**Note: due to the poor audio quality, Professor Gufu Oba has edited his answers within the transcript for clarity. We have included both the edited and unedited transcript on the website.**

s1e5: Peter Gufu Oba Transcript (unedited)

[00:00:00] **Wilkinson:** Hello.

[00:00:01] **Oba:** Hello.

[00:00:02] **Wilkinson:** Hi, how are you?

[00:00:06] **Oba:** Hi

[00:00:07] **Wilkinson:** Nice to meet you.

[00:00:09] **Oba:** Well, it's a pleasure

[00:00:10] **Wilkinson:** So, are you in Oslo?

[00:00:13] **Oba:** No, I am on holidays.

[00:00:15] **Wilkinson:** Excellent, excellent.

[00:00:18] **Cohen:** And you're in Nairobi, you said?

[00:00:22] **Oba:** No, I am farther to the north of Nairobi. A place called Isiolo.

[00:00:27] **Cohen:** Okay. Very nice.

[00:00:31] **Oba:** Yes.

[00:00:33] **Cohen:** So first, can you talk to us about how this book fits in with your previous works, and your intellectual journey thus far?

[00:00:43] **Oba:** All right. Have actually, four other books, including one, which I am completing right now, and this is the fourth book that we are discussing. I have worked on pastoral societies, UNCLEAR, grazing systems by mainly African societies for many years, about thirty years to be exact.

I come also from this background. So, my interest has always been to try to take the natural sciences, the social sciences and the historical studies. The main reason is that when you are doing natural sciences, unless you have longer term data series, you have only an understanding of short stints of time, between seasons or a couple of years. And therefore, you do not have a long-term understanding of the system.

It is also important from a sociological point of view to have some ethnographic data as above ground. And that ethnographic data helps you get natural science within the social background on how societies use the environment, the indigenous knowledge systems. And this has been really my focus, for a long period of time. So, in a way, my studies have varied across various subjects; real ecology, hard ecology to social sciences, to environmental history, and to anthropology where I deal with the pastoral studies. So, this has been my interest, and I think this has an influence also in my working background. I worked for UNESCO I'm at the biosphere all 14 years on pioneering projects in Northern Kenya region, where I am in now, called "Integrative Project on Arid Lands." This project is mainly focused on issues of land degradation and desertification and that is how this whole idea of environmental crisis came up. With regards to that, I have also done some long-term series of data where we analyzed different theories and tested different theories using long term historical data. That is ecological data that gives us a glimpse of decadal differences, sometimes two- or three-decade differences on what happened to the environment. And one thing that became very clear is the high variability of African environment, to the extent that the conclusion you come to in one year is not represented the next year. So, you'll have high variability going on all the time. And that events that occur within African context has to be explained within these variabilities.

So, I was rather interested in this particular book and since I have much of my publications on ecology if you look at my bibliography and so. Then my interest was to try to understand and say, okay, what is the historical basis of this discussion on African environmental crisis? Now the point is if you were to go back, for Africa, there is a time limit so to say from the time when recordings and reporting began. This is the late 19th century. Of course, there are different parts of Africa, like in Egypt, Alexandria, African societies have hired the libraries for millennia. But in this part of Africa which I'm talking about, historical records that have been reported, very recent. Recent to the extent that these are late 19th century. Or the farthest you could go is the late 17th century, if you were to include the regions, like Ethiopia and so on. So, I want that to look at these and say, okay, if I were to organize this historical information along a timeline, using event history or currencies and put them on some kind of pedestal or some kind of chronological order, because these studies were conducted at different periods of time obviously and by different people, therefore they are not asking the same question or getting the same answers, but nevertheless they're supposed to be UNCLEAR. There's a relationship between what to one delivery UNCLEAR - audio. And I recognized that there are common theories that are used in reference to environmental crisis in Africa and much of these environmental crisis theories were actually located within global society, global scientific society, as opposed to having developed within the context of African situation. So, what we are saying is that we are borrowing the idea from European, for example, or American examples and using those same examples and assuming that the same situation had occurred in Africa, and therefore making conclusions using those theories and those theories are very influential. So, this has really been my entrance before studying this. And, so I am hopeful that we will go along with this and in writing this book therefore-- these are series of books now, the next book is actually linked close to this, but more regional, more local. And so, the question that I want to ask is, what are the origins of the ideas of African environmental crises? Who originated these ideas? Of course, they can fuel science, useful science for development and so on, has been done also by others, and I'm sure you have Helen Tilley's book. I don't know if you can be able to read?

You will see that this book takes and mine are different. Whereas she is Eurocentric, that is focusing on the performance of the European science of African context, mine is to critique that science in the context of African understanding of environmental use. So, you would find them on it, but the two books could actually be excellent read together and compliment some of the questions that I see you guys are asking about. So, the question is: what is the origin of these ideas of African environmental crises? We see that this is globally located, not local. So, applying global theories to local questions, local land use questions. For example, and is this appropriate?

Could be, it is appropriate, of course. Science is universal and therefore why not apply it? But we need to actually qualify this particular approach because every environment is unique. What is happening in Europe, in the U.S., depending on which part of the U.S you come from. I was in U.S., for example, in University of Arizona, Tucson. That's where I got my master’s degree in range management, 1980s. And that's a dry land. It's equivalent to where I am now, which is also dry but it's slightly wetter than Arizona. And so, if you come from a dry land, like where I am now, or you come from Wyoming, these are two different places altogether; environmentally, ecologically in other words. So ecological regions that apply to human environments and those ones that apply to dry environments are different. Although you might use the same theories, but the same theories need to be explained in the context of the actual environment that takes? So, I think that is in a nutshell, the kind of questions that interested me in doing this book.

[00:09:36] **Wilkinson:** If I could ask, is it the case that there's an irony in that you're very clear and meticulous about how the hypothesis of environmental crisis in Africa specifically is coming out of the sort of late 19th century and then into the 20th century Imperial scientific enterprise. But then if you actually use some of those natural science methods, whether it's from historical ecology or perhaps limnology, palynology those natural sciences.

They actually perhaps contradict that hypothesis to some extent that they show that past African environmental human use was quite resilient in a lot of instances. So I was wondering, would you agree that there is some sort of irony in that the natural scientific methods can perhaps inform that there's a bit of a lie to this myths and that there's sort of an irony at the heart of this?

[00:10:45] **Oba:** Yes, absolutely. That's the case. And that is what the book tries to mainly to try to kind of, rather than anticipating that it is a myth, the book attempts to make evidences on the basis of scientific information provided by colonial researchers. For example, imperial researchers using the scientific knowledge from elsewhere and being applied to African situations. We come to these later in the book as you will see UNCLEAR. And I agree with you and that in some of the studies which I have done. For example, just to go back to some work on African changes, climate change adaptation in Africa, historical ecology, we used historical ecology as a framework to analyze impact of climate 12,000 years before UNCLEAR. I utilized information system from archeology, based on actual archeological work and linguistic history and distribution of population over time. Particularly looking at the pastoral societies, how they migrated from particular regions into the horn of Africa, for example. What a UNCLEAR and therefore, it has also shown high variance. Actually, the present book which I am working on, it's management of vegetation in North Eastern Africa.

[00:12:43] **Cohen:** You mentioned in the book change over time and meanings of development and, and understandings of what that is. So, can you expand a little bit more on that and the ways that these shifts in meaning of development have influenced perceptions of the African environmental crisis and the forms that interventions have taken?

[00:15:08] **Cohen:** Great. Thanks. And as follow up to that, can you talk about the different kinds of science? So agricultural social, environmental, and the roles that these kinds of sub-disciplines have played in the development project over time. So, their varying importance, things like that.

[00:15:24] **Oba:** Yeah, we could look at that now the central focus of colonial empire, the empire in East Africa for example for which there were the British on one side and then the [00:13:00] **Oba:** We can typically use this escape too, that we have, I have it on the TV here. Now, of course, the idea of the development is not new. It is something which has been developed and that originated from the West. The governance of development from Imperial point of view, is different from local people. Development for an empire, like the British empire.

So I have shown in the book, the figure for example, figure number one, that you can actually organize historical events as I mentioned before, and organize it chronologically on actually what happened. Development and science...UNCLEAR, actually we show that there's quite a little linkage between research, scientific research, and development. But ideally the colonial science assumes that it is the imperial science that want an answer to development equations that are to be taken in African contexts. But the way we see is that actually development takes place on a trial basis and then the UNCLEAR comes later. UNCLEAR

So the two systems actually go side by side. And as I do show in the figure there, this is the book. You would see that there is a particular period where there is a peak, and that is the second world war. That you get the peak in investment in terms of development terms of research. But the two are not necessarily linked. There is route between research and development.

Germans, on the other until 1916, when Tanganyika after 1916 that is after First World War, the German colony was taken over by the British. So that is when it became British empire. Otherwise, Tanganyika has always been a German colony. Now the focus of the two colonies were more or less the same. One African environment was seen as a social production, where the production in terms of farming, farming was essential. Not only that, but in some parts of Africa, East Africa, the aim was actually to settle European populations to kind of make a show of development in terms of European investment in terms of agricultural production for example. Large scale of production but supported by European technology and European science. Now, what European science and European settlement did was to displace African populations. So, the best grazing lands for taken for European renters, particularly in Kenya, Northern Uganda or Tanzania is less important, but in Kenya the Europeans took ranching and the ranch house to put the best grazing land. They also took the best farming land. And the populations that used to live in those areas were placed in a different area because the aim was for raw material production on economic scale, large scale. Whereas African production was subsistence. This was based on a smaller scale production made to meet the immediate needs of families that are farming. And for the pastoral societies, they were occupying much more marginal environments, more arid environments and were highly mobile moving from one area to the other. And the empire itself, in order for them to regulate the movement of livestock and the people on the premises that people are keeping too many animals and this is also informed by some of the global scientific theories, or social theories therefore divided up with the grazing lands into different territories so that ethnic groups ...own borders. Those who trespassed across the borders were fined and punished very severely. So, the two systems of use, were not actually synchronic that they were not similar. They were very different. So, you find African systems of UNCLEAR being very antagonistic and the European system of land use forcing Africans to comply with the rules and regulations.

[00:18:55] **Wilkinson:** Thank you. Can I ask, looking from a bird's-eye view as you do here. The shift from the colonial era in the mid 20th century to a post-independence post-colonial era. Would you say that this is a time of continuities between the colonial and the post-colonial regimes and how they approach pastoralists, how they envisioned pastoralists, perhaps as part of the state or not as part of the state. Are they seen as a problem that still needs to be developed as the nation, the new nation is going forward? And are similar reliance on imperial science, do those continue through to the post-colonial era?

[00:19:42] **Oba:** Yes, precisely. There was continuity. And that is for different reasons. Not that what was done in the past was correct. But however, there were too many reasons for the continuity. The first was the newly Independent African countries lacked the funding, they lacked the funding for development and they also lacked trained scientific staff to continue the research. So, what you have is that it is really part of the former empire, or the colonial setup that continued to provide the funding. And when they provide funding for example, pastoral development, the model of, pastoral development is like for the US for example, the Texas Brazil system. What did they call it? The four, four by four. That is the rotational grazing by Texas ranchers. So, the same model was set here UNCLEAR Masai farmers for example. This was part of the earliest experiments with some of these big ideas, or European ideas. UNCLEAR. And the others as I mentioned they already occupy marginal environments, [UNCLEAR],

I mean, you can understand that where seasons and rainfall is very [UNCLEAR] The European officer or the African officer after independence, keeping the people within the dry environment when there is rain elsewhere, or allowing the pastoral [UNCLEAR]. Now, what happened after African independence in Kenya and Uganda and Tanzania was, they didn't have the strength or control that the Europeans or the British, for example, administrators had in controlling farming and [UNCLEAR] so they kind of relaxed control that the pastoralists would go wherever they want but then they discussion with environmental prices and operations and going past current capacity and all this has been the same language we've been using otherwise. So just to sum up fast, the independent African countries developed their farms to develop, to fund development projects on a large scale. And these are normally funded by FAO, UNESCO, USAID and different European funding that for a long period of time and the model that was used, that one, which was used to do the pastoral [ UNCLEAR]

[00:23:00] **Cohen:** So, one of the things that, we've been thinking about on this podcast is kind of expert knowledge and its role in understandings of the continent in a variety of scientific and medical contexts, and you talk in the latter part of your book about administrative science and expert knowledge, being valued over scientific knowledge and development. And we've talked a little bit about the parallels in development in enthusiasm for development in scientific research. so can you talk a little bit more about tensions among various development actors that are trying to intervene in the development space.

[00:23:37] **Oba:** Yeah. Administrators during the colonial period and postcolonial period wanted solutions, immediate solutions. They wanted to see solutions for the environment, which was a problem identified during the colonial period but going forward to the post-independence period. They wanted to see solutions [UNCLEAR] rangelands, that is what the administrators wanted to see. But science had no capacity to do this. And remember, most of the scientific studies were done on small plots in stations and in the North in the larger countryside. People are expanding now but during that period the technology was limited so studies were done on stations and then the results were to be transferred to bigger areas and often because you're using different scales for science and development the two did not go together very well. And this was part of the problem.

[00:24:51] **Cohen:** Thank you.

[00:24:59] **Wilkinson:** So, the next question that I was hoping to ask is: have there been, I guess you're from the era of, let's say the seventies forward, if we can call it an era of structural adjustment or the neoliberal period. Have you seen attempts on a wide scale to try to integrate indigenous ecological knowledge systems into development projects? Has there been any success in doing so? and, have you seen any success stories of integrating perhaps natural science with ecological knowledge systems, whether it's under the name of development or

[00:25:54] **Oba:** Yeah, I think that's a very, very appropriate and very good question. We can divide these in terms of timelines. From the time when people realized the mistakes that have been done and many more scientific works tried to support these integrated methods [UNCLEAR] that was not the case, but I wanted [UNCLEAR] give my own background in this particular case. I participated in one of the pioneering research programs in Africa, the UNESCO man and the biosphere. The purpose was to integrate the environment and human societies. Previously studies were done independently where studies were done where [UNCLEAR] the people but increasingly UNESCO [UNCLEAR] emphasized natural [UNCLEAR] sciences and the social sciences. And this particular pilot project which was to address the problem of land degradation, desertification in Northern Kenya. What was assigned to us, this was probably one of the largest research programs ever done any one country in Africa. It had huge funding, had everything from everything from planes to vehicles. We were actually among the first to use [UNCLEAR] communication systems [UNCLEAR]. but nevertheless, the idea was to study societies and systems as [UNCLEAR] So if you want to investigate the livestock disease, you [UNCLEAR] to provide treatment [UNCLEAR] then UNESCO would buy camels which are used for control, not receiving the treatment and make the comparison of the two. So this was the beginning of the idea of UNESCO [UNCLEAR] which began the [UNCLEAR] of the interlinkages, the integration, societies and ecosystems. [UNCLEAR] beginning of use of indigenous knowledge which is critical to understanding how these systems operate and if [UNCLEAR] and it was even suggested that if you see any person, any scientist preventing them to show that he had relied on this indigenous knowledge system dismissed as not being a good science. So it is from the beginning of 1980s, that media studies on pastoral societies began. There was a major conference organized in Nairobi by various people. There were many anthropologists, mostly anthropologists. [UNCLEAR] tried to find a way of integrating natural and social sciences so the information is actually vast. There's a lot of information since the 1980s to the present and my book is a synthesis [UNCLEAR]. It's just a summary of some of the trials of research that has been going on.

[00:29:43] **Wilkinson:** Thank you very much.

[00:29:46] **Cohen:** So, I have one more question to think a little bit about discourses of environmental crisis. And can you speak a little bit about the ways that this idea has informed conversations around food production insecurity, we've mentioned that a little bit, but also ideas about biodiversity and conservation and population concerns. So larger discourses that are in the development sphere, as well as conversations more broadly about Africa and Africa's future.

[00:30:14] **Oba:** Yeah. This is probably not the only study but there were a couple of very interesting studies done in the Sahel in West Africa which actually showed this question of [UNCLEAR] social studies, and ecological studies, geographical studies and at a geographical scale using different kinds of monitoring tools to find out, one particular study showed this: you see in West Africa [UNCLEAR] the tropical forest they [UNCLEAR] trees of all kinds and the idea was different theories were raised. One theory was that the remnants after the local societies have cleared the rest of the forest and therefore the forest left behind were the original part of the forest but actually this forest showed that actually it is this society themselves who promoted biodiversity conservation. It is not the original. It is not patchwork so parts of the original forest, but the society [UNCLEAR] so I guess it's quite interesting because originally [UNCLEAR] interesting work and look at some of our biographies, some of these done by my former PhD students [UNCLEAR] and the main reason for this is of course we have had certain advantages in this and we are not the only ones, of course there are others but we know the society. So, we understand these indigenous [UNCLEAR] so we didn't actually go to the field to learn it, although we went to the field. Yes. But we had a bit understanding we are both trained in ecology, but also [UNCLEAR] to these indigenous. And again, we are born with it so it was very natural for us to link these two together. Just to give you an example: there is one article, which I did with one of my PhD students on one of these ancient wells published in *Geographical History*, 2014 or I'm not quite sure but it is about that. It is useful in the indigenous system of reconstructing time series over five centuries. This is interesting. That paper I think would be very helpful for both of you if you want to read it.

[00:33:12] **Cohen:** Thank you. Yeah, that'd be great. I had a follow-up to the question I just asked. So, the idea of crisis that you're interrogating here as it relates to the environment. Could you speak a bit to the way that this idea of an environmental crisis extends to discourses of I'm interested in particular discourses of population crises that were prevalent in the post-colonial period and have remained today. we were just reading the other day about the UN projections for population growth and how framing population as a crisis might relate to environment and land use and things like that.

[00:33:51] **Oba:** Yes, there's population growth, but I think the kind of hypothesis, which was [UNCLEAR] was not necessarily the case, but if we take the present, yes. What happened is this: that the spatial distribution of populations have changed in the recent years, that there is greater concentration of populations near towns, near centers where [UNCLEAR] centers where [UNCLEAR] so there is [UNCLEAR] so as land is grabbed for one reason or the other it is a constraining situation, it is not necessarily the population per se, but [UNCLEAR] the reality in real terms, the numbers is not a problem compared to [UNCLEAR] but what happens is that the resource base on which the population relies has diminished. Some of the studies that we have done, for example, the book I'm writing now has that case where the land was communally used up to 1980s and 1990s and for some political reasons the nomads settled down and divided up the land to the extent that that the area has already been carved out, fragmented. It's a very serious problem. If you ask me whether the population has increased, yes to a certain extent but in a relative time, it is the area is really small, but it is on that small area on which there is greater pressure. So, if that population was actually to be relieved, that the resources are provided elsewhere, that would be more a relief. But then the way we are going is that today is concentration of the public. Towns. Many towns are being built. Concentration of populations.

[00:36:08] **Cohen:** Great. Thank you. Okay. So, that's all the questions that we had for you. Is there anything else you'd like to add to our discussion? any questions you have for us?

[00:36:20] **Oba:** Yeah, well, I don't think I have question, but I'm actually, very grateful that you've provided me with this opportunity and that you are reading my book. I am sure as part of your exercise; you will publish a review somewhere. And then in that case people would know it, and I'm glad that you actually found the book on. You're able to read it. I'm sure you have made an opinion about it. And so, mine is to wish you good luck. I think it's so beautiful doing a PhD. For me it was a long time ago, but I like the PhD students. This is really where the science is born. You are the ones who produce, who have ideas. Not the older generation, we just maybe synthesize or repackage some of the old ideas.

[00:37:10] **Wilkinson:** Thank you very much, and thank you for agreeing to come on. We were excited, we found you from doing a library catalog search about the history of science in Africa, so we were excited to come across your work and we were excited that you agreed to come on for the podcast.

[00:37:28] **Oba:** Thank you for you thinking about this. Alright. Bye-bye