

Ethiopian farmers restore indigenous seed varieties

Notes to broadcaster

Ethiopia is very rich in crop varieties. Local varieties are strongly linked to the social and cultural values and the economies of communities. Farmers kept local seeds for many years and transferred these seeds from generation to generation. But more recently, there have been shortages of seed varieties and families could not easily obtain the seeds they wanted. Serious losses of local seeds and weakening of the farmer-based seed system is a challenge across the country.

Small-scale farmers depend on crop and varietal diversity to address challenges posed by various environmental factors in Ethiopia, including climate change and frost. Growing a wide diversity of crops and varieties protects farmers when individual crops or varieties fail, and helps farmers choose varieties which are best-adapted to changing conditions.

Loss of crop and varietal diversity is narrowing the crop gene pool, access to seeds that can cope with varying weather conditions, and that grow and yield well without chemical inputs. In Ethiopia, there is a high level of genetic loss in major food crops such as durum wheat, barley, sorghum, maize, and the major staple legume and root crops. In other words, many local varieties are becoming extinct, and there are therefore fewer varieties available for farmers. This is a critical challenge to food security.

However, as a result of efforts to rebuild the indigenous seed system, farmers are regaining access to a wide variety of precious genetic resources that are well-adapted to their varied farming conditions and diverse cultural and economic needs.

For over a decade, a local NGO called EOSA, with financial support from USC Canada, has been working to restore the diversity of major, high-yielding indigenous Ethiopian crops. Currently, a number of enhanced indigenous crop varieties are widely used by farmers. Keeping seed diversity alive through enhancing the potential and usefulness of local varieties is an important part of building a better livelihood for farmers.

This script is based on actual interviews. You could use it as inspiration to research and write a script on restoring indigenous seeds in your area. You might choose to produce this script as part of your regular farmer program, using voice actors to represent the speakers. If so, please make sure to tell your audience at the beginning of the program that the voices are those of actors, not the original people involved in the interviews.

Here are some possible questions for discussion:

- How are indigenous seeds preserved in your area?

- How do local farmers find a balance between adopting agricultural packages that include inorganic fertilizer, chemicals, and seed varieties provided by research centres, and preserving and using local, indigenous seeds that can be produced without these inputs and are often preferable for eating?
- How can the community participate in preserving indigenous seeds?
- Is there a community gene bank or other organization or activity to recover local seeds in your area? If yes, how does it operate?

Estimated running time: 20 minutes, with intro and outro music

HOST: Good morning (afternoon, evening). Today, we're going to talk about how farmers in Ethiopia are restoring indigenous or local seeds that have been disappearing for years.

SFX: SOUND OF CAR

HOST: It's November, a spring season in Ethiopia. Our reporter, Netsanet Hailu, travelled to Oromia Region, Arsi zone, Hethosa district, Debeya Adere village. Arsi is the birthplace of many elite Ethiopian runners and Olympic gold medallists, including Derartu Tulu, Haile Gebresillassie, Kenenisa Bekele, and Tirunesh Dibaba. There, he met and spoke with farmers and other people who are involved with restoring local seed varieties.

NETSANET HAILU: Along the side of the road here, you can see wheat and barley. This is one of the most highly productive areas in the country. The aim of my trip is to tell you the story of how farmers are restoring indigenous or local seed varieties in this area.

SFX: FADE OUT SOUND OF CAR

NETSANET HAILU: Dear listeners, I met Mrs. Bontu Haji Hussein in Debeya Adere village. She has four children—one son and three daughters. Here is our conversation.

NETSANET HAILU: Hello, Mrs. Bontu, how are you doing?

BONTU HAJI HUSSEIN: I'm fine, thank you

NETSANET HAILU: How many indigenous crop varieties have disappeared in your area?

BONTU HAJI HUSSEIN: Over the course of years, we lost various indigenous seeds which had been here for generations. It's so sad. We should have kept them with us.

NETSANET HAILU: What is the reason for losing these seeds?

BONTU HAJI HUSSEIN: Agriculture extension packages that include chemical inputs and seeds bred by researchers were introduced throughout the country. After that, farmers concentrated on getting high yields. We paid attention to implementing the methods we got from agricultural experts. Our income has been increasing since we started using these packages. And since agricultural inputs and researchers' varieties of wheat and barley have been available through government channels and farmers' associations, along with farm inputs, we focused entirely on that. This resulted in gradually losing local seeds.

NETSANET HAILU: What benefits have you been missing by losing local seed?

BONTU HAJI HUSSEIN: Indigenous seeds are so delicious when compared with recently introduced varieties. They can be cultivated with organic fertilizers and without chemicals. They also have the ability to cope with different weather conditions.

NETSANET HAILU: I have seen that there are local seed banks to help farmers restore indigenous seeds. What does that mean for you?

BONTU HAJI HUSSEIN: It's great news. We are so glad to see those seeds back in our farm. In collaboration with farmers, EOSA is doing a great job restoring those seeds. They multiplied some seed samples this year and we expressed our interest in producing those seeds in the coming years. Since they have been grown without chemicals and inorganic fertilizers, we use them for food for our families.

NETSANET HAILU: What is women's role in preserving local seeds?

BONTU HAJI HUSSEIN: We have a huge burden in taking care of the family. We work both in and outside the home. We prepare foods and look after children. We also participate in farming activities.

Traditionally, women are very conscientious and diligent in preserving household possessions, including local seeds. Most women in our community are far-sighted; they look after and keep the family and neighbours safe in various ways. So, after the harvest, they keep some seed for next year's crop. This happens every year. Their husbands know this and they are confident they can get seed when they need it.

NETSANET HAILU: Compared to commercial seeds, what options do local seeds give you in preparing foods?

BONTU HAJI HUSSEIN: Local varieties are much more friendly and convenient for making a variety of foods. They are particularly preferable for preparing cultural foods because they are so tasty. We prefer preparing cultural foods like *genfo*, injera, local bread, *caccabsa*, *chuko*, *michira*, and *kolo* from local seeds. (*Editor's note: Genfo is a local porridge; caccabsa is bread broken in pieces and mixed with butter; chuko is barley flour mixed with butter; michira is a soft bread made from teff or wheat flour mixed with butter; and kolo is a local snack made mostly of barley.*)

NETSANET HAILU: Many thanks for your time.

BONTU HAJI HUSSEIN: You are welcome.

HOST: Dear listeners, our reporter, Netsanet Hailu, also met with Sisay Beyene. He is another farmer who is striving to restore local seeds that were lost some years back. Netsanet sat with him to discuss his farming experiences and the benefits of producing local seeds.

NETSANET HAILU: What approach are you using to restore local seeds?

SISAY BEYENE: I'm so inspired to take part in local seed recovery activities in our village. We are organized in teams of youth, women, and men to support each other. Mostly, we work to empower every member of the team to be self-sufficient in food and living expenses by creating various ways of generating income. Poverty is a barrier to any kind of success. We motivate each other to work hard in cultivating local varieties without chemicals or inorganic fertilizers. This paves the way for successful recovery of the local seeds we lost over the past years.

NETSANET HAILU: What is the benefit of restoring local seeds?

SISAY BEYENE: Having local seeds back means a lot for me and my family. Our fathers and forefathers grew these seeds. It's part of our identity as a community. We need to keep these seeds and transfer them to the next generation.

Organic seeds are much better at resisting diseases and coping with varying weather conditions, and don't need chemicals. The problem is that we lack the land to produce both organic and commercial seeds. So I have to balance the two, as commercial seeds are also important to generate money. We mainly use organic varieties for food and local drinks as they are nutritious

and don't have any negative health effects on the consumer.

NETSANET HAILU: Among the 35 local varieties that are being bred in your area, which variety did you choose to produce next year?

SISAY BEYENE: All are good. But, among the wheat varieties, I prefer the local variety called black wheat because it has a much better yield than the others.

NETSANET HAILU: Who provided you with these seeds?

SISAY BEYENE: They were provided by a local NGO called EOSA. They established a community seed bank in our area. They produce organic seeds here in our village in collaboration with local farmers. It's a great opportunity for us to access and restore local seeds.

NETSANET HAILU: What varieties do you remember and which are not in use now?

SISAY BEYENE: For wheat varieties, I remember *Lakech*, *Fafate*, *Setakuri*, and others.

NETSANET HAILU: How did these seeds become lost?

SISAY BEYENE: We were focusing on varieties provided by agricultural research through farmers' associations and agricultural offices. Because the yield from these varieties exceeded the yield from local seeds, we paid a lot of attention to producing seeds for commercial farming. I think this is the main reason for the gradual disappearance of local seeds.

NETSANET HAILU: When did you realize that you have to keep local seeds?

SISAY BEYENE: After years of experience, I realized that we have to keep local seeds for various reasons. The new varieties are only good for one season, and must be repurchased every year. By comparison, we can save and re-use local seeds every year.

NETSANET HAILU: There is a controversy between promoting traditional values and promoting agricultural practices which include modern technologies such as chemical fertilizers and pest control products. How do you balance these two perspectives?

SISAY BEYENE: That's right. We talk about maintaining traditional possessions and values, but we also need to improve our farming through modern technologies and farming approaches. Both approaches are the current reality in

our community. We appreciate what we have achieved as the result of applying agricultural packages and farming technologies. Our yields have increased and our life has been improving. But we are witnessing the slow diminishing of local possessions such as local seeds of various crops. This makes me frustrated as these seeds existed through transfer from one generation to another.

Both have their benefits and we have to find a balance between the two. As we apply agricultural transformation, we have to also preserve local seeds and transfer them to the next generation.

NETSANET HAILU: Thank you so much, Sisay.

SISAY BEYENE: You are welcome.

HOST: Dear listeners, our reporter, Netsanet Hailu, also talked to an expert who promotes local seeds in this area. His name is Bedilu Tafesse, and he works at Ethio-Organic Seed Action, or EOSA, an organization that works on ensuring the security of the local seed supply.

NETSANET HAILU: What is your main objective in producing and distributing local seeds for farmers?

BEDILU TAFESSE: We want to strengthen seed security for small-scale farmers and improve the productivity and diversity of crops and varieties on farms. We operate programs to manage agrobiodiversity and local seed security in different kinds of agro-ecologies, and different kinds of farming production systems.

Conserving culture is an essential part of development for a responsible society. So we support farmers to revive and preserve the local seeds that have existed for so many years. This conserves the social, cultural, economic, environmental, and other values of the resources.

NETSANET HAILU: What methods do you use to improve local seed security?

BEDILU TAFESSE: We try to strengthen farmer-based seed production and distribution systems, for example, selecting seeds for storage for the next season's harvest, and arrangements for exchanging and borrowing seeds in the community. We provide farmers with access to both farmers' and formal varieties in the quantities they require, in time for planting, and at a cost they can afford.

NETSANET HAILU: What approaches do you use in distributing seed varieties?

BEDILU TAFESSE:

We promote approaches to developing preferred varieties in which farmers fully participate. Farmers' criteria for selecting varieties are largely based on environmental factors and are quite different from the criteria used in formal breeding programs. Farmers define yield not simply by the volume of grain, root, and tuber production, but rather by their nutritional qualities, and how different parts of the plant can be used for different purposes—for example, livestock, crop residues, medicinal purposes, etc. If particular varieties do not provide these different kinds of benefits, then small-scale farmers will reject them.

Farmers have been working with EOSA on choosing preferred local varieties, and have also been trained to pollinate crops such as maize. Through these activities, they have maintained and improved the potential of locally-adapted farmers' varieties. We believe that when farmers have the opportunity, they are the best seed breeders.

NETSANET HAILU:

Where do you find lost local seeds to be restored by farmers?

BEDILU TAFESSE:

We find local seed varieties from the Ethiopian Biodiversity Institute, which is the national gene bank, and also from custodian farmers and from other parts of the country. These sources help us ensure that local varieties are available and distributed to farmers.

NETSANET HAILU:

What is the main result you have achieved so far?

BEDILU TAFESSE:

So far, we have strengthened the local seed system. We also increased the diversity of crops and selected several crop varieties which are adapted to the local climate. And we organized and engaged youth and women's groups in seed production. As the result of this, we have done a promising job of increasing the volume of seed in the community seed bank, which helps to address the unavailability of seeds and restore lost crop varieties.

NETSANET HAILU:

What are your future plans for reviving local seeds?

BEDILU TAFESSE:

Our plan is to develop and expand crop varieties which are adapted to the local climate. We also want to work with the Community Seed Banks Association in trading local seed. We also plan to establish a potato park where local varieties are grown out, and link youth and women's associations to local and national markets.

NETSANET HAILU:

Thank you so much.

BEDILU TAFESSE:

You are welcome.

HOST:

Dear listeners, we have presented stories about how farmers are restoring local seed varieties and building community seed banks. As a result of efforts to rebuild the indigenous seed system, Ethiopian farmers are regaining access to a wide variety of local seeds that are well-adapted to their varied farming conditions. A representative from an Ethiopian NGO called Ethio-Organic Seed Action also explained how the organization works with farmers in community-based seed production and distribution.

Thank you for listening to us. Goodbye and tune in next week.

Acknowledgements

Contributed by: Netsanet Hailu, journalist, Addis Ababa, Ethiopia.

Reviewed by:

Sources of information

Interviews:

Bontu Haji Hussein, November 14, 2017

Sisay Beyene, November 14, 2017

Dedilu Tefesse, November 15, 2017