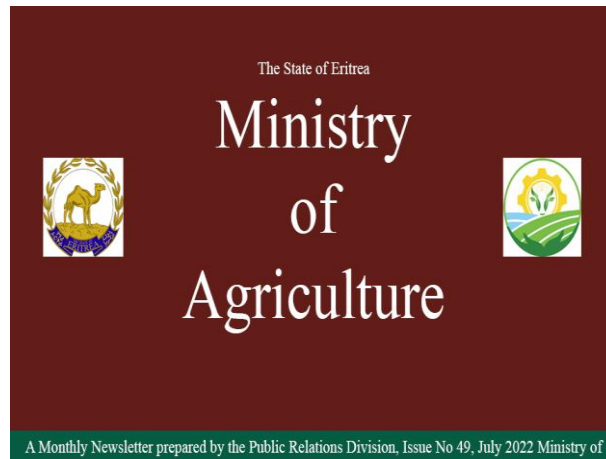


Let Nothing Go to Waste

Ministry of Agriculture Conducts Trials

Converting Domestic Waste to Compost



The Ministry of Agriculture (MoA) has set 17 priority development areas and is closely monitoring their implementation up to village level. One of the 17 priority areas relates to “Conducting Trials”. It states that: “extension agents, especially on the frontlines (e.g., around villages), should regularly conduct trials on a variety of seeds, on the proper use and doses of biofertilizers and biopesticides, and on appropriate planting times [among other topics].”



Ms. Adiam Rezene

Accordingly, in February 2021, the MoA, in collaboration with the Ministry of Marine Resources, established a committee of experts to conduct research and trials on producing biofertilizers and biopesticides.

Since its establishment, the committee has been involved in a number of trials across different parts of the country. Some achievements include: extracting liquid fertilizer from seaweed and fish discards, producing compost from animal

and plant residue in a short period of time, and producing biopesticides from different plants.

Recently, some members of the committee began conducting trials on converting domestic waste into compost under the theme “Even our Waste is our Resource”. Subsequently, three sites in Asmara were selected: Dembe Sembel, the Ministry of Information (MoI), and the Orotta National Referral Hospital. Dembe Sembel was selected as a first trial site because residents there use common waste disposal containers. The MoI, located in Tseserat, was selected for documentation and awareness-raising purposes, while Orotta was selected for hygienic purposes and because it generates adequate waste for compost making on a regular basis.



The Public Relations Division of the MoA followed and documented the trials. It also conducted interviews with the experts who organized the process of making compost from waste. Interviews were conducted with some coordinators and beneficiaries, as well.

Ms. Adiam Rezene, a plant protection expert in Zoba Maekel, and a member of the biofertilizer sub-committee, is a technical lead of the waste management activities. Discussing the idea of making compost, she said, “The idea was generated from a short training I took in Japan in 2018. Even though the general objective of the training was sustainable production of natural fertilizers from organic matter, the idea of making compost out of waste impressed me a lot. When I came back to Eritrea, I proposed the idea of making compost from waste to the leadership of the Ministry of Agriculture. Gladly, they accepted.”



Day one



After three weeks

She added that members of the biofertilizer sub-committee have been involved in the production of compost and liquid fertilizer. Since February 2022, they have piloted compost production using domestic waste in some neighborhoods of Asmara selected by the MoA.

According to her, they began with Dembe Sembel, then moved to Tsaserat, and recently commenced producing compost from waste at Orotta National Referral Hospital.

Ms. Adiam explained the general process as follows: domestic waste is collected, sorted, and decomposed, above or under the ground or even in special containers. To speed up the process of decomposition, either Indigenous Effective Microorganisms (IEM) or Bokashi are used, depending on the type of compost making.



Mr. Jimie Ismael

“When it comes to the outcome of the program, it is better that you hear from the horse’s mouth,” she said, referring to the beneficiaries.

Dembe Sembel

Mr. Jimie Ismael Ibrahim is a horticulture expert at Dembe Sembel. He is also in charge of coordinating the collection and sorting of waste from residents.

According to him, the program was initiated by the MoA. “They sent us experts who explained how to execute the whole process of compost making. The good thing is that the experts started their work with an orientation program, which was attended by representatives of the Dembe Sembel community.”



Ms. Freweini Abraha

When it comes to compost making, a division of labor and a series of procedures were followed for proper implementation. “We collected domestic waste from three disposal areas and brought them to one collection site. The activities took place under the supervision of board members of the complex and 5 laborers of which 3 collected the waste, while the other 2 were responsible for mixing and turning the waste dumped in a container. The entire process was supervised by an expert from the Ministry of Agriculture,” Mr. Jimie elaborated.

Regarding the outcome of the trial, Mr. Jimie said, “We found that making compost from waste was very important because we have been able to convert our waste into useful fertilizer and keep the environment clean. The residents are also happy that waste is collected on time and converted into an important agricultural input.”



Ms. Senait Melake

Dembe Sembel residents also witnessed the compost produced being applied to the gardens around their premises. Mr. Jimie confirmed that, thus far, they have implemented the compost producing process several times. Results have been encouraging, with the compost being produced in a short period of time (approximately 3 weeks) and the plants showing good growth and health.

Finally, he concluded by saying, “I really appreciate the Ministry of Agriculture and its staff for initiating such an important project. I thank all of them for providing us with the necessary materials, adequate information, and technical support. I urge everyone to make the best use of this simple process and keep the environment safe and clean.”

Ms. Freweini Abraha is the executive administrator of Dembe Sembel administrative area. She outlined that they have produced two types of compost: one in a container and the other in open ground. “As of yet, we have produced 5 quintals of compost in 8 cycles. We have already started using the compost for our flowers in our gardens, with excellent results. We will certainly keep going,” she added.

Ministry of Information (MoI)

Another trial of compost making from domestic waste was conducted in the premises of the MoI, located in the Tseserat area. A number of families were selected to collect and sort their waste into decomposable and non-decomposable containers. The decomposable materials – mainly food leftovers – were the main inputs for making compost. The sorted waste was then mixed above the ground at the MoI compound.



Mr. Finan Tekle

Mr. Finan Tekle, a journalist and coordinator of the trial, explained that a short orientation about how to differentiate between usable and unusable waste was given to the selected families.

“We prepared two big containers for food leftovers or plant waste and non-decomposable materials. We were also waiting for the garbage truck to come in order to collect adequate raw materials from families when disposing their waste.” he added.

As is standard procedure, the collected raw material was turned twice per week in order to get moisture and aeration for easy decomposition. IEM was added to speed up the decomposition process. This process continued until it yielded a fully decomposed black compost.



Mr. Teferi Tekle

During the discussion, Mr. Finan took time to commend the willingness and diligence of the Tseserat community in participating in the trial and making it a success.

Ms. Senait Melake is a resident and community leader at Tseserat administrative area. Regarding the initiation of the trial, she said, “We were told by Ms. Adiam and Mr. Finan to organize some families who are willing to be involved in collecting and sorting waste for the purpose of developing organic fertilizer. At first, we were a bit confused about how it could be effectively implemented. Following the orientation, however, we saw the project’s potential and were convinced. From then on, we cooperated as best as we could.”

Ms. Senait witnessed that after the completion of the process, compost was produced. This was distributed to the beneficiary families. “We were amazed after we saw the difference in the swiss chard and lettuce raised with compost and without,” she remarked, before adding that more effort is needed to promote converting kitchen and other domestic wastes into useful fertilizers.



Mr. Yemane Tesfay

Mr. Teferi Tekle is a photographer at the MoI. He followed the process of compost production from the beginning.

“When I saw some people collecting waste in our neighborhood, I asked, ‘why? And what for?’ When I heard their answer, I couldn’t believe it. I said, ‘we will see’. Then afterward, I followed the whole process eagerly to witness the final product. It was really amazing to find a fertilizer from the food leftovers and some other plant materials,” he explained.

Mr. Teferi also recommended that relevant government bodies adopt this practice and promote more initiatives to convert domestic waste into a beneficial resource.

Mr. Yemane Tesfay, who resides in Tseserat administrative area, is a horticulture expert. He was also one of those who encouraged community members to make compost. He gave vegetable seedlings to all those who participated in the trial, and then followed them to see the difference in growth between the vegetables supplied with compost and those without.

Mr. Yemane said, “Ms. Adiam came up with a brilliant idea. The process is very important and much easier when compared to other ways of making compost.”



Compost application for flowers at the MoI

Orotta – The National Referral Hospital

In the first week of May 2022, representatives of the Ministry of Agriculture and Ministry of Health discussed the need to convert food leftovers and plant materials in the kitchens and wards of Orotta National Referral hospital into compost. This would have the added benefit of helping reduce strong odors, avoiding the multiplication of harmful organisms, and improving sanitation.



Mr. Eyob Hailemichael

According to Ms. Adiam, the program was launched on May 9, 2022 through meetings involving relevant environmental health and administrative personnel of the hospital. Besides, a brief orientation was given to the staff who were responsible for collecting waste and cleaning the hospital's premises.

Mr. Eyob Hailemichael, head of environmental health at Orotta Hospital, explained that the actual work was conducted from 25 May – 16 June, 2022. Waste (made up of food leftovers and other vegetable byproducts) was collected from the medical, surgical, and pediatric hospitals. "We were surprised to see an odorless fertilizer produced from the different types of waste," he stated.



Nurse Mehreteab Haile

Nurse Mehreteab Haile, a nutrition expert at the hospital, is also one of the coordinators of the work. He witnessed that the process was not only environmentally-friendly but also promotes public health because it decomposes materials that could contribute to health risks for patients and the general public.

Finally, Ms. Adiam said that all hospitals, due to their public nature, are ideal sources of raw materials for compost making, and added, “They should prepare separate containers for food leftovers and other degradable materials that can be sources of carbon in making compost.”

