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**SEASON 1 EPISODE 5: Forests for Sustainable Societies**

**EPISODE TRANSCRIPT**

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According to the World Bank, 56% of the world's population – 4.4 billion inhabitants – live in cities today. This trend is expected to continue, with the urban population more than doubling its current size by 2050, at which point nearly 7 of 10 people will live in cities. What are the implications of this for the forests?

***Intro***

Welcome back to Branching out: the forest podcast, where we connect forests, science and people. Brought to you by the International Union of Forest Research Organizations, IUFRO. Let's discover the role of forests and trees for people and nature, while we unravel complex forest topics and keep you up to date with forest research.

So far, we have covered general information about the IUFRO World Congress 2024 in Stockholm, forest resilience and adaptation, responsible forest bioeconomy and last time biodiversity and forest ecosystem services. This time our focus is on forests and people. I am your host, Jose Bolaños from IUFRO HQ and today here to cohost is Yasmeen Sands, from USDA Forest Service.

***Urban forestry as an integrative nature-based solution with Congress keynote speaker Harini Nagendra***

**JOSE:** I currently live in Berlin and its landscape reflects its history in ruins and monuments, but also the redefining of unused spaces as communal gardens, lots of parks that were built in the last 30 years on protected border strips of the former Berlin wall, such as Gleisdreieck Park, and on the banks of the Spree River. Very fitting for our topic.

**YASMEEN:** Our first speaker comes from India. Harini Nagendra is Director of the Azim Premji University Research Center and leads the University's Center for Climate Change and Sustainability. Over the past 30 years, she has been at the leading edge of research examining conservation in forests and cities of South Asia from the perspective of both landscape ecology and social justice. And she is here today to discuss some related issues. Welcome, Harini!

**HARINI:** Thank you so much. It is a real pleasure to be here.

**YASMEEN:** What are nature-based solutions and how can we apply them in urban settings, where most of the world's population lives?

**HARINI:** Nature-based solutions are just a different way of thinking of ecosystems. We always have ecosystems in the city. They might be remnant forest patches. They could be parks where you go for exercise. They could be, for instance, in many parts of Asia and Latin America and Africa, they could be sacred spaces where people go to pray and connect spiritually to trees or bodies of water. They could be ponds, lakes, anything that is a natural ecosystem, grasslands. And elements of nature. It could be a pot in your balcony. It could be something as simple as that. And when we say nature-based solutions, we're really trying to appeal to people, especially policymakers and planners, who are looking for solutions for the city. You and me might not think of a pot in our balcony with pretty flowers and a butterfly visiting as a solution. But it's good. It's a good marketing way that people have found, because policymakers are looking at. Should I have a new road here? Should I have a building here? Should I preserve this park? So you're trying to tell them how nature is important in playing a role in health, in spiritual benefits, in mental wellbeing, in flood resilience, in cleaning the air, in keeping the temperature down, all of the other things that nature does for us, which we don't pay attention to, putting that all under the umbrella of nature-based solutions.

Especially important in cities, because in cities money seems to drive policy and economic growth is their first priority and especially, for instance, in the Global South this becomes very important because urban development means only infrastructure, so you have to give them a sense that green spaces, blue spaces are also infrastructure and hence the term nature-based solutions.

**YASMEEN:** What are the benefits and challenges of urban forestry?

**HARINI:** A lot of benefits really. There are very few downsides to having urban forestry. Especially in cities like the Global South where cities are growing so fast that people have very little access to public spaces. For instance, let's take Bangalore, my city, where we lived during COVID times, of course, as different parts of the world did, everyone tried to escape to a park for some mental stress relief, just a public space that one could go and just be in the place of nature. But also many other things in high polluted cities like Latin American cities, many Asian cities, many African cities now, trees really helped to cut down suspended particulate matter and sulphur oxides and nitrogen oxides and different things like that. They had in tropical cities, many Global South cities, are in the tropics. They're heating up very fast. So Indian cities are already getting a lot of, for instance, migrant workers who are doing construction, who are the poorest of the poor really exposed to heat waves, tend to die or and get other disorders. You can have cool spaces to sleep in in the afternoon. For instance, if you have urban forestry. Many other things. There's the spiritual mental health benefits, the physical benefits. We've talked to corporate workers who say that they're in IT parks the whole day working on their computer and they come to urban forests for some time just to have peace. We've talked to mothers of special needs children and they find that these forests calm their children down.

**YASMEEN:** These are such great examples of the benefits of urban forestry in communities. Can you speak about any of the challenges?

The benefits are massive and at a city-wide scale, I mean I've spoken about people's benefits, but a citywide scale you have cities that are facing sea level rise. So an urban mangrove forest for instance would help protect the city against sea level rise. Urban forests in different parts, let's say a mountain city would help protect it against landslides, if there was a huge flood and similarly in terms of droughts. Of course, it's a little more controversial, but there is a lot of evidence showing that in terms of microclimate, it helps to attract more rainfall to the city. So there's a huge number of benefits of urban forest to cities that we don't recognize enough. In terms of the downside, I would say there's only a couple of things that people have pointed to in the literature. The first one is increasingly if you have heat in cities, especially the Global South again, but also Northern cities you have mosquito epidemics. And mosquitoes do tend to hang out in green spaces a lot more, so one needs to be careful about how these are planned, specially if you have stagnant water bodies and how you maintain them. The second is a combination of heat and humidity because humidity brings a exacerbates heat stress considerably and especially in the Global South again, if you have trees they transpire and then you have more humidity, but they're also important for shape. So there's something in there that there's a combination, which are really new unexplored areas for research and we need to find out more about this.

**YASMEEN:** And in terms of outcomes, we have examples from places like Bangalore Lakes that now attracts a lot of birds, the wetlands around Kolkata that are the city's free sewage works and also a fertile aquatic market garden, and the restoration project in the **Aravalli** Mountains close to Delhi, that helps cool the city. Are there any examples of participatory and inclusive governing and managing in urban forestry?

**HARINI:** Citizen movements have been also on the rise across Indian cities and that has really played a huge role in the protection of trees, especially heritage trees. I mean the conflict is very easy to see in countries like India: people want roads, but people also want to protect trees and often you don't see that there's a balance, but there is between these two that needs to be achieved. So there are a lot of citizen movements in Bangalore, for instance, there was a flyover that was supposed to come up. It was called the steel flyover and then there was a huge social media movement with a hashtag steel flyover beda, beda means no and in Kannada the local language, and that really mobilized people to get out to the road and several scientists including us, for instance, from my University, Azim Premji University, we did on the request of citizens an ecological impact assessment that was an independent assessment looking at the impact of these trees and we found that the impacts both the numbers of trees were far higher than what government estimates showed and the impact would be far more severe than the government estimates should. And this adds citizen protests together, created such a huge push that the government actually took back the project in 2017. And more recently in Hyderabad, there was a highway, a national highway, that was going to be expanded and there are some heritage banyan trees there which are centuries old called the Chevella banyan and there's been a group that has been mobilizing for a very long time called the save Chevella banyans group. They filed a public interest litigation. And the high court recently ruled in their favour, saying no, you can't take away the trees when you have widened the highway, which is brilliant because judgments of these kind have a multiplicative effect.

***Forest and Human Health with Cecil Konijnendijk***

**JOSE:** Thanks to Harini, excellent examples of positive impacts of urban forests and citizen involvement. One of the key benefits of urban forests, trees and greenspaces is their impact on our health. Cecil Konijnendijk, the chair of a recent study on Forests and Human Health by the Global Forest Expert Panels (GFEP) a joint initiative of the Collaborative Partnership on Forests, is here to give us the summary and five key messages from the report. Welcome, Cecil.

**CECIL:** Good to speak with you, Jose and thanks for having me in the podcast.

**JOSE:** So, Cecil, what did you find out about the relationship between forest and human health?

**CECIL:** First of all, I think the most interesting finding is maybe that it's very clear that forest and trees as well as green spaces are extremely important for our health in many, many different ways. So the report really highlights this, right? Anything from trees in cities for cooling, but also for example, making us sleep better, helping us be healthier too, of course, things like nutrition, diverse nutrition, to providing rural livelihoods. So I think one of the nice things with this report is that we are not, let's say, looking at only the more traditional way of looking at forests and trees and health, but really take a very wide perspective and also look at things like zoonotic diseases and ways of maybe reducing those. And, of course, the COVID Pandemic has really shown that there's a clear link also there with forests and mismanagement of forests and wildlife that that comes into this.

**JOSE:** You mentioned zoonotic diseases, maybe not everybody is aware of what that is.

**CECIL:** Yeah, sure so these are diseases that are in animals, right, that could be all kind of animals, but actually have the capacity to jump to other species and in this case of course to humans. So that's actually why, in the report, we use this perspective of Planetary Health or One Health also which really shows that the health of humans of course is very closely related to the health of other species animals, but also actually ecosystems so I think that perspective is really interesting and important to bring forward as well.

**JOSE:** And what other key messages derived from the report?

**CECIL:** The first really big finding I guess is that the forest-trees-health relations occur in different life stages. So actually these relations are important even before we're born, so when we're in our mother's body still, there already is an impact of forest and trees on the health of the mother, but actually with that also on the child and then it goes all the way till the elderly and how we can have a better life quality spending time, for example, in forested environments. So I think that's really interesting. The report really looks at these kind of life stages and the relation with health and forests and then also I think a key finding is that the positive impacts of forests and trees on our health by far outweigh some of the more negative impacts. It could be things related to for example, smoke from forest fires or zoonotic diseases. So actually by far there's a positive impact so trees and forests are really good for our health and well-being are actually essential for us I would say. So those are the first two key messages and then the third one is that there is different what we call pathways in which forest and trees impact health, so that could have to do with things like cooling. Trees cool and, in that sense, we can feel better and healthier also during heat waves. It could also have to do with things like providing a diverse food. A pathway could be to let people interact. We're more ready to interact when we're in green environments and then we have a better social health. There's really different ways different paths in which forest and trees impact and the research, the literature is becoming clearer in defining those pathways. Then the fourth key message, really importantly, is that forest health relations offer solutions to global crises. So things like and, for example, zoonotic diseases if we manage forest better and we know we actually have a chance to deal with those diseases better. But, of course, climate change is a really big one here. Forests and trees, of course, help us not only mitigate climate change, but also adapt for example, cities. But also rural environments too and to the effects of climate change. And then the fifth key message is that we really need to be better in and integrating the perspective of forest trees and health relations into different fields. So not only forestry, of course, but also the medical field urban planning. And how we deal with rural areas, so we really need more cross disciplinary, cross- sectoral approaches and I think really the main outreach we have to do as forest sector is to the health sector where there is some interest now in this kind of more Planetary Health, One Health approach, but there's still a limited experience. And understanding I think of these relationships. So those are the in brief the five key messages that we have highlighted in the report.

**JOSE:** There you have it: Forests, trees and green spaces impact human health across all life stages, positive health outcomes of forests, trees and green spaces significantly outweigh negative ones, the health outcomes of forests are the result of several pathways that are dependent on context and individual lifestyles, forest-health relations need to be considered when dealing with global crises and integrative and cross-sectoral approaches need to be adopted to improve the forest-health link.

**CECIL:** I can maybe also say that it was really great to work with this very diverse team of experts colleagues from all over the world. So, we had the pleasure to have people with medical backgrounds, people with backgrounds in epidemiology, in tropical ecology and also urban forestry. So we had a really nice group of people and we were very happy that we could bring all our knowledge together.

**JOSE:** Thanks a lot, Cecil and back to YASMEEN.

***Power and equity in the forest sector with Judith Kamoto***

**YASMEEN:** Forests, trees and green spaces not only provide healthier environments but also numerous goods and services, including medicines, nutritious foods, and other non-wood forest products. Medicinal plants, which are particularly important to Indigenous Peoples and Local Communities (IPLCs), provide basic health care for 70% of the world's population. And did you know that low-income neighbourhoods tend to have less tree cover and green spaces than rich ones? Judith Kamoto, a member of the GFEP on forests and poverty from the **Lilongwe** University of Agriculture and Natural Resources in Malawi is here to discuss this. Welcome, Judith.

**JUDITH:** Thank you so much, it is a pleasure!

**YASMEEN:** So, Judith, how can forests contribute to the well-being of the poor as we face profound global challenges, trends of deforestation, degradation and climate change?

**JUDITH:** Forests can provide for the poor in these conditions of climatic changes in a number of ways. Firstly, forests provide for subsistence. People living close to forests go in search of food everyday, so they collect mushrooms, firewood and non-timber forest products in general for consumption at home, but they can even sell them especially in developing countries like in Africa, people would collect in line along the roads to sell, to get income and this income goes a long way to support other livelihood activities, for example, paying school fees for children, buying food. Apart from consumption on a daily subsistence, forests also support communities on a commercial basis. They can get timber out of the forest, but in most parts of the continent charcoal production from forest also provides for families, because most of the countries depend on biomass energy. They are able to make charcoal and sell at higher prices. In Malawi, for instance, 90% of the households depend on biomass energy in form of firewood and charcoal. In addition, forests can act as a health centre, in most of the developing countries, a forest is like a living clinic for them to be able to support their wellbeing and again forests are habitats for animals. So about from non-timber forest products that I talked earlier, communities go hunt for small animals and that's a source of protein for them, of course, in other studies we have noted that the interaction between humans and animals can be dangerous and sometimes zoonotic diseases can pass on from animals to human beings. But that doesn't stop communities that are very dependent on forests in as far as animal protein is concerned.

**JUDITH:** Communities living very close to forests, these forests are a wealth of culture and spiritual wellbeing, even graveyards are forested in this part of the continent and spiritual healing also happens in the forest. Some people actually go in the forest to worship and they believe that they are connected to their ancestors.

**YASMEEN:** And in light of your participation at the IUFRO World Congress, could you refer to how science and traditional knowledge can help to reconcile poverty alleviation with forest integrity, including biodiversity conservation.

**JUDITH:** There's quite a well of knowledge amongst communities that have lived with forests for a very long time and they have passed this knowledge from generation to generation and these communities know how important forests are and I want to answer this question in such a way that it connects to what we are today. In terms of pharmaceuticals and the reliance on forest because of the biodiversity that sits in these forests, for example, in the Amazon, we know to date research is still going on, researchers go into the Amazon even in the DRC Congo Basin Forest, to look for plant material, animal material genes that have not been discovered. But when they encounter local communities or indigenous peoples that are living in these forests, they rely on their knowledge to get insights about the gene material and therefore some breakthroughs in the pharmaceutical world come from this. We can see a link between science in developing medicine, the modern medicines some of them, to the biodiversity that we have in forested areas and the traditional people that live or indigenous people that live in those forests and based on the traditional knowledge that they have so there's a linkage. Between traditional, indigenous knowledge and biodiversity and science.

**YASMEEN:** Finally, from your perspective, how is forest research conducted in terms of empowerment of women, indigenous peoples, youth, and others that have been marginalized or excluded from the forestry sector?

**JUDITH:** Women will not feature in this picture because they are already left out. Research that we have conducted with the colleagues in Malawi on youth involvement, we have learned that the youth would like to go into Forest Management, Agriculture, Forest Restoration but the youth are looking for modern technology. They are looking for benefits that are tangible from engagement in forest management. And in most of the countries in Africa, the youth dividend, the numbers the population of the youth is so huge. So we can capitalize on this youth dividend, one, by allowing them access to factors of production such as land and using the digital age and technology engage youth in such ways that they find it interesting to do forest restoration, forest management, but at the same time also work on tangible benefits, short-term benefits. We know that forest management can be long term in terms of realizing the benefits, but we can look at the whole value chain and look at the low hanging fruits that youth can benefit. For example, beekeeping, using species for restoration that can give other benefits. For example, if you plant vetiver, the grass can be used as tea, can restore soil, the roots of vetiver, there are so many things that you can make out of them, essential oils and stuff. So we need to look at different value chains that can give us immediate benefits so that the youth can see the need to engage in restoration of forests and forest management in general, which generally is a believed to be a long-term benefiting venture. And for women we know that in most parts of South Africa where Malawi is sitting, because of the patriarchal system that I've talked about and inability to access inputs of production like land, then we need to think about engaging women in ways that are beneficial for them. For example, the issue of land registration, so that we pass out the lands and then we know that inheritance of these pieces of land will move from mother to children, and if they are female children, it means they are secured in terms of land tenure. So passing of land through registration is one way of allowing women to invest on land long term, because they know that forest takes time, but also this land belongs to us. And in addition to that, women in this part of the world, they are doing multiple roles like in Malawi, 90% of the agriculture work is provided by women. And therefore as we bring in interventions of forest landscape restoration and the other interventions to do with collection of forest products or marketing of forest products, we need to look at all these factors in totality so that we don't overbidding women.

**YASMEEN:** Thanks, Judith. And did you know that IUFRO's Special Programme for Development of Capacities (SPDC) supported a Forest Landscape Restoration (FLR) project in Malawi? Go to IUFRO's Web site for more information.

***Forest Governance with Mónica Gabay***

**JOSE:** Another aspect of involvement is the fight of indigenous communities in the face of deforestation. Some of these communities not only see forests as a source of livelihood, but as part of their identity, culture and spirituality as discussed with Judith, and their intrinsic link to human health. Indigenous and local communities as well as small-holders play an important role also in the management of forests worldwide. We invited Mónica Gabay, coordinator of IUFRO Division 9 – Forest Policy and Economics and author as well of the forests and poverty report to talk about this. How can these groups contribute to climate change adaptation, bioeconomy, biodiversity preservation, and creating more just and equitable access to natural resources?

**MONICA:** Thank you, Jose. We should remember that indigenous communities do not regard nature or forests as something different from themselves. They are an integral part of nature and of mother earth as they call it and also this is very important. The Convention on Biological Diversity in its recent Kunming-Montreal framework, which is a strategy that will go on until 2030, has recognised the different worldviews and values of nature. And it also acknowledged the important role of indigenous peoples and local communities in safeguarding nature and forests. So forests provide home, shelter, medicine, income, almost 30% of their livelihoods and as such the indigenous peoples and the local communities and small holders are very important stewards that have made possible to have these native forests in the present health of the ecosystems. Why? Because, unfortunately, deforestation and land use change has gone on for centuries and it has accelerated in the late 80s with a green revolution and those that stood firm in the forest, protecting the forest and conserving it and using it sustainably, having indigenous peoples and the local communities, are small holders. So when we discuss climate change forests are not only climate and important climatically but as carbon sinks, but they also provide a wealth of environmental services. Such as regulation services which affect climate but also water the quality, the quantity, the soil protection and this contribution has not been sufficiently acknowledged. So right now, we are the turning point at which we need to face the climate crisis together with the loss of biodiversity and our forests and it's only now that governments are acknowledging the role of indigenous peoples and small holders local communities. So I am very hopeful about that because there are provisions to recognize these services and also as nature-based solutions as well. You have discussed this with at our colleagues, so I will not get in there but just ah to recognize that, for instance, REDD+ is an important instrument recognizing the contribution of forests.

**JOSE:** Mónica also studied forest governance in Central America. Her thesis questions were: is a forest governance model based on horizontal and consensus processes possible? Under which circumstances is this possible? So I ask now is it possible?

**MONICA:** Well yes, it is and with a nuance. It is possible as long as there are some prerequisites for this. So, first, we need to have a level play field. We cannot assume that the play field is level, because there are power asymmetries in territories. When you have an indigenous community that doesn't have secure land tenure, for instance, they are not in a position to discuss policy or set up the agenda. If you manage to secure land tenure, if you manage to secure gender responsiveness and the inclusion of women, who are very much invisible in all the diversity, and youth, there is a very important role for the governments, the local and regional governments and national governments, in securing these conditions that make it possible for the people that usually are not visible make sure they can sit on the table and discuss on an equal footing. 1 What we discuss when we say governance, and governance has been very much used like a black box, but governance must be clarified, say what is governance, it has to do with who makes decisions, who participates, who sets the agenda, who says what's important what's not, who is there to discuss, who makes the final call and then how these decisions are implemented and how they are monitored and who is affected directly or indirectly with these decisions. *(add the second part of your question about the theses here, then continue with 2).* All these are aspects of governance and we have a very important tool which is the provision of free prior and informed consent when it comes to decisions that will affect indigenous communities. We do not have, however, a similar instrument when these decisions will affect local communities or small holders. It's very important to make sure, for instance, that the peasants, the *Campesinos,* the people that are there and are not powerful also have the possibility to be consulted and to be involved in decision-making. And this is not just to show off or tick an item on a checklist that okay, we have complied with a safeguard, we made a few workshops, that is not enough. It's not about informing people. It's about listening. It's about taking into account their opinions and their inputs and their thoughts and their concerns. And addressing them in a meaningful way. If we can have that, again, it's possible. It's very important also because indigenous communities and small holders bring a very fresh perspective and, of course, I'm including women here in the decisions and they provide for innovations also to address the risks associated with climate change, because they have experience and they have tools and they have know-how that can address this for very simple things as how to predict the weather, or when to produce certain crops or what elements are medicines or food and also architecture if you look at indigenous constructions, for instance, their Palafito, the houses that are built on swamps and places that are not very reliable in terms of floods. They all have this know-how and its ancestral know how. They know where they can settle and they know where not to settle. And this in the Western civilization has been lost, so all this knowledge is very rich and so we should take that into account. Also in terms of foods, because climate change is also affecting our crops and we're used to certain foods sometimes genetically modified food, but there are lots of nutrition and healthy food in the forest that we don't know how to use, we don't recognize what's edible and what's not, but indigenous communities do. They have lived with that for thousands of years so that's another important aspect. So I think it's also about a change of mindset. Instead of having this paternalistic view, to see the communities in their dignity in their full wisdom and knowledge about nature and involving them as equals, not as something that's below us. That's not the way. It's a difficult decision though. So many governments don't quite know yet how to manage these situations. And if I may add something in Latin America, for instance, we have a very important agreement that's been signed Costa Rica, your country. It's the Escazú treaty and in Escazú there are special provisions for inclusion, for the access to information, because without information there is no meaningful participation and also a very important topic and it has to do with human rights and the human rights approach, the protection of people involved with environmental defence. So I think we have tools. We need to use them and use them in a correct way. So that's my grain of sand to this discussion.

**JOSE:** BTW, international forest governance is the topic of new study by IUFRO's Science-Policy Programme to be presented in spring 2024.

***Key takeaways***

We explored how forests are linked to various aspects of sustainable societies, from nature-based solutions and urban forestry, to human well-being and poverty eradication, and to forest ownership, power and equity in the forest sector.

Thanks to our guests and to you, our listener. Listen to Branching out wherever you listen to podcasts. And rate and review us. On our last episode of the season, we will explore the topic of forests for the future.

And check out more content from IUFRO at [iufro.org](https://www.iufro.org/) or click on the link in the show notes.

***Outro***