development and the ratio of distribution of pulses, cereal and oil crops that have been cultivated?

A: The five years strategic plan we have aims at reaching 50% of cereal crops 25% of pulses and 25% of oil crops by 2024. At this time, until rainy season of 2022, the ratio is cereal 83% and 8% pulses while oil crop 9% of the total. There is much to be done to achieve the set out goal.

Q: Distribution of improved crop seed and fruits has been among priorities of the department; could you please tell us about the achievement gained in this area?

A: The introduction and promotion of select seed is the mandate of the National Agricultural Research Institute (NARI). Among the varieties of seeds that have been developed in the institution, 14 improved seeds of cereal crops such as six varieties of wheat, three varieties of barley, one variety of maize and sorghum and three varieties of millet have been distributed through AED to farmers. In the rain-fed farms, the improved varieties have now boosted produce of Sorghum from 8 quintals in a hectare to

20 quintals, Millet from 6 to 15 quintals per hectare, wheat from 12 to 25 quintals, and barley from 8 to 17 quintals per hectare as compared to the production of such crops with that of the pre-independence period.

Q: How is the progress in fruits and vegetables farms in the early independence period comparing with that of the current status? What are the priority areas of AED's in the promotion of these commodities?

A: The total farm area for vegetables farm in 1991 covered 4,731 hectares and that of fruits was 192 hectares. This figure has increased by four folds to 18,000 hectares in vegetables and that of fruits increased to 5,000 hectares showing a total growth of 26 folds. In the period between 1992 and 2022 vegetable production has increased by six fold while fruits increased by 71 fold.

In line with the efforts to boost production of fruits, around 423,000 seedlings of three types of temperate fruits such as: apple, peach and olive trees have been imported and distributes to farmers in temperate areas. Mushroom production started in a smaller amount as of 2015 in collaboration with the Eritrean Women Agribusiness Association. This association has distributed 25 quintals of mushroom to markets. We are now working to further expand the production of mushroom.

Q: Cultivation of potato is at the top in vegetables farm and what are the gains registered so far?

A: Cultivation of potato is, indeed, among the top achievements gained in the vegetables farm. Potato used to be cultivated in the highland areas of the country only. As per the data from the National Potato Conference conducted in 2022, production of potato has reached to an average of 160 quintals per hectare while there have been farmers who registered higher production. Production has increased by 50% compared to 1991.



The Ministry of Agriculture conducted successful pilot projects of potato cultivation in 2021 in the Gash-Barka and Northern Red Sea region in the cold season from November to February in a bid to ensure supply of ware potato throughout the year. The pilot projects were carried out in nine sub-zones of the Gash-Barka region in about 36.8 hectares of farm land, in two sub-zones of the Northern Red Sea region in 2.7 hectares while in 6.8 hectares in the Southern Red Sea region. Commendable produce was obtained from a total of 900 quintals of improved seed of potato were cultivated in 46.3 hectares across the regions. The produces per hectare, in Shamboko sub-zone is 276 quintals, in Ghinda'e 74 quintals, and 170 quintals in Afambo. Such results indicate that the lowland areas of the country will play significant roles in increasing potato production

Q: What is the situation of livestock resources?

A: Eritrea is self-sufficient in the supply of livestock. A survey carried out in 1997 shows that the number of cattle to be 1.9 million, the number of sheep and goats 6.8 million while the number of camels was 300,000. There has been an increase of 1% each year and thus a reasonable estimate in the carried number of cattle would be 2.4 million, the number of sheep and goats 8.6 million and that of camel 400,000.

A comprehensive assessment of the number of livestock would be carried out in collaboration with all regional administration to understand the exact number of livestock resources. In a bid to augment the supply of alternative supply of meat, the Ministry Agriculture has in 2015 and 2017 imported 220 rabbits, increased their number to 6,000 and distributed to beneficiaries. Around 180 farmers are now breeding rabbits at a small scale. Breeding activities on selected pigs and horse breeds have already been in process and since remarkable progress has been gained, efforts are under way to speed up the program.





Q: How about the progress in dairy and its product as well as the interventions taken to boost production?

A: It is hard to quantify the amount of milk produced in the country. Traditionally milk has been supplied from households and in remote villages of the country. So, we will only focus on intensively kept dairy. The number of dairy cows was around 13,000 in 1991 and this figure increased to more than 20,000 in 2021/22. The amount of milk from Holstein Friesian and cross breeds was 8.5 million liters as opposed to above 18.4 million liters at this time. An average amount of milk from a Holstein Friesian was 12-15 liters per day in 300 milking days; the amount from the cross breeds was 8-12 in 300 milking days with 6-8 liters of milk in 210 milking days have been gained from indigenous Barka species. Collectively there has been a growth of 20 - 30% in milk production while more needs to be done to boost production to the best level.

Extensive efforts have been made to augment animal feed. In 1992 only 67 hectares were cultivated for animal feed. This figure was dramatically changed with more production of animal feed that rose to around 2,000 hectares in 2021 resulting to the produce of more than 77 tons per hectare of animal feed. Since 1998, the Ministry of Agriculture has been assisting farmers in dairy farm through the distribution of churners, milk testing equipment and other milking equipment along with accessories in the form of donation and loans to associations of dairy farmers and individual farmers. Milking machines and stainless steel containers were also distributed.

Much has been achieved in dairy processing activities. There were four dairy processing plants in 1991 and this number increased to 18 at this time. Most of the plants have been engaged in the production of yoghurt and beneficiaries in cities have been gaining access to quality and healthy products and thus importation

of poor quality yoghurt stopped. Production of dairy products such as; cheese and butter have also increased. Three milk collection and cooling structures established in Anseba and Southern regions have been dispensed to associations of dairy farmers and the facilities are currently providing effective services.

Q: What are the actions taken to motivate farmers to be beneficiaries of artificial insemination?

A: Artificial insemination activities were introduced in the 1930s during the Italian period. It was totally destroyed during the consecutive colonial times. In the post-independence period from 1991-2009, around 326 dairy cows were inseminated annually. There have been ups and downs and it was suspended until 2015. In the period between 2015 and 2020, however, an average of 485 cows were inseminated annually with the importation of semen and preservative equipment. With an increase in human resource and awareness raising campaigns, artificial insemination activities have raised to 1,600 per year in 2021-2022. There has been redoubled increase in artificial insemination as compared to the 406 in 1992 to over 1,600 in 2021. Efforts have been made to ensure greater number of female breeds and programs have been mapped out to expand the services across the country.



Q: How is the status of poultry activities and the progress so far made in the field?

A: Serious tasks have been accomplished in this field. There were hardly any poultry activities in the pre-independence period except holding chicken at a household level in the rural populations. Considering such conditions, the Ministry of Agriculture imported improved varieties of chicken and distributed to farmers in the early years of independence. Around 113,000 parent stocks and over seven million one month old chickens were distributed in the last 32 years. The distribution of chicken was increasing annually in terms of number and distribution. In 1992, for instance, 20,000 chickens were distributed to beneficiaries but this number rose to over 880,000 in 2020-21 growing to 44 fold.

Q: Coming to beekeeping, how is the distribution of bee hives and improvement in honey production?

A: The number of bee colonies was estimated to be around 19,000 in 1991. Through a steady progress, the number of bee colonies has raised to 30,000 in 2021. Even though the progress being made is not so big, yet it has paved a venue for modern apiculture in the Eritrean society. Around 65,000 of the bee colonies are managed in modern hives. Honey production is mostly determined by the condition and distribution of flowers. Although honey production has been fluctuating due to climate change and drought, honey production has increased by 46% when compared to that of 1991. The price of honey per kilo has declined from 600 Nakfa to below 200 Nakfa due to an increase in production. Efforts are being made to transform and modernize beekeeping with the introduction of Top bar hive, which is easy to make and manage.

Q: What are the major activities carried out in transforming livelihood of households, and particularly the livelihood of women?



A: Relative progress has been made through various activities carried out to improve living standards of women and particularly the livelihood of women headed households. The support includes distribution of livestock, training on handcrafts, provision of improved seed and water pump motors among others.

The most important of all was distribution of improved energy saving stoves 'Adhanet' aimed at reducing pollution which has direct effect on the health of women and in prevention of deforestation for firewood. Around 170,000 stoves have been distributed across the country and 17,000 women were trained on how to make improved stoves and the trainees on their part trained other women.

Q: Animal and plant Health are major issues. Let's start with animal health problems in the country and mitigation actions taken to prevent and control such diseases?

A: Animal diseases that were prevalent in the pre-independence period and post-independence period include, Rinderpest, Brucellosis, Tuberculosis, Anthrax, Peste Des Petits Ruminants (PPR), Lumpy Skin disease in cattle (LSD), Sheep and Goat Pox, Foot and Mouth Disease(FMD).

Actions taken to prevent and control such diseases include compulsory vaccination services, raising awareness on how to prevent the spread of contagious diseases and improving effective ways of preventing brucellosis and tuberculosis, introduction of medicines and vaccines, and establishment of veterinary clinics in all sub-regions of the country.

Considering the number of livestock and their distribution, the government established veterinary clinics in all sub-regions of the country. The establishment of 76 veterinary clinics across the country has alleviated casualties of animals to the lowest level. A total of 45 among the overall 76 veterinary facilities are equipped with renewable energy sources.



Q: Tell us about animal diseases the country prevented and eradicated?

A: Rinderpest was among the deadly animal disease that cause dire consequences in livestock resource negatively affecting the economy of the country and farmers. Once an outbreak of disease occurs it reaches to vast areas and kills around 90% of infected livestock. Considering the huge loses this disease causes, concerted actions have been taken not only to control but to totally eradicate it from the eastern and western Africa in a coordinated manner. The disease was totally eradicated from Eritrea as per the set out plan. The prevention and control intervention of rinderpest started in Eritrea during the struggle for independence and a comprehensive vaccination campaign was carried out in 1997. Continuous surveillances were carried out to ensure the livestock developed immunity against the disease and blood samples were collected from calves to check its prevalence. A research conducted in 2005 shows that the disease has been eradicated from the country. As the result of the relentless efforts, Eritrea was awarded with a medal and a certificate from International Animal Health Organization for the eradication of rinderpest. The total eradication of the disease from the country has been a great relief to farmers.

Q: Could you brief us about vaccination programs carried out in the country?

A: The Government carried out compulsory vaccination programs from 1993-1997. Hence the occurrences of contagious animal diseases were



reduced from 67 to 32. Since the result of the veterinary services was encouraging, vaccination programs have been carried out on 2.5 million livestock annually since 2013. This intervention has reduced the prevalence of animal diseases to the lowest level.

Q: What are the activities carried out in the prevention of plant diseases?

A: Extensive studies were carried out in 1992 to prevent and control the prevalence of plant diseases. The surveillance was mainly on pests, weeds and various types of plant diseases. The Ministry of Agriculture carried out concerted actions to prevent pests, delivered awareness raising seminars to farmers, distributed manual and motorized pesticide sprayers, and introduced varieties of pests' prevention mechanisms. At this time, bio-pesticides have been introduced and commendable achievement is being registered.

Q: What about the tasks accomplished in combating migratory pests and desert locust?

A: Eritrea is among the exemplary countries in controlling migratory pests. In the last 30 years, the country controlled infestation of desert locust in around 520,000 hectares with the collaboration of the Ministry of Agriculture, Ministry of local government, active participation of people and members of Eritrean Defense Forces.

Outbreak of African Army Worm has been occurring during the rainy seasons in all regions of the country. In the last 30 years, infestation of such pests in over 30,000 hectares was effectively controlled.

Pest infestation particularly of quela-quela birds mainly occurs in the western part of the country in the Gash-Barka region. Efficient controlling activities were carried out in over 5,000 hectares over the years. Moreover, when migratory fall army worm infestation broke out in 2018, Eritrea carries out exemplary and immediate controlling measures.

Editor-In-Chief: Ermias Solomon, Director of Public Relations Division: Email:- ersohab@gmail.com, Tel: 182225/ 07143877

Assistant Editor-In-Chief: Filmawit Measho **Translator:** Kesete Gebrehiwet

Photo Credit: Aradom Bereket, Habteab Andemariam, Tomas Mehari