

Tef ticks all the boxes – or should do soon

Ethiopia's ag research is moving ahead in numerous ways

How can large research institutes run better? What makes a good R&D partner? What does the future hold for tef? And what could Europeans think about more carefully? Ethiopian scientist Mandefro Nigussie has clear views. We asked the EIAR* Director General to tell us more.

Syngenta Foundation: *You've said you'll run EIAR for three years, and then leave. What has been your focus in the first half of your term?*



Mandefro Nigussie: Reshaping the organization, and realigning it with our mission**.

What has that mainly involved?

When I arrived, we had 75 directors and deputy directors for a staff of about 4500. That seemed rather top-heavy to me. We are now down to 18 (12 for research and six for support functions), which will soon be 15 (ten and five). All posts are now filled on a competitive basis, which ensures matching competence and commitment. To serve the farming community better, we've also changed the geographical distribution of our many field stations/centers.

What about the institute's ways of working?

We have decentralized, and significantly empowered the stations. At the same time, we're encouraging trans-disciplinary cooperation. Our research review system is now also more rigorous, with five 'gate stages' for advancing new products. And our newly created Analysis team is busy identifying opportunities, scouting, assessing competitors and optimizing grant applications.

That sounds like a lot of work in 18 months. Have you had time to change anything else?

We have increased the proportion of female researchers from 11 to 20 percent, and reduced the number of research crops from 69 to 26. But these are both continuing processes – I'd like to have considerably more women on board, and focus on about 15 to 17 strategic crops.

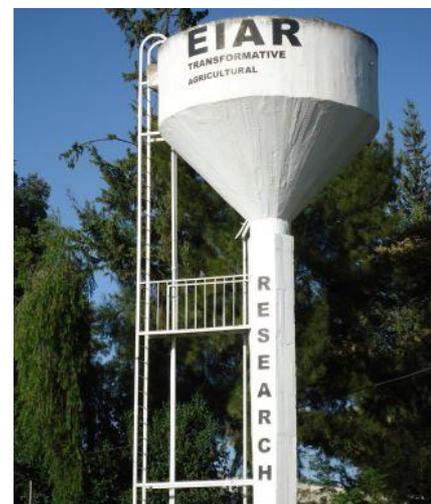
EIAR's "Big Three" are corn, wheat and tef. You partner with us on tef, and with many further organizations across cereals and the other crops. What do you look for in an ideal partner?

In my eyes, the key is complementarity – in every relevant respect. Everybody, including EIAR, should bring something particular to the table. That can be resources, expertise, geographical reach, intellectual property, or whatever. And to me, complementing each other also means exchanging views and knowledge. That way, partners achieve much more together than any of them could alone.

And if you were allowed a second wish for good partnerships?

We are helping to tackle global problems of food insecurity, poverty and climate change. With that kind of remit, rigidity can get in the way. Flexibility makes our work much easier – particularly financial flexibility. For their own good reasons, both our government and international donors tend to be less flexible than the private sector or foundations.

*Turning to our joint topic, tef***: Where will you be taking this crucial Ethiopian crop over your remaining 18 months in office?*



The process will take longer than that. But we are working on several different aspects. I'm a keen promoter of demand-driven breeding: the market must decide the varieties we invest in. Then there is the question of who will multiply the new varieties. Ethiopia has state, private, and informal community-based seed producers. We need all three, but the first two tend to ensure higher quality than the latter.

Realistically, however: What role do you see for the private seed sector in Ethiopian agriculture?

That's the question we and others recently addressed in a policy proposal. Self-pollinated crops – such as tef – are not really commercially attractive. And with tef, farmers are fairly happy with saved seed, because the annual fall in yields is much slower than with hybrid corn, for example. So our suggestion for the national seed system is that the public sector should concentrate on self-pollinated crops, and that companies develop the more commercially attractive ones. I personally think that this policy would significantly improve smallholders' seed access within three to four years.

EIAR's mission includes economic and environmental aims. How well does tef serve those?

It's a good fit all the way! Tef only requires limited soil disturbance before sowing, and doesn't take many nutrients out when growing. Socially, it is also a very acceptable crop – Ethiopians are proud to eat tef. That is not just a question of national identity, either. Tef is now more expensive than corn and wheat, so eating it is a sign of success!



Ethiopia essentially grows the crop for domestic use. Doesn't that rather limit the economic benefits?

Yes, but I think that we'll be soon exporting tef – possibly in about five years' time. There are a number of reasons for that. International demand is already there, mainly because tef is gluten-free. Rising prices at home will reduce consumption, leaving more for export. We also have spare land on which to increase production, and soon the higher-yielding varieties to match. And Ethiopian tef quality will be internationally competitive, because we have an ideal growing environment. Just as we do for coffee, by the way!

Unusually for senior civil servants internationally, you provide your mobile number on your employer's website. Are you brave or unwise?

Neither, I think. All sorts of people call me up, and so far I've never regretted my decision. EIAR provides a public service, so I believe the Director General should be publicly accessible.

You recently visited current and potential partners in Switzerland. What can Europe and Ethiopia learn from each other?

I was there for some specific topics, such as tef improvement and possible Swiss academic training for EIAR staff. But more broadly, I think Ethiopia can learn a lot from European technical innovation and the processes that encourage it. Western Europe could probably benefit from the stronger Ethiopian emphasis on family and social bonding, rather than individualism.



Many Europeans are worried by the continuing influx of African refugees and other migrants. What is your advice on this topic?

In today's world, problems don't stay on individual continents – Africa, for example, suffers from climate change largely caused elsewhere. Migration *per se* isn't bad: It has often been a highly fruitful

feature of human history. But where it seems to be less positive, or forced, it needs unified tackling at the roots. Ethiopia faces a huge challenge of internal migration, for example, which is sometimes the first step to emigration. To reduce misery, pressure on urban centers, and flight abroad, we have to improve rural livelihoods. EIAR has a big role to play here, but can only do so fully with international partners. And those partners' countries stand to benefit as well, for example through reduced pressure on immigration resources.

You have about half your term of office ahead of you. What are your plans from 2021 onwards?

I don't know where I'll work next – possibly at a multilateral organization again. My longer-term goal is to run a center that trains researchers. At the moment, however, my 2021 focus is more about EIAR: cultivating potential successors who can take the institute forward.

Dr. Mandefro Nigussie became EIAR Director General in early 2018. He is a well-known expert on genetics and plant breeding, and has worked for various local and international organizations. His previous appointment was as Deputy Regional Director for Oxfam America, Horn of Africa. Mandefro has two children, grade 12 and 10. In his spare time, he enjoys reading about cutting-edge technologies in agriculture, Ethiopian music, and jogging.

*www.eiar.gov.et/

**EIAR's mission is "to conduct research that will provide market competitive agricultural technologies that will contribute to increased agricultural productivity and nutrition quality, sustainable food security, economic development, and conservation of the integrity of natural resources and the environment".

*** www.syngentafoundation.org/tef-crop-improvement-project-activities