Handpicked Presents: Voicing Change

Season 4, Episode 3: Forests, Food, and People- Part 2

Featuring Dr. Eve Nimmo, Dr. Jennifer Baltzer, Dr. Zach Ngalo, and

Dr. Andre Lacerda

# **Transcript**

**Speakers**

Andre Lacerda (AL)

Eve Nimmo (EN)

Jennifer Baltzer (JB)

Zach Ngalo (ZG)

Charlie Spring (CS)

Laine Young (LY)

{[intro music]}

**LY:** Hi everyone, welcome back to another episode of Handpicked. I’m Laine Young..

**CS**: and I’m Charlie Spring

**LY**: Today we’re excited to share another episode from the Voicing Change project. What are we talking about today, Charlie?

**CS**: So, this is part 2 of our Forests, Food & People episodes featuring discussion between team members in Brazil, Kenya and Canada.

**LY**: Well, I can’t wait to hear it.

**CS:** Let’s get to it then.

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**CS**: Welcome to the Voicing Change podcast. I’m Charlie Spring, your host for today. In our previous episode exploring relationships between forests, food and people, we heard people from Brazil, Kenya and Canada telling us about some of the features of the forests in their respective regions, and how people have used and cared for those forests for survival for millennia. We heard how in the Northwest Territories of Canada, wildfire has been a key agent of forest control whereas in Kenya and Brazil, forests have long managed by governments in the service of colonial regimes.

However, in all of these regions, Indigenous people and forest residents have deep knowledge about the forest and the nonhumans that live there, including medicinal plants, native and introduced animal species, and the unique bioregions made up of particular tree ecologies. Fundamentally, we learned how the forest is far more than a resource to be owned and plundered but that forests are an integral part of the way humans see themselves and their interrelationships with the environment.

In this second part of our forest-themed podcast episodes, we turn to consider threats to these vital and ancient human-forest relationships. We consider the role of a fast-changing climate including wildfire and drought, and human interventions, such as deforestation. We also shed some light on resistance to these threats by people fighting to protect our forest commons.

So in this episode, you will hear Eve Nimmo who interviews forest ecologist Jen Baltzer discussing the Northwest Territories in Canada, Zach Ngalo on the forests around Migori County in Kenya, and Andre Lacerda on the Auraucaria forests of Parana, Brazil. First, Eve asked Jen about the biggest problems facing the communities that rely on forests in northern Canada.

**JB**: The main, the main and most pressing issue that communities and Northwest territories are facing are the direct threats from climate warming. High latitudes, and the Northwest Territories included, have warmed faster than any other place on the planet. So we've seen about a four degree Celsius increase in annual average temperatures in northern parts of Canada over the last 50 years. This is leading to tremendous changes in the way, you know in the way the entire system operates. So it's, you know, having direct impacts of of warming so leading to, you know, declines in some places in forests leading to changes in species ranges that that have various concerns for communities and land managers.

And there are the indirect effects of climate warming while so direct some additional direct effects of climate warming are, you know changes in snow and ice cover so [lengthening of the growing season, shortening of the winter season which then has implications for other important components of this system. So specifically the existence of permafrost and the nature of wildfires in the system. And so this this warming, this rapid warming that we're seeing is driving widespread thaw of permafrost, which, you know, in some places leads to really these what we refer to as thermokarst or abrupt thaw. And basically the ground surface subsides or slides away. We can see landslides in some places. We see ground subsidence and other places where the land just becomes flooded and the forests are lost. These aspects of changing permafrost conditions impact safety of people on the land as they're moving around, and impact wildlife habitat, and impact habitat for other plant species that are important. And so this is one indirect impact of climate change that that is is is having profound consequences for forests in the north.

The second piece is wildfires. So, as I mentioned, these are a natural and important part of this system. But warming climate without a corresponding increase in precipitation is leading to a drying system. And a drying system means more fuel. In addition to that, we're seeing with climate change, we're seeing increases in lightning strike frequency. So we have both drier, more fuel in the landscape because of these drier conditions and the ignitions to start fires. And so we're seeing, you know, larger area burn, more severe wildfire and more frequent wildfire. And this is altering the nature of the forests. We're seeing widespread compositional change in response to this change in fire activity. We're seeing communities threatened on a regular basis by wildfire because the fires are burning more intensely and are harder to manage by by managers. So there’s a large number of impacts of climate warming. So it's not a management issue. It's really that that these northern communities are one of these vulnerable groups when we think about climate warming impacts- they're not causing the change, but they are the recipients of really profound number of consequences of climate warming.

**EN**: Thanks, Jen. Zach, can you tell us a little bit about the challenges that the communities that you are facing in terms of how they depend on the forest and how this situation came about?

**ZG**: In other areas where people live close to the national parks, we have similar challenges, but these are from the national parks. But this is agricultural area mainly.

Fortunately, we have not had any problems with the wildfires. And I think this is because all around the hill there, there's agricultural activities going on. And we have privately owned gardens. So people protect their gardens. And you will not find it easy for wildfires to come in. Previously, there was a practice of burning remains in the fields after harvest, but that has also gone down because currently you'll find that even the maize stalks that remain after harvest, people collect them and process them and give them to cattle for feeding. So, the risk of burning them and then the fire going into the into the forest has been reduced drastically.

One of the challenges is that even for those who want to use the forest for medicinal purposes, sometimes it becomes difficult because somebody's seeing you in his private land, which has the medicinal plants, sometimes may just not take it very easy. But if they know that you are only getting the medicinal plants and you're not taking the bark because some of the plants you take the bark and if there's overharvesting of the bark there, the plants would dry up. So, most of the people, they eat the leaves. But again, you find that a number of them, the active component is more concentrated on the roots and the bark than the leaves.

**EN**: That's interesting. Zach. And just a question, a follow-up question on that is, is about access to forests. So, what I what it seems to be you're saying is that most community members don't have access to forest because it's all on private property. Is that the case?

**ZG**: They will have access but limited access because it's somebody's property. So, if you're going in, people don't move in freely as they used to in the past. In the past, some 30, 40 years ago, you would graze anywhere. You would use any material from any land, even if it was somebody's property.

But you see, nowadays people have title deeds for their parcels of land. And if you have a title deed for that parcel of land, it's like you own it. And if you have something precious in that land, you have to protect it. And in cases where they have not protected well, you find that the medicinal plants have disappeared or have reduced in abundance. So, people are taking caution so that we don't lose this diversity of medicinal plants.

**EN**: Thanks, Zach. That's very interesting to think about access to these traditional resources and how that is a challenge for communities. Andre, can you tell us a little bit about the challenges that people here face in terms of forest resources and how that came about?

**AL**: It's interesting to make those comparisons when there's been similarities with other places. In Brazil also, forests are basically in private properties. So, despite unless our protected areas like forest reserves, all the forests are in private properties. But regulations, federal laws require that forest properties need to have at least 20% of its area covered in forest in which forest management is basically forbidden. So, people have a restriction in how they use their own properties. And because of more regulations were enacted recently or in the last decades, what happened is that all forests in private lands are no longer available for forest management.

So small farmers that for the longest time for generations have protected and manage their forest nowadays, see themselves as forbidden to use those forests. So, we have work with farmers, they have 80, 90% of their land covered in forests with little land, not much land to do other activities such as agriculture and other food source production. So, farmers in the end see themselves as unfairly affected by those regulations. As we see other parts of the country which have more desirable and fertile soils, basically there's no forests left, and despite the regulations in place. So, these small farmers, small scale farmers are very restricted in the ways they use the land, which creates this conflict between government agencies and their regulations and farmers.

So, it also creates another feeling that they didn't their traditional knowledge is basically nullified because you they have been managing this forest for so long and suddenly regulation and environmental agencies come and say, well, you can no longer use the forest as you used to, as your grandparents used to do in the past. So, it creates a very huge conflict in the region. So people, they are supposed to protect the forest and they do sometimes, they feel like they are unfairly treated.

And to create this very complex context, it has been created, this idea mainly in the urban areas, that really the farmers are the ones that deforested all the land. So it’s this very complex that people in urban areas thinking that farmers are ones that destroy the nature, in fact the small-scale farmers are the ones they have been protecting the forests! What they want is to be able to manage to some extent the forest as they have been using or have been managing for generations. So, it's a very complex situation in which small scale farmers are really in the disadvantage point.

**EN**: Thanks, Andre. Jen has already given us a really good idea as to what the impacts of climate change are on the on the forests in the Northwest Territories. And I'm wondering if Andre and you Zach could give us a little bit of information about how global warming and changes in climate are affecting forest resources and if there's a movement towards conservation or other kinds of mitigation practices. So, Zach, I'll start with you.

**ZG**: It's very interesting to have these comparisons. I'm always amazed when I hear about the Amazon River Basin because of the diversity of plants that you have there.

If we talk of climate change in our area, I think maybe, the climate change has not elicited some fear because once we, when we started talking about climate change, we have seen changes here that, the rains have increased. It's no longer easy to predict when the rains are starting and when the rains are stopping. Previously, the farmers would tell you the date when they would plant and of course, when they plant it would start raining. But, right now it does, in the past 3 or 4 years, you find that it is raining continuously or the rains come when you don't expect. Sometimes it even defies the weather forecast so that when you think it's going to be dry, you find that it's raining in some parts.

Although it's different again in some parts of Kenya where you have had a drought for a very long period of time where you find people are suffering or dying because of drought. Animals are dying. Sometimes we rely on the weather forecasts, but it's not that accurate because we have we have surprises from the weather.

**EN**: Okay. Thank you, Zach. Andre, I think it's kind of a similar situation here in in in southern Brazil. The changes from climate change are are starting to have impacts. But they haven't been felt quite as intensely as in the Northwest Territories.

**AL**: Yes, climate change has been obvious here, but not as obvious in Northwest Territories. But we're starting to see some trends that have been more obvious, mostly in the last 10, 20 years. So, what is going, well, what we are observing is that the growing season seems to be longer than in historical records. We used to have the winter season across that the season with colder temperatures. And it's no longer happening. What we are seeing is warmer temperatures with cold snaps, which affect obviously the growing season of plants.

So agriculture has been suffering quite a bit because plants continue to grow or people start planting earlier after the winter because temperatures are already warmer. But then we might have those in particular late frosts happening and killing the plants. We also have seen more common droughts in the region here, we basically have don't have drought seasons, but we have had for the last decade, very long drought seasons, which has affected severely the vegetation, with some species obviously not doing as well as others.

**EN**: Thanks, Andre. So, Jen, I wonder if you could tell us a little bit about what communities are doing to kind of to address these impacts of climate change. If there's things that you as a researcher are working with the community or other institutions, NGOs or others? What kind of activities are being done to try to address these issues?

**JB**: Many communities in the north are spending a lot of time and effort focusing on adaptation to climate change. And now this takes a lot of different forms.

You know, are there are ways that community members can modify, you know, how they're moving across the land, how they're using the land to you know ensure safety when they're out on the land? And also thinking about how to respond when communities know there’s say, a culturally important place that is at risk from permafrost thaw and, you know, ground subsidence or landslides or what have you, is thinking about how they want to respond to that. Do they want to try to rescue important things from those places and move them elsewhere, etc.?

There's been a move in the Northwest Territories toward creating these firebreaks around communities. Now a challenge with that is ensuring that those are maintained. And so communities are making decisions on a community by community basis as to how they're going to maintain these fuel breaks in the landscape to try to buffer their communities from wildfire. And one great example of how that's being handled is, you know, planting food crops, planting berry crops that are culturally important. So planting culturally appropriate food resources into these forest breaks to maintain that that fuel break on the landscape while also providing access to resources that are important to the community. And so those are a couple of, you know, a couple of examples of how communities are responding to these changes.

I think community-based monitoring is one of the things that we're seeing in the kind of the most widespread way across the north. There is the Indigenous Guardians program, where these guardians are trained in both, you know, traditional knowledge. They learn they learn the local and traditional knowledge of the land. They become, you know, really important knowledge holders in the community while also working with Western scientists on some of the monitoring approaches that we use to quantify change.

And so sort of taking, you know, taking a two ways of knowing approach and braiding these knowledge systems to best monitor and understand the changes that are happening and be able to, you know, prepare to respond to these changes or, you know, at least for their region, have the evidence that they need to say, okay, we need support in these ways because changes are happening in these ways for aspects of the land or water that's important to us. And so probably that's the, you know, the most common response we're seeing across the north is increased Indigenous stewardship of the land, increased Indigenous led monitoring of the land to try to evaluate these impacts and understand what they mean for communities.

**EN:** Thanks, Jen. That's really interesting that there's a there's such a focus on valuing the impacts that these are, how communities are feeling these impacts. And it's not just, you know, scientific monitoring of our numbers and how things are changing or what that impact has for the people, for the resources that are important to them in the communities.

Andre, can you tell us a little bit about some of the strategies that the people are using here in southern Brazil to kind of mitigate against future shocks? Climate shocks or other issues with climate or also forest degradation and deforestation.

**AL**: The initiatives here in southern Brazil are basically grassroots initiatives in which people are discussing and seeing as alternatives to climate change, agroforestry in agroecological systems as a way to buffer those changes. But those ones are carried out by NGOs and communities, universities. So, they are very grassroots.

But when you move to, let's say, higher levels of government, this question is very much like scientific, let's say. So, we are monitoring. We are planning what strategies should be done. But there is this top-down difficulty of how to make it happen in the field. So, there's this big disconnection between national strategies and how to implement them.

And so no, basically no support for people and for institutions in the field. So, it is basically just grass roots and farmers are seeing themselves affected by or like victims of this climate change, but they don't know exactly what to do with that. So, because things they see that the growing seasons changing, they see that the rain is unpredictable now and they don't know exactly what to do.

So, is I think is mostly something that communities with help of other institutions in the grassroots movement that is trying to find themselves solutions for that. And mostly this again it's done by farmers. The seed of forestry and in agroecology is a solution for those challenges that we're starting to see more, obviously. But I, I see it with this connection between the top, the government level initiatives and what is going on in the field. This should really be addressed as soon as possible.

**EN**: Zach, did you want to give us some indication as to the kinds of strategies that are being put in place in your region in Kenya to deal with changes in the change in climate or deforestation?

**ZG**: I can say that one of the things that farmers are doing or rather I would advise farmers to do, is to grow more of indigenous crops that are drought tolerant.

So, in preparation for any challenges of climate change, we have to look at the type of trees that we entertain in the regions that are prone to devastation. When you have climate change, especially if you have long periods of droughts, but again, we talk of conservation, land utilization. So, if you find that we will use a lot of timber for firewood, then we would encourage people also to grow these in advance so that when they reduce them in abundance, we will still have enough to cater for our fuel needs.

Because if we look at the cost of living, cost of petrol, it's going up so high that some people may not manage to afford that, but they will depend on the natural resources like forests to get firewood to get sometimes even what they eat. We have berries, we have nuts, we have fruits that are found in the forests. So, I would say that in preparation for climate change in most parts of Kenya, we would actually advocate and advocate for indigenous crops that are drought resistant.

**ZG**: One other thing that we have realised with climate change is re-infestation by vectors of disease. At the moment, we have a lot of mosquitoes and we even find mosquitoes crossing into areas like parts of the Rift Valley where there are no, there was no malaria. There were no mosquitoes. But now, because of the human activities, we are finding that we are having a lot of public health challenges that were not there before that are cropping in at the moment.

**EN**: Thanks, Zach. That's very interesting that the impacts of climate change go much further than just the forests, the food people. It goes to all aspects and aspects of life.

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**CS**: And thank you for listening to this episode of Voicing Change. In our next episode we introduce agroecology, one of the guiding themes and sources of inspiration for the Voicing Change project.

{[Outro music begins- low level]}

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