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**3 SPEAKERS**

Jennifer Khakshouri  
Kenza Benabderrazik  
Robert Finger

**START OF TRANSCRIPT****[00:00:04]**

Thanks for joining the ETH podcast. I'm Jennifer Khakshouri, your host. My two guests, in very short, they explore the food on our plate. They both work at ETH at the World Food System Center, which is celebrating ten years of collaboration.

**[00:00:20]**

My name is Kenza Benabderrazik, I'm currently a lecturer and an outreach project coordinator in the Sustainable Agroecosystems Group. We are basically teaching classes on sustainable agriculture and food system at different levels, and I'm also doing research on resilience of food systems.

**[00:00:38]**

My name is Robert Finger. I'm Professor of Agriculture, Economics and Policy at ETH and our research in my group, we are investigating how the agricultural system can become more sustainable and I'm also happy to be in a moment the chair of the World Food System Center at ETH Zurich.

**[00:01:02]**

The food we eat usually has a long journey behind it until it's really on our plates. In this episode of the ETH podcast, I want Kenza and Robert to tell me about the system that nourishes people all around the globe. And I want to know how the war between Russia and Ukraine is challenging the system. But first, let's start with the beginning of my day with my breakfast today I had a muesli. I put my bio muesli into my bowl and I grated an apple, added some milk and had a cup of coffee. Robert, how did the muesli find its way into my bowl this morning?

**[00:01:39]**

You probably bought it. That was one of the last steps. But in between, there was a long process of people actually producing food, processing food, selling food. And this is something that we care of in the centre. We take a food systems perspective and want to ask how can we make the world a better place, feed people sustainably and taking all the time the perspective that there is a long journey of food and there are many, many, many actors involved.

**[00:02:05]**

Kenza, what crosses your mind when you hear my breakfast of muesli and coffee?

**[00:02:09]**

Yeah, I'm hearing a lot of travels, a lot of journeys, not only of human beings, but obviously on food crop and a lot of things cross my mind, I have to admit, it's how did it get there? What type of muesli was it? Who is selling it? Where did you bought it? What price? Why did you bought that particular muesli and not another one? Yeah. Among these are like a few questions I have, but you can imagine when I'm in front of a supermarket, the type of question I have for myself.

**[00:02:39]**

A few weeks ago, actually speaking about my muesli and where I bought it, I found the name Ukraine on the package of my muesli last night. Before and while I was preparing for this interview, I checked my muesli again. I have a closed pack of muesli with a sticker on it where it says, "Origin of Raw Materials: Austria". What crosses your mind when you hear that critically?

**[00:03:01]**

That's reality. Switzerland has a degree of self-sufficiency of about 50%. That means 50% of the food consumed in Switzerland comes from abroad. And this is not necessarily bad because other countries have, I mean, an advantage in producing specific food. Not everything can be produced in Switzerland. So this is actually not necessarily a bad thing. But of course, we with that also have a big responsibility because that means the food system, the food industry, the food consumption in Switzerland has a massive footprint abroad, a footprint in terms of economic implications, environmental implications, but also social implications. So we have to ask questions like what is the impact that our food consumption here in Switzerland has? And that is part of the system that we want to look at and this is also part of tackling it. So we have to take care of producing good and sustainable food in Switzerland, but also have to take care that that what we consume from somewhere else, whether to sustain, feed or food that we import, is really also kind of like maintaining with the same standards.

**[00:04:04]**

And the shift of Ukraine and Austria. I mean, it's the same pack of biological muesli that I always buy from the same store.

**[00:04:12]**

Yeah, both are very big producers in terms of organic production. So this is something that many people probably don't know. But our neighbour Austria has quite a high share of organic farming. This is basically the leader, so to say, within the European Union. And of course, this is something that we also demand and that also shows that the food value chains are flexible and they also need to be flexible. So, this is part of the story that we need resilient food systems. And that also implies that, I mean, sourcing in from different sources is something important. And we also see how important the resilience of these systems is, because there are many shocks we have had, I mean, climatic shocks over and over in the last years. They will come more frequently, more intense. We have had market shocks. We had wars even in Europe. And of course, also COVID was a big shock for the food system. So, we really see that we do need producing sustainable but also resilient food systems.

**[00:05:05]**

And when you mention the resilient food system, like the things that comes into my mind is a resilience for who actually or in face of what. Because if here the idea is that Jennifer keeps her muesli at the same price all along the year, well, then it's probably not really resilient for the farmer on the other side of the world that is here to kind of try to meet Jennifer's need at that particular price. And here I think that I join you fully in this idea of building sustainable and resilient food system. But I think that the question of resilience becomes even more striking and actually very important to focus on, because then it makes us wonder at what extent we want to get things back to the normality that we kind of had. And this is a big question that we ask ourselves during the COVID time, or if it's something that we want to actually transform in order to reach that sustainability that is still not yet reached in many places. And I think that here I like the concept resilience - I did my PhD on that. But I think that it's a it's a fascinating one because it can be taken so many different lengths. So I think it's very important to remind ourselves that it's not only about the resilience of having, like our usual muesli-coffee breakfast in the morning to be happy to start our day, but rather like all the interconnectivity that are actually inherent to that food system. And to what extent, again, like maybe a climate shock will affect a coffee farmer in Kenya because it's happening and what will be the impact that you can sustain potentially as well to provide solidarity or to provide justice in the face of those shocks that are completely unforeseen?

**[00:06:40]**

And how do I do that? Do I stop having muesli and coffee in order to change something? Or is it - what are the first steps?

**[00:06:49]**

I think there are many steps to go through. The first one is to ask yourself, where is it coming from? Who is behind that? Who are - not like not I would say not only the farmer, as you said, it's like a whole bunch of human beings that are behind one particular product. And yeah, start to ask yourself, where is it coming from? How is it produced? To what extent my action of being also a consumer can contribute to one dynamic or the other? And ultimately there is a lot of gradients here that are already offered and already suggested for us as consumers, but also just citizen and things like this. And the idea would be to, I don't know, but follow a bit the values maybe that you cherish the most, I would say, and kind of understand that there is a political dimension as well to that not only social one, environmental one, economic one, all of them bring us to that political dimension. And I think that here is a fundamental question to ask ourselves.

**[00:07:46]**

Because there are so many ingredients also to the whole food chain system. The war in Ukraine is changing the food chain also, if I understood correctly, I mean, you both know much more than I do about that. And there is a danger of a famine catastrophe on the African continent. Robert, regarding resilience of food chains, what can we learn from this?

**[00:08:07]**

Maybe to start with, I guess the problem of food security is one that has been there before the war in the Ukraine and will be there after the war in the Ukraine. So this is not the only cause of hunger on earth, but indeed we see a situation. We saw it even actually before the war of skyrocketing prices for both inputs like fertilizer, but then also the outputs like, for example, wheat. And this was also due to rising energy prices, and that often shows how closely interconnected our world is. So that means if the oil price is going up, the production of fertilizer is becoming more expensive. Then there's also a competition between where is the thing that is produced on the field going, is it going for feeding animals? Is it going for producing energy or is it going to your muesli? And that's not so straightforward, right. And we see there's a lot of interlink and the linkage in that kind of economic decision making among many actors. But we also see a heavy, interlinkage across the globe because we see a drought somewhere in Australia can cause an increase of hunger in another place in the world. And this is something that is really, I mean, fascinating also from our point of view, because this is also what we teach the very first semester showing, hey, this is the food system and everything is interconnected and you cannot just focus on one thing, but you always have to take the big picture. And of course, this is also calling, as Kenza rightly pointed out, for policies that are holistic, that are inclusive, that go beyond a single country. So we really need to take care to see that these systems are functioning and functioning in a way that we can feed people, that we have an environment that we do not destroy, but also allow people to make a living in that food system. So that's all people.

**[00:09:47]**

So it's all interconnected. And one of your specializations is also in shock, as you told me. Can you tell us about that?

**[00:09:54]**

Yeah, I would say that I focus on shock, but from that perspective of having interconnected elements within our food system, the idea is to look at the dynamics that are within the food system over a certain time period. For me, I think that it's important to handle shock in a way that it's not simply about recovering very fast to that shock, even if the situation that was before the shock is completely unsustainable. I think that this attitude is very common and I think it should be prevented as much as possible. Now what I'm thinking, for example, would be in case of a drought, let's say so that has been mentioned. If a drought hit a country or has a tendency to hit a country, there is water scarcity. Let's say, for example, in Morocco, that one of the idea was to use drip irrigation in order to face that. However, the drip irrigation, be it a very efficient way to irrigate field and to provide water to fill if it's not taking into account not only time like, but also the spaces and the quantity of water that is available for that drip irrigation. Then what we observed is groundwater table depletion because people were only relying on that pumping more now that the droughts are increasing and in a very narrow time period having not enough access to water after a while. So here I would second to what Robert is saying regarding sustainability and resilience, because you can totally install very well functioning technology on the field in order for you to resist to a shock or to be able to build a resilience. But then if it's not taking into account space and time and available environmental resources, then it could lead to even worse scenarios in like decades from now. And here I think that it's fundamental to think about our way to want to emerge or transform ourselves sustainably within all of the shocks that are happening, be it political, be it environmental, but also social. How can we emerge in a sustainable way?

**[00:11:55]**

The war between Russia and Ukraine is a visible shock, but there are also invisible shocks then.

**[00:12:01]**

Yeah, indeed. I think that it's a very important shock that is happening now. That raises a lot of concern from people. And I think that it's very important the solidarity movement around it. But what I think is also fascinating is that there are a lot of invisible shocks that are happening all around the world and that we do not take into account, let's say, a flood in Republic Dominican for the banana production. And then what is happening here? Are we sourcing from another place in the world where there is no flood and leaving those farmers in need? Or are we sticking to trade to continue to align with that shock? So I think that it's very important to have in mind that if we're facing now a visible shock, the solidarity that is arising from it is necessary, but should be also followed by the same one for the invisible shocks that are not really like well diffused in the media but are still like highly connected to our habits, to our food habits.

**[00:12:55]**

By fascinating, you don't mean that it's something positive.

**[00:12:58]**

No, not at all. I mean, I mean, obviously concerning and urgent to tackle when I say fascinating as maybe just because I'm a scientist and I think it's important to look at those things.

**[00:13:14]**

How do you bring these topics across to the public? Because that's also very important. That's like the end of the chain. That's exactly our plate is when things land on our plate. Very often we don't think about the chains. But how can a shift happen? What do you do to bring this across?

**[00:13:33]**

Yes. So maybe let me start with showing a bit of perspective of the World Food System Center. We bring together 52 groups at ETH that work within the food system, really starting from breeding new varieties, bringing them to the field, looking at how farmers make decisions, how like the food processing is going on. But then till the very end, the consumer, you were buying something in the shelf and then also looking at what are the health and environmental impacts. And there are many, many entry points to communicate and it's a necessity to communicate with stakeholders, whether this is industry, whether this is policy. But then, of course, also the general public and this is a core thing at the centre that we want to conduct interdisciplinary, transdisciplinary research, cutting edge research, but also want to contribute to capacity building. This is education and that starts in our lecture halls. Yeah. I mean we have like ambassadors that go in the world and really change the world, right? This this is a core starting point for us. But then there's also the general public where we have a lot of activities and outreach and this is very important and it starts with schoolkids and Kenza can tell more about that, but then really goes to continuing education activities. And this is a core thing we do. We want to I mean, conduct research, we want to communicate about research. We also want to integrate the feedback from others in our research. This is very important and then make sure that the research is having an impact. It's going on the ground, is introduced at farms, is in the shelf, that you see a product that was shaped by our research but then also is implemented in policy action and industry action. So this this is something that we want to achieve.

**[00:15:06]**

Kenza, you're nodding.

**[00:15:08]**

All of the elements that were mentioned. I think this is precisely our role even. I think that we're coming now with the responsibility in a way. And a responsibility is not only to digest the research that we're making, but also transmit it and be able to share it with the people. I think that there is some well, I mean, something for example, when we think about the agroecology framework, one thing that comes into my mind is that it resides on three pillars. One would be the practice, the other one would be the scientific discipline. So what do you create out of the science? But then the third one is the social movement. So how do you bring people together in order for that practice and the discipline to be actually.

**[00:15:51]**

And how do you?

**[00:15:52]**

I'm trying my best, but it's just going on many fields, I would say. We start with the research as we're researchers and it's totally by building interdisciplinary but transdisciplinary as well platforms being able to involve practitioners not only researchers, acknowledge their expertise, acknowledge their knowledge, be able to understand that it's not about giving knowledge, but it's about co-creating it and being able to learn from the other and to grow together from that. And I think that this component is actually one also of the elements of agroecology. If you think about it, the co-creation and shared knowledge. I think that this one is fundamental. And then when you move outside of the knowledge, how do you do it on field? With whom? Who are your allies? And then it could be also multigenerational. It could be super diverse as well. It doesn't have to be then I said, only in Switzerland. It's about being able, like we do a lot of research elsewhere as well because of this interconnectivity, because of our plates that are like 50% full of other type of food. So how can we then also be able to yeah -co-construct something that would be ecologically sound but not limited to borders and frontiers. And I think that this is fundamental as well.

**[00:17:14]**

And Robert just mentioned that you also are in touch with the younger generations, tell us about that please.

**[00:17:20]**

Yes, we have. But one of the projects that we have on the outreach side would be as a SNF Agora project, really how to engage in science communication and so on. And we're building this art science installation where basically we create stories out of our research. So the Sustainable Agroecosystems Group has so many research, different types of research on so many levels. It's interdisciplinary but transdisciplinary as well. And so we wanted to create stories to reach out to people through that. And along the journey, we spent the last school years with the different classes of teenagers talking about agroecology, sustainable agriculture, food system, and they co-created with us this installation that is now actually in the museum for the exhibition of the World Food System Center.

**[00:18:06]**

It's Mühlerama in Zurich. If anyone from Zurich is listening to this right now, you can go and see the exhibition.

**[00:18:11]**

Yeah. And the idea is, again, to have this installation as light and as portative as possible so that we can also reach out to other audience in other spaces. And just I think that here it's really about involving the teenagers because they're brainwashed with a lot of messages. Some of them could be very negative as well. And here it's also about empowering in a way those voices and enabling like positive ideas to emerge as well. So this is our little contribution on that level for sure.

**[00:18:41]**

So whatever lands on our plates actually have stories to tell. The foods can tell long stories. And what about both of you? If we think of your kitchens, when you cook a meal, do you look at what you get? Do you take care? Do you feel bad about using a certain products? How do you cook, Robert?

**[00:19:03]**

Yeah, I do know where the food is coming from to the extent that you can know what is indicated on the product. But of course, working in that environment makes you care. And I think this is also an important point. I mean, raising awareness is an important element at all levels, whether it is consumers, but farmers and all the actors in between and on the policy side. And I think this is also our responsibility, but we also have to empower people to do that and to be able to see where the food is coming from. As you said, with maybe it's not always that clear cut. And of course, for products that are processed and and animals that are fed with feed from somewhere, I mean, this is very difficult to make it transparent. But we do need transparency also to highlight what are the impacts behind the product that we consume. So this is not only that we can transfer all the responsibility to the consumer in the end, but there is a lot of activity to be done in between, whether this is from the industry side, from the policy side, and then of course also from the research side, because we can contribute to make things more transparent.

**[00:20:07]**

And more concrete - what do you cook? If you just cook a meal where you don't want to feel guilty or don't want to feel bad about it?

**[00:20:12]**

You don't have to feel guilty if you cook something. I mean, it's a balance between things. So, I mean, go ahead and do what you do, but have in mind that there is an impact. And of course, we know that there is a tendency to have too much meat on a plate on average, so reducing the meat consumption is perceived as being more sustainable. But of course it's not so clear cut or waste, right? Because Switzerland has a lot of grasslands and this is made for feeding cows. So this is not necessarily bad, not necessarily bad for the environment. So this is an important balance to take.

**[00:20:48]**

Kenza, what kind of meals do you have?

**[00:20:52]**

Many diverse meals. But it's true that I - like Robert - I like to know elements. I like this transparency regarding the food that I'm eating. I think that's something for sure that I need to have in my plate, a traceability of what was happening and how it was happening. So I don't stick only to the place it's coming from, but also how it was grown and who eventually grew it. This, I think, as I said, I like the stories around food and I think that I like to have stories around the food that I'm eating. So this for sure, I pay a big attention to that. But yeah, I'm sorry. I'm going to jump on what you just said, because I think it's very important indeed not to put all the responsibility on the consumer as well. I think that it's very important to acknowledge that there are also like power dimension in that food system where a lot of power, in order for that food system to be sustainable and resilient, resides in other hands as well. And I think that here it's also very important to kind of shift ourselves outside of this dichotomy of having only like a producer and a consumer, although there are billions of producers and billions of consumers, obviously, but the whole in between and how it's traded, for example, and how it's distributed and all of that.

**[00:22:06]**

Also, I think that here lies an important source of power that also enables certain dynamics to happen rather than others. And here I think it's important maybe a bit to shift outside of that guilt of a consumer, because I think it could be very pressing. Nevertheless, I still think that we still have like a big margin in the sense and there's still a need to acknowledge, again, how political our food could be and how some of our plates shows things that we don't necessarily want to see. And I think reflecting on that is very nice because it brings us as well to a different dimension, almost a non-human dimension as well, that it could also be how come there was hail a week ago? What created the hail like a few years ago, for example, in valleys kind of destructed the apricot and the apricot became all ugly. Are the population also able to kind of jump on that and say like, oh, I have ugly apricot in my middle shelf, but I would like to still buy them because I remember that hail was very detrimental. So there is also that link to like weather, climate, human beings, nature that I think.

**[00:23:14]**

So awareness is the key word in a sense. Critical awareness. Critical awareness on all levels. Robert, the World Food System Center, celebrating its ten year anniversary now. In one sentence, what do you want to achieve in the next ten years?

**[00:23:31]**

We want to bring together even more researchers at ETH and beyond ETH to contribute to a more sustainable but producing food system and want to achieve that by connecting researchers, being excellent in teaching, being excellent in outreach and connecting to our world around us. And we can benefit as a center a lot from moving ahead. And I think also that fits so, so well into the bigger picture of ETH. I mean, really, the food system is a core element of making the world more sustainable. And this is an opportunity and we will take it.

**[00:24:07]**

And Kenza - next ten years, what do you wish for the World Food System Center at ETH?

**[00:24:14]**

I can only wish what Robert said, bringing more people together and being aligned to the necessary changes that needs to happen and the ones that are actually currently occurring and how to federate a bit more the human beings all around. Because one thing that is fascinating about food system is that like we're all so directly linked to it that yeah, I think that there is a wonderful opportunity here to be inclusive in this demarche.

**[00:24:40]**

Can I add something? Of course. So we as a World Food System Center are also engaged in hosting researchers from the Ukraine. So currently we have several Ukrainian professors and researchers at ETH and do research together with them also on aspects how to improve the agriculture and food system in the Ukraine now but then also after the war. So for example, in my group I hosted two professors and with one we are working on how to make agricultural policy in the Ukraine better after the war. So this is also an important aspect that we have as researchers to also build capacity in other countries and then with that, improve the situation hopefully a bit.

**[00:25:23]**

Thank you for being here today. We spoke about many topics and saw how they are related to each other. Climate is one of the many subjects we touched. In the ETH podcast our next episodes will be a series about energy and climate change together with the Energy Science Center. We will be exploring and also killing myths regarding climate change. And for once the series will be in German and after that we'll be back in English again with our podcast. Thank you for joining us. My name is Jennifer Khakshouri. I produced this episode together with the Audiobande, a joint venture for sound adventures.

END OF TRANSCRIPT



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