

One World, One Health Podcast
Episode 10, Season 1 - Transcript
Guest: Dr. Ramanan Laxminarayan

The One Health Trust's New Center- A New Concept Using Age-Old Insights

Maggie Fox 0:01

Hello and welcome to One World, One Health with the latest ideas to improve the health of our planet and its people. I'm Maggie Fox. Planet Earth faces many challenges: pollution, climate change, and new and reemerging infectious diseases. This podcast is brought to you by the One Health Trust with bite-sized insights into ways to help. In this episode, we're chatting with Dr. Ramanan Laxminarayan, the founder and president of the One Health Trust. Ramanan has a special interest in one health issues such as climate change, antibiotic resistance, and the spillover of diseases from animals to humans. Today, we'll talk about the One Health Trust's new research center in the Nimai Valley, near Bangalore, in India, and the work that will be done there. Ramanan, what a pleasure to speak with you.

Ramanan Laxminarayan 0:52

Well, thanks for having me.

Maggie Fox 0:53

Can you tell us a little bit about this new research campus and what it is you hope to do there?

Ramanan Laxminarayan 0:59

So the One Health Trust, which originally was called the Center for Disease Dynamics, Economics, and Policy, or CDDEP, has worked in many locations around the world, Africa and Asia, mostly, but also in the United States, on issues related to infectious diseases. And essentially, one health. Antimicrobial resistance has been a centerpiece of everything that we've done. And antimicrobial resistance is a centerpiece for as an exemplar for one health as well, the connectedness of human, animal, and environmental health. So after 10 years of existence, we decided that we should have a physical space where we're able to bring these ideas together for the purpose, not just of research, but also of education, and also of working with communities very hands-on to find solutions to these kinds of problems, we decided to find a place which was at the intersect of all of these, and we managed to find a place in India, about 40 minutes north of Bangalore international airport, which is very well connected everywhere in the world. And which is set in an agricultural area, and close to forests. So that's where this idea of this campus came to life. And now we're ready to go.

Maggie Fox 2:13

Why does having a special campus matter?

Ramanan Laxminarayan 2:16

That's a great question. You know, even prior to COVID, we've always operated in a completely remote sort of a fashion all of our communications is done, through webinars and so forth. So I do agree that, to some extent, work, and research doesn't necessarily need offices anymore. However, the process of conversation arriving at questions that matter, talking to people in the community, all of that is helped by having a physical space. And education, of course, really demands a physical space, because it's hard to really teach, mentor, show people, and learn without being face to face. So it's only when we arrived at the point at which we needed those things that we decided to build a campus,

Maggie Fox 3:05

Can you tell us a little bit about what it's going to look like?

Ramanan Laxminarayan 3:08

So, you know, we're really excited to see it come alive. So our campus is on 10 acres, which is in a valley. In fact, it's sort of the higher reaches of the hills reaching down into the valley. It's surrounded by forest land on three sides, and it's agricultural land on the fourth side. So a place like this, as beautiful as this, really demands a beautiful campus. And so we're building about 20,000 square foot of office area and 20,000 square foot of accommodation, all of which is designed in a manner to be close to nature. Of the 10 acres, about a quarter of the campus is just returning the land to forest land. Another couple of acres is organic agriculture. And then we have water bodies that cover another two acres. So the actual campus building is literally surrounded by forest, by agriculture, and also by water bodies.

Maggie Fox 4:08

And is this somehow symbolic of the idea that lies behind one health?

Ramanan Laxminarayan 4:13

Absolutely. So in fact, when we wanted to build this campus, we thought that the building should be based on the idea of a butterfly, and a butterfly for a number of reasons. You know, butterflies are sort of a, you know, are an indicator species of the health of an ecosystem. And as we know, butterflies are extremely fragile like our natural ecosystems are and butterflies also, to some people embody this idea of complex systems. You know, you've heard of this thing where a butterfly flapping its wings in Beijing can cause a tropical storm somewhere else. So we really wanted to make this butterfly the motif for this particular campus. And I'm happy to say that both the research building and the accommodation are based on the butterfly motif. Now, the campus obviously has a lot more features. It has labs, it has meeting spaces, it has classrooms, and so forth. But at its center, at its core is very much a connectedness to nature, connectedness to water, connectedness to regenerative Ag, and you're right, these are the elements that we wanted to have strongly embodied in our campus itself. And last but not least, we are both a net-zero campus, which means that we will have no net carbon emissions, all the energy is solar-powered. And also, it's a water-zero campus. Now that's a relatively new concept, it just means that we will not have any piped water coming in from the outside, all the water that we consume will be water that falls on the land is harvested, rainwater harvesting, into two lakes, and then is used and then recycled and goes back into the agriculture. So we're really trying to live this idea of the environmental loop where waste becomes our food for tomorrow. And, that's the way the cycle continues.

Maggie Fox 6:04

So on the campus, people are actually going to be farming food that will be harvested and consumed there.

Ramanan Laxminarayan 6:11

Absolutely. So we're going to have an organic kitchen. And it's actually unusual in India, there aren't any organic restaurants or kitchens, just because it's not an idea that's really caught on even though historically, agriculture in India has always been organic. But one of the things that we're very keen on at the One Health Trust going forward, is to go beyond infectious diseases, into issues related to food and climate change. So food, climate, and health are really going to be our three themes. And in the context of food, regenerative AG, which means that growing crops while also restoring soil health, is going to be

a key part of how we choose to practice our own agriculture there. And we hope that we'll be able to make the scalable for all the farmers nearby. So yes, indeed, when you come and visit, you'll be eating mostly food that's been grown on our land.

Maggie Fox 7:06

and who's going to be coming to this campus? And what will they be doing there?

Ramanan Laxminarayan 7:10

So I see three sets of, you know, broad categories of people, one is a year-round, you know, permanent staff, staff of the One Health Trust, you know, other staff who are there for the campus maintenance, and so forth. So these will be the folks who actually live there. This is a second set of people who will be more by way of long-term visitors. So people will come for, you know, three, six months stretches, they're there to conduct research, there to write a book. In that sense, you know, we'd love for this place to be sort of like an Aspen Institute or Bellagio Center, kind of a place. Bellagio was famously a, you know, Rockefeller sort of retreat place in Italy, where people go, you know, to take themselves away from their routine and follow intellectual and scholarly pursuits. The third category of visitors will be people who are, you know, people are just coming in for a day or two, visiting for a meeting, or a conference, or, or they're, you know, just for very short term visitors. So when in all of these cases, we really want to make this a place where there's deep engagement and connection between people, not just from within India, obviously. But the reason for having this close to an international airport is so that this can be a center for people from around the world to come to.

Maggie Fox 8:36

Can you tell us a little bit more about the whole idea of One Health what you mean by that?

Ramanan Laxminarayan 8:40

One, health is really this very simple and age-old idea that our health and well-being is connected to that of the animals and the planet. And these are not, you know, separated ideas that all of these are connected to each other. Now, most recently, we saw this in the context of COVID, where we saw a pathogen that probably you know, came out and bats then being transmitted to humans. But that's just one example of One Health, one health can be, you know, our connectedness to the planet in terms of climate change, and the impacts that it has on both our health as well as the health of animals and plant life on the planet. So this connectedness is really something that we're trying to, to understand better in the context of research, which tends to be, you know, generally quite atomistic generally, people who work on human health really don't pay attention to plant health or animal health. But we think that this is the way of the future, which is that we will recognize that our well-being really depends on the well-being of all life around us and of the planet on which we live.

Maggie Fox 9:51

And this is not just to philosophy, right? This is something that's been demonstrated in in research.

Ramanan Laxminarayan 9:56

It's not only been demonstrated in research, it's been demonstrated in terms of the traditions of any ancient, you know, civilization or tradition, it's there an Indian tradition, it's there and Chinese tradition. You can go to the Mayans, the Incas, whoever it is this idea is age-old. But it's only in recent times that we have forgotten about this connectedness. And there's also a disconnect in the way in which we do science. Science no longer really pays attention to this connectedness. So what we want to do is rigorous peer-reviewed, published research that is on that recognizes the One Health nature of all of

these problems and finds ways to connect these. Let me give you one concrete example. An example might be antimicrobial resistance, which is a topic on which we spend a lot of time on. Now simply looking for resistant pathogens, and humans alone fails to recognize the fact that these pathogens are typically transmitted through the environment. We should be looking at animals, we should be looking in sewage, we should be looking at the air. Now, we rarely look at it in that 360-degree kind of way, nor do we make these connections. Now, today, the World Health Organization, along with FAO, OIE, and other partners is trying to do surveillance and that 360-degree kind of a way. But this is just one example. I think there are many instances where we are taking a very partial view of problems. And we really need to bring a holistic view of problems.

Maggie Fox 11:30

I think this is something that some people may find confusing, because when you talk about zoonotic diseases, diseases that come into humans from animals, people think well, well, the answer is to get farther away from animals to get away from forests to, to get into clean places that involve a lot of concrete, and not a lot of trees and rainfall. How do you explain to people that that's not exactly how it works?

Ramanan Laxminarayan 11:56

We fail to explain when I say we, we, as scientists, people working in academia, fail to explain that when it comes to pathogens, or bacteria, or viruses, these are being constantly exchanged between us and animals and the natural environment at all times. So there are diseases that are first spread in humans, and then go to the animals, there are diseases that are out there in nature, then get into animals and then to humans, or any of these connections may happen in any which order. And so it's almost impossible for us to separate ourselves from animals, from the natural environment, because we depend on it literally, for our very lives, we depend on it for food, more than half the oxygen that we breathe is produced by bacteria. So the idea that we can live outside of that ecosystem, is wishful thinking, just like it is wishful thinking for a fish to think that it can live outside water. We live in an ocean of bacteria that we share with all these other creatures. And I think it's a mistaken belief that we can engage in a war and microbes in a war on bacteria, that we should have 99.99% of bacteria cleaned out of our surfaces, which is all a product of consumerism but fails to recognize that this is actually nonsense. I mean, there is bacteria on literally every surface we touch, and we are made up of more bacterial cells than human cells that are 10 times the number of bacterial cells in us than then we are human. And I think because it's an invisible world, we don't recognize these connections. But I think the ancient traditions have always recognized this. But we need to translate that into modern science in a rigorous way. So that the way in which science happens in the future, is not in this partial manner, but is more holistic.

Maggie Fox 13:51

So if somebody's interested in getting involved in this new campus, what can they do?

Ramanan Laxminarayan 13:56

We'd love to have people come and visit spend time host meetings here. This is not a campus, just of the One Health Trust, we see this as a global campus for anyone who's interested in one has to come and own and spend time in it. And take this idea further than where it is right now. For instance, we have already launched the world's first one health demographic surveillance site. We have already collected data on 20,000 people with you know, with biosamples on many of them, we're doing similar surveys and animals and also in on the environment. And all of this provides a rich database as well for people to conduct research on, so if you're interested in one health, if you're willing to travel out to

India, and spend the time to do you know research any kind of scholarly pursuit, then you might want to consider coming to the One Health Trust.

Maggie Fox 14:51

Ramanan thanks so much for spending some time with us.

Ramanan Laxminarayan 14:54

Nice to talk to you.

Maggie Fox 14:57

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